

IV. ASC-2022/Fall Congress
Hosted by
Alcide De Gasperi University of Euroregional Economy in Poland

Change & Shaping The Future

- Proceeding Book -



Editors

Assoc. Prof. Hamza Şimşek
Prof. Dr. Susran Erkan EROĞLU
Prof. Dr. Avdhesh Jha
Prof. Dr. Muhammad Ashfaq
Dr. Iwona Florek
Dr. Logaiswari Indiran



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POLAND WARSAW , Nov 3-5, 2022

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INTERNATIONAL ACADEMICIAN STUDIES CONGRESS 2022 FALL
HOSTED BY
ALCIDE DE GASPERI UNIVERSITY OF EUROREGIONAL ECONOMY IN POLAND

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ÖNSÖZ

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Kongremize desteklerini esirgemeyen CRT Metal yönetim kurulu başkanı Atıf Ceritbinmez, Onbeş Kasım Kıbrıs Üniversitesi Rektörü Prof. Dr. Remziye Terkan hocamıza, ABD Merkez Bankası Fed Eski Araştırma Direktörü Erkin Şahinöz'e, çalışmalarımızı herdaim destekleyen Hakan Çalışkantürk'e, bu süreçte grubumuz adına kongre başkanlığını yapan ve grubumuzu en iyi şekilde temsil eden Prof. Dr. Susran Erkan Eroğlu'na, 7/24 yurtiçi-yurtdışı iletişimimizi gerçekleştiren ve bu konuda özellikle yabancı katılımcılarımız ve konuklarımızın takdirini alarak grubumuzu yine üst düzeyde başarı ile temsil eden Doç. Dr. Mustafa ASLAN ve Sidar Atalay Şimşek Hocama da grubumuz adına teşekkür ederiz.

Ayrıca isimlerini tek tek saymak istemediğimiz, grubumuz adına tüm süreçte ve özellikle kongre sürecinde kongre kurullarında, oturum başkanlıklarında ve oturumlarda katkı sunan "gizli güçlerimize" kıymetli hocalarımıza da teşekkür ederiz.

Akademik Çalışmalar Grubu adına.....

Doç. Dr. Osman YILMAZ

Doç. Dr. Hamza ŞİMŞEK

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FACTORS AFFECTING CONSUMERS' ATTITUDES TO WEARABLE TECHNOLOGY: A SMARTWATCH REVIEW

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ABSTRACT

The world, is in the process of a great digital transformation, where technological systems are being integrated into all areas of life. Digital systems are the result of the fourth industrial revolution. Digital developments affect many sectors and transform the production process of organizations through artificial intelligence and autonomous robots, cloud technology, augmented reality, simulation, system integration, big data, internet of things, 3D printers, cyberspace. These technologies are the building blocks of industry 4.0. Although the internet of things is one of the building blocks of Industry 4.0., it is a new concept, and it has become more and more in use on a daily basis. It is affecting nations, organizations and industries. One of the sectors affected by all these new developments has been the marketing activities. IoT technologies have brought a new breath to marketing by integrating objects with each other over a wireless network and created a new sector, wearable technologies. Wearable technologies are technological products that can be integrated with the clothes or accessories people wear and can transfer data to integrated devices via sensors in their internal systems. Smart watches are one of the most widely used and well-known products of wearable technologies, which include products such as smart glasses, smart contact lenses, hearing aids, smart earrings, smart headphones, smart watches, smart bracelets, fitness trackers, smart bracelets. With their computer circuit and existing processors, they can be integrated with smart phones as well as being used alone. If smart watches are integrated with the mobile phone, they can perform almost all the operations of the phone. Considering all these features, smart watches are developing day by day and taking place more and more in human life in an increasing rate. Furthermore, these technologies have started to attract the attention of the scientific world. Therefore, this study was conducted with the aim of examining the factors that affect consumers' wearable technology acceptance in a smart watch-specific manner. As a result of the literature review conducted for this purpose, the

Technology Acceptance Model is used in this study. The study aims to examine the factors affecting the attitude and intention of smart watch users. Smart watches are considered a good representation of the wearable technology products. In order to examine the effects, this study was conducted with 390 participants using the online survey method. The obtained data were analyzed with SPSS 25 and AMOS 26 programs. As a result of the analysis, it was determined that the perceived usefulness, perceived ease of use and social influence had a positive effect on the attitude. It has been determined that there is a negative effect between the perceived privacy risk and the attitude. It has been determined that attitude has a positive effect on intention. The results of the research are aimed to provide useful information for researchers and application developers interested in wearable technology products.

Keywords : Smart Watch, Wearable Technology, Technology Acceptance Model, Attitude, Intention

Özet

Teknolojik sistemlerin hayatın her alanına entegre edilmeye başlandığı, büyük bir dijital dönüşüm sürecinde olan dünya, dördüncü sanayi devriminin getirisi olan dijital sistemleri hem gündelik hayatın hem iş hayatının her alanında derinlemesine hissetmektedir. Birçok sektörü etkileyerek organizasyonların üretim sürecini de dönüştüren dijital gelişmeler endüstri 4.0'ın yapı taşlarını oluşturan yapay zekâ ve otonom robotlar, bulut teknolojisi, artırılmış gerçeklik, simülasyon, sistem entegrasyonu, sistem entegrasyonu, sistem entegrasyonu, büyük veri, nesnelerin interneti, 3D yazıcılar, siber güvenlik gibi sistemler ile yepyeni bir boyut kazanmıştır. Endüstri 4.0'ın yapıtaşlarından olan nesnelerin interneti her ne kadar yeni bir kavram olsa da ulusları, organizasyonları ve endüstriyi etkileyerek her geçen gün daha fazla kullanılır hale gelmiştir. Yaşanan tüm bu gelişmelerden etkilenen sektörlerden biri de pazarlama olmuştur. Nesnelerin interneti teknolojileri nesnelerin birbiriyle kablosuz ağ üzerinden entegrasyonunu sağlayarak pazarlamaya yeni bir soluk getirmiş ve yeni bir sektör olan giyilebilir teknolojileri yaratmıştır. Giyilebilir teknolojiler insanların üzerlerine giydikleri kıyafetler ya da aksesuarları ile entegre olabilen ve dahili sistemlerinde yer alan algılayıcılar yolu ile entegre cihazlara veri aktarabilen teknolojik ürünlerdir. Akıllı gözlükler, akıllı kontak lensler, işleme cihazları, akıllı küpeler, akıllı kulaklıklar, akıllı saatler, akıllı bileklikler, fitness takip cihazları, akıllı bilezikler gibi ürünleri bünyesinde barındıran giyilebilir teknolojilerin en sık kullanılan ve en bilinen olan ürünlerinden birisi akıllı saatlerdir. İçlerinde bulunan bilgisayar devresi ve mevcut işlemcileri ile akıllı telefonlarla entegre edilebildiği gibi yalnız başına da kullanılabilen akıllı saatler cep telefonu ile entegre edildiği takdirde telefona ait neredeyse tüm işlemleri yapabilmektedirler. Tüm bu özellikleri göz önünde bulundurulduğunda akıllı saatler her geçen gün gelişerek insan hayatında gün geçtikçe daha fazla yer alırken bilim dünyasının da dikkatini çekmeye başlamıştır. Bu sebeple bu çalışma tüketicilerin giyilebilir teknoloji kabulünü etkileyen faktörlerin akıllı saat özelinde incelenmesi amacı ile yapılmıştır. Bu amaç doğrultusunda yapılan literatür taraması sonucunda bu konuda sıklıkla kullanılan Teknoloji Kabul Modeli'nden yararlanılmaktadır. Çalışmada giyilebilir teknoloji ürünlerinden akıllı saatlerin tutum ve niyete etki eden faktörlerinin incelenmesi amaçlanmıştır. Bahsedilen etkilerin incelenmesi amacıyla çevrimiçi anket yöntemi kullanılarak 390 katılımcıyla çalışma yürütülmüştür. Elde edilen veriler SPSS 25 ve AMOS 26 programları ile incelenmiştir. Analizler sonucunda algılanan fayda, algılanan kullanım kolaylığı ve sosyal etkinin tutum üzerinde olumlu etkisi olduğu belirlenmiştir. Algılanan mahremiyet riski ile tutum arasında olumsuz bir etki olduğu belirlenmiştir. Tutumun niyet üzerinde pozitif etkisi olduğu tespit edilmiştir. Araştırmanın

sonuçlarının giyilebilir teknoloji ürünleriyle ilgilenen araştırmacılar ve uygulama geliştiriciler açısından faydalı bilgiler sağlaması hedeflenmiştir.

Anahtar Kelimeler: akıllı saat, giyilebilir teknoloji, teknoloji kabul modeli, tutum, niyet

INTRODUCTION

Digital transformation, which is one of the most distinctive features of the century we live in, necessitates need-based development and time tracking (Kalkan, 2022). Changes in the field of automation, which started with the invention of electricity and steam engine and continued with the transition from agriculture-based production to industrial production, showed themselves as the precursors of a great digital transformation (Budak, 2021). This period, called Industry 4.0, emphasizes a technological revolution process shaped by the integration of artificial intelligence-based virtual and physical systems (Kutlu, 2021) (Sedefçi, 2018). The rapid progress in technology, combined with science, has revealed the concept of the Internet of Things along with Industry 4.0. It is among the expectations that the use of the internet of things technology, which has turned into the internet of everything over time and has become a part of daily life and provides advantages in many areas both in terms of time and money, will reach 75 billion devices by 2025 (Alkan & Kırbaş, 2022). Another development that has started to take place frequently in daily life by being integrated with the internet of things is wearable technologies. Wearable technologies (Toker, 2018), is a system based on the principle that simple objects used in daily life could communicate with each other through a wireless connection (Toker, 2018). These technologies are referred in the literature with different definitions such as "wearable devices", "wearable technological products", in general. Essentially they are technological and mechanical products that can be worn by people. In a study conducted in the USA in 2019, it was determined that almost a quarter of adult individuals used GT products, and more than half of these products were smart watches (Kutlu, 2021). This study has been carried out with the aim of examining the factors affecting the acceptance of wearable technologies, which have recently developed rapidly and managed to attract the attention of the scientific world, in a smart watch. It is aimed that this study will contribute to the gap in the literature by drawing attention to wearable technologies. The study consists of four parts. In the first part, after the introduction, the problem, importance, purpose, hypotheses, assumption- limitations, conceptual framework and related literature review of the research are presented, while in the second part, the universe-sample, data collection process, scale information and research model, which constitute the method part of the research, are clarified. In the third part, the findings of the study are explicated in detail, while in the fourth and last part, the conclusion and discussion part is presented.

1. Conceptual Framework (Literature Review)

Advances in information technologies and automation have created a huge transformation for industrialized societies. The effect of this change still continues with the dominance of autonomous systems in today's world (Öztemel, 2018). Internet of Things is defined as objects interacting with each other over the internet network, mostly wirelessly. The Internet of Things provides the opportunity to share all kinds of information with each other in real time and to control these devices remotely (Metin, 2019). As a result of the global competitive environment created by the rapid entry of technology into daily life and its continuous development, and consumer expectations and behaviors changing day by day, consumers have been turned into individuals who not only buy products or services, but also participate

in the production process by creating value (Uyak Çelik & Onurlu, 2021). Marketing 1.0 has a product-oriented approach to selling products. Instead of taking into account the wishes and expectations of the target market, the focus is on high quality production that will provide functional benefits to the customer (Büyükkalaycı & Karaca, 2019). Contrary to Marketing 1.0, the participation of customers in production processes increased with the widespread use of web 2.0 technologies in the period of marketing 2.0, which emerged from a customer-oriented approach. Depending on this situation, customer-oriented production was started by understanding the demands and expectations of the customers, who have entered into the expectation of personalized products and special needs in line with their special demands with Marketing 2.0, and it is aimed to ensure customer satisfaction. Depending on this situation, users with special needs and demands began to expect personalized products, and manufacturers started to produce "differentiated products" in line with these demands (Gökdemir Ekici, 2020). With the development of marketing 3.0 internet, smart phones, smart watches, social media and mobile applications, where the consumer has gained a soul, the focus of businesses has shifted towards customer networks. Namely, with Marketing 3.0, almost all of the brands have developed some strategies such as publishing content in online channels and creating a community in order to connect with young consumers and create awareness, enabling consumers to distribute the product and message over their personal networks (Erdem, 2022). With the digitalizing world, the process of deciding to purchase and purchasing has also undergone a transformation. With Marketing 4.0, when purchasing products and services, customers no longer focus on products that will satisfy their basic needs and desires, instead they tend to purchase products and services that they can be a part of in the production process. The purpose of Marketing 4.0; to predict the future developments in the market and to carry out current marketing activities based on these predictions. Consumer insights, advanced data management and advanced analytics are key to achieving this goal (Vassileva, 2017). Aksoy (2017) considers Industry 4.0 as a kind of smart production period where every object can communicate with each other through the internet of things. The wearable technology market has grown considerably in recent years. Wearable technology is the name given to products that include technological devices that can be worn by users and can be integrated into any material they carry. These technological devices are equipped with a technology that collects data by monitoring user movements and can be customized according to the wishes of the users (Deringöz et al., 2021). Mann (1998) defined wearable technology as an always open and accessible computer. Wearable technology emerges as an expanded version of the mobile concept that can appear on any device, in any format and anywhere (Karamehmet, 2019). The most important feature that distinguishes wearable technologies from smartphones and computers is motion detection and user tracking. Wearable technologies, which are connected with smartphones or computers, have the ability to receive instant data flow and store this data thanks to the applications installed by the users (Akıncı, 2021). Wearable technologies, which provide instant data transfer by connecting with applications prepared for smartphones, provide the necessary results, direct information flow to the user through the program, by processing the data received from here by mobile applications. Some wearable technologies provide the convenience of providing direct information to the user through the screens on them (Demirci, 2018). Considered to be the first commercial wearable device for consumers, smart watches are one of the technological devices that provide freedom of movement to their users with their practical use and integration with the body (wrist) (Yıldız and Kütahyalı, 2021). Smart watches, which provide much faster and easier access to information in some cases where the use of smartphones is not practical, is considered one of the best technologies of information technologies in recent years (Açıkgöz, 2019). In addition to fulfilling all the functions of a classic watch, it is necessary to integrate smart watches, which are equipped with many modern systems, with smart phones in order to use them with all their functions. Smart watches, which are integrated via remote connection, can achieve almost all the functions that a mobile phone can see, from gps determination to calendar messages and e-mails to calls, as well as monitoring and storing some daily activity and health data such as running speed, heart rate and number of steps (Yıldız & Kütahyalı, 2021).

2. Methodology and Method of Research

In addition to four questions asked to the participants to measure demographic characteristics, a three question perceived usefulness scale (Hong & Tam, 2006), three item scale of perceived ease of use (Gao ve Bai, 2013), three item social influence scale (Hong & Tam, 2006), three item perceived privacy risk scale (Lee, 2009; Yang vd. 2012), two question attitude scale (Chuah vd. 2016) and a two question intention to use scale (Chuah vd., 2016) were used. The Turkish version of the statements of the scales was obtained from the study of Marangoz (2017). The questionnaire consisted of sixteen items in total.

The population of the research consists of users over the age of eighteen using smart watches. The sample consists of three hundred and ninety participants included in the research. In order to represent the universe, data were collected by convenience sampling technique, which is one of the non-probabilistic methods in the research. The survey study of the research was carried out between 21.03.2022 and 06.04.2022. Participants were reached through an online survey via Google form.

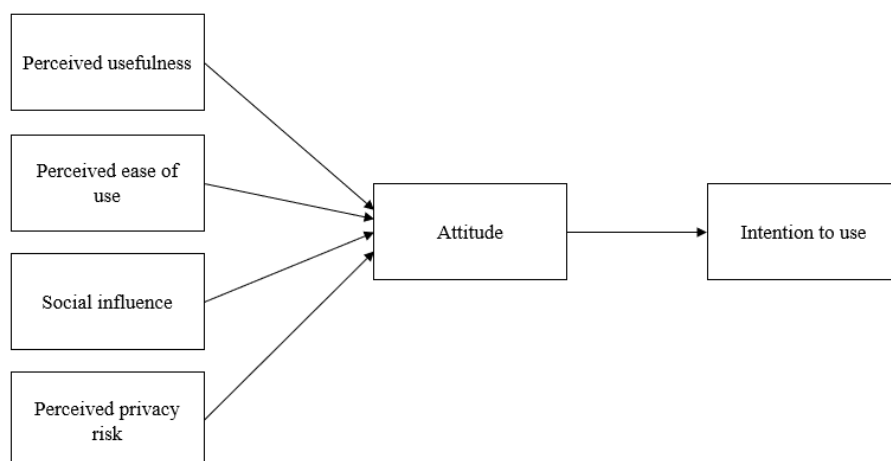
2.1. Purpose and Importance of the Research

In the light of developments in information technologies in recent years, smart watches are one of the frequently used products of wearable technological devices. They are integrated with the internet of things technologies and their popularity is on the rise on a daily basis. Additionally these technologies strongly attract the attention of scientific communities world-wide. This study is carried out with the aim of examining the factors that affect consumers' wearable technology acceptance in a smart watch-specific manner. In this direction, it is thought that the subject of the research will contribute to the gap in wearable technology products and related literature. Apart from the researchers who are interested in the subject, it is thought that it may be useful to examine the study for companies and application developers that develop wearable technology products.

2.2. Model of the Research

The model of the research consists of the perceived usefulness, perceived ease of use, social impact and perceived privacy risk of smart watch users' attitudes towards the product and the effect of this attitude on the intention to use it.

Figure 1. Research Model



Hypotheses

H1: Perceived usefulness has a positive effect on the attitude towards smart watches.

H2: Perceived ease of use has a positive effect on attitudes towards smart watches.

H3: Social influence has a positive effect on the attitude towards smart watches.

H4: Perceived privacy risk has a negative effect on the attitude towards smart watches.

H5: Attitudes towards smart watches have a positive effect on smart watch usage intention.

3. Results

When the gender distributions are examined according to the answers given by the participants, it is seen that 65.4% are female and 34.6% are male. When the educational status of the participants is examined, it is seen that 52.8% of them are undergraduate, 16.7% are graduate/doctorate, 15.4% are high school graduates, 12.3% are associate degree and 1.3% are primary school graduates. While 50.8% of the participants are married, 49.2% are single. Looking at the age range, it is seen that the participants between the ages of 25-34 constitute the majority with 38.5%, while the least participation is in the 55 and over age group with a rate of 2.1%. Income status of 28.7% of the participants is 7.001 TL and above, while 25.4% of them is 4.500 TL or less.

Table 1. Information on Reliability Analysis of Scales

Dimensions	Number of Items	Cronbach Coefficient	Alpha	Reliability Value
Perceived Usefulness	3	0.895		Highly
Perceived Ease of Use	3	0.878		Highly
Social Influence	3	0.942		Highly
Perceived Privacy Risk	3	0.857		Highly
Attitude Towards The Product	2	0.867		Highly
Usage Intent	2	0.830		Highly
Total	16	0.861		Highly

When the reliability values are examined, the scale is not reliable when the alpha coefficients are between $0.00 \leq \alpha < 0.40$. The reliability of the scale is low when it is between $0.40 \leq \alpha < 0.60$. The scale is reliable if the alpha coefficients are between $0.60 \leq \alpha < 0.80$, and highly reliable if it is between $0.80 \leq \alpha < 1.00$ (Kalaycı, 2010). Considering this situation and examining the alpha values of the scales in Table 1, it is seen that the scales used in the study are among the high reliability values.

Hair et al. (2010) and Byrne (2010) normality values, the data showed normal distribution (skewness -2 to +2, kurtosis -7 to +7) (Doğaner & Özbek, 2019).

Table 2. CFA Compliance Values of the Technology Acceptance Model

Indicator	Good Fit	Acceptable Fit	Result
X ² / Df	<3	3 ≤ (χ ² /df) ≤ 5	3.263
GFI	>0.95	>0.90	0.935
AGFI	>0.95	>0.90	0.890
IFI	>0.95	>0.90	0.970
TLI	>0.95	>0.90	0.956
CFI	>0.95	>0.90	0.970
RMSEA	<0.05	<0.08	0.076

In Table 2, confirmatory factor analysis (CFA) fit values of the Technology Acceptance Model were examined and when the results were evaluated (X²/Df=3,263, GFI=0,935, IFI=0,970, TLI=0,956, CFI=0,970, RMSEA=0,076) fit indices were found to meet the recommended criteria. X²/Df, GFI, AGFI ve RMSEA values are in the acceptable range of fit values. IFI, TFI ve CFI meets the good fit values.

Table 3. DFA Fit Values of the Research Model

Indicator	Good Fit	Acceptable Fit	Result
χ ² / df	<3	3 ≤ (χ ² /df) ≤ 5	2.783
GFI	>0.95	>0.90	0.922
AGFI	>0.95	>0.90	0,883
IFI	>0.95	>0.90	0.968
TLI	>0.95	>0.90	0.957
CFI	>0.95	>0.90	0.968
RMSEA	<0.05	<0.08	0.068

The fit values of the research model are examined in Table 3. When the results obtained are examined (X²/Df=2,783, GFI=0,922, IFI=0,968, TLI=0,957, CFI=0,968, RMSEA=0,068) It is seen that the values are within the recommended criteria range. X²/Df, IFI, TLI ve CFI values are in the good fit range. GFI, AGFI ve RMSEA values meet the acceptable fit values.

Table 4. Results of the SEM Model

			Factor loads	t	S.E.	P
pu1	<---	Perceived Usefulness	0.921	-	-	-
pu2	<---	Perceived Usefulness	0.892	20.87	0.04	***
pu3	<---	Perceived Usefulness	0.846	20.36	0.04	***
peou1	<---	Perceived Ease of Use	0.798	-	-	-
peou2	<---	Perceived Ease of Use	0.939	15.72	0.08	***
peou3	<---	Perceived Ease of Use	0.888	14.85	0.08	***
si1	<---	Social Influence	0.866	-	-	-
si2	<---	Social Influence	0.948	27.97	0.04	***
si3	<---	Social Influence	0.943	27.73	0.04	***
ppr1	<---	Perceived Privacy Risk	0.809	-	-	-
ppr2	<---	Perceived Privacy Risk	0.863	16.82	0.06	***
ppr3	<---	Perceived Privacy Risk	0.784	15.93	0.06	***

***p<.001

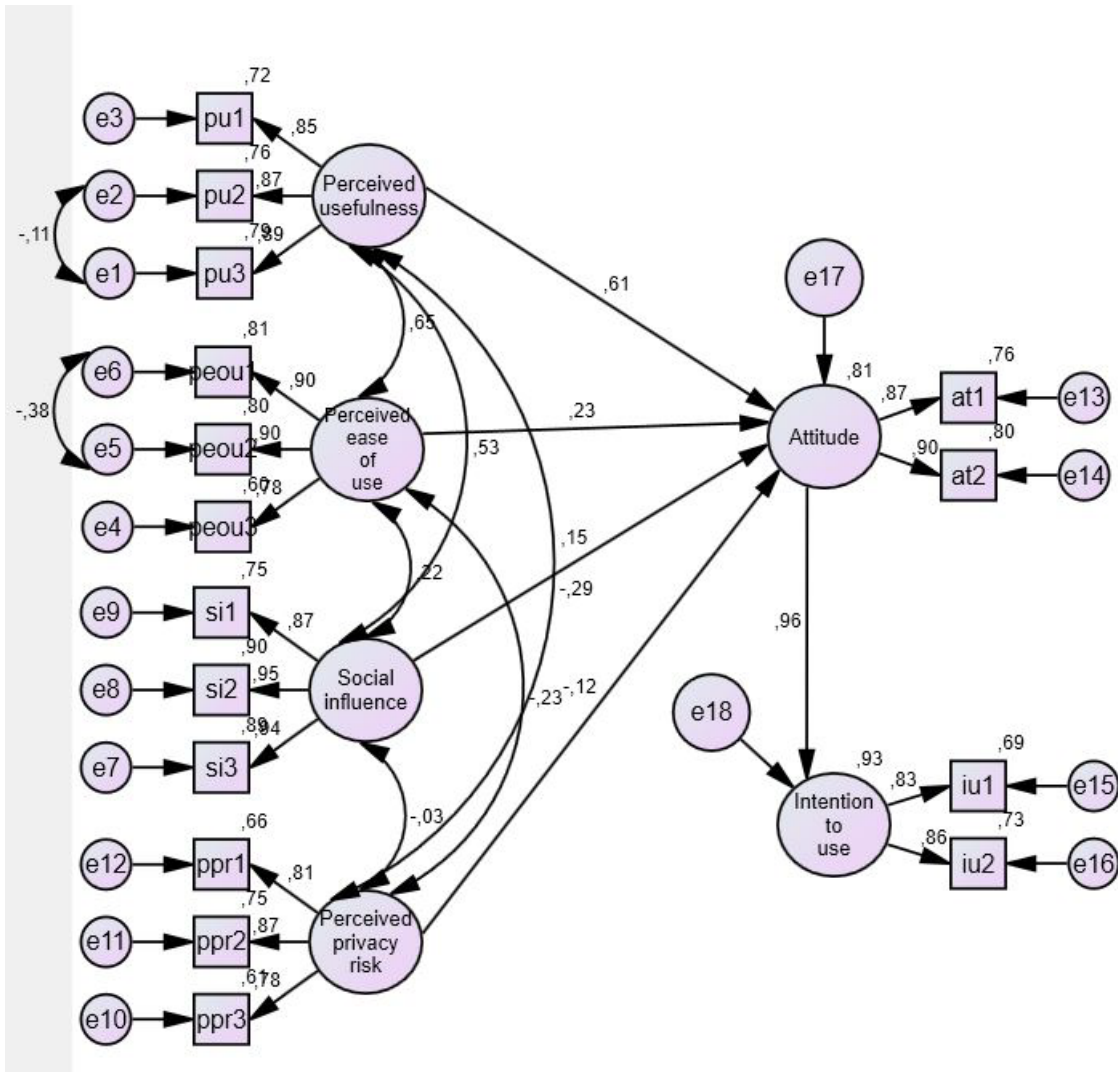
In Table 4, the factor loads of the scale items are examined. In the table, factor loads were acceptable (>.32). When Table 4 is examined, it is seen that the coefficients of the model are significant when the p value is accepted as p<0.001.

Table 5. Examination of the Model's Path Coefficients and Hypothesis Analysis

Factor	Direction	Factor	Hypothesis	Estimate	S.E.	t	P
Attitude	<---	Perceived Usefulness	H ₁	0.503	9.527	3	0.05 *
Attitude	<---	Perceived Ease of Use	H ₂	0.266	4.787	6	0.05 *
Attitude	<---	Social_Influence	H ₃	0.138	3.925	5	0.03 *
Attitude	<---	Perceived Privacy Risk	H ₄	-0.119	-3.509	4	0.03 *
Intention	<---	Attitude	H ₅	1.045	19.78	3	0.05 *

***p<.001

Figure 2. Path Analysis of the Model



In Table 5, information about the model path coefficients and hypothesis analysis of the research is presented. In this research, 5 hypotheses were established (H1: Perceived usefulness has a positive effect on the attitude towards smart watches, H2: Perceived ease of use has a positive effect on the attitude towards smart watches, H3: Social influence has a positive effect on the attitude towards smart watches, H4: Perceived privacy risk H5: Attitude towards smart watches has a positive effect on smart watch usage intention). When Table 5 is examined, it was found that the path coefficients of the five hypotheses examined in the study were in the desired value range. [H1 ($\beta=0,503$, $p=0,001$), H2 ($\beta=0,266$, $p=0,001$), H3 ($\beta=0,138$, $p=0,001$), H4 ($\beta=-0,119$, $p=0,001$) and H5 ($\beta=1,045$, $p=0,001$)]. As a result of the analysis, R-square (R^2) value of 0.78 for attitude and 0.93 for intention to use were observed.

Table 6. Examination of Summary States of Hypotheses

Hypothesis	Situation
H ₁ : Perceived usefulness has a positive effect on the attitude towards smart watches.	SUPPORTED
H ₂ : Perceived ease of use has a positive effect on the attitude towards smart watches.	SUPPORTED
H ₃ : Social influence has a positive effect on the attitude towards smart watches.	SUPPORTED
H ₄ : Perceived privacy risk has a negative effect on the attitude towards smart watches.	SUPPORTED
H ₅ : Attitudes towards smart watches have a positive effect on smart watch usage intention.	SUPPORTED

As a result of the examination of the summary of the hypotheses, it is seen that all the hypotheses of this study are supported. Analysis of the summary of the hypotheses is given in Table 6.

CONCLUSION

This study was carried out with the aim of examining the factors that affect consumers' wearable technology acceptance in a smart watch-specific manner. As a result of the literature review conducted for this purpose, the Technology Acceptance Model is used. In order to reveal the perceived usefulness, perceived ease of use, social influence, perceived privacy risk, attitude and intention to use smart watches, first of all, the relevant literature was searched and the concepts related to the subject were introduced. The research was conducted with 390 participants using the online survey method. When the demographic findings are examined, it is seen that 65.4% of the participants are female and 34.6% are male. In terms of educational the majority of participants are undergraduates with 52.8%, and when the marital status is evaluated, the majority are married with 50.8%, and when the age range variable is considered, it is seen that the participants between the ages of 25-34 constitute the majority with 38.5%. While 28.7% of the participants have an income of 7.001 TL and above, 25.4% have 4.500 TL or less. When the reliability analyzes of the scales are evaluated, it is seen that the Cronbach alpha coefficients have a high degree of reliability ($0.80 \leq \alpha < 1.00$). When the normality values of the scale and its expressions (kurtosis and skewness) are examined, it is seen that the skewness values of the scale and scale items are between -2 and +2 values, and the kurtosis values are between -4 and +4 values. The data showed a normal distribution. When the structural equation model and CFA fit values were examined and the results obtained were evaluated, it was seen that the fit indices met the recommended criteria. While X²/Df, GFI, AGFI and RMSEA values are in the acceptable range of fit values, IFI, TFI and CFI meet the good fit values. When the results of the CFA fit values of the established model are examined, it is seen that the values are within the range of the recommended criteria. X²/Df, IFI, TLI and CFI values are in the good fit range. GFI, AGFI and RMSEA values meet acceptable compliance values. When the regression values of the scale items are examined, it is seen that the coefficients of the model are found to be significant when the p value is accepted as p<0.001. When the path coefficients and hypothesis results of the model were evaluated, it was seen that all hypotheses were in the significant value range. Perceived usefulness, perceived ease of use, social influence have a positive effect on the attitude towards smart watches, perceived privacy risk has a negative effect on the attitude towards smart watches, and the attitude towards smart watches has a positive effect on the intention to use smart watches. All hypotheses are supported. Kutlu (2021) concluded in her study that perceived usefulness, enjoyment and attractiveness have a

positive effect on attitude towards smart watches, while ease of use and privacy risk do not have a positive effect on attitude. In his study, Marangoz (2017) concluded that the perceived usefulness and perceived ease of use of smart watches did not have a significant effect on the attitude towards smart watches, whereas the use of smart watches was found to be fun and the positive thoughts of the social environment on the smart watch had a significant effect on the attitude. Ada (2020) concluded in her study that the risk perceptions of the participants differ according to gender in the social risk dimension, their risk perceptions differ in the dimensions of social risk and financial risk, and as the income increases, the social risk and financial risk decrease in the participants. As a result, with this study, it is aimed to contribute to the literature by understanding the acceptance of new technologies and the perspective of consumers towards these technologies. It is possible that factors such as social impact, perceived usefulness, and perceived ease of use will give different results on attitude and intention, by conducting a new study on the technology acceptance model with different participants and different wearable technology products. This study was made on a smart watch, one of the wearable technology products, and doing the same work with another wearable technology product can contribute to the literature. With the new regulations brought by application developers, the privacy risk can be removed from being a problem for the consumer by increasing the security length. In addition, the visual development of smart watches and making them more of a fashion product can be presented as another suggestion that will increase preferability.

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FUTURE SCIENCE AND GLOBAL COMMON PROBLEMS

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ABSTRACT

Futurologists accept the present as data and make predictions and evaluations about the future. Understanding the change and its effects and planning accordingly are the basic principles of future science studies. It is a knowledge-based study that aims to mobilize resources, to use them effectively and to get results for the realization of predetermined goals. Future science is concerned with every field that affects humanity, from economics to politics, from technological development to social change. Future science is actually about planning the future by knowing the past, understanding the present. Future science tries to understand the future by evaluating information about the future. The most important problem regarding future studies is that future researches are carried out by developed countries and the possibilities of the future are planned to be shared among rich countries. Since the developed countries, which have the financial means to finance the studies, also have the opportunity to direct the studies in line with their own interests, the most important obstacle to the future science studies is that the studies about the future serve the egocentric visions of the developed countries. At the point reached today, it is certain that "mutual dependency will increase more and more". In the current form of government structure in the world, no matter how powerful states are, they cannot cope with global threats alone. Therefore, each country's shaping the future according to its own interests can negatively affect other countries in the globalizing world. In global problems, the solutions produced by each country to save itself deepen the problems as a whole.

Keywords : Online Education & Learning, Pakistan, Covid-19 Pandemic, Online Teaching & Learning Challenges

INTRODUCTION

After the Second World War, there was a political change that affected the countries. The most important feature of the 1940 world was uncertainty about the future. Uncertainty means unknown possibilities. After the Second World War, they needed long-term strategic plans for the reconstruction of the devastated countries of Europe. These plans required solid foresight about the long-term future. Because of this need, we come across a branch of science called the science of the future, which investigates what awaits humanity in the future and what needs to be done to reach the desired future by evaluating the available data after the Second World War.(Argüden:2004)

While European scientists laid out the human and philosophical foundations of futurology, American scientists developed its basic methodology and tools. Futurologists accept the present as data and make predictions and evaluations about the future. Understanding the change and its effects and planning accordingly are the basic principles of future science studies. (Argüden:2004) It is a knowledge-based study that aims to mobilize resources, to use them effectively and to get results for the realization of predetermined goals. Future science is concerned with every field that affects humanity, from economics to politics, from technological development to social change. Future science is actually about planning the future by knowing the past, understanding the present. Future science tries to understand the future by evaluating information about the future. (Argüden:2004)

According to the basic assumption of futurology, the future does not happen simply because it is predicted. What is at stake is our knowledge, will and initiative. Since the development and change we experience today shapes tomorrow, we should pay attention to how we live today while planning the future. If it were possible for us to predict future events with precision, we would not be able to change the future. The factors that determine the future are more than one, and changes in a factor can affect the future. For this reason, the task of futurologists is to make predictions about the future by understanding the events of the day by knowing the past, to warn the people and/or institutions who will plan the future about possible events and to prepare for the future.

Future Studies

The most important problem regarding future studies is that future researches are carried out by developed countries and the possibilities of the future are planned to be shared among rich countries. Since the developed countries, which have the financial means to finance the studies, also have the opportunity to direct the studies in line with their own interests, the most important obstacle to the future science studies is that the studies about the future serve the egocentric visions of the developed countries. At the point reached today, it is certain that "mutual dependency will increase more and more". In the current form of government structure in the world, no matter how powerful states are, they cannot cope with global threats alone.

Therefore, each country's shaping the future according to its own interests can negatively affect other countries in the globalizing world. In global problems, the solutions produced by each country to save itself deepen the problems as a whole.

Global Common Problems;

Security ;

We live in an era of rapid and profound changes in the global geopolitical and security landscape. In addition to the Covid-19 outbreak, the world is also affected by the securitization of the economy and the decoupling of relations between the United States and China.

Increasing demand and competition for energy, growing hybrid influence of major states like China or Russia, and tightening of security interests and hydrocarbon exploitation in the Arctic following the retreat

of the polar ice caps. Alongside these slightly longer-term changes, Russia's attack on Ukraine reveals more abrupt geopolitical shifts. While these changes attract more and more attention in the context of, for example, energy or cyberspace, they have received relatively little attention in the context of innovation policy.

Infectious diseases;

The Covid-19 pandemic has once again shown us how global the world's problems are. The virus that emerged in China has affected the whole world. We still have not returned to our pre-pandemic life and habits.

The COVID-19 pandemic burst at the beginning of 2020 has brought great misery to not only the global public health but the real economy and financial markets. Such public health emergencies may cause huge fluctuations in supply and demand in various industries and thus lead to dramatic price volatilities in related commodity and financial markets (Le et al., 2021; Weng et al., 2021)

Climate Changes;

Especially in recent years, we have been feeling the effect of global warming a lot. The change in climate has especially reduced the supply of food products. The resulting pandemic crisis and the Ukraine-Russian war had a multiplier effect on the food problem.

Climate change can adversely affect national security. National security is taken in a broader sense, encompassing security and conflict as well as human well-being that may be threatened by, for example, extreme weather events, ocean acidification or sea level rise. However, national security is mostly understood as a qualitative concept. Therefore, it will be important to quantitatively describe and mathematically evaluate the impact of climate change on national security. Such an effort must address climate security from its analytical and normative aspects. (Phillis, 2018)

The increase in interest in climate change within the framework of international environmental policy has become evident especially in the 2000s. The most important reason for this is that climate change is not an ordinary problem; The belief that it is a problem that threatens both individuals and states in the international arena, and in addition, the close relationship of climate change with other environmental problems. Climate change has been the most important issue among environmental problems and has been accepted as affecting the living standards negatively (Sağsen, 2011). If we need to open a little more; climate security has begun to be considered and discussed as a sub-component of environmental security. At the same time; Climate security refers to the physical, economic and societal impacts associated with climate change that significantly alter political stability, human security and national security infrastructure.

Economic Problems;

During the pandemic period, countries were faced with the problem of inflation resulting from decreased production and increased demand. In this case, the high interest policies implemented by the EU central bank and the American central bank reduce the rate of inflation. However, in developing countries like ours, such policies cause capital crisis and exchange rate fluctuations.

Increasing demand and competition for energy, growing hybrid influence of major states like China or Russia, and tightening of security interests and hydrocarbon exploitation in the Arctic following the retreat of the polar ice caps. Alongside these slightly longer-term changes, Russia's attack on Ukraine reveals more abrupt geopolitical shifts. While these changes attract more and more attention in the context of, for example, energy or cyberspace, they have received relatively little attention in the context of innovation policy.

CONCLUSION

In the current form of government structure in the world, no matter how powerful states are, they cannot cope with global threats alone. Change continues rapidly in the world. Many geopolitical developments are taking place in the world. Russia's efforts to re-emerge as an economic and military power, and the economic rivalry between the USA and China are the main examples of these.

The economic crisis and the pandemic have shown how fragile countries are on their own. Such economic problems are; The limited power of unilateral sanctions of the USA as the world's only superpower, The fragility of Russia's claim to become a superpower again, oil price dependency, The dependence of China's economic miracle on the growth of the global economy, It may be more expensive to save the EU's financial system than to save the US, which is the source of the crisis.

Countries that produce solutions to people's problems, work in partnership with other countries for global problems, produce environmentally friendly policies and create added value for world citizens will be the super states of the future.

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PROBLEM OF ELABORATION OF THE FORECASTS OF THE SUBJECTS OF THE COURSE OF MATHEMATICS IN THE SECONDARY SCHOOLS: CASE OF THE TEACHERS OF THE CLASSES OF THIRD AND FOURTH SECONDARY

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ABSTRACT

This research follows an observation: the teachers of the secondary school mathematics course, particularly those of the third and fourth year classes of Quartier Gambela II, do not develop subject forecasts. However, the circular note n ° DEPS/CCE/001/84/00764/85 of March 27, 1985 specifies that the forecast of the subjects is an essential educational document, an important guide of the work which helps the teacher not to complete his course very quickly or not rush his teaching at the end of the school year to complete the program.

The purpose of this study is to explain the difficulties of developing subject forecasts by the teachers concerned. Thus, it emerges from our investigation in the field that the following factors are the basis of the observation that we have made:

- The lack of very extensive didactic materials (the national program, the textbooks approved and in accordance with the program, the school calendar and the civil calendar)
- The very broad content-subject of mathematics 3 and 4
- The insufficient weekly schedule, i.e. hours per week

- And the lack of theoretical concepts for calculating the numbers of working days, potential course days and actual course hours corresponding to the total number of lessons to be given throughout the school year.

Keywords : Forecasting, Mathematics, Teachers

INTRODUCTION

Today, education is recognized as a key issue in the development of a nation. On this, LETHAN KHOI quoted by Prof Jean jacques Kalumba in his course of educational communication technique intended for doctoral students in school management, underlines that education is always like a human right, the source of its moral and intellectual development, the instrument of its social elevation, the condition of political democracy.

National opinion in the Democratic Republic of Congo is currently denouncing the decline in the quality of education for several decades after the country gained independence.

The education of young people, the spearhead of a country's development, is proving to be an arduous task that requires unlimited dedication, materialized in particular by the meticulous keeping of educational documents by teachers.

It is in this context that the circular, No. DEPS /CCE/001/84/00764/85 of March 27, 1985, insists on the compulsory keeping of educational documents by teachers and specifies that the forecast of subjects is a work guide. which helps the secondary school teacher not to rush his teaching at the end of the year to complete the program.

Thus, the forecast of the subjects determines what one logically transmits to the learners as scientific knowledge to endow with a required intellectual baggage by referring to the national program of teaching.

With the correct development of the subject forecast, the teacher is spared trial and error, hesitation and unpleasant surprises during the school year.

However, we realized that the teachers of the mathematics course of the third and fourth year secondary schools of Gambela II where I am a prefect for more than six years do not draw up the forecasts for the subjects.

In this regard, we are asking the following fundamental question: why the teachers of mathematics courses in the schools of our study environment, particularly those of the third and fourth secondary classes, do not develop subject forecasts?

Anxious to detect the causes of this situation, we tried to verify the hypothesis according to which the history teachers of the 3rd and 4th year secondary classes

experience difficulties in preparing teachers' forecasts. These difficulties can be explained by:

- Lack of teaching materials such as the national curriculum, textbooks approved and in line with the national curriculum, and calendar calendars
- Very extensive subject content
- The insufficient weekly timetable, i.e. two hours per week
- The lack of theoretical notions on the calculation of the number of working days, potential course days and actual course hours corresponding to the total number of lessons to be given throughout the school year.

Through this study, we set ourselves the objectives of detecting the causes of the lack of elaboration of the forecasts of the subjects by the teachers of the history course of the secondary schools of Isangi - center and its surroundings, particularly those of the third classes. and fourth year and propose the appropriate therapies.

After the presentation of the methodological framework, the causes of the lack of elaboration of the forecasts of the subjects will be raised in a second time before discussing the results in the light of the educational literature.

1. Methodological Framework

At this level, it is a question of presenting our sample and describing the method and techniques we used.

1.1. Sampling

The study population includes all the teachers of the mathematics course of the third and fourth year secondary classes of Gambela II

Within the framework of our work, we made use of the simple sample, we constituted it by randomly selecting twenty subjects.

The following table shows the number of teachers by school and by management regime.

Table 01. Number of teachers by school and management regime

NOT	DENOMINATION	EFFECTIVE	MANAGEMENT REGIME
1.	THAT'S IT	2	Private
2.	CS B	2	Private
3.	CS C	2	Private
4.	CS D	2	Private
5.	CS E	2	Private
6.	CS F	2	Private
7.	CS G	2	Private
8.	CS H	2	Private
9.	CSJ	2	Private
10.	CSK	2	Private
TOTAL		20	

Source: my personal research:

1.2. Research method and technique

In order to verify our hypothesis, we resorted to the systemic analysis of the observation of the forecasts of the subjects by the teachers of the mathematics course, taking into account the importance of this pedagogical document in the context of the teaching of this subject. discipline in secondary schools in the Democratic Republic of Congo, our country.

In the introductory part of our study, we evoked the factors relating to the lack of elaboration of the forecasts of the subjects by the teachers of mathematics of Gambela II.

Data collection was facilitated by the technique of the questionnaire, said questionnaire of the alternative type was composed of 9 questions, each of which had a relationship with one of the variables retained in this study.

Finally, data processing was facilitated by the method of content analysis.

1.2.1. Lack of teaching aids

In this variable, we retained: the national program, the textbooks approved and in conformity with the national program, the school calendar and the civil calendars

In relation to the national program, we asked the following question:

Question n^o 1: "The school management has provided you with the national program for the mathematics course"?

The opinions of our subjects are summarized in the table below:

Table 2: National program

Category of answers	Response frequencies	Percentage
Yes	12	60
Nope	08	40
Total	20	100

According to this table, 60% of survey subjects have the national mathematics program. It does not constitute an obstacle to the elaboration of material forecasts.

Concerning the textbooks approved and in conformity with the national program, the following question was addressed to our subjects:

Question 2: "Do you have approved textbooks of mathematics of 3 and 4 and in conformity with the national program"?

The responses of our subjects are summarized in the following table:

Table 3: Approved manual in accordance with the National Program

Category of answers	Response frequencies	Percentage
Yes	04	20
Nope	16	80
Total	20	100

According to this table, 80% of the subjects questioned do not have approved textbooks that comply with the national curriculum. One of the difficulties in developing material forecasts.

As for the school calendar, our subjects answered the following question:

Question no. 3: "Do you consult the school calendar for the development of Forecast of materials"?

The table below gives an overview of the responses of our subjects:

Table 4 : Consultation of the school calendar

Category of answers	Response frequencies	Percentage
Yes	06	30
Nope	14	70
Total	20	100

From the analysis of this table, 70% of the subjects questioned do not consult the school calendar for the work of developing subject forecasts. Another difficulty in updating material forecasts.

With respect to the calendar calendars of consecutive calendar years, we ask the following question:

Question n ° 4: "Do you consult the civil calendars to work out your forecasts of the matters"?

The responses of the subjects surveyed are summarized in the table below:

Table 5 : Consultation of the school calendar

Category of responses	Response frequencies	Percentage
Yes	04	20
Nope	16	80
Total	20	100

From the use of this table of data contained in this table, 80% of the subjects questioned do not consult the civil calendars to draw up their forecasts of materials.

1.2.2. Content-subject of mathematics course third and fourth year secondary

Table 6: Content-subject of mathematics course 3 and 4

Category of responses	Response frequencies	Percentage
Yes	18	80
Nope	04	20
Total	20	100

According to this table, 80% of the subjects surveyed confirm that the content-subject of history 3 and 4 is vast. This does not facilitate the task of developing material forecasts.

1.3.4. Weekly timetable for the 3rd and

4th –

We posed the following question to our subjects:

Question N^o 6: "Is the weekly timetable for Mathematics 3 and 4 of three hours per week sufficient"?

The reaction of the subjects surveyed is summarized in the table below:

Table 7 : Sufficient weekly timetable

Category of responses	Response frequencies	Percentage
Yes	02	10
Nope	18	90
Total	20	100

According to this table, 90% of the subjects questioned believe that the weekly schedule of the mathematics course 3 and 4 of three hours per week is insufficient and does not allow them to complete the program.

1.2.4. Lack of theoretical notions of calculation

In this variable, we used the calculation of: number of working days, number of potential course days and number of actual course hours.

In relation to working days, our surveys answered the following question:

Question no .⁰⁸ : "Do you calculate the number of potential course days, to work out your subject forecasts"?

Table 8 : calculation of the number of working days

Category of responses	Response frequencies	Percentage
Yes	00	00
Nope	20	100
Total	20	100

As in Table 8, this table confirms that our surveys do not calculate this number of potential courses of courses, i.e. 100% of the subjects questioned.

Question 8: "Do you calculate the number of potential course days to develop your subject forecasts"?

The following table summarizes the reaction of our subjects

Table 9 : calculation of the number of potential course days

Category of answers	Response frequencies	Percentage
Yes	00	00
Nope	20	100
Total	20	100

As in Table 8, this table confirms that our surveys do not calculate this number of potential courses of courses, i.e. 100% of the subjects questioned.

In relation to the number of actual course hours corresponding to the total program of lessons given throughout the school year, the following question was asked of our subjects:

Question no .⁰⁹ : "Do you calculate the total number of actual course hours to work out the subject forecasts"?

The following table summarizes the responses or opinions of our subjects

Table 10 : calculation of the total number of course hours corresponding to the total number of lessons

Category of answers	Response frequencies	Percentage
Yes	00	00
Nope	20	100
Total	20	100

From this table, we note that 100% of survey subjects do not calculate the total number of actual course hours. This constitutes a major difficulty for the elaboration of material forecasts.

2. Results analysis

2.1. Result in relation to the lack of didactic materials

a. Textbooks approved and in accordance with the national program

Through this study, we demonstrated that approved textbooks of mathematics are rare in our secondary schools. This situation is explained by the fact that our schools are located in areas where book markets, libraries or teachers can find resources. This is the reason why F. Caillods and T. Neville POSTLETHWAITE¹ state that whatever the skills of the teachers, they will remain of limited effect if the conditions are not met.

¹ . Caillods and POSTLETHWAITE, T. Neville, teaching and learning conditions in developing countries, in perceptive of educational planning, Paris, IIEP> UNESCO. 1989, p.150

b. School calendar and civil calendars

Lonji, M. et al² affirm that the school calendar is a work instrument which gives information on the subdivision of the school year into weeks, months, period, semester, vacations, leisure leave, legal holidays, the periods of the examinations of the juries, the end of cycle tests and the working days.

In the education system in DR Congo, it is the school authorities at all levels who have the obligation to make this work tool available to teachers. This is unfortunately not the case according to the surveys we have just carried out as part of this reflection.

The same is true of civil calendars.

Teachers are placed under the direct authority of their headteachers. It is up to the latter to do everything possible to provide their collaborators with these precious didactic materials, as confirmed by Caillots, F and Neville, P³.

2.2. Result in relation to the content-subject of the mathematics course 3 and 4

This study demonstrated that the content-subject of the course of mathematics 3 and 4 is vast. Matukula, explains this situation by the fact that Mathematics 3 subjects range from origins with a total of over forty-five lessons for the entire school year, while Mathematics 4 with a total of over forty-four lessons.

For our part, this is indeed a problem for a teacher regardless of his qualification and especially in places where he does not have enough books as in our study environment at Gambela II.

3.3. Result compared to the weekly timetable

The present study has just confirmed the fact that the two hours allocated to history teaching per week are not enough to complete the program and achieve the objectives assigned to this school subject.

This situation is the result of the secondary education reform of June 19 1981 which abolished Ordinance-Law No. 67-250 of June 05, 1967 on the organization of cycles secondary education which, in its section II, article 5, allocated four to five hours of teaching per week to the mathematics course in the classes of 3rd, 4th, 5th and 6th secondary years.

3.4. Result in relation to the lack of theoretical notions of calculation

has. Calculation of working days

Working days concern all working days. On this, the teacher must refer to the calendar and the civil calendars of two consecutive years to work out his forecasts of the subjects. However, our teachers do not have these didactic materials.

Beyond this aspect, our teachers have no idea of the cryptogram of a calendar year which makes it possible to determine the number of Mondays, Tuesdays, Wednesdays, Thursdays, Fridays and Saturdays in order to retain only the working days during the development of material forecasts.

² Lonji, M. et al, Guide for the development of the forecast of subjects in secondary education, Kisangani, IPP, 2013, p.3

³ Caillots, POSTLETHWAITE, T. and Neville, P, op cit., p.170.

To determine the number of working days, all Sundays, days off for relaxation, vacations and legal holidays must be counted.

All these operations constitute serious difficulties on the part of teachers.

b. Calculation of potential course days

Potential lesson days are, according to Lonji , M. et al. ⁴, days on which new lessons occur.

To determine them, it is necessary to count:

- Refresher days: the first week of classes: from 02 to 07 September, i.e. 06 days.
- Revision days of the first week: from January 30 to February 05: 06 days
- The first semester exam period: from 06 to 13 February , **i.e.** 07 days
- Revision days for the second semester: from May 27 to June 02: 06 days
- The days of the second semester exams until the end of the school year: from June 03 until the end, i.e. 25 days.

In light of the above, we have a total of 50 days to count.

To facilitate the calculation of the number of potential course days, the following formula should be used:

$JP = JO - JD$ Legend:

PD = Potential Days

BD = Working days

JD = Counted Days

Ex: 222 days – 50 days = 172 days.

C. Calculation of actual course hours (HR)

To determine the number of actual course hours, we proceed as follows:

- We first determine the total number of course hours (HT),
- Then determine the number of hours to count down, i.e. the hours of circumstances and unforeseeable (HD)

The formula below is used to calculate the number of actual course hours: $HR = HT - HD$

In relation to this variable, F. Caillods and T. Neville Postlethwaite ⁹ argue that teachers should have a high general level of education and that those employed in secondary schools should have a thorough knowledge of the way they teach. . But unfortunately, underline the same authors, ¹⁰ the situation of secondary education has deteriorated in certain countries where the **accelerated** programs of development have led the managers of private schools to recruit many teachers who have not received any pedagogical training and whose the level of education was insufficient.

⁴ Lonji , M. et all, op. cited , P.4.

CONCLUSION

In this study on the elaboration of the forecasts of the subjects of the course of mathematics in the classes of third and fourth years of the secondary schools of Gambela II, we started from the report according to which the teachers do not work out the forecasts of the subjects.

In this regard, we are concerned to know why the teachers of mathematics 3 and 4 in our study environment do not develop subject forecasts.

To carry out this study well, we formulated the hypothesis according to which the mathematics teachers of the third and fourth year secondary classes in Gambela would experience difficulties in developing subject forecasts. These difficulties can be explained by:

- The lack of didactic materials (national program, textbooks approved and in accordance with the national program, the school calendar as well as the civil calendars of the last two consecutive years),
- Very extensive subject content
- The insufficient weekly timetable,
- The lack of theoretical notions on the calculation of the number of working days, potential course days and the actual hours of lessons to be given throughout the year.

We set ourselves as objectives:

- Identify the causes of the lack of preparation of material forecasts
- Seek appropriate therapies to remedy this situation

The population of our study environment includes all the teachers of mathematics courses in the third and fourth year secondary classes of our schools. While our sample consisted of 20 subjects who represented all the teachers in our study population. We used the survey questionnaire as a research technique. Said questionnaire had 9 questions with alternative answers related to each of the indicators retained in this study.

Finally, we made use of content analysis to present and analyze the results obtained: which made it easier for us to discuss them.

By way of results, we can retain the following:

- With regard to the lack of didactic materials: national program, textbooks approved and in conformity with the national program, the school calendar as well as the civil calendars are cited as reasons for the non-elaboration of subject forecasts by the teachers of our schools,
- Concerning the content-subject of mathematics courses, this indicator is cited as the reason for the lack of elaboration of forecasts of subjects because of its very vast scope in the national program,
- The weekly schedule of three hours per week is recognized as a factor that does not facilitate the preparation of subject forecasts,
- Finally, as to the theoretical notions on the calculation of the number of working days, potential days of lessons and the actual hours which correspond to the total number of lessons to be given throughout the school year

Before closing, we remind you that improving the quality of mathematics education in our secondary schools depends on the efforts of everyone: heads of establishments, teachers, managers, inspectors, etc.

May the results of this study inspire each other in the search for solutions to the problems posed by the lack of preparation of subject forecasts in our schools.

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ABSTRACT

Automated Guided Vehicle (AGV) has a mechanically built structure to transport items from one station to another station automatically. It is one of the material handling equipment that are most often used in the industrial applications to move materials around a manufacturing facility or a warehouse. The system is completed through the written code structure programmed into the Arduino Nano microprocessor which acts as the machine controller. The design attached at the front section of the frame is the ultrasonic sensor which is used to detect an obstacle and send signal back to the microprocessor to stop the motor in a 50 cm range from the detected obstacle. Meanwhile, the design attached below the frame, at the front is two auto calibrating sensors which can cover the line detection of 1 cm to 3 cm wide, dark colour line. The sensors are built with five infrared (IR) transmitters and receivers. Lastly, the auto calibrating sensors detect the presence of a black line on the ground and send signal to the Arduino Nano microprocessor which in return send signals to the motor drivers which are installed to control the speed of the motor to drive the wheels through a chain and sprocket drive.

Keywords: *Automated Guided Vehicle, Material Handling, Arduino Nano, microprocessor*

INTRODUCTION

One of the various material handling systems used in industrial applications to move raw materials around a factory or warehouse is the automated guided vehicle (AGV), which considerably decreases the workload of human labourers and expedites the transportation process. A person is typically required to push or pull the trailer that transports the raw materials. However, manually pushing and dragging the trolley while it is loaded may have a significant impact on the workers' ergonomics, leading to conditions like Low-back Disorder (LBD). Work-related musculoskeletal disorders (MSDs) such as profession-related LBD are brought on by a combination of poor body mechanics, difficult movements, inappropriate lifting techniques, and bad posture.

The main objective of this project is to build an AGV that will ease the delivery of manufacturing materials/products from point A to point B without causing any harm to the operator. This project can be used by the material handling sector to make it easier to transfer materials and components, by small businesses who need to move large objects in a warehouse, and by TVET institutions that require materials and equipment to be delivered to them within the confined work areas.

LITERATURE REVIEW

Material handling in industrial systems is becoming significantly more efficient as a result of the ease brought on by freshly enhanced automated machine technology. One of the most widely utilised materials handling methods is the Automated Guided Vehicle System. It has emerged as one of the flourishing equipment categories in the material handling sector. The AGV is a material handling system that is autonomously operated, according to Groover (2013). Automated guided vehicles are self-moving cars that follow predetermined routes between distribution sites. The cars also use changeable batteries that can run for a long time before needing to be recharged (typically 8-16 hours). The chassis, batteries, electrical system, drive unit, steering mechanism, microprocessor, and work platform are the main building blocks of a typical AGV. In comparison to earlier AGV systems, modern ones have many differences. Several modern AGVs have free range paths rather than fixed ones. This demonstrates how a software can programme the path of the vehicle and how it will be able to minimise relative change if new stations and even flows are introduced. In contrast to more recent AGV technology, which allows the vehicle to make decisions on its own, older AGV technology was controlled by central controllers. The AGV's adaptive, self-learning mechanism is the result of this technology (Le-Anh, 2004).

According to Groover (2000), AGV can be divided into the following three categories which are: (i) Driverless Train; (ii) Pallet Trucks; and (iii) Unit Load Carriers. An AGV serves as the towing vehicle in a driverless railway, which is made up of one or more trailers. It was the first kind of AGV to be made available and is still in use today. Moving heavy payloads across long distances in a warehouse or factory, with or without intermediate pickup and drop-off stations along the way, is a typical application. If the trains have more trailers, they will be a more efficient transportation method because they can move and carry more loads (Groover, 2000). Meanwhile, automated guided pallet trucks are used to move palletized loads along predetermined path routes. In the typical application, the AGV is backed into the loaded pallet by a human worker who steers the truck and uses its forks to elevate the load slightly. Unit load carrier is used to move unit loads from one station to another. They frequently have powered rollers, moving belts, automated lift platforms, or other systems incorporated into the vehicle deck for automatic loading and unloading of pallets.

METHODOLOGY

To make this project a success, several steps need to be taken and followed to ensure that the project will be smooth and successful. If there is a problem, this flow chart should be referred again to assist before or during the project. Having this flow chart promotes a more organized and systematic use of time as it can follow all instructions promptly. This project was completed according to the flowchart and design process shown in Figure 1 and 2.

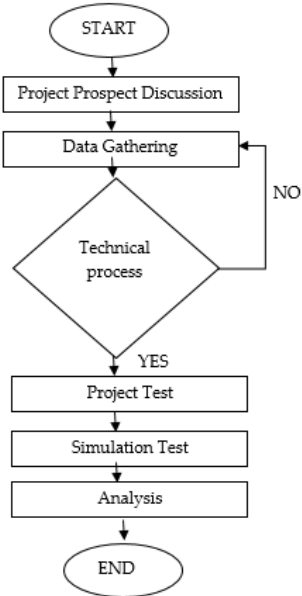


Figure 1: Flowchart of project

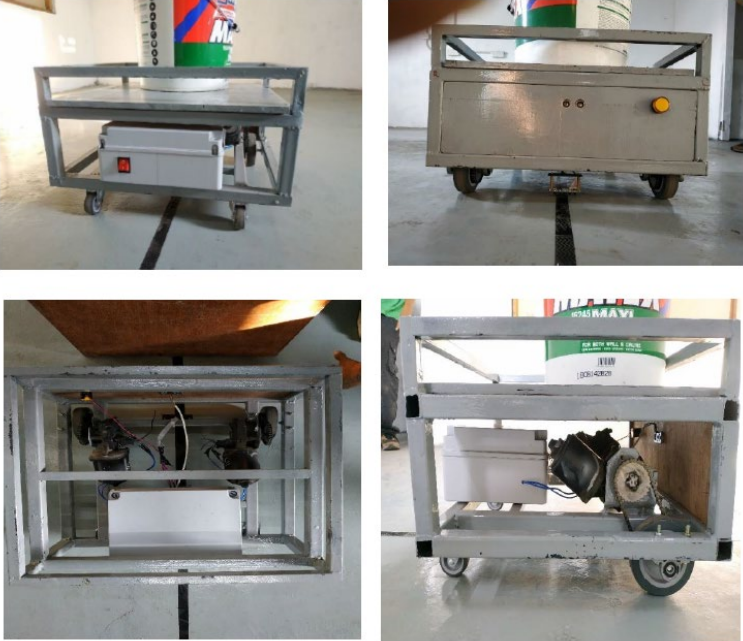


Figure 2: Design of project

In order to identify the black tape on the floor surface during testing, firstly program the Arduino microcontroller using the auto calibrating line sensor. After that, test the sensors to determine if each of the five IR could detect the black tape equally without causing the AGV to veer too far to one side while still maintaining a straight course. After that, program the Arduino to use the motor driver to decide and start the motor's movement and stopping speed. The ultrasonic sensor was then designed to alert the Arduino to stop the motor when it came within 50 cm of an impediment and to detect any obstacle outside of that range. The AGV was then tested, and data was gathered.

FINDINGS AND DISCUSSIONS

The purpose of obtaining results and data was to compare to see if the project will be beneficial for future commercial uses and to identify what needs to be improved for the further improvement of the product.

- (i) Ultrasonic sensor is able detect an obstacle and send signal back to the microprocessor and to motor driver to stop the motor in a 50 cm radius from the obstacle;
- (ii) Auto calibrating line sensor was able to read the black line on the floor all the way until the end destination without stopping due to failure; and
- (iii) Error in carrying load when battery was weak, indicated that the battery had to be fully charged before operation.

Following the completion of the fabrication process, the ability to tow a load, obstacle identification, and line testing or evaluation are carried out. The objectives are met if the AGV is able to pass each test, and vice versa. If any corrective action needs to be taken, the AGV is modified as well. The explanation includes recordings of the data collection and the outcomes.

Line Following Testing

The line following test is done to ensure that the auto calibrating line sensor functions as intended, and the robot was able to follow the laid-out line on the floor without encountering errors. Table 1 and 2 showed the data collection for line following test and distance travelled versus time taken. Each DC motor is controlled by two signals. The direction of the motor shaft's rotation changes when the polarity of the motor is changed. By adjusting the voltage being provided to the motor, the rotational speed can be changed. Chain drive was used to move the AGV because DC motors cannot provide enough torque to move it on their own.

Table 1: Data collection for line following test

IR 1	IR 2	IR 3	IR 4	IR 5	DIRECTION
0	0	0	0	0	Left
1	0	0	0	0	Right
1	1	0	0	0	Right
1	1	1	0	0	Right
1	1	1	1	0	Right
1	1	1	1	1	Straight
0	1	1	1	1	Left
0	1	1	1	0	Straight
0	1	1	0	0	Right
0	0	1	0	0	Straight

Table 2: Distance travelled vs Time taken

LENGTH OF TAPE	TIME TAKEN	CONDITION (LOAD)
478 CM	3 minutes 48 secs	0 KG
478 CM	4 minutes 22 secs	15 KG

Obstacle Avoidance Sensor Testing

The obstacle avoidance sensor test is done to ensure that the ultrasonic sensor can identify the obstacle within range and return signal back to Arduino. The ultrasonic sensor identified the obstacle within 2-15 cm range and signals back to the Arduino to signal the motor driver to limit the current supply for the motor shaft to stop. Table 3 showed the data collection for obstacle avoidance test.

Table 3: Data collection for obstacle avoidance test

DISTANCE	MOTOR RESPONSE
110 cm	Run
80 cm	Run
64 cm	Run
40 cm	Run
35 cm	Stop
20 cm	Stop
18 cm	Stop
2 cm	Stop

CONCLUSION

One benefit of the training kit-automated line guided vehicle is its low cost of construction, which makes it affordable for small businesses to buy and operate as their warehouses and workshops. By removing the need to push and pull big goods and leaving the heavy lifting to the AGV itself, this product would minimise the rate of LBD and MSD diseases that occur in the material handling industry and other heavy lifting related industries alike. Additionally, the device's tiny form factor makes storage simple, especially while not in use. The device appears less impregnable when it is moving thanks to the brilliant grey colour, which is also evident to the user's eyes and those of any onlookers. In addition, the product has taller walls at each corner of the item placement area, preventing any things on the item storage bay from falling off during movement or in the event of an accident.

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RESTRUCTURING THE EDUCATION CURRICULUM ACCORDING TO THE NEEDS OF THE 21ST CENTURY

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ABSTRACT

The 21st-century world has become home to immersive technology that has already replaced people in many jobs that require manpower. Many professions have been lost, changed, or transformed. According to the projections of the OECD, in many more jobs, machines and robotic techs will be used without the need for manpower. However, human-connection-required professions have emerged in which machines cannot be used. Because of the function of education to produce a workforce, education systems need to be restructured according to these changes and developments in the labor market. The curriculum may be one of the main intervention areas as it constitutes the content of education and the sum of the learning experiences. The need for curriculum transformation has clearly come to light in the coronavirus pandemic. Normal life has stopped for a long time, despite the great technologies, incredible communication networks, and many other opportunities. These technologies may not function as expected unless there are skilled people using them. Therefore, one of the reasons for this pandemic crisis may be that the curriculum still reflects the traditional paradigms of the early stages of the industrial revolution. The present curriculum may be insufficient to prepare people for the world of the future. In this regard, the crisis experienced with the pandemic may be a curriculum crisis. Thus, this study aims to examine the curriculum crisis of the 21st century and to put forward suggestions. Eventually, we present some issues, inferences, and implications in this study. The curriculum of the 21st century needs to prepare students for the new demands brought by rapid social, environmental, and economic changes; for professions that have not yet emerged; for technologies that have not yet been invented; and for social problems that have not yet been encountered. The curriculum also has to be flexible and resilient enough to handle future crises and ambiguity. In the present fast-changing world, it is desired that the curriculum be affected by these changes in the least possible way. A flexible curriculum refers to a curriculum that is sensitive to the needs of individuals. As a result, it has become a necessity for both Turkey and other countries to restructure and study the curriculum in a flexible and durable structure with the knowledge and skills that will enable individuals and societies to keep up with the pace of the age and survive in the 21st century world.

Keywords : curriculum, education, educational systems, learning, 21st century

INTRODUCTION

The 21st-century world has become home to immersive technology that has already replaced people in many jobs that require manpower. Many professions have been lost, changed, or transformed. According to the projections of the OECD (2018a), in many more jobs, machines and robotic techs will be used without the need for manpower. However, human-connection-required professions have emerged in which machines cannot be used. Because of the function of education to produce a workforce, education systems need to be restructured according to these changes and developments in the labor market. The curriculum may be one of the main intervention areas as it constitutes the content of education and the sum of the learning experiences. The need for curriculum transformation has clearly come to light in the coronavirus pandemic. Normal life has stopped for a long time, despite the great technologies, incredible communication networks, and many other opportunities (i.e., Lai & Widmar, 2021; Watts, 2020). These technologies may not function as expected unless there are skilled people using them. Therefore, one of the reasons for this pandemic crisis may be that the curriculum still reflects the traditional paradigms of the early stages of the industrial revolution (Pinar, 2021; Ydo, 2021). The present curriculum may be insufficient to prepare people for the world of the future. In this regard, the crisis experienced with the pandemic may be a curriculum crisis. Thus, this study aims to examine the curriculum crisis of the 21st century and to put forward suggestions.

2.1. The functions of education

The value of education for society is related to its functions. In this regard, Dewey claimed that the education is the biggest and most valuable investment that society has made for itself (Dewey, 2019). One function of education is to ensure that young people of the society are socialized in a way that will display similar feelings, thoughts and behaviors with other individuals in the society, behave according to common values and goals, and be connected to each other culturally and historically. Another important function of education is to give hope to individuals in society to overcome social inequalities with knowledge and skills (Hurn, 2014). From a sociological perspective, education is the social institution that is expected to close the gap between a child born in socioeconomically disadvantaged regions with very limited opportunities and social problems, and a child who grows up with rich conditions and an abundance of resources even when he was a baby. According to functionalist theories, in this sense, education functions as a social justice warrior (Hurn, 2014). However, this function of education may not be adequately operated even in the developed countries (i.e., Chzhen et al., 2018). Even in the developed countries, children experience inequalities in education due to their conditions. Another of the main functions of education is to provide the labor force needed by the society. This function, which responds to the need for the economic development of the society, includes the acquisition of knowledge, skills and behaviors that will enable individuals to acquire a profession. Specifying how knowledge, skills and behaviors acquired must be in line with the needs of working life. According to Durkheim's education, the competencies to be gained to individuals in the society should be aimed at the needs of the society, not the individual (İnan, 1991).

Although the society-centered education approach can be questioned (Inan, 1991), it's hard to deny that education material must be based on working life. The transformation from an agricultural to an industrial society established the origin for the current schooling system (Harkins, 2008; Huk, 2021). Before the industrial revolution, products were made with simple hand tools. Family and community imparted information and skills connected to limited jobs. Working life needed one-on-one training from an instructor or a master. Information was limited and held by a select group. Technological developments from the industrial revolutions have revolutionized working structure. The need to use machines instead

of manual skills and the increasing labor demand with mass production have made it necessary to provide this workforce for the continuance and progress of society. In this way, the evolution of education has a strong connection to working life.

Early in contemporary education, schools were regarded factories to represent economic conditions of the time. Individuals who are the factory's outputs generated technologies and making breakthroughs that will revolutionize schooling again. Internet innovation is a milestone in this aspect. Parallel to Internet development, education has transformed (Harkins, 2008; Huk, 2021). Because technical improvements, notably the internet, which transfers knowledge from a certain group to a paradise that everyone can access, have allowed people to abandon their little worlds and establish international communication networks. This vast communication network has changed people's worldviews, beliefs, feelings, and meanings. Intense migration and increased urbanization due to conflicts and climatic catastrophe have changed state demographics and created civilizations with mixed ethnicities and cultures. The structure of society has become complex and is transforming in various aspects, including economic and working life (Kay & Greenhill, 2011).

Changes in society's structure have exposed new ideas, movements, and understandings. Existing scientific paradigms have been criticized, and society's concept of reality has changed to the point that each individual has his own reality and truth. Education has changed to be more student-centered, sensitive to diversity, and constructivist (Harkins, 2008; Vääätäjä & Ruokamo, 2021). Technology has reformed the structure of society and industry. First and second industrial revolutions mechanized industry; third and fourth revolutions automated it using AI, robotics, and machine-machine interactions (Benesova & Tupa, 2017). In this regard, the necessity for personnel to use the machine in the early phases has shifted toward the hiring of more educated, competent employees who not only use the machine but also design it and who have higher level abilities. Today's individuals, vocations, and working lives do not resemble those of the industrial revolution when modern education was founded.

In the 21st century, many vocations have been lost, modified, or transformed with the transition from human-controlled machinery to an industry that governs itself through human-coded programs. According to OECD forecasts, machines and robots will take over many human employment in the future (OECD, 2018a). Considering the aim of education to prepare individuals for working life, it will not be adequate for learners to consume information or teach technology in schools. Even the technology to be taught changes, evolves, or is replaced quickly. Learners can now access information outside of school. Internet gives students access to information wherever and anytime. In this setting, the outputs of the education system established with 20th-century paradigms do not fulfill today's labor market needs. The 21st century refer education and industry as pieces that interact and feed each other at the point of labor supply. Education and industry are expected to be connected in this century, and industry should not avoid training the workforce by observing education content and putting it in the curriculum when appropriate (Bon et al., 2018). As observed, today's education system, which prizes knowledge and innovation, may face its biggest and most profound transformation since its modern foundations were created. Thus, restructuring schooling is necessary.

2.2. 21st Century Skills

As technology advances, automated systems and robots perform more and more work, making some positions old-fashioned. The transformation of professions causes employment loss or in-service training. However, technology also creates new jobs (OECD, 2018a). Although machines occupy many business areas, jobs that people can do largely or only exist, and their importance and variety are growing with technological advances. In this way, technology directs people to higher-skilled employment, and

provides new areas for them to apply their potential. Human-centered and digital 21st century skills are needed. 21st century skills have been at the forefront of theory and practice in new and current business areas for some time.

Although there are numerous models of 21st century skills, they often encompass similar skill sets. Battelle for Kids defined these skills as follows: 1) life and profession, 2) learning and creativity, 3) knowledge, media and technology (Battelle for Kids, 2019). Life and professional skills are important in the uncertain working environment of the future and in a multicultural, polyphonic, variable, and rapid life. These include adaptation, assertiveness, social and multicultural skills, productivity, accountability, leadership, and responsibility. Learning and invention are the essential abilities students should have when being prepared for the future. These are creativity and innovation, critical thinking and problem solving, communication and teamwork. Information, media, and technology skills involve using information and technology effectively and ethically in today's information explosion, rapid technological growth, and media-oriented environment. These are information, media, and ICT literacy skills (Battelle for Kids, 2019).

OECD (2019) classifies skills as a) cognitive and metacognitive, b) social, and emotional, c) practical. Learning, creativity, problem-solving, critical thinking, and self-regulation are cognitive skills. Empathy, self-efficacy, responsibility, and cooperation are social-emotional skills. Practical skills involve using knowledge and technology. These skills not only help individuals survive and flourish as transferrable skills in a complicated culture and unpredictable working life, but also reshape society. OECD describes them as transformative competencies as three components. Individuals need purposefulness, curiosity, openness to new ideas, critical thinking, and creativity to create new values. Managing tensions and conflicts requires cognitive flexibility, problem-solving abilities, inventiveness, empathy, respect, and endurance. In assuming responsibility, consequences and ethics are emphasized. Self-regulation, introspective thought, respect and concern for others, integrity, moral awareness, and trust are essential. In summary, the 21st century expects conscious information consumption, the ability to analyze and synthesize information, openness to different information, creative thinking when producing information, the ability to bring information to life and use it wisely, active problem-solving, and communication and cooperation when needed. can be expressed as ethically aware.

How to develop 21st century skills is a question for students and society. OECD Education 2030 project is one of the endeavors in this context. The OECD highlights that schools should restructure to suit shifting requirements in the 2030 education target (OECD, 2018b). Education must prepare students for new professions, technology, and social challenges brought on by rapid social, environmental, and economic changes (OECD, 2018b). OECD claimed that schooling must reform. In this regard, the education curriculum is the basis and focus of the discussion concerning what learners will learn.

2.3. The education curriculum

Curriculum is a complex concept with no agreed-upon definition. It's the sum of students' school learning (OECD, 2020). To structure a curriculum, know its component. Schwab (1973) examines the curriculum in five components: subject, student, instructor, learning environment, and curriculum production process. Subject is the curriculum's knowledge, values, attitudes, abilities, and behaviors. The student component defines who the curriculum benefits. Curriculum should be sensitive to learners' cognitive, social, emotional, physical, and moral growth, as well as their generational similarities and variances. Teachers are another component. Important challenges include instructors' role in the curriculum and their willingness to learn and adopt new ideas and strategies. The other component, the learning environment, includes the school, classroom, and students' families and close circles. Therefore,

a curriculum should include students' social networks and their learning. Students' relationships with classmates, instructors, neighbors, and family define these networks. As the final component, curriculum reconstruction and curriculum studies are vital (Schwab, 1973). Reconsidering the curriculum should encompass these five components and their present definitions.

Students are at the center of the innovation societies. However, being in the center and subject position does not mean students must receive undue attention from instructors and parents. The student actively participates in society by making his own decisions, facing the consequences, and taking responsibility. In learning settings, students decide what and how they will learn (Feriver & Ark, 2021). Students determine what they will study, notwithstanding the official curriculum and teachers' decisions, because no one can be compelled to learn (Goodson & Schostak, 2021). Students should not be loaded with knowledge. In the first industrial age, students were passive consumers of their teachers' information. In the 21st century, students should be active observers and organizers of their own learning. For example, New Zealand adopts student-centered education. In New Zealand's education system, students must choose six or seven courses from a pool (Feriver & Ark, 2021).

Student component demands sensitivity to curriculum's target demographic. As noted, 21 century students do not resemble industrial-era students. Life is intertwined from digital technologies for this century kids. An education system that prepares pupils for life should embrace technology and meet their demands in this area. These needs include digital skills and literacy. Even if children and teens are introduced to digital devices at a young age or even before birth, they may not have the resources and chances to learn how to use them correctly, safely, efficiently and ethically. In this aspect, the digital gap is seen in pupils' digital skills and literacy (Aissaoui, 2021). Develop digital skills is important to combat cyberbullying, cyberhate, gaming and internet addictions, disinformation, and cybercrimes, and to protect pupils. Considering that 21 century technologies contain risks, especially for disadvantaged and vulnerable populations, as well as inconceivable potential, the curriculum should be revised to guarantee that students become conscious technology users.

What students desire and need to learn drives the curriculum. In this regard, the curriculum incorporates 21st century skills, the importance and necessity of which have been noted. It is crucial for students to adjust to future working life and the uncertainties of life by keeping their psychological well-being. However, 21st century skills in the curriculum raises some questions. First question is to choose which skills to teach. Countries might establish distinct skills based on the type of person they wish to raise, such as critical thinking, problem solving, and social-emotional management. South Korea aims to generate self-directed, creative, cultured, and harmonious people (OECD, n.d.). The six core competencies designated for the education system are in line with this objective; they comprise communication skills, emotional competencies, creative thinking skills, information processing skills, self-management abilities, and interactions with other people and being valuable to society. In identifying basic skills, it's important to know what kind of person the school system seeks to raise.

How to adapt abilities to the curriculum is a similar problem. These skills may be added as a subject or unit to some courses or considered vital skills to be mastered in every course (Voogt & Roblin, 2010). Adding more courses and subjects to the curriculum may make it cluttered, so it may be better to integrate these abilities as core achievements (Feriver & Ark, 2021). Incorporating these abilities into each subject without treating them as a distinct unit helps enhance and reinforce learning by showing students how they can be used in the future. Life skills are 21st-century skills. In this environment, the meaning and role of school in society, where these skills are acquired, must be modified. School should not be isolated from life. Students' capacity to apply what they have learned is a goal in this setting. The basic themes of the curriculum should be analyzed and simplified so that students may use the information in their daily

lives and future businesses. Therefore, basic and applied knowledge should be incorporated with basic competences in the curriculum.

The 21st century curriculum needs four forms of knowledge, according to the OECD 2030 Education Compass (OECD, 2020). First is discipline-specific information. Local language, mathematics, science, social sciences, physical education, arts and technology/home economics are the basic study areas (OECD, 2020). Second is interdisciplinary information. Interdisciplinary understanding covers how arithmetic is used in science or a historical perspective or geographical themes. Interdisciplinary knowledge helps students transfer lessons and diversify their knowledge. Epistemic knowledge comes third. Epistemic knowledge is how experts and practitioners think and work. This information helps students learn with purpose and apply what they have learned. If we want students to choose what they study, we must let them understand the purpose of information and create their own learning goals. Forth define procedural information type. This type of knowledge is related to systematic thinking since it explains the procedures and processes that make anything, answering the question of how knowledge is formed. In this setting, a future curriculum cannot just be discipline-specific.

The curriculum should include discipline-specific, interdisciplinary, practical, and procedural knowledge. Thus, the school should work with other institutions and organizations to integrate school and life. The school should have tight ties to agriculture, industry, services, and higher education. Relations between schools and industries help students and businesses to learn about each other. Business and industry want a trained workforce, but they are not involved in its training (Bon et al., 2018). Lack of knowledge between the education and industry generates discrepancies in expectations between school and employment. By combining education with industry, students can build their social networks by experiencing working life while in school and uncover their interests and abilities through volunteer work. Sectors can prepare for the future by participating in and monitoring the training of their future employees. Some American high schools are cooperating with the working world. Students experience corporate life through paid summer internships, and in certain institutions, business leaders meet monthly to discuss the curriculum. In addition to engaging with diverse sectors, local colleges are partnered with to encourage student growth (for good examples, see Battelle for Kids, n.d.).

21st century instructional environments differ from those of earlier centuries, which affects the curriculum. In the past, education took place in classrooms within a building; today, it's everywhere and every time (Harkins, 2008). Asynchronous and online courses can be taught anywhere. In this setting, technology provides tools that will improve communication, but integrating them with the centuries-old system is difficult. The difficulty in transferring education to the digital environment during the pandemic demonstrated this problem. While the curriculum should be adapted to digital surroundings, digital instruments for teaching and training should be designed. Digital worlds have made customized education, which expresses education programs tailored for each student's unique development features, abilities, and interests, more accessible. Digital tools can make curriculum more sensitive to individual differences.

It should be ensured the active engagement of teachers, principals, students, and their families in curriculum preparation. This subject is important in Turkey's curriculum changes. In the 2018-updated curriculum, purposes like inventive thinking, entrepreneurship, and digital skills continue to be included (Deveci, 2018). Adding these principles to the curriculum without giving actual instances and without training education stakeholders such as teachers, school administrators, and psychologists has generated questions (Acar, 2019). The absence of education stakeholders in this process raises the risk that key ideas will remain in writing. Some studies claim that teachers lack sufficient knowledge, skills, and willingness to execute these changes in their classrooms (Aydin et al., 2018; Özüdoğru, 2021). For curriculum

implementation, teachers need seminars and in-service trainings. Despite changes and improvements done when stakeholders are not participating, the program will remain traditional.

The points stated thus far are significant in curriculum redesign. Today's curriculum emphasizes adaptability and resilience (OECD, 2020). To help society members, recognize future opportunities and minimize hazards, the curriculum should be flexible. In today's quickly changing world, the curriculum that educates the future of society should be modified as little as possible. A flexible, needs-based curriculum is organized and implemented. Local governments and schools in the United Kingdom, Norway, Finland, and the Czech Republic develop their own curricula. In these nations, the central government and relevant ministries set the major skill and knowledge areas of the curriculum and give local and school-level recommendations to ensure the program is attentive to regional needs (OECD, n.d.).

OECD (2013) defined Turkey's curriculum as a more centralized. Implementing a centralized program in every Turkish region and school causes various problems. Seasonal worker-dense regions are an example. In some places, students who labor in the fields with their families may lag behind in school because of seasonal migration (Uysal et al., 2016). Turkey education system is rigid and status quo, preventing adjustments. If the curriculum is more flexible, revisions will be made by local authorities as problems or gaps develop.

CONCLUSION

Sociology indicates that any change in one institution impacts others. Psychology explains how societal changes affect people's feelings, thoughts, behaviors, and well-being. Education ensures the well-being of individuals in their working life and throughout their lives by keeping up with social changes and requirements. The world has to discuss about and act on the education of today's fast-changing, communication-oriented, information-explosive, innovative, and digital native people, especially during the pandemic. In terms of what, how, when, and where education and training programs will be taught, curricula are a focus of this movement. Curriculum change is a key part of OECD and UNESCO's action programs. The curriculum of Turkey was revised in 2018, yet its effectiveness in the classroom is debatable.

3.1. Recommendations

To address all curriculum components, considerable modifications are required. The regulations' suggestions are listed below.

- It should be specified what kind of person education should cultivate.
- 21st century skills should match the type of person desired.
- Curriculum subjects should be processed using digital tools for children born with digital tools.
- Individualize student education with digital technologies.
- Digital literacy and skills should be taught.
- The curriculum should be responsive to children's developmental traits and differences, based on current research.
 - Arrangements should include students, teachers, school counselors, principals, and parents.
 - Teachers, principals, and counselors should get in-service training to strengthen curriculum implementation skills.
- While 21st century skills are included in the curriculum, their acquisition should be clearer.
- Curriculum should include interdisciplinary, procedural, and practical knowledge.

- The curriculum should contain digital media-friendly classroom activities.
- Local authorities, schools, and instructors should be permitted to adapt and design their own curricula.

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THE MEDIATING ROLE OF SOCIAL MEDIA ADDICTION IN THE RELATIONSHIP BETWEEN DIGITAL CITIZENSHIP AND CYBER BULLYING

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ABSTRACT

This research was carried out in order to determine the mediating role of social media addiction in cases where individuals who use digital formations at high levels, which are an extension of the modern life understanding changing in parallel with current technological developments, have digital citizenship understanding and individuals in the virtual environment voluntarily and repetitively hostile behaviors occur. Revealing this relationship is important in terms of the extent to which digital media opportunities and the compulsive and malicious behaviors of digital citizens, who own it, in the virtual world, are associated with social media addiction. Considering the impact of digital environments, and as an extension of social media, on daily life in shaping the future of humanity, research on digital environments has strategic importance for determining new living and working conditions. Digital citizenship, which is one of the variables of the study, is a concept used for people who take care of social benefit by using the digital environment actively and positively by highlighting compliance with legal regulations, rules and principles set by the society when using technology (Ribble & Bailey, 2007) or grouping digital information appropriately. (Farmer, 2010). The concept of cyberbullying, the relationship of which has been examined, is the repetitive and deliberately hostile behavior of individuals or groups in the digital environment (Tanrikulu, 2020). Social media addiction, whose mediation relationship is examined, can be defined as spending time on social media tools to an extent that prevents different social activities by being excessively busy with social media networks, creating a strong motivation for participation in new social media networks (Andreassen, 2015). Within the framework of these variables, 390 questionnaires collected by simple random sampling method on 4 different university students were analyzed. Since it is accepted that 384 samples will be sufficient for a population of 100,000 and above (Sekeran, 2003), the sample size of 390 obtained is sufficient to represent. In addition to the assumption that the answers reflect the truth, the research also includes limitations such as the application being limited to 4 Universities. Pearson product-moment correlation analysis was conducted to examine the relationship between digital citizenship, cyberbullying and social media addiction. Mediation analysis (Sobel Test) was applied to reveal the mediating role of social media addiction between digital citizenship and cyberbullying. Hierarchical regression analysis was used to test the mediation hypothesis. As a result of the analysis, it can be said that there is a statistically significant relationship between digital citizenship and cyberbullying. In addition, in order to reveal the existence of the effect of social media addiction, which is the mediating variable, it is necessary to look at the change in the relationship between digital citizenship and cyberbullying, which are dependent and independent variables. Considering the effect of

social media addiction, which is the mediating variable in this relationship, on the model, it was determined that the relationship was significant but weakened the relationship between dependent and independent variables.. This result shows that there is a partial mediation effect. It was concluded that there is a significant relationship between digital ethics, digital access, digital security and digital communication, which are sub-dimensions of digital citizenship, and cyberbullying behaviors. According to this partially significant relationship, as digital citizenship attitudes increase, cyberbullying behaviors tend to decrease. Examining this research conducted among university students in different sample groups or according to demographic characteristics will contribute to the literature.

Keywords : Digital citizenship, cyberbullying, social media addiction, university students

Öz

Bu araştırma, günümüz teknolojik gelişmelerine paralel olarak değişen modern yaşam anlayışının bir uzantısı olan dijital oluşumları üst seviyelerde kullanan kişilerin, sahip olduğu dijital vatandaşlık anlayışı ile sanal ortamda bireylerin istemli olarak ve tekrarlayan düşmanca davranışlarının ortaya çıkması durumlarında sosyal medya bağımlılığının aracılık rolünün belirlenmesi amacıyla yapılmıştır. Bu ilişkinin ortaya konması, dijital ortam olanaklarının ve ona sahip olan dijital vatandaşların, göstermiş oldukları sanal dünyadaki zorlayıcı ve kötü niyetli davranışlarının sosyal medya bağımlılığı ile ne ölçüde ilişkilendirildiği noktasında önem arz etmektedir. İnsanlığın geleceğinin şekillendirilmesinde dijital ortamların ve bunun bir uzantısı olarak sosyal medyanın gündelik hayat üzerindeki etkisi düşünüldüğünde dijital ortamlar üzerine yapılacak araştırmalar yeni yaşam ve çalışma şartlarının belirlenebilmesi için stratejik öneme sahiptir. Belirlenen değişkenler çerçevesinde araştırmada, 4 farklı üniversitenin öğrencileri üzerinden basit rastgele örnekleme yöntemi ile toplanan 390 anket analiz edilmiştir. 100.000 ve üzerindeki evren için 384 örneklemin yeterli olacağı kabul edildiğinden (Sekeran, 2003), elde edilen 390 örneklem büyüklüğü evreni temsil etmede yeterlidir. Araştırma cevapların doğruları yansıttığı varsayımının yanında, uygulamanın 4 Üniversite ile sınırlı olması gibi sınırlılıkları da içermektedir. Dijital vatandaşlık, siber zorbalık ve sosyal medya bağımlılığı değişkenlerinin aralarındaki ilişkiyi belirlemek için Pearson Momentler çarpımı korelasyon analizi uygulanmıştır. Sosyal medya bağımlılığının dijital vatandaşlık ve siber zorbalık arasında aracılık rolünün ortaya konması için aracılık analizi (Sobel Testi) uygulanmıştır. Aracılık hipotezinin test edilmesinde ise hiyerarşik regresyon analizi kullanılmıştır. Analizler sonucunda dijital vatandaşlık davranışı ve siber zorbalık tutumu arasında istatistiksel olarak anlamlı bir ilişkinin olduğu söylenebilir. Ayrıca aracı değişken olan sosyal medya bağımlılığının etkisini ortaya koyabilmek için bağımlı ve bağımsız değişkenler olan dijital vatandaşlık ve siber zorbalık arasındaki ilişkinin değişim durumuna bakmak gerekmektedir. Bu ilişkide aracı değişken olan sosyal medya bağımlılığının modele etkisine bakıldığında ilişkinin anlamlı olduğu ancak bağımlı ve bağımsız değişkenler arasındaki ilişkiyi zayıflattığı belirlenmiştir. Bu sonuç, arada kısmi bir aracılık etkisinin olduğunu göstermektedir. Dijital vatandaşlığın alt boyutlarından dijital erişim alt boyutu, dijital etik alt boyutu, dijital güvenlik alt boyutu ve dijital iletişim alt boyutu ile siber zorbalık davranışları arasında anlamlı bir ilişkinin bulunduğu sonucuna varılmıştır. Kısmi olarak anlamlı bu ilişkiye göre dijital vatandaşlık tutumlarının artması, siber zorbalık davranışlarında azalma eğilimi göstermektedir. Üniversite öğrencileri arasında yapılan bu araştırmanın farklı örneklem gruplarında ya da farklı demografik özellikler üzerinden incelenmesi alan yazına katkıda bulunacaktır.

Anahtar Kelimeler: Dijital Vatandaşlık, Siber Zorbalık, Sosyal Medya Bağımlılığı, Üniversite Öğrencileri

GİRİŞ

Araştırmanın temel problemi, dijital vatandaşlığın siber zorbalık ile olan ilişkisinin ortaya konmasının yanında bu ilişkide sosyal medya bağımlılığının aracılık rolünün belirlenmesidir. Bu ilişkinin ortaya konması, dijital ortam olanaklarının ve ona sahip olan dijital vatandaşların, göstermiş oldukları sanal dünyadaki zorlayıcı ve kötü niyetli davranışlarının sosyal medya bağımlılığı ile ne ölçüde ilişkilendirildiği noktasında ortaya konabilecek stratejiler açısından belirleyici olmaktadır. Bu noktada Çalışmanın değişkenlerinden olan dijital vatandaşlık, teknolojiyi kullanırken yasal düzenlemelere, toplumun koymuş olduğu kural ve esaslara uygunluğu ön plana çıkararak (Ribble ve Bailey, 2007) ya da dijital bilgilerin uygun şekilde gruplandırarak dijital ortamı aktif ve pozitif yönde kullanarak toplumsal faydayı gözeten kişiler için kullanılan bir kavramdır (Farmer, 2010). Siber zorbalık kavramı, “kişi ya da grupların dijital ortamda göstermiş oldukları tekrarlayan ve bilinçli olarak yapılan düşmanca davranışlardır” (Tanrıku, 2020). “Dijital iletişim olanaklarını kullanarak, kendini savunma durumu olmayan bir kişiye (mağdur) karşı gösterilen tek ya da davranışlar dizisi” (Langos, 2012) olarak tanımlanmıştır. Aracı değişken olarak belirlenen sosyal medya bağımlılığı ise; Sosyal medya ağları ile aşırı meşgul olarak, yeni sosyal medya ağlarına katılım için güçlü bir güdü oluşturarak, farklı sosyal aktivitelerini engelleyecek ölçüde sosyal medya araçlarında zaman geçirmek olarak tanımlanabilmektedir (Andreassen, 2015).

Bu kapsamda belirlenen değişkenler arasındaki ilişkiler farklı çalışmalarla incelenmiş (Horzum ve Ayas, 2011; Çiftçi ve Sakallı,2016; Toraman ve Usta,2018; Öztürk,2019; Lacey, 2007; Ybarra ve Mitchell, 2007; Hinduja ve Patchin, 2010) ve bu çalışmalarda genellikle siber zorbalık davranışlarının ileri düzey internet kullanımı ve bilgisi ile doğru orantılı olarak farklı şiddetlerde anlamlı ve pozitif yönlü ilişkiler ortaya konmuştur. Ancak çalışmada kullanılan sosyal medya bağımlılığının aracı değişken olarak etkisinin ortaya konmasına yönelik olarak bir çalışmaya alan yazında rastlanmamıştır.

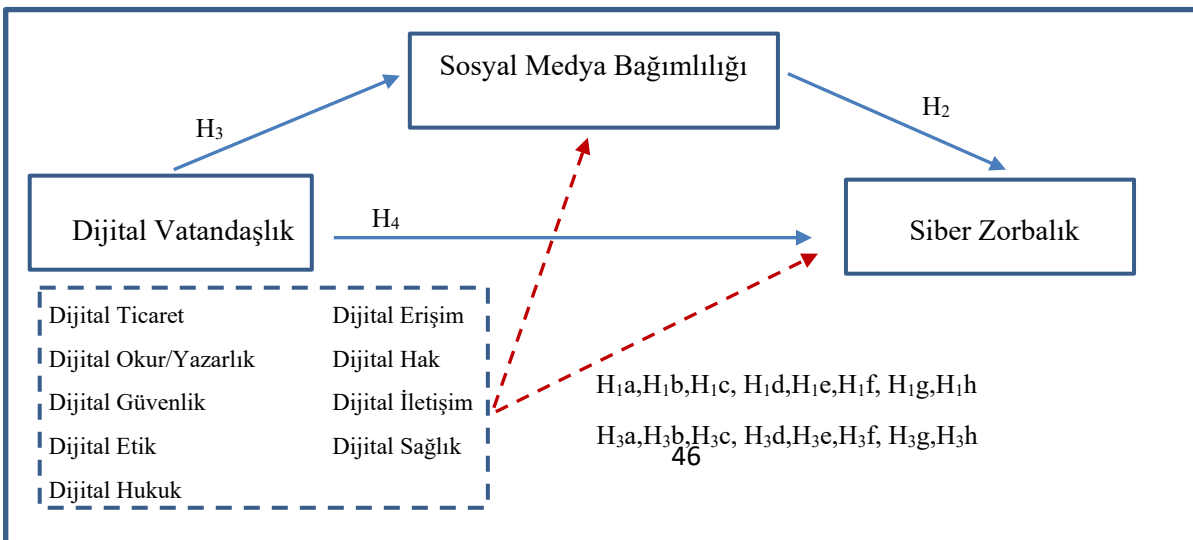
1. Yöntem

Bu çalışma, bağımsız değişken olarak kabul edilen dijital vatandaşlık davranışlarının bağımlı değişken olan siber zorbalık davranışları ile olan ilişkisini ortaya koyarken, aracı değişken olan sosyal medya bağımlılığının bu ilişkideki etkisini sınamak amacıyla yapılmıştır. Araştırma evrenini üniversite öğrencileri oluşturmaktadır. Bu evren dahilinde 4 farklı üniversiteden 390 anket toplanmış ve analiz edilmiştir. 100.000 ve üzerindeki evren için 384 örneklemin yeterli olacağı kabul edildiğinden, (Sekeran, 2003) elde edilen 390 örneklem büyüklüğü evreni temsil etmede yeterlidir.

2. Model

Çalışmanın modeli aşağıdaki Tablo-1’de belirtildiği şekilde oluşturulmuş ve istatistiki analizler sosyal medya bağımlılığının aracılık etkisi üzerine kurulmuş ve 9 alt boyuta sahip dijital vatandaşlığın alt boyutları diğer değişkenlerle alt boyut düzeyinde incelenmiştir.

Tablo 1 - Çalışmanın Modeli



Bu modele uygun olarak araştırmanın hipotezleri aşağıdaki şekilde oluşturulmuştur;

H1: Dijital Vatandaşlık ile Siber Zorbalık arasında istatistiki olarak anlamlı bir ilişki vardır.

(H_{1a},H_{1b},H_{1c}, H_{1d},H_{1e},H_{1f}, H_{1g},H_{1h})

H2: Sosyal Medya Bağımlılığı ile Siber Zorbalık arasında istatistiki olarak anlamlı bir ilişki vardır.

H3: Sosyal Medya Bağımlılığı ile Dijital Vatandaşlık arasında istatistiki olarak anlamlı bir ilişki vardır.

H4: Dijital Vatandaşlıkla Siber Zorbalık arasındaki ilişkide Sosyal Medya Bağımlılığının aracılık rolü vardır.

3. Verilerin Analizi

Araştırmanın amacı çerçevesinde; dijital vatandaşlık, siber zorbalık ve sosyal medya bağımlılığı arasındaki ilişkiyi ortaya koymak amacıyla pearson momentler çarpımı korelasyon analizi uygulanmıştır. Sosyal medya bağımlılığının, dijital vatandaşlık ve siber zorbalık arasındaki aracılık rolünün belirlenmesi için aracılık analizi yapılmıştır. Aracılık hipotezinin test edilmesinde ise hiyerarşik regresyon analizi kullanılmıştır. Ayrıca yapılan güvenilirlik analizi sonuçlarına göre elde edilen değerler aşağıdaki Tablo-2’de belirtilmiş olup Cronbach Alfa değerlerinin 0.70’den büyük olması da yüksek oranda güvenilirliğin sağlandığını göstermektedir (Hair, 2013).

Tablo 2 – Ölçeklerin Güvenilirlik Analizi

Ölçekler		Soru Sayısı	Cronbach Alfa
Dijital Vatandaşlık	Dijital Ticaret	5	0.825
	Dijital Erişim	4	0.889
	Dijital Okur/Yazarlık	5	0.875
	Dijital Hak ve Sorumluluklar	3	0.856
	Dijital Güvenlik	7	0.837
	Dijital İletişim	5	0.797
	Dijital Etik	4	0.821
	Dijital Sağlık	2	0.876
Siber Zorbalık		11	0.901
Sosyal Medya Bağımlılığı		24	0.832

Çalışmanın ana konusunu oluşturan bağımlı ve bağımsız değişkenlerin ilişki analizlerinin ve aracı değişkenin aracı rolünün etkisinin ortaya konduğu değişkenler arası korelasyon analizine ait Tablo – 3 aşağıda belirtilmiştir.

Tablo – 3 Değişkenler Arası Korelasyon İlişkileri

	1	2	3	4	5	6	7	8	9
1. Dijital Ticaret	1								
2. Dijital Erişim	,558**	1							
3.Dijital Okur/Yazarlık	,654**	,541**	1						
4.Dijital Hak/Sorum.	,428**	,664**	,152*	1					
5. Dijital Güvenlik	,563**	,532**	,345**	,338**	1				
6. Dijital İletişim	,402**	,488**	,245**	,217**	,135*	1			
7. Dijital Etik	,478**	,403**	,578**	,415**	,223**	,179*	1		
8. Dijital Sağlık	,156*	,334**	,603**	,129*	,231**	,188*	,078	1	
9. Siber Zorbalık	,005	,017	,008	,014	-,349**	,589**	-,234**	,009	1
10.Sos.Med. Bağ.	,674**	,554**	,621**	,432**	,441**	,534**	,551**	,356**	,311**

Yapılan analizler sonucunda dijital vatandaşlık becerileri ile siber zorbalık davranışları arasında anlamlı kısmi bir ilişki olduğu söylenebilmektedir. Bunun yanında sosyal medya bağımlılığı da yine diğer iki değişkenle kısmi olarak anlamlı bir ilişki içerisinde. Ancak burada ilişkide dijital etik ve dijital güvenlik alt boyutlarının siber zorbalık davranışları ile negatif yönlü zayıf bir ilişki içinde olması araştırma sonucu olarak etik davranabilme düşüncesinin ya da internet ortamındaki güvenlik anlayışının artmasının siber zorbalık davranışını azaltabilmektedir sonucunu doğurabilmektedir. Bununla birlikte iletişim kanallarının daha sık ve etkin kullanımı da yine siber zorbalık davranışı ile orta dereceli pozitif yönde bir etkileşim içinde olmasından kaynaklı olarak bu davranışı destekler nitelikte bir alt boyut olarak karşımıza çıkmaktadır.

Tablo – 4 Araştırma Hipotezlerinin Analizi

Hip .	İlişki	β	t Değ.	p.	Anlam.	Hipotez Testi	F ²	Etki	R ²
H _{1a}	D. Ticaret - SMB	0,032	2,32 2	0,67 3	P<0,05	Red	0,04 8	-	0,54 8
H _{1b}	D. Erişim - SMB	0,095	2,04 3	0,03 8	P<0,05	Kabul	0,06 7	Düşük	
H _{1c}	D. Okur/Yazarlık - SMB	0,265	2,46 4	0,15 2	P<0,05	Red	0,02 3	-	
H _{1d}	D. Haklar - SMB	0,223	2,32 2	0,16 4	P<0,05	Red	0,05 5	-	
H _{1e}	D. Güvenlik - SMB	-0,440	3,00 2	0,04 2	P<0,05	Kabul	0,04 3	Düşük	
H _{1f}	D. İletişim - SMB	0,334	2,54 3	0,04 5	P<0,05	Kabul	0,03 4	Düşük	
H _{1g}	D. Etik - SMB	-0,404	2,88 7	0,02 9	P<0,05	Kabul	0,06 1	Düşük	
H _{1h}	D. Sağlık - SMB	0,197	2,00 1	0,27 6	P<0,05	Red	0,05 4	-	
H ₂	SMB – SZ	0,674	9,55 4	0,01 1	P<0,05	Kabul	0,59	Yüksek	0,47 9

Analizler sonuçlarına göre dijital vatandaşlık becerileri ve siber zorbalık davranışları arasındaki ilişkinin derecesindeki azalma, sosyal medya bağımlılığının kısmi aracı olduğunu göstermektedir (Baron&Kenny, 1986). Dijital vatandaşlık alt boyutlarından dijital erişim, güvenlik, iletişim ve etik ile ilgili olarak kurulan hipotezler kabul edilirken diğer hipotezler reddedilmiştir. Ayrıca sosyal medya bağımlılığının dijital vatandaşlık ve siber zorbalık değişkenleri arasındaki ilişkinin derecesini düşürmesi sebebiyle aracılık ilişkisinden söz edilebilmektedir. Bu durumun gerekliliklerinden olan siber zorbalık ve sosyal medya bağımlılığı değişkenleri arasında ise pozitif yönlü yüksek bir ilişki olduğu söylenebilmektedir.

Ancak buna ek olarak yapılması gereken Sobel Testi ile elde edilen Z skor katsayısının Dijital Etik (Z=7,793), Dijital Erişim (Z=8,465), Dijital Güvenlik (Z=8,663) ve Dijital İletişim (Z=9,467) değerlerinin 1,96'dan daha yüksek olması bu aracılık etkisinin istatistiksel bağlamda anlamlılık taşıdığını göstermektedir (Frazier, 2004).

4. SONUÇ VE TARTIŞMA

Genel anlamda dijital vatandaşlık kazanımları ile siber zorbalık davranışı arasında düşük düzeyde anlamlı bir ilişkinin olduğu belirlenmiştir. Dijital vatandaşlık alt boyutlarından etik, erişim, güvenlik ve iletişim unsurları siber zorbalık değişkeni ile anlamlı bir ilişkide iken ticaret, okur yazarlık, hak-sorumluluk ve sağlık alt boyutları ile bir ilişki bulunamamıştır.

Dijital ortamdaki etik anlayış ve güvenliğin azalması siber zorbalık davranışlarını arttırmakta, erişim kolaylıkları ve iletişim becerilerinin artması ise siber zorbalık davranışlarını azaltmaktadır. Sosyal medya bağımlılığı, dijital vatandaşlık ve siber zorbalık davranışları arasındaki ilişki katsayısını azalttığı için kısmi bir aracılık rolü oynamaktadır. Dijital Vatandaşlık gösteren katılımcılar dijital ortamı sağlık unsurları, ticaret olanakları ve hukuki farkındalık unsurlarına göre değerlendirmemekte. Anlamlı bir farklılık yaratmadıklarını ifade etmektedirler. Bu sonuçlar çerçevesinde geleceğe yönelik planlama ve stratejiler için sosyal hayatı düzenleyecek her türlü unsur ve kurallar farklı bir açıdan değerlendirilebilecektir. Her geçen gün artarak ve hayatın daha çok alanını kapsayarak gelişen sanal ortamlar ve bu gelişmelere yönelik yapılan düzenlemeler beraberinde hiç şüphesiz ki yeni yaşam anlayışları ve ilişkileri getirecektir. Dijitalleşme anlayışının sosyal hayattan ekonomiye, eğitimden iletişime hemen hemen her alandaki bize sunmuş olduğu olanaklar elbette ki yaşam kalitesi ve refah düzeylerini artırma amacıyla yapılmaktadır. Ancak bu durumların olumlu olarak değerlendirilmesi ve sosyal hayatın düzenini tehdit edici alanlar yaratmaması önemlidir.

Alan yazında çalışmaya konu olan üç farklı değişkenle yapılmış bir çalışmaya rastlanmamıştır. Değişkenlerin ikili olarak bağımlı bağımsız değişkenler çerçevesinde yapılan çalışmalara farklı bir aracı değişkenle yapılan bu çalışmanın sosyal bilimlerdeki araştırma sınırlılıkları içerisinde değerlendirilmesinin yanında genel anlamda geleceğe yönelik farklı bir bakış açısı ile değerlendirilmesi için farklı aracı ve düzenleyici değişkenlerle yeniden modellenmesi alan yazına önemli katkılar sağlayacaktır.

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MODERNIZATION IN THE OTTOMANS AND QAJARS: THE SOCIAL POSITION OF THE ELITES AND CHANGE IN THE 19TH CENTURY

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ABSTRACT

To have an idea about the current political and social situations of Turkey and Iran is to understand the similarities and differences of this transformation that took place in the 19th century. With reference to Edward Carr, it might be said that the authors of this study explore acknowledging that the past by being exposed to the conditions of the present and the past cannot be separated from the effort to understand how and why the past affects the present. Today, Turkey and Iran both maintain a historical rivalry and have various partnerships. This situation reaches its most obvious point when comparing Turkey's "Western" oriented political configuration and Iran's restructured state structure based on Shiite fiqh. But However prior to that , it is necessary to look at the 19th century, when the change became similar and evident. During the 19th century, countries which ruled by Ottoman and Qajar dynasties experienced a certain process of change. Comparing this change in terms of both prominent actors and power areas constitutes the framework of the study. It can be said that the Ottomans and Qajars started a technological, cultural and political change program against the threat of Tsarist Russia. Another common feature is that they have a Muslim majority population. On the other hand, their dealings with imperialist powers and their domestic dynamics have obvious differences. This situation caused the reforms attempted during the 19th century to yield different results. The efforts of both countries to implement a Western-oriented change program in a similar historical turn, and the reason why they are at different points today, have reasons that go back not only to their experiences in the 20th century, but also to the first period of change, namely the 19th century. The aim of this study is to explain some of the reasons for today's difference by revealing the crossroads in the direction of change in the 19th century.

Keywords : Qajar Dynasty,Tanzimat,Power Struggle,Modernization

GİRİŞ

Osmanlıların ve Kaçarların 19.yy'da yaşadığı değişim Türkiye ve İran'ın bu günkü siyasi rejimleri, sosyal dinamikleri ve uluslar arası konumlarını anlamak için belirli fırsatlar sunar. Çünkü her iki ülke de bu gün, Batı'yı değişime etki eden unsurlardan sadece birisi olarak gören hükümetlerce idare edilmektedir. Batı'nın değişimin mutlak modeli veya nihai noktası olmadığı iddiası, değişimin tarihinin kavşak noktasına, 19.yy'a dair bakış açısında da dönüşümü beraberinde getirmiştir. Bu çalışma, Müslüman iki ülkenin birbiri ile ilişkili şekilde 19.yy'daki değişim tecrübesini açıklamayı amaçlamaktadır. Bir ülkenin tarihinde yeni bir dönemden bahsetmek için orada yaşayan insanların kendilerini geleneksel norm ve davranışlardan ayırttıklarını gözlemlemek gerekir. (Pappe, 2010) Bu bakış açısı öncelikle Osmanlılar ve Kaçarlar, 19.yy'ın sonuna geldiklerinde aynı dönemi mi yaşıyorlardı yoksa farklı dönemleri mi tecrübe ediyorlardı sorusunu akıllara getirir. Çünkü 19.yy'ın hemen başında hanedanlar tarafından yönetilen, kendine özgü kültürel gelenek ve kurumlara sahip birer imparatorluk olan her iki ülke, 19.yy'ın sonuna gelindiğinde siyasi, ekonomik ve kültürel alanda yüzyıl öncekinden daha az benzerlik göstermektedir. Meşrutiyet tecrübeleri, modern kurumların oluşturulması, emperyal tehditlerle yüzleşme ve kapitalizme eklenme süreçleri ile her iki devletinde belirli ölçülerde benzeştiği iddia edilebilir. Bu benzeşmelerin yanı sıra farklılıklarda söz konusudur. Özellikle din adamlarının toplumsal konumu, siyasi meşrutiyetin temel kıstasları, coğrafya ve ekonomik alışkanlıklar açısından ciddi farklılıklar söz konusudur. Diğer yandan benzeşme ve farklılıkları kesen süreklilik ve kopuş ikilemi söz konusudur. Osmanlı ve Kaçar ülkelerinin tecrübelerini karşılaştırmak ise üç açıdan önemlidir. Bunlardan ilki bu gün farklı iki dünya olarak gözükken Türkiye ve İran'ın 19.yy'da nasıl değiştiğidir. İkincisi bu farklılığın açıklanabileceği teorik zeminin klasik sosyoloji ve siyaset geleneğinden hangi yönleri ile ayrıldığıdır. Üçüncü olarak da yapılacak bir karşılaştırmanın, oryantalist klişeleri aşmak için nelere dikkat etmesi gerektiğine yönelik bazı soruşturmalara imkan vermesidir.

1.Tarih, teori, yöntem

Türkiye ve İran'ın bu günkü siyasi ve sosyal durumuna dair fikir sahibi olmak 19.yy'da yaşanan değişime dair benzerlik ve farklılıkları anlamaktan geçer. Edward Carr'a referansla denilebilir ki geçmiş, bu günün koşullarından bağımsız ve bu gün yaşananlara nasıl ve neden etkide bulunduğunu anlama çabasından ayrı düşünülemez. Dolayısı ile tarihin kavramsal ayrımlar ve teorik yaklaşımlardan bağımsız bir tür olgular sergisi haline getirilmesinin mümkün olmadığını kabul etmek gerekir. Carr'ın Collingwood'a atıfla ifade ettiği gibi "tarih, şimdide yaratıldığı şekliyle geçmiştir. Geçmiş nedir? Geçmiş, çoğu gözden uzak, unutulmuşluğun derinliklerine gömülmüş, gerçek şeyler okyanusudur." (Carr, 2003) Bu okyanusun altındaki sonsuz gömü ve nesne karşısında tarihçi, belirli bir pozisyon belirler. Bu pozisyon ise şimdi de yaratılır. Böylece 19.yy'ın Osmanlıları ve Kaçarları şimdinin Türkiye'si ve İran'ı ile ilişkili şekilde açıklanmaya çalışılacaktır. Bu ilişki halef-selef ölçeğinde olduğu kadar birbirleri ve dünyanın geriye kalanı ile de ilgilidir. Teori, bu ilişkileri anlamlandırmak için belirlediğimiz pozisyon dolayımı ile tarihe dahil olur. Teoriyi tarih araştırmalarına dahil etmek okyanusun derinliklerindeki hangi gömülerin nasıl ve neden ortaya çıkarılması gerektiğine dair belirli bir mercek sunar. (Burke, 1980/2014) Bu çalışma açısından teorik zemin sosyoloji disiplininin yapılacak eklemelerle yapılandırılmıştır. "Değişim" hem bir konudur hem de bir teorik tercih ifadesidir. Neden "Batılılaşma, Modernleşme, Yabancılaşma" gibi terimlerle ifade edilmeyip değişim kavramının ileri sürüldüğüne verilecek en makul cevap, tarihsel olayın ne olduğu ve tarihin aktörlerinin kimler olduğu sorusuna verilecek cevap ile yakından ilgilidir. Çünkü Batılılaşma veya Modernleşme gibi kavramların belirli bagajlara ve referanslara sahip olduğu belirtilebilir. Öncelikle Batılılaşma, herhangi bir toplumun muhatap olduğu sorunlar karşısında verdiği cevapların genelleştirilmiş adı olarak tanımlanır. Bu durum, yaşanan sorunlara yerel birikime dayanarak ya da melez bir düşüncenin somutlaştırılması ile verilen cevapları görmezden gelmektedir. Baştan itibaren Batı özleştirilip asli bir konuma yükseltirken Osmanlı ve Kaçarlar gibi devletlerin seçkinleri tali ve

taklidi olarak kodlanır. İkinci olarak Modernleşme, daha az bagaja sahip olmakla beraber teorik olarak yapısal-işlevselci modele göbekten bağlıdır. Bu durum iktidar ve direniş odaklarının işlevlerine göre yorumlanmasına neden olarak tarihin aktörlerini dar bir kalıba hapsedmektedir. Değişim ise modernleşmeden daha kapsamlı ve olgularla örtüşen bir kavramdır. Çünkü modernleşme Batı toplumlarının modernlik yolundaki yapıp etiklerini işaretlerken Doğu'nun yaşadığı tarihsel tecrübe, sadece Batılı gibi ve Batı'nın yaptığı gibi olmak olmadığı için hem Batı'dan hem de kendi iç dinamiklerinden etkilenen bir sürece işaret eder. Ayrıca bu etkiler salt olumlu ya da olumsuz değildir. Hızla değişen uluslar arası siyaset ve yerel ittifaklar, mutlak bir siyasi imge oluşumunu engellemiştir. Değişim, mutlak imgelerin yaratılmadığı siyasi epistemolojik zeminde açıklayıcı ve kapsayıcı bir anlama sahip olarak bu çalışma için verimli görülmüştür. Değişim, “muhakkak Batılı olmanın değil, geçmişin o bilinen ve güvenli dünyasının değişiminin öyküsünü anlatır”. (Çetinkaya, 2018) Böylece modernleşme ifadesinin batılı kalıplar ve ilerlemeci perspektifi yerine değişimin esnek ve salt ilerlemeye dayanmayan duraksama, yol ayrımı ve hatta eskiye dönüşü de kapsayan anlamı daha verimli olacaktır. Fakat bu durum, 19.yy'ın faileri için ne ölçüde söylenebilir? Onlar, Batı kadar güçlü olmak için Batı gibi olma deneyimi içine girdikleri iddiasında olduklarını öne sürüyorlardı, bu durumda teorik iddialar ile tarihsel olay ve aktörlerin çelişkisi söz konusu olmaktadır. Osmanlı ve Kaçar seçkinleri, Batı'yı medeniyetin yeni hali olarak görürler. Medeniyet ise modernliktir. Batı dışı toplumlarda ‘modernite, bir proje, modernizasyon ise bu projeyi mümkün kılan kurumsal-yapısal evrime işaret eder(...)’. Osmanlı Devleti, özgün yapısından kaynaklanan koşullar ile modernleşmeyi projelendirmiş; bunu Batı'ya dair kanaatlerini değiştirerek yapmıştır. Kaçar Hanedanlığı için ise durum o kadar net değildir. Ancak her iki ülke içinde ‘Batılılaşma, bu halde zaten, bir ‘telafi edici’ ideoloji ve “tarihsel gecikmişliğin” giderilmesinin bir aracı olarak kendisini kurmuştur.’ (Çiğdem, 2002) Bu gecikmişlik, düzen ve ilerleme ya da iktidar ve ötekine yetişme ile telafi edilecektir. Ulaşılabilecek nokta modernlik anlamına gelir. Bu iddiaları yüz yılın sonunda emperyalizm ile değişime uğrayıp bir tür millilik bilinci oluşsa da 19.yy hala Batı kurumları ve değerlerinin ihracı için bir çabayı ifade etmektedir. Bu yüzden çalışmanın yazarları Osmanlı ve Kaçarların modernleşme söylemlerini görmezden gelemezdi. Diğer yandan bunun genel anlamda bir değişimi işaret ettiğini belirtmek gerekir. Değişimi karşılaştırmalı olarak incelemek ise yöntem konusuna dair belirli noktaları ifade etmeyi zorunlu kılmaktadır. Ancak karşılaştırmaya geçmeden önce tarihi olay ve toplumsal değişim arasındaki farka açıklık getirmek gerekir. Tarihi olay ve toplumsal değişim arasındaki fark, tarihi olayın tarihin aktörlerinin eylemleri iken değişimin bu olayların bilançosu olmasıdır. Tarihi olay, tüm toplumu kuşatmayabilir, bazı aktörler daha fazla etkindir ve bunlar tarihi olay yapar. Değişimi engelleme ve düzeni muhafaza da tarihi olaylardır ve etki alanları ölçüsünde değişim kavramının içindedir. Çünkü her savunma belirli bir ilişkiselliği ve toplumun yapısında yeni tedbir ve imajları doğurmaktadır. Tarihi olay ve toplumsal değişim kavramları arasındaki fark iktidarın tek boyutlu ve indirgemeci analizlerinden kaçınmak için belirli bir çerçeve sunar. Micheal Mann, iktidar üzerine yaptığı tarihsel incelemede iktidarın dört alanı olduğunu, tarihin belirli zamanlarında bu alanlardan bazılarının ya da bir kısmının diğerlerinden daha belirleyici olabileceğini ifade eder. Bu dört alan: siyasi, ekonomik, kültürel ve askeri olarak tanımlanabilir. (Mann, 2012) Bu çalışmanın yazarları Osmanlı ve Kaçarlar için askeri iktidarı da siyasi iktidar alanı içinde değerlendirmektedir. Çünkü anılan dönemde askeri iktidarın siyasetten bağımsız bir iktidar alanı olduğu düşünülmemektedir. Buna iki neden kaynaklık eder. Öncelikle askeri projelerin açıkça siyasi amaçlarla hayata geçirildiği görülmektedir. İkincisi askeri iktidar alanında aktif tarihi aktörlerin siyasi iktidar alanında da eşit ölçüde aktif olduğu düşünülmektedir. Böylece inceleme için üç iktidar alanı saptanmıştır. İktidar alanı ile ifade edilmek istenen aktörlerin toplumsal yapıya etki eden faaliyetlerini belirli bir sınıflandırma ile incelemektir. Çünkü 19.yy her şeyden önce bir tür uzmanlaşma çabasının ve iş bölümünün çağıdır. Özellikle Charles Tilly'nin tarihsel problemler dediği modern devlet ve kapitalizm fenomenleri bariz şekilde uzmanlaşmaya dayalı süreçleri dayatmaktadır. (Tilly, 1981)

Karşılaştırmalı yönteme dönülecek olursa, Marc Bloch'a göre tarihte karşılaştırma metodu fenomenler arasında anlamlı bir ilişki kurarak açıklama yapmaya yarar. Çünkü ona göre tarih, fenomenler arasında bir ilişki kurmadan açıklayıcı olamaz. Bu, hipotezin test edilme mantığıdır. Bir tarihçi, A olgusunun bir toplumda ortaya çıkmasını B koşulunun varlığına bağlarsa, A'nın B olmadan gerçekleştiği diğer toplumları bulmaya çalışarak ya da tam tersini yaparak bu hipotezi kontrol edebilir. Hipoteziyle çelişen hiçbir durum bulamadığında doğru kabul edilir. Bu yöntem aktüel deneyimin imkansız olduğu durumlarda ya da kontrollü deney ortamı oluşturulamadığında deneyimsel bir mantığın çalışmaya adapte edilmesini sağlar. Bu adaptasyon ortak nedenlerin farklı sonuçlar verip vermediğine yönelik basit bir mantıksal varsayımaya dayanır. Theda Skocpol ise karşılaştırmalı tarihsel çözümlemenin denetlenebilir örneklerin ve istatistiki verilerin yeterli olmadığı vakalar için kullanılan bir yöntem olduğunu vurgular. (Skocpol, 1979) Çok değişkenli ve niceliksel olmayan araştırmalar için karşılaştırma bir yöntem olarak benimsenebilir. Bloch'a referansla denilebilir ki bir genel fenomen eşit derecede genel nedenlere sahipse, karşılaştırma yöntemi tikel ve farka dayanan açıklamanın eksiklerini gösterebilir. Karşılaştırma yöntemi hipotezlerde klişe yanıtları sorgulamak için kullanılabilir. Özet ile hem genellemeler hem de yerel özellikler karşılaştırmalı açıklama için faydalı olabilir. Dolayısı ile her ikisi de negatif anlamda kullanılmalıdır. Yani klişelere karşı, alışılmış yarguların soruşturulması için kullanıldığında karşılaştırma verimli olabilir. (Sewell, 1967)

Aşağıda, ifade edilen yorumların ve tarihsel karşılaştırmaların anlaşılması için teori, tarih ve yöntem konularına açıklık getirilmeye çalışılmıştır. Okyanusa nereden dalınacağı ve ne aranacağı, yani tarihe hangi pencereden bakıldığına dair okuyucuya referanslar sunulmuştur. Bunu yapmanın, araştırmacıları anlamsız ve gizemli bir pozisyonun yükünden kurtardığı gibi okuyucu açısından da kolaylaştırıcı olduğu düşünülmüştür. Ayrıca bir hakikat iddiasından ziyade belirli bir yorum imkanının denendiği ifade edilmiştir. Böylece tarihin mülkiyet haline getirilmediği ve kamusalının titiz şekilde korunduğu belirtilebilir.

2.Tarihsel Problemler

Charles Tilly, 19.yy ve 20.yy'daki yaşanan krizlerin, devrimlerin-partileşmenin-katılımın-eşitsizliklerin-otoriterliğin vb.- esasını daha uzun erimli ve koşullayıcı olan "tarihsel problemler" dediği kapitalizmin ve modern devlet sisteminin genişlemesi ile ilişkili şekilde ele alır. Her iki tarihsel problemin kesişimindeki faaliyet ise savaştır. Savaşın modern dönemde bu denli toplumsal etkileri olması ise Napolyon Savaşları sonucunda fark edilmeye başlanmıştır. Savaş, toplumun ekonomik, siyasi ve kültürel yeniden organizasyonunu gerektirdiği andan itibaren tarihsel problemin merkezinde olmuştur. (Tilly, 1981) Michael Mann Roma, Çin ve Sasani gibi geleneksel imparatorluklardan Osmanlılar ve Fransa gibi erken modernlere ve oradan 18 ve 19.yy'ın modern devletlerine kadar gelen kurumsallaşma sürecinde askeri örgütlenme ve savaşın toplumsal iktidar ilişkileri üzerindeki etkisinin ve özerkliğinin görmezden gelinemeyeceğini ileri sürer. (Mann,1989) Ellen Meiknes Wood'da Sermaye İmparatorluğu'nda (Wood, 2016) , kapitalizmin ilk örneği olan Britanya dışındaki Fransa ve Almanya'da dahil pek çok kapitalistleşmiş toplumda, kapitalizmin emperyal rekabet ve savaşlarla ilişkili şekilde yerleştiğini ifade eder. Görüleceği gibi savaş, indirgemenin konformizmine kapılmadan toplumsal iktidar ilişkilerinin başlıca faktörlerinden biri olarak kabul edilebilir. Osmanlılar ve Kaçarlar'da savaşın ve emperyal ilişkilerin etkisi ile değişimleri deneyimlemişlerdir.⁵

⁵ Değişim, onu deneyimleyenlerin toplumsal iktidar ilişkilerindeki konumlarına göre farklı başlangıç noktalarına sahiptir. Osmanlılarda ayanın meydan okuması ile sarsılan merkezi yönetimdeki seçkinler için değişimin başlangıç zamanı ve amacı farklı iken mülk siyasetinin değişimi ile toprağından olan köylü için değişimin tarihi farklıdır. Burada, belirleyici etken toplumsal iktidarlar ilişkileri ile tarihsel problemlerin kesişimi ve birbirlerine etkisidir. Kesişim anında oluşan etkileşim, günlük mücadelelerden farklı şekilde meydana gelir. Değişim kavramı, bu tarihsel problemleri ve onlara verilen cevabın oluşturduğu kombinasyonu ifade etmektedir.

2.1.Emperyalizm

18.yy'ın son çeyreğinden itibaren Tilly'nin tarihsel problemler dediği kategoriye, emperyalizmi de eklemek gerekir. Buna iki sebep kaynaklık eder. İlki değişimin devindiricisi olarak siyasi seçkinlerin Doğu için ülkelerinin bağımsızlığını koruma isteği, Batı için ise sınıfsal gerilimi azaltma çabası. İkincisi ise Doğu'nun bağımsızlığına tehdit olarak gördükleri ülkeler kadar gelişmiş bir devlet kapasitesi, altyapısal iktidar ve sosyo-ekonomik gelişmişlik düzeyine ulaşma arzusunun yarattığı karşılaşmalar. (Mann, 2008) Her iki düşünce de bir ülkeye yönelik dış güçlerden kaynaklanan olaylar dizisini işaret etmektedir. Dolayısı ile bu olaylar dizisi, bu çalışma için Şark Sorunu, (Çiçek, 2010) önemli ölçüde emperyalist bir zihniyet yapısına ve siyasi eylem repertuarına işaret etmektedir. Bu durum, emperyalizme maruz kalan ülkeler için bir tür “beka” problemine işaret eder. Değişimin merkezindeki bu problem, 19.yy'daki biçimi ile modernizasyonun mihrindeki amacında gösterir. Tarihsel bir problem olması ise hem iç siyasette hem uluslar arası siyasette dönemsel dalgalanmalar yaşasa da varlığını sürdürmesine bağlıdır.

Osmanlıların 1774 ve 1798'de aldıkları yenilgilerle Kırım ve Mısır gibi Müslüman yoğunluklu eyaletler üzerindeki denetimlerini kaybetmeleri; Kaçarlar için ise 19.yy başında Rusya ve İngiltere ile yaşanan savaşlarda alınan mağlubiyetler emperyalizmin etki alanına girdiklerini göstermektedir. Bu durum her iki devlet içinde her şeyden önce iktidar ilişkilerinin yeniden konfigürasyonunu gerektirmiştir.

Emperyalizmin, Osmanlı ve Kaçar topraklarına nüfuzunun 19.yy'daki başlıca aparatı “kapitülasyonlar” olarak bilinen ve yabancılara tanınan imtiyazlardır. Kapitülasyonlar, Osmanlılar için 16 ve 17.yy'dan itibaren belirli bir amaç gözetilerek ve modern öncesi dönemin iktisadi zihniyetine uygun şekilde verilmişti. Ancak durum 18.yy ortalarından itibaren farklı işlemeye başlamıştır. Osmanlıların iktisadi zihniyeti iaşecilik ve kendi kendine yetme üzerine kurulu ve aynı bir ekonomiydi. Bu yüzden ülkede herhangi bir kıtlık yaşanmaması için ithalat teşvik ediliyor, devletin mali alandaki iktidarı için vergilendirme toplum kesimlerinin dengede tutulması amacıyla işletiliyordu. Anti-merkantilist politikanın temel nedeni, bu ülkelerdeki toplumsal güçler dengesinde aranmalıdır. Osmanlı toplumundaki baskın güçler, ekonomik meselelere ilgileri vergi ve iaşe ile sınırlı olan bürokratlar ve askerlerdi. Carlo Cipolla'nın çok iyi ifade ettiği gibi, “modern hükümetlerin ekonomi politikası alanındaki endişesi, işsizliktir. Tüm Orta Çağ boyunca hükümetlerin en büyük endişesi ise ekin döngüsü idi. Dolayısı ile en büyük korku kıtlıktı. Hükümetler, kıtlık zamanlarında sakinleri sıkıntılı olabilecek şehirlerin iaşesi ile özellikle ilgileniyorlardı. Bu nedenle, kentsel arzı sağlamak için ithalatı teşvik ederek ve ihracatı kısıtlayacak iktisadi zihniyet kalıpları oluşturmuşlardı.” (Issawi, 2013) Osmanlılar için iaşeci ve provizyonist iktisadi zihniyetin resmi olarak 1856 Paris Anlaşması sonrası Âli Paşa'nın revizyon talebine kadar devam ettiği söylenebilir. 18.yy'dan itibaren gelir adaletinin sağlanmasına önem veren loncalarda en fakir ve zengin arasındaki fark ¼'ten 1/7'ye çıkmış, yabancı tüccarlarla işbirliği başta ayanlar olmak üzere İzmir, Halep, Lübnan, Selanik ve İstanbul'daki pek çok tüccar için kazançlı hale gelmeye başlamıştı. (Genç, 2005) Bu durum, toplumsal iktidar ilişkilerinde yeni bir safhanın açılmasına neden oldu. 18.yy sonundan itibaren kadim olanın ihyasından vazgeçilmeye başlanmış ve merkezi yönetimin otoritesini güçlendirmek için çareler aranmıştır. 19.yy'ın ilk 40 yılında vergi işlerinde aracılıkların kaldırılmasına yönelik çabalar ve yeni gelir kalemleri yaratılması için harcanan yoğun mesai, mevcut sosyo-ekonomik yapı ile merkezileşmenin tam anlamı ile başarılamayacağı yönündeki kanaati güçlendirmiştir. Mısır Valisi Kavalalı Mehmet Ali Paşa'nın reformları ve ardından Osmanlı merkez kuvvetlerini yenilgiye uğratması, reformlarının ve merkezileşmenin etkilerinin Kaçarlar ve Osmanlılar için somut göstergeleri olmuştur. Osmanlı ve Kaçar toplumlarının yöneticileri 19.yy başından itibaren, emperyalizmin etkisine cevap verecek reformları gerçekleştirme çabası içerisinde bariz bir paradoksla yüzleştiler. Avrupa dışı ulusların Batı kadar güçlü bir toplum haline gelmesi, onların kendilerini izole ettiği koşullarda imkansızdı. Napolyon Savaşları ile izolasyon kalkmaya başlamıştır. Çünkü askeri olarak güçlü olmak hayatta kalmak demektir. Bu paradoks, Osmanlılar, Kaçarlar ve Mısırlılar gibi Müslüman toplumların yanında Ruslar ve

Japonlarında 19.yy'da pek çok kez deneyimlediği bir durumdur. (Kazemzadeh, 2013) İzolasyonun kalkması Osmanlı ve Kaçar seçkinlerinin hem zihniyetlerinde hem de politik konumlanışlarında yüzyılın ortasından itibaren yarılmalara neden olmuştur. (Shageyan, 2002) Emperyal devletler, özellikle imtiyazlardan faydalanan yerel tüccarların yükselişi ve buna eşlik eden gayri Müslimleri himaye siyaseti ile somut etkilere sahip olmuştur. Küçük Kaynarca anlaşması ile Rusya, sadece Osmanlı tebaası olan Ortadoksların koruyuculuğunu üstlenmedi, ayrıca elçilik ve Bab-ı Âli arasında bir ara bulucu olarak görev yapan dragomanların statüsünü de değiştirdi. Böylece Küçük Kaynarca'dan sonra Osmanlı tebaası için konsolosluklar ya da yabancı elçilik hizmetinde çalışmak, sultanın hukukundan kaçmanın sıradan bir yolu haline geldi. Sadece Ruslar, 1808 yılına kadar 120.000 Osmanlı Rum'unu korunmuş kişi kategorisine sokturmuştu. 1789'da tahta çıkan III. Selim, Osmanlı ve yabancı tüccarlar arasındaki dengeyi düzeltme çabası içindeydi. Bunun için kapitülasyonlarla tanınan hakların aynısını dış ve iç ticaretle uğraşan Osmanlı tüccarlarına da tanıdı; ayrıca yabancılara karşı avantaj sağlamak için devlet tekeli kartını kullandı. Osmanlının reformcu devlet adamları için esas mesele, Osmanlı İmparatorluğunun Avrupa devletler sistemi içinde eşit bir partner olarak kabul edilebilmesi idi. Özellikle, 1839-56 arasında, yani Mustafa Reşid Paşa'nın etkili olduğu dönem, yönetsel ve yasal sistemin sekülerleşmesi ve modernleştirilmesi ile diğer Avrupa devletlerine, özelde liberal bir modele, benzeşme gayesinin ürünüdür. Aslında yabancılara verilen ticari imtiyazlar ve kapitalist Batı'ya eklemleme politikaları, merkez ve çevre arasındaki mücadele karşısında öncelikli değildi. Ayrıca, bürokratlar, merkezin taşra üzerindeki etkisini arttırmak için hem taşra ağalarını gelir kaynaklarından edecek bir yabancı sermaye gücü hem de ayanların silahlı gücünü kırarak Batılı askeri müttefikler ve danışmanlar arıyorlardı. Dolayısı ile 1824'te II.Mahmud, III. Selim'in Müslüman tüccarlara verdiği ayrıcalıkları geri aldı ve 1833'te Ruslarla, 1838'de İngilizlerle olan anlaşmalar bu amaca yönelik olarak imzalandı. (Feroz, 2000) 19.yy'ın ikinci yarısından itibaren kapitülasyonlar Osmanlının Avrupa karşısındaki aşağı konumun bir sembolü olarak algılanmaya başlandı. Osmanlılara Paris'te siyasi olarak bahşedilen eşitlik, yüzyılın ikinci yarısında kapitülasyonların yaygınlaşması ile eşitsizliğe dönüştü. Eşit devlet statüsü, serbest ticaretin benimsenmesini de kapsıyordu. Dolayısı ile liberal mantığın, siyasi-hukuksal eşitlik ama ekonomik hiyerarşi yönelimi Osmanlı'ya karşıda başladı. (Feroz, 2000) Bu durumun hem Kaçar hem de Osmanlılar için benzer sonuçları olmuştur. Öncelikle seçkinlerin zihniyetinde, eşit ve tam bir "devlet" olmak için gerekli ölçütlerin vergi toplama yetkinliği ve bütçe dengesinden ibaret olmadığı fikri yerleşmeye başlamıştır. 9 Haziran 1867'de Hicaz dışında yabancıların mülk sahibi olmasına yönelik kanunname yayınlandı. Bu durum, Müslümanların bariz şekilde hakim olduğu tek alan olan tarımı ve toprak sahipliğini yabancı girişime açmıştır. Ancak yabancı girişimci bu alanda başarılı olamadı. Çünkü Müslüman emek gücü, hem çok pahalı hem de yabancı mülkünde çalışmakta isteksizdi. Ayrıca artı ürünün sevkiyatı için alt yapı hala yetersizdi. 1850lerden itibaren modernleşmenin maliyetinin uluslar arası sistemde eşit muamele olduğu iddiasının artık anlamını kaybettiği bir ortamda, Yeni Osmanlılar, reformcu üst düzey bürokratları ve sultanı eleştirmeye başladılar. 1870lerdeki Balkan krizleri, ekonomik küçülme, 1876'daki İstanbul Konferansı ve 93 Harbi, gayrimüslimlere ve Avrupa'ya olan kını arttırdı. Bu durum, Batıcı reformistlerin iktidar mevkilerini kaybetmelerine ya da fikirlerini değiştirmelerine neden oldu. Âli ve Fuad Paşaların ölümü ile büyük paşalar devri kapanmıştı. Bunun yerine bir tür modern Müslüman kimliğinin inşasını merkeze alan gazete muhalefeti yükseldi. Osmanlı üst bürokrasisinin ve aynı dönemde Kaçarlar yöneticilerinin İngiliz, Fransız ve Rus büyükelçiliklerini kendi hiziplerinin parti bürosu gibi algılaması da Yeni Osmanlı muhalefeti tarafından eleştirilen bir diğer konudur. Yeni Osmanlılar, yabancı misyonlarının Osmanlı bürokratları üzerindeki nüfuzuna dair sert yazılar kaleme almıştır. II.Abdülhamid Dönemi'nde İngiliz ve Fransız nüfuzunu dengelemek için Almanya oyuna dahil olsa da durum değişmedi. II.Abdülhamid, kapitülasyonları iptal edip Kayserle işbirliğini vaat etse de süreç böyle işlemedi. 19.yy'ın son çeyreğinde Osmanlı ekonomisindeki yabancı nüfuzu arttı. 1881'de Duyun-u Umumiye İdaresi ile Osmanlı ekonomisini ayakta tutan temel tarımsal ürünlerden alınan vergilerin Osmanlı borçlarına karşılık yabancı memurlarca idaresi ve toplanması emperyalizmin ekonomik şiddetinin son çeyrekte arttığına

göstergesidir. (Birdal, 2010) Misyoner faaliyetlerin yayılması ile Osmanlı taşrasında bile konsoloslar kendileri ile işbirliği içindeki gayrimüslim nüfusa devlet karşısında koruma sağlamaya başladı. Osmanlı Tabiiyet Kanunu 1869 yılında konsolosların ve yabancı devletlerin Osmanlıların iç meselesine ve onları kendi korumaları altına alıp adaleti ve egemenliği sarsmalarına mani olmak için çıkarılmıştı. (Feroz, 2000) Ancak, önemli faydalar göstermedi. Osmanlılar, ayrılıkçı-ulusçuluğun etkisinden kurtulmak için Osmanlılık politikasını icat etseler ve sultan II.Abdülhamid kendi pan-İslamizmini dolaşıma soksa ve Kaçarlar kendi dini-yerel kimliklerini icat etmeye çabalasalar da sonuç değişmedi. Bu, her iki devletin 20.yy'daki yönelimlerinin ve kimliğinin belirlenmesinde etkili bir faktördür. Türk milli kimliği, emperyalizmin iktisadi, siyasi ve kültürel taarruzlarına karşı bir tür son sığınak olarak somut koşullardan damıtılarak ortaya çıkmıştır. İran kimliği ise direnişi değil arınmayı, dini ve yerel özellikleri vurgulayarak ifade eder. Osmanlılar için emperyalizmin iktidar ilişkilerindeki üç sonucundan bahsedilebilir, ilki askeri kapasitenin ve kamu kurumlarının modernleştirilmesine yönelik çaba. İkincisi yabancı misyonların hem ülkedeki gayrimüslimleri himaye etmesi hem de Osmanlı üst düzey bürokratları arasındaki çekişmelerde taraf olmaları. Son olarak ise ayrılıkçı-ulusçuluk hareketleri için kaldıraç görevi görmeleri. İran'da emperyalist güçlerin etkileri tıpkı Osmanlı ülkesinde olduğu gibi gümrük imtiyazları yolu ile başlamıştır. Geleneksel olarak, Osmanlı İmparatorluğu hem ithalat hem de ihracatta uluslar arası norm olan "mütekabiliyet" ilkesini uyguluyordu. İran'da da benzer düzenlemeler vardı. Avrupa'daki Osmanlı ve İranlı tüccarlar, ülkelerindeki Avrupalı tüccarlara tanınan ayrıcalıklara benzer ayrıcalıklardan yararlanacaklardı. Fiili durumda ise Avrupa'ya mal satmaya giden Müslümanların sayısı ülkelere gelen Avrupalılardan daha azdı. Faydalar büyük ölçüde tek taraflı hale geldi. Hemen hemen bütün Müslüman ülkelerde, bir kasaba veya bölgeden diğerine taşınan mallar üzerindeki dahili vergiler, ithalattan yüksektir. Bu mal tedarikinde kendi kendine yetme siyasetinin bir sonucuuydu. İran'da emperyalist etkiler Rusya'nın ithalat ve ihracata yüzde 5'lik tek tip vergiler getiren 1813 ve 1828 anlaşmalarıyla başı çekti ve 1841'de İngiltere ve ardından diğer devletler aynı imtiyazları elde etti. Rusya, Kaçarları 1813 ve 1828'de mağlup ettiğinde konsoloslukta dahil çeşitli imtiyazlar elde etmişti. Bu durum yüzyılın ilk yarısında, modernleşmenin "liberal" normlarca işletildiğinin ifadesidir. 1842'de Çin ve 1856'da Fas gibi ülkeler dış ticarete açık kapı politikasına yöneldiler. (Issawi, 2013) Doğu'nun izolasyonun ticari imtiyazlarla ortadan kalkması ile, yeni ilişki biçimlerinin bu ülkelerdeki insanların günlük hayatına dokunduğu ifade edilebilir.

Basra körfezinde ticari ilişkilerin temeli 18.yy'da atılsa da emperyal etkilerin toplumsal iktidar ilişkilerine nüfusu 1864'te Britanya- Hindistan Buharlı Taşımacılık Şirketi'nin kurulması ve tütün imtiyazı ile söz konusudur. 93 Harbinden dolayı "Transkafkasya ve Erzurum-Trabzon" hattının kapanması ve 1887'de Mennier et Cie. gibi Fransız şirketlerinin Basra körfezi ile Marsilya arasında doğrudan taşımacılığa başlaması İran tarihinde etkileri 20.yy'da da görülecek olaylar dizisine neden olmuştur. (Issawi, 1988)

İran'ın dünyadan izole oluşu Napolyon Savaşı günlerinde parçalanmaya başlamıştı. Napolyon'un subayları, Kaçar ordusunun ithal ettiği uzun bir askeri danışmanlar dizisinin ilkiydi. Henüz tam anlamıyla modern bir toplum olamamış olan Rusya, İran sahnesinde Batılı bir ulusun rolünü oynadı. Rusya yüzyılın başındaki iki savaşta da Kaçarları yenerek Avrupa silahlarının ve askeri örgütlenmesinin üstünlüğünü kanıtladı. Donuk bir hükümdarın yetenekli varisi olan Abbas Mirza, bunu ilk fark edenlerdi. Ancak babasından önce ölünce 1834'te taht, Abbas Mirza'nın oğlu, devlet sorunlarıyla başa çıkmaktan tamamen aciz olan Muhammed Şah'a geçti ve Kaçar saray siyasetinin öne çıkan ismi Hacı Mirza Ağa onun baş veziri oldu. (Kazemzadeh, 2013)

İran coğrafyasındaki emperyalist etki özellikle iki olayda görünür oldu. İlki demiryolu ve ikincisi ise tütün imtiyazıdır. Paris ve Londra'daki İran temsilcileri demiryolu yapımı için birkaç girişimciyle irtibat kurmuştur. Onlar, Avrupalı girişimcilere kolay kazanılabilecek bir servetin çekici resimlerini çizdi ve İran'da yatırımı teşvik etti. 1864 gibi erken bir tarihte Mösyö Savalan, bir demiryolu inşası ve madenlerin işletilmesi için bir projeye Tahran'a davet edildi. Ancak Şah'tan gerekli imtiyazı alamadı. 1866'da İranlı

bakan Muhsen Han Muin ul-Mülk, Londra'da, pek çok büyük girişime dahil olan Prusyalı iş adamı Dr.Strousberg'i Tahran'dan Şehzade Abd ul-Azim'in türbesine giden bir hat için imtiyaz almaya ikna etti. Dr. Strousberg'in mühendisleri, müzakereler ve rüşvetlerle bazı engelleri kaldırırsa da Dr. Strousberg kısa süre sonra yatırım riskinin çok büyük olduğuna karar verdi. Avrupa piyasalarında Kaçarların mali konulardaki kötü niyeti fazlası ile biliniyordu. Ayrıca Osmanlı ülkesindeki gibi işbirliği yapabilecekleri gayrimüslim yerel tüccar nüfusu da oldukça düşüktü. 1872'nin başlarında, maceracı bir iş adamı olan Reuter'a yaklaşıldı. Reuter, şirketinin temsilcisi olarak görevlendirilen Edouard Cotte, Tahran'a geldi ve tekliflerini Sadrazam Mirza Huseyn Han Mushir ud-Dewleh'e sundu. Ancak yabancı faaliyetlere karşı yükselen muhalefet, dönemin Kaçar hükümdarı Nasreddin'in dikkatini çekiyordu. Şah'ın muhalefetten korkmak için nedenleri vardı, çünkü Reuter'in planı tüm maden kaynaklarını sömürecek, tüm demiryollarını, tramvayları, sulama barajlarını ve kanallarını inşa edip işletecek, ormanları yönetecek, bankaları kontrol altında tutacak bir tekel yaratılmasını öngörüyordu. Cotte da gizliliğin gerekliliğinin farkındaydı. Nasreddin Şah, sözleşmeyi imzalamadan önce, en üst düzey yetkililerinden bazılarına fikirlerini yazılı olarak iletmelerini söyledi. Onlar, "kaleminizin bir darbesi ülkeye ve insanlara binlerce yıldır İran'ın tüm krallarının onlara verdiğinden daha iyi ve daha gerçek bir yaşam bahşeder" ifadesi ile kutsal bir çerçeve bile çizdiler şaha. İmtiyaz, 25 Temmuz 1872'de Tahran'da imzalandı. Baron Julius de Reuter'a Hazar Denizi'nden Basra Körfezi'ne kadar uygun gördüğü şube hatları ile bir demiryolu hattı inşa etme ve kendi takdirine bağlı olarak tramvaylar işletme konusunda "münhasır ve kesin hak"lar verildi. Diğer yandan çıkarılan maden gelirlerinin yüzde 15'i Kaçar sarayına gidecekti. Ülke genelindeki devlet ormanlarının yönetimi ve karları da şirkete devredildi (Madde 15) ve hükümet, yatırımcılar için tüm kayıp riskini ortadan kaldıracak "batan fon olursa yıllık yüzde 2 ek ile" yatırımında yıllık yüzde 5 faiz garantisi verdi. (Kazemzadeh, 2013) Muhalefet ve Rus elçiliği ise bu imtiyaza şiddetle karşıydılar. Prenses Anis ud-Dewle ve Dışişleri Bakanı Mirza Said Han da dahil olmak üzere muhalefetin önde gelen üyeleri, Rus elçiliği ile yakın temas halindeydi. Muhalefet, Sadrazam Mirza Huseyn Han'ın görevden alınmasını istiyordu. Şah, Tahran'daki ordunun önde gelen müçtehitlerinden ve komutanlarından, Mirza Huseyn Han'ın görevden alınması taleplerini tekrarlayan endişe verici mesajlar aldı. Şah, doktoru ve Britanya elçiliği ile arasındaki irtibatla etkili bir role sahip Sir Joseph Dickson'un Mirza Huseyn Han ile ilgili olumlu tavsiyelerine rağmen onu görevden aldı. Hem Osmanlılar hem de Kaçarlar için dış kaynaklı bir olay karşısında yükselen toplumsal muhalefeti bastırmaya yönelik geleneksel uygulama "günah keçisi" bulmaktır. Osmanlılar Tanzimat Fermanı ile bunu asgariye indirmeye çalışsalar da Kaçar yönetimi için bu hala sıradan bir olaydı. Diğer yandan Şah, sadrazamlık görevini kaldırdığını açıkladı. (Kazemzadeh, 2013) Bu durum, Kaçar siyasetinde imtiyazların önemli rolünü göstermektedir. 1871'de Âli Paşa'nın ölümüne kadar Osmanlı yönetici elitinde, "Mekatib-i Reşid Paşa"nın mensupları hakim durumdadır. Örneğin Sultan Abdülaziz'in sadrazamları olan Mahmud Nedim Paşa ve Âli Paşa, ilki Rus ve ikincisi Fransız elçiliği ile yakın olmakla birlikte Tanzimat'ın prensip ve normlarını uygulamakta tereddüt etmeyen reformistlerdir. Aynı durumun Kaçar yöneticileri arasında görülmediğini söylemek gerekir. Kaçar elitleri, emperyalist müdahalenin farkında olmak ile beraber, buna cevap olarak kişilere bağlı olmayan bir yönetim kaidelerini içselleştirememişlerdir. Ulema ve ordu ise imtiyaz siyasetinin karşısında konum almışlardır. Ancak bu konumlarının reformist olduğunu söylemek imkansızdır. Özellikle ulema, imtiyazlarla gelecek ekonomik kayıpların ve kültürel yozlaşmanın doğrudan kendi iktidarını etkileyeceğinin farkındadır. Tütün imtiyazı ise İran "bazaar"ının kayda değer mensuplarının gelirlerine doğrudan müdahale anlamını taşımaktadır. İngiliz Binbaşı Gerald Talbot, 8 Mart 1890'da Tütün İmtiyazı'nı kazandı. Talbot'un imtiyazı, İngiliz Büyükelçiliğinin desteği ile söz konusu olmuştu. Tütün üretimi ve satımı üzerindeki her türlü kontrol İran'ın tamamında Talbot'a verilmiştir. Tütün imtiyazı, tütünün yetiştirildiği, işlendiği, satıldığı, satın alındığı veya tüketildiği her kasaba ve köyde etkili oldu. Binlerce tütün tüccarı ve seyyar satıcısı neredeyse yabancı bir şirkete satıldı ve işlerine kanunen olmasa da fiilen el konuldu ve bir İngiliz firması için komisyonla çalışan satıcılara dönüştüler. Büyükelçi Sir Henry Drummond Wolff ve iş arkadaşları, İran'daki tüccarların durumunu ve pazarın gücünü

anlayamamışlardır. Köylülüğün aksine, şehir tüccarları savunmasız değildi. Bir sınıf olarak, Rusya'daki muadillerinden çok daha yüksek bir statüye ve fiili güce sahiptiler. Ayrıca, hiç kimsenin görmezden gelemediği din adamlarıyla yakın ve hayati bağlantıları vardı. (Kazemzadeh, 2013) Rus elçiliği imtiyazı hemen protesto etti ve Türkmençay Anlaşması gereği Ermeni ve Rus tüccarların Reji idaresinin işlemlerinden muaf tutulacağına yönelik garanti istedi. Britanya elçiliğinin de desteği ile hem Şah hem de sadrazamı Amis us-Sultan protestoyu görmezden geldiler. Reji idaresi ve imtiyaz anlaşması sadece Şah'ın değil Kaçar elitlerinin ileri gelenlerinin pek çoğu için şahsi kazanç demektir. Şiraz ve Tebriz'de ajitatörler, Reji'nin yüzlerce tüccarı iflas ettirdiğini ve işsizliğin hızla arttığını, tütün fiyatının yükseleceğini ve ülkenin yabancılar tarafından istila edileceğini yaydılar. Reji'nin yöneticisi Julius Ornstein ise Şiraz şubasının yöneticisine telgraf göndererek: "Reji'nin ülkeye sermaye getirdiğini, mahsuller için nakit para ödeneceğini, insanların tütünlerini eski fiyatlarla satın alacağını ilan etti." Reji idaresi tüccarların komisyon alacağını, yüzlerce kişinin katip ve işçi olarak istihdam edileceğini ve otuzdan fazla Avrupalı işe alınmayacağını yazılı olarak beyan etti. Ornstein gerçeği söylüyor olabilirdi ancak yerli tüccarlar uzun vadede yaşayacakları kayıpların farkındaydılar. İran'ın kentsel nüfusunun en vokal ve bazı açılardan en güçlü kesimi olan tüccarlar, hem maddi hem de statü açısından yabancı rakipler istemiyorlardı. Reji'ye karşı ajitasyon büyümeye devam etti. Şiraz'da mollalar, şirketin yöneticisi şehirden kovulana kadar camilerine girmeyi reddetti. 29 Mayıs 1890'da müçtehidlerin ileri gelenlerinden Ağa Mirza Muhammad Ali, İngiliz konsolosluk ajanına Reji'nin Şiraz müdürü Binns'in ya da din adamlarının ülkeyi terk etmek zorunda kalacağını bildirdi. (Kazemzadeh, 2013)

1890 yazının ortalarına doğru Tebriz'de anti-reji hareketi örgütlü bir hal almıştır. Şehir "gece bildirileri" ile hükümetin denetiminden dışına çıkmaya başlamıştır. Amin us-Sultan İngilizlere, Tebriz'deki Rus başkonsolosunun bu bildirimlerin yayılmasında teşvik edici tutum takındığını söyledi. Bützow, "tüm Rus tebaasının, Tütün Rejimi'nin varlığını hiçe saymakta ve izinsiz veya engelsiz tütün alıp satmakta özgür olduklarını bildirdiğinde" Reji'ye bir darbe indirmiş ve direnişe zımnen cesaret vermişti. (Kazemzadeh, 2013) Tütün içilmesinin "12 İmam'a savaş anlamına geleceği"ne yönelik fetvalar tüm ülkeyi kapsamıştı. Özellikle Merci-i Taklid olan müçtehid Hacı Hasan Şirazi'nin fetvası ciddi etkiler uyandırdı. (Kazemi, 2014)

28 Aralık 1892'de Reji'nin iptal edildiğinin ilanı, kitleler üzerinde hemen etki yaratmadı. Din adamları hükümete güvenmediler ve güvensizliklerini halka bildirdiler. Tahran'da rejimin iptal edilmesinden bir hafta sonra 4 Ocak 1892'de Tahran pazarındaki tüm dükkanlar kapatıldı. Kalabalık saray'a doğru harekete geçti. Şah, halkı sakinleştirmek için en sevdiği oğlu, Savaş Bakanı ve şehrin valisi Mirza Karman Nayib us-Saltaneh'i göndererek göstericileri sakinleştirmeye çalışmıştır. Kaçarlar belirli bir tazminat ödeyerek tütün rejisini iptal etmek zorunda kaldılar. Ama ülkeleri artık bir daha eskisi gibi olmayacaktı. Tütün protestolarının ardından "ulema-bazaar" ittifakı ülkedeki muhalefet hareketinin başlıca unsuru haline geldi. Artık Kaçar ülkesinin seçkinleri, bir tür İran vatanseverliğine evirilecek olan toplumcu fikirleri kaba hatları ile benimseyecektir. 20.yy'daki anayasal deneyimlerin ve toplumsal iktidar ilişkilerindeki konumlanmaların tarihsel referansı tütün imtiyazı deneyimi olmuştur. Emperyalist güçler, Osmanlı ve Kaçar ülkelerinde seçkinlerin hem modernleşme amaçlarını hem de bileşimlerini değiştirmiştir. Artık, seçkin kompozisyonu muhalif ve reformist olarak iki kutuplu hale gelmiştir. Diğer yandan yüzyılın ikinci yarısından itibaren genel hatları ile hem muhafazakar hem de reformistler, ulusal-dayanışmacı ve otoriter olarak kendi içlerinde de ikiye ayrılmışlardır.

2.2. Modern Devlet ve Yönetici Elitlerin Konumu

Elbaki Hermassi, "Toward Comperative Study of Revolution" makalesinde (Hermassi, 1976) devrimlerin sadece olayın olduğu ülkedekileri değil diğer ülkelerde devrimcileri örnek alanları ve devrime karşı olanları da etkilediği dünya-tarihsel(world-historical) bir karakteri olduğundan bahseder. Osmanlı ve Kaçar toplumlarında Batı'dakine benzer bir devrim olmasa da, yerel koşullara bağlı muhalefet

güçlerinin ve dünyayı takip eden entelektüellerin varlığı göz önünde tutulduğunda geleneksel iktidarı sarsacak güçlerin mevcut olduğu görülebilir. Bu durum karşısında devlet örgütlenmesinin yeniden düzenlenmesi ve otoriteyi yeniden tesis edecek reformların uygulanmasının gerekliliği ortaya çıkmıştır. Devletin yeniden örgütlenmesi için kullanılacak personel ve bunun için gerek duyulan model ise “Modern Devlet” konsepti altında Batı’dan esinlenilerek formüle edilmiştir. Elbette bu formülasyon salt bir taklit değildir. Diğer yandan tamamen tamamlanmış bir projede değildir. Çünkü her iki ülke içinde proaktif bir süreç söz konusu olmakta hem iç siyasette hem de dış siyasette gevşek bir zemin üzerinde süreç işlemektedir. Nicos Poulantzas’ın ifadesi ile devlet (Poulantzas, 2014), 19.yy’da egemen sınıfların hakim olduğu bir aparat olmaktan ziyade iktidar mücadelesinin alanıdır. Toplumsal çelişkilerin tarafı olmaktan ziyade çelişkilerin siyasi bir mücadeleye dönüştüğü alandır. Devlet, nesnel ilişkilerin siyasi görünümünün performans alanıdır. Bir mücadele alanı olarak devlet, Kaçarlar ve Osmanlılar örneğinde alt-yapısal iktidarını tesis için farklı toplumsal kesimlerin ilişki alanı haline gelmiştir. Her iki ülkede de saray, mutlak bir iktidarı simgelemekte iktidar farklı alanlara ve kurumlara bölünmüş şekilde oluşmaktadır. Osmanlı örneğinde Tanzimat Fermanı ve akabindeki yoğun bürokratik faaliyetler sarayın karar vericiliğini azaltmıştır. Kaçarlar örneğinde ise hukuki ve bürokratik süreç saray iktidarını sınırlandırmada Osmanlılardan farklı yönere sahip olmuş ve kurumsallaşma daha zayıf kalmıştır. Bu durumun başlıca sebebi siyasi seçkinlerin nitelikleridir. Özellikle iktidar alanlarının her birinde hakim konumda olan seçkinlerin sosyal ve kültürel niteliklerinin örtüşmesi ve çatışması 19.yy boyunca başlıca faktör olarak göze çarpar. Osmanlılar ve Kaçarlarda tarihsel problemler olarak adlandırılan emperyalizm, kapitalizm ve modern devlet konularının değişimin hem biçimini hem de modelini (Açikel, 2007) etkilediği ifade edilebilir.

Kaçarlar ve Osmanlılar, askeri sebeplerle başlanmış bir modernizasyon(military-led modernization) sürecini 19.yy boyunca deneyimledi. Bu durum devlet inşa sürecini de pek çok yönden karakterize etmiştir. Savunmacı bir askeri modernizasyon süreci, büyüyen Batı emperyalizmine karşı kaçınılmaz bir durum ve bir tür doğa yasası olarak sunuldu. Diğer yandan ise bu savunmacı yenileşme hareketi Batılı askeri teknoloji ve örgütlenme müfredatına dayanılarak yapılmaya çalışılmıştır. Fas’tan Kaçarlara kadar pek çok siyasi seçkin kendi askerleri için Batılı uzmanlara başvurma gereği duymuştur. Özellikle ordusunu Fransız teknolojisi ile donatan ve Fransız tipi bir örgütlenmeye giden Mısır Valisi Mehmet Ali’nin 1830larda Osmanlı Sultanı’nın ordularını yenmesi, açıkça modern orduların Batı’ya özgü olmadığını hem Kaçarlara hem Osmanlılara göstermiştir. (Cronin, 2007) Kaçarlar, Osmanlılarla aynı amaçları paylaşıyorlardı. Bu yüzden her iki ülke de kitlesel askere alma yöntemini uygulama amacına gittiler. Ayrıca her iki ülke de çok fonksiyonlu ordular, bu ordulara komuta edecek subaylar yetiştirmek için yeni eğitim kurumları açtılar. Osmanlılar, Kaçarlar’dan yarım asır önce “muhteşem” çağların sınırlarını yeniden kazanma umutlarını bir kenara bırakarak topraklarını ve nüfusunu muhafaza amacı ile hareket etmeye başlamışlardır. Oysa Kaçarlar, 1837’de Muhammed Şah ve 1856’da Nasreddin Şah, Batı Afganistan’da Herat’ı ele geçirmek için savaşlar başlattılar, her ikisi de İngiliz askeri gücü tarafından engellenen saldırılardı. 1860’ta Nasreddin Şah, Orta Asya’daki Merv üzerinde egemenliğini ilan ettiyse de yüzyılın sonlarına doğru giderek gerçekçi olmayan bu hedeflerden vazgeçti ve Kaçarlar, teoride her zaman olmasa da pratikte ülkenin mevcut sınırlarıyla kendini uzlaştırmaya başladı. (Cronin S. , 2008)Bu durum savunmacı bir konseptte ve eldeki insan kaynağının yenilenmesi ile devlet otoritesinin korunmasına yönelik bir tür zihniyet değişimini de beraberinde getirdi. Artık Osmanlı ve Kaçar subayları, eldeki toprağı ve toplumu en iyi şekilde kullanma ve koruma amacına yönelik yeni bir bilinçle hareket etmeye başlamıştır. Fetih ve meşruiyet arasındaki denge, yerini modernliğe adapte ve bağımsızlık arasındaki dengeye bırakmıştır. Bu yeni paradigma öncelikle askeri görevleri de üstlenen siyasi seçkinlerce benimsenmiştir. İran modernleşmesi askeri yenilgilerden duyulan hoşnutsuzluk ve batılı güçlerin gerisinde kalma kaygısından dolayı Batılı askeri araç, gereç ve teknik bilgisine ihtiyaçtan ötürü İngiltere, Fransa ve Rusya ile gelişen diplomatik süreçle birlikte başlamıştır. 1807’de Fransa’dan gelen askeri

heyetin askeri eğitim ve top döküm tekniklerini öğretmesiyle başlayan süreç, ilk daimi elçiliğin 1809 yılında Londra’da kurulması ve diğer Avrupa başkentlerinde elçiliklerin açılmaya devam edilmesiyle birlikte dünyadan haberdar olma ve çağa uyma zorunluluğu, modern eğitilmiş ve donanımlı ordu kurma ve yurt dışına eğitim için öğrenci gönderme ile sürmüştür. (Metin, 2006)

1810’da Batılı bir gözlemci, Kaçarların barış zamanında düzenli bir ordusu olmamak ile beraber başkent ve eyalet merkezlerinde muhafız görevi gören askeri birliklerden bahsetmektedir. Bunlar hiçbir şekilde modern ordu biçiminde değildir. Aynı gözlemci Feth Ali Şah’ın 3.000’i köle olmak üzere 15.000 muhafızı olduğunu belirtir. Savaş zamanı ise çoğu düzenli olmayan çeşitli eyaletlerden sağlanmış erkeklerden oluşan birlikler meydana getirilmektedir. (Morier, 1818) Bu ordu, sadece bahar ve yaz aylarında bir araya getirilebilmektedir. 1827’de Ruslar Tebriz’e girdiklerinde ciddi bir direnişle karşılaşmadılar ve şartları ağır Türkmençay Anlaşması ile Kaçar hanedanı hızla reform yapılması gerektiğine dair kararlar aldı. Reform hareketinin öncülerinden Abbas Mirza, “buninchah” sistemi ile yeni bir askere alma programı başlattı. Ayrıca “nizam” adı verilen yeni askeri birlikler kurdu. Bu birlikler, Osmanlıların III.Selim zamanındaki Nizam-ı Cedid kuvvetleri örnek alınarak oluşturulmuştur. Rus ordusundan firar Gürcü birlikleri ve Rus kökenli Samson Han olarak bilinen bir komutan tarafından idare edilen bir alanda Abbas Mirza’nın nizam birlikleri içindeki yerini almıştır. Ayrıca Abbas Mirza, 1833’te İngilizlere başvurarak askeri danışmanlar istedi ve bu talebi karşılık buldu. Abbas Mirza’nın bu faaliyetleri kendi muhaliflerini yaratmıştır. Onun 1834’teki ölümü muhaliflerince zafer olarak kutlansa da Feth Ali Şah’ın ölümü sonrası tahta geçen Muhammed Şah, reformları devam ettirdi. Bu dönemde İngiltere’nin İran siyaseti Herat meselesi yüzünden değişmeye başlayınca İngiliz danışmanlar ve nizam askerleri arasında gerilimler yaşanmış ve yeni birlikler eğitimcilerini reddetme yoluna gitmişlerdir. Muhammed Şah, İngilizlerle bozulan ilişkiyi Fransızlarla kurmaya yönelmiştir. 1840’ta Fransız heyet, Edouard Comte de Sercey önderliğinde Tebriz’de konuşlanmıştır. Kaçarların nizam birlikleri yinede Batılı bir ordunun yeteneklerine ulaşamadılar. Bunda hazinenin boşluğu ve personel sıkıntısı başlıca sebeptir. İngilizlerden Fransızlara meyletme ise kırmızı pantolondan mavi tuniğe geçiş dışında ciddi bir değişiklik yaratmamıştır. (Cronin S. , 2007) Nasreddin Şah’ın (1848-1896) tahta çıkmasıyla orduda reform çabalarında yeni bir aşama başladı. Tanzimattaki Osmanlı reform hareketinin ilerlemesinden etkilenen yetenekli başbakanı Mirza Taki Han Amir Kabir, orduyu modernleştirmeyi amaçlayan bir dizi önlemleri kapsamlı bir reform programını hemen başlattı. Seçkin bir askeri ve teknik kolej olan Dar al-Funun’u kurdu ve Abbas Mirza tarafından tasarlanan ve başlangıçta sadece Azerbaycan’a yönelik olan bunichah sistemini, teorik olarak ülke genelinde ve tüm nüfus için uygulanabilir nispeten karmaşık bir ölçü haline getirdi. Mevcut nizam birimlerini yeniden düzenledi ve yerel Hristiyanlardan biri de dahil olmak üzere 16 yeni alay kurulmasını emretti ve bunlara Rus kaçaklarının eski alaylarından bazı subaylar ve erkekler eklendi. Amir Kabir, 1849’da Avusturyalıların Sardunya zaferinden etkilendi ve Avusturyalı uzmanları ve subayları hem Dar al-Funun’da hem de orduda işe aldı. Onun muhalifleri tarafından görevinden edilmesinin ardından, reformlara muhalif Ağa Han Nuri başbakan olmasına rağmen Avusturyalı uzmanlar 1852’de çalışmaya başladılar. Ayrıca İtalyan bir subay grubu da Tahran’da faaliyetlerini sürdürmekteydi. Bu İtalyanlar, 1848’in devrimci atmosferinde şehir devletlerinden sürülmüş aktivist kişilikli subaylardı. (Cronin S. , 2007) Nasrettin Şah, 1856’da Herat’ta İngilizlere yenildiğinde Avusturya ve İtalyan danışmanların faydasız olduğu kanaatine vardı. Rusya ve İngiltere ise açıkça tehditti. Bu yüzden III.Napolyon’dan yardım istemeyi tercih etti. Yeni bir Fransız askeri heyeti 1858’de Tahran’a ulaştı. Fransızlar, hem İngiliz arzularını engellemek hem de Osmanlıyı kontrol altında tutmak için bu durumu bir fırsat olarak değerlendirdiler. 1870lerde Kaçarların yetenekli veziri, Mirza Hüseyin Han kapsamlı bir reform programı başlattı. Özellikle Tanzimat uygulamalarından esinli bir şekilde bütçe, askere alma ve teknik yenilikler konusunda çeşitli adımlar atıldı. Şah’ın 1878 Avrupa gezisi ile birlikte Avusturyalı ve Rus askeri danışmanlar heyeti 1879’da Tahran’a geldiler. Ruslar, Kazak Alaylarını kurdular. Avusturyalılar ise topçu birliklerini düzenlediler. (Cronin, 2007)

Kaçarların askeri modernleşmesinde belirli bir ekolün etkisinin net olmadığı söylenebilir. Danışmanlar ve teknik malzeme, konjonktürel olarak değişmektedir. Ayrıca modernize edilmiş askeri birlikler ve yeni okuldan mezun subay sayısı hala çok kısıtlı kalmıştır. Reformlar, yetenekli devlet adamları ile sınırlı kalmış, bir norm ve hukuk kuralı haline gelmemiş, kurumsallaşma sağlanamamıştır. Bu durum, değişimin belirli bir seçkin çevresi ile sınırlı kalmasını ve Kaçar dönemi İran toplumuna yayılmasını engellemiştir. Dolayısı ile aşiretler, klanlar, dini gruplar ve valiler arasında paylaşılan iktidar; modern bir devlet yapısı oluşmasını engelleyerek geleneksel seçkinler ile yeni tip elit zümresi arasındaki gerilimi sonuçsuz bırakmıştır.

Tanzimat'ın yönetici eliti bütün 19.yy boyunca aktif bir rol üstlenmiştir. Kaçar devlet adamları arasında Osmanlıdaki iktidar gücüne erişebilecek çok az bürokrat olduğu söylenebilir. Diğer yandan II.Mahmud ve II.Abdülhamid gibi dinamik sultanların idari ve eğitim alanındaki reformlarda öncül rol oynamaları da Osmanlıların modern devlet oluşumunda başlıca amiller olarak öne çıkar. "1839'dan sonra kurulan ve 1869 dan sonra epey yaygınlaşan eğitim sistemi, pratik görevleri yürütmek için gereken becerilerin kazanıldığı bir yer olmaktan çok belli bir sosyal konum ve statü elde etmenin yolu" olarak değerlendirilmiştir. (Karpas, 2009)Tanzimat'ın bürokratik seçkinleri Kaçarlardaki gibi ailevi değil mesleki statüye sahiptirler. Osmanlı Devleti'nin geleneksel olarak yönetenlere tanıdığı imtiyazlarla birlikte, modern bir toplumun ihtiyaç duyduğu faaliyetlerde uzmanlaşmaları bu statünün pekişmesini sağlamıştır. Osmanlı yönetici elitinin rasyonel sorumluluk ilkesini içselleştirmeye başladığı söylenebilir. Bu ilkenin temelinde ise "akıl ve örfi hukuk arasındaki ilişki" vardır. Gayrişahsileştirilmiş iktidar ilişkileri, "icapçı" bir yönetim mantığı ile seçkinlerin adabında temel bir yere sahip olmuştur. Bu yeni kaideler "geleneksel adap" düşüncesinin seküler bir tonda değişmesinin ürünüdür. Yeni adap, bürolarda katipler tarafından, görevleri sırasında ve mektepteki eğitimlerde içselleştirilmiştir. Tanzimat'ın bürokratik seçkini, Heper'in ifadesi ile "Avrupalı bir asilzade tavrıyla görev yapacakları otoriter bir hukuk devleti" yaratmıştır. Tanzimat, sivil bürokrasiyi "devlet seçkini" statüsüne kavuşturmuştur. (Heper, 1991)Bürokratların kariyerleri açısından kritik iki öge olduğu söylenebilir. Bunlardan ilki, himaye, ikincisi ise hangi büroda yetiştiğidir. Osmanlı devlet geleneği içinde "ilişki sermayesi" tarih boyunca önemli bir yer tutmuştur. İlişki sermayesi kavramı, kendine hami bulan kişinin nüfuz ve tesirini ifade eder. İlişki sermayesi, Kaçarlardaki kadar olmasa da Osmanlılarda da uzun bir süre akrabalık ilişkileri üzerinden yürünmüştür. "Ancak himayeciliğin akrabalığa dayalı biçimi Tanzimat'tan Meşrutiyet'e değişime uğramıştır. Bu değişim siyasal ve ideolojik aidiyetin akrabalıkla dengelendiği yeni bir idari yapının meydana gelmesine neden olmuştur." (Bouquet, 2016)

Diğer yandan bir Osmanlı ailesinin fertlerinin birkaç nesil boyunca memuriyet yapması, Batı'daki ya da Kaçarlardaki gibi ailenin özerkliği veya monarkla olan kan bağıını vurgulamaz. Daha çok devlete bağımlılığı vurgular ve genellikle aynı statü veya birimlerde görevlendirilmeyerek frenlenir. Nitekim Mustafa Reşid Paşa'nın ailesi ve Musuruslar bu durumun Tanzimat Dönemi'ndeki örnekleridir. Sonuç olarak himaye ilişkileri ile 19.yy'daki değişimin getirdiği yeni anlayış arasında bir farklılık olduğu söylenebilir. Bu durum, bürokraside himayeyle yükselme ve kendi imkanları ile ilerleme arasında iktidar ilişkilerinde konum alma açısından farklar oluşturmuştur. Ancak Osmanlı Devleti'nin yıkılışına kadar "nepotizm ve ehliyet arasında sarkaç" hareket etmeye devam etmiştir. (Bouquet, 2016) Tanzimat bürokrati, Prusyalı ve Avusturyalı kameralistlerden farklı olarak "destek gruplara" sahip değildir. Bu memur-aydınlar kategorisinin rasyonel bir devlet örgütü kurma ideali en başta "birleştirici bir soyut odağın" yokluğu ile engelleniyordu. "(...) yani kriz durumlarında yerleşik kurumda padişahın şahsı dışında birleştirici bir odağın bulunmaması sorunu" Osmanlı kalem efendilerinin iktidar ilişkilerindeki konumu için olumsuz etkilere sahipti. (Mardin, 2018)Onlar, Gülhane'de can ve mal güvenliği kazansalar da, iktidarın tek kaynağı olarak sultanın gösterildiği bir düzende resmi bir özerklik elde edememişlerdi. 1860'dan sonra ise bürokrasinin orta düzeyinde görevli ve gazete mahfillerinde yer bulan bir aydın-memur kitlesi "destek gruplara" sahip olarak yükselişe geçti.

Değişimin yürütücüsü ve öncüsü konumundaki yönetici elitler, Kaçarlar ve Osmanlılarda farklı özellikler göstermektedir. Bunun bariz örneklerinden biri Nasreddin Şah'ın sadrazamı Amin us-Sultan ve Britanya elçisi Sir Frank Lascelles ayrılması üzerine İngiliz elçiliğinden sorumlu olan sekreter Conyngham Greene arasındaki diyalogdur. Greene, sadrazama İngiltere'nin İran'daki durumu düzeltmek için neler yapabileceğini sorduğunda, Amin us-Sultan tek bir yol olduğunu söyledi: "Bu, Şah'ın reformları başlatmasında ısrar etmek ve onu bunu yapmaya teşvik etmek"tir. Sadrazam, Şah'ın devlet dairelerinin satışından parası olduğu sürece mevcut durumu korumak istediğini belirtmiştir. Sekreter Greene, kamu görevlilerinin müzayede yoluyla satılmasının ve ordunun yüz karası durumunun ülke yönetimi üzerinde utanç verici tesirleri olduğuna işaret etti. Amin us-Sultan, İngilizlerden Şah'a reform için ödeme yapılmasını istedi. Kaçar Şahı'nın yönetim sistemi, onun sadrazamını, şahı ülke içindeki güçlerden rüşvet almasını diye yabancı bir ülke temsilcisinin ona rüşvet vermesini istemeye yöneltmişti. (Kazemzadeh, 2013) Tanzimat'ın pek çok paşası ise yabancı elçiliklerle yakın temasta olmalarına rağmen sultanın otoritesi ve ülkenin genel çıkarı hakkında böyle bir pazarlığa girecek kadar ileri gitmemişlerdi. Osmanlılar, kendi yakın geçmişlerinin itibar ve iktidarına her zaman özlem duymaya devam ettiler. Bu nedenle, büyük devletler ligine yetişme kaygısını muhafaza ettiler. Bu durum, onları kendi padişahları karşısında farklı ülkelerin elçilikleri ile yakınlaştırsa da, hiçbir zaman Kaçarlardaki rüşvet olayları kadar ileri seviyelere ulaşmadı. Kültürel değişim öncelikle üretilen yazılı ürünler ve bu ürünlerin biçim ve içeriğinde yaşanan değişimde görünür olmuştur. Diğer yandan bu eserlerin üretimi için gerekli olan okur-yazar kitlesi eğitim kurumlarının modernleştirilmesi çabası ile paralele şekilde artar. Baskı tekniğindeki gelişmeler ve dağıtım ağının iyileştirilmesi de bir başka önemli faktördür. Osmanlılarda Batı'nın kültürel etkisi 18.yy'a kadar geri götürülebilir. Yönetici seçkinler için eğitim kurumlarında modernleşme, ulema ile bariz bir çatışma demek olduğu için aşamalı olarak gerçekleştirilmiştir. Tanzimat ve Islahat Fermanları ile ilan olunan eşitleştirici normlar ve sosyo-ekonomik değişimin gerektirdiği işlevselleşme eğitimde reformu gerekli kılmıştır. Osmanlı ülkesinde gözlemlerde bulunan Abdolonyme Ubcini(1818-1884), halk öğretiminin ulemanın tekelinde, dışa kapalı ve edebi oluşunu ve bu durumun Osmanlıların izole kalmasına neden olduğunu belirtir.(Ubcini, 1998, 146) Medreselerdeki eğitimin çağın hatta II.Mehmed döneminin bile gerisinde olduğu ifade edilebilir. Dönemin şairlerinde İlhami, "Ayetten hadisten vaaz eder şimdi.../Medreseler boştur, odalar kilitli/Zevkü sefadadır mollalar şimdi" diyerek bu duruma vurgu yapmıştır. (Hatemi, 1985)Medreselerin bu durumu karşısında çeşitli düzenlemeler yapılmıştır. Bunlar arasında II.Mahmud zamanında ilk öğretimde dini ve temel akli konuların öğretilmesi hakkında nizamname; (Ergin, 1977)Dar'ül Hikmet-ul İslamiye(1834) ve Meclis-i Meşayih(1834) kurulları gösterilebilir. (Ülken, 1979)1845 yılında sultan Abdülmecid'in emri ile halkın eğitim düzeyini yükseltmek için Maarifi Meşveret Meclisi kurulmuştur. "Maarif de tıpkı adliye gibi Tanzimat döneminde yeni bir anlam edinmiştir. Tanzimat'ın ilk dönemi(1839-1856) boyunca ulemanın eğitim alanındaki konumunu sarsmadan, ilmiye elindeki eğitim kurumlarının muadili veya tamamlayıcısı yeni eğitim kurumları ihdas etme gayreti dikkate değerdir. Bu yüzden Tanzimat'ın rüşdiyeleri, ulemanın tesirindeki ilköğretim ile II.Mahmud devrinden beri askeri zorunlulukların sonucu kurulan yüksek öğretim -tıbbiye, harbiye vb.- arasında geçişi sağlayıcı bir şekilde tasarlanmıştır."(Berkes, 2017, 230)⁶Memuriyete hazırlık amacı ile Mekteb-i Ulum-ı Ebediye(1838) ve Mekteb-i Maarif-i Adliye(1838); diğer alanlarda ise ebe mektepleri(1842), mülkiye rüşdiyeleri(1847), askeri idadiler(1846), Darü'l-muallimin(1847), Ameli Ziraat Mektebi(1847), Darü'l-maarif(1849), Paris Mekteb-i Osmani (1855) gibi yüksek öğretime öğrenci yetiştirecek okullar kurulmuştur. (Tekeli, 1985) Eğitim işlerinin idaresi noktasında ise 1839'da Rüşdiye Okulları Nazırlığı, 1845'te Maarif Meclisi, 1848'de Metakib-i Umumiye Nezareti kurulmuştur.(Ülken, 1979, 47) Maarif-i Adliye'de ve Ulum-u Edebiyye'de okuyan öğrenci sayısının 1841'de toplam 400 olduğu ve bunların tıpkı Harbiye gibi üniformalı oldukları ifade edilebilir.(Ergin, 1977, 402) Islahat

⁶Tekeli: "Sıra üstünde ayak sallayarak Kur'an öğrenilmez", İptidai mekteplerine yöneltilen en önemli eleştiri olmuştur. İstanbul'da 360 sıbyan mektebinden 12 tanesi aynı yıl içerisinde iptidai mekteplerine dönüştürülmüştür.

Fermanı sonrası denetim görevi Maarif Meclisi'ne, okullaşma ise 1857'de kurulan Maarif-i Umumiye Nezaretine verilmiş, 1861'de eğitim işleri ile ilgili nizamnamede rüşdiye ve üstü tüm okulların nezarete bağlı olduğu, eğitimin karma olacağı ve eğitim dilinin Türkçe olduğu açıkça dile getirilmiştir. 1862'de sıbyan mektepleri Batı'daki yeni usullere göre eğitim yapan "iptidailere" dönüştürülmeye başlanmıştır. Tanzimat dönemi boyunca eğitim sistemi üzerindeki en kapsamlı nizamname 1869 Maarif Nizamname'si Saffet Paşa'nın(1815-1883) talebi ile Şura-y-ı Devlet Maarif Dairesi tarafından Ahmet Kemal Paşa(1808-1888) önderliğinde Fransız eğitim sistemi incelenerek hazırlanmıştır. 1869 Nizamnamesi ile "Köy ve mahallelerde sıbyan, beş yüz evli kasabalarda rüşdiye, bin evli kasabalarda idadi kurulması" öngörülmüştür. Bu okulları bitirenlerin yüksek meslek eğitimi veya Darü'l Fünun'a kabul edileceği belirtilmiştir.(Tekeli, 1985, 470) Bu okulların sürekliliği ve kalitesi şüphelidir. Pek çoğu yüzyılın son çeyreğine kadar muadili Batılı okulların müfredatını kullanmamıştır. Gerekli personel ve kaynak yetersizliği de okullaşmayı ve eğitim kalitesini etkilemiştir. Mesela Mekteb-i Tıbbiye mezunu Hayrullah Efendi'nin 1862'de, eski tıbbi övmesi ve "Sırr" adlı kitabında efsunlu otların faydalarına vurgusu, bu okullardaki eğitimin seviyesini göstermesi açısından iyi bir örnektir. (Adıvar, 1943) Diğer yandan 1874'te İstanbul'da rüşdiye ve üzeri okullarda eğitim gören kız öğrenci sayısı 294'tür. Bu durum Kaçar İran'ının çok daha ilerisinde bir eğitim seferberliğini ortaya koymaktadır. Uzun yıllara yayılan ve ikircikli yapının büyük ölçüde korunduğu bir okul sisteminin varlığı, Tanzimat'ın ilk yıllarında bu okulların gayrimüslimler ve üst ekonomik gelir grubuna dahil olanlar tarafından tercih edilmemesinin başlıca nedenleridir. Bu sebeple genellikle alt ve orta gelir grubu olarak tabir edilebilecek ailelerin çocukları bu aşamalı okul sistemine emanet edilmektedir.(Ergin, 1977, 383-393)⁷ Yeni insan tipi, yüzyılın ikinci yarısından itibaren sefaretlerdeki görevleri sırasında yaşadıkları tecrübelerden esinlenerek ortaya çıkan memurlardan değil, meslek öncesi eğitimin idealize içeriğini içselleştirmiş kişilerden kaynaklanmıştır. Birçoğu, özellikle askeri ve yatılı okullar, yeni bir birlik ruhunun ifadesi olarak 1860'lardan itibaren yeni bir tutunum ilişkisini başlatmışlardır.Kaçarlar ise okullaşma ve kurumsallaşma noktasında yeni düzenlemelere gitmekle beraber Politeknik koleji ve Dar al-Fünun dışında nitelikli eğitim verecek ve orta kademe eğitim ağını standart hale getirecek yapılar oluşturamamışlardır. Bunun yanında Tebriz Valisi ve veliaht olan Abbas Mirza, 1811'den itibaren İngiltere'ye öğrenci göndermeye başlamıştır. İlk kafileden tek geri dönebilen Mirza Afşar'dır. Tıp eğitimi görmüş ve Abbas Mirza'nın şahsi doktoru ve dönemin aktif bir politikacısı olmuştur. İkinci kafiye yine Abbas Mirza tarafından 1815'te Londra'ya gönderilmiştir. Bu kafiye bilinçli bir programın ürünüdür. Topçu okulu, mühendislik, kimya, etimoloji ve tüfek ustalığı için yüksek öğrenim görmüşlerdir. Mühendislik eğitimi gören Mirza Cafer, yüzyılın ortasına doğru İstanbul elçisi olarak görevlendirilmiş ve Osmanlı reform sürecinin yakın bir takipçisi olmuştur. (Fermayan, 19.yy İran'ında Modernleşme Güçleri, 1995) Bu ikinci grup içerisinde siyaset alanında öne çıkan bir kültür reformcusu ve etimolog olan Mirza Salih'tir. Mirza Salih, İran'ın ilk matbaasını ve gazetesini kurmuştur. Mirza Salih, Londra'dan gönderdiği mektuplarında İngiltere'yi velayet-i azadi yani özgürlükler ülkesi olarak tanımlar. O ve pek çok arkadaşı parlamenter sisteme hayranlıkla döndüklerinde Kaçar sarayı Rus felaketinin yaklaşmakta olduğunu göremeyecek durumdaydı. 1827'de Osmanlı topraklarından geçerken gerici Mollaların III.Selim'in modernleşme çabalarını nasıl engellediklerine değinir. Kaçarlarında aynı direniş gücü ile karşılaşması olasılığını belirtir. (Lewis, 1968) Batı'nın Kaçar İran'ı üzerindeki etkisi 1819-1840 yılları arasında olumsuzdur. Bu durum, modernleşmeci güçlere karşı muhalefet dalgasının güç kazanmasına neden oldu. 1829'da Rusya'nın Tahran elçisi Grebaidov, Tahran'da katledildi. Bunun üzerine şah, Abbas Mirza'nın oğlu Hüsrev Mirza ve mahiyetini St. Petersburg'a özür amacıyla gönderdi. Bu heyet içinde 19.yy'da yaşanan değişimin öncüleri olacak olan pek çok siyasi seçkin bulunmaktadır. Bunlar arasında Mirza Taki Han, Mirza Germrudi, Mirza Salih gibi

⁷Ergin:İbrahim Halil Aşçıdede'nin Süleymaniye ve Sultanahmed Mekatib-i Selatinlerinin(camilerin yanındaki ilk rüşdiyeler) sosyo-ekonomik farkına değindiği görülmekte ve Ziya Paşa ve kendisinin birer fakir ama çalışkan olarak okulu derece ile bitirdiklerini aktarmaktadır.;Ayrıca Gazi Ahmet Muhtar Paşa'nın 1908'de Cemiyet-i Tedrisiyeyi İslamiye'nin bir toplantısında Harbiye'nin kuruluşunda gurebadan sokak çocuklarının toplanarak eğitime başlandığını göz yaşları içinde anlatmıştır.

yurt dışında eğitim görmüş kimseler vardı. Bu ziyaret hakkında tutulan kayıtlarda, buhar makinesinin İran'a getirilmesi ve modern okulların açılmasına bu okulların masraflarının soylulardan tahsil edilmesi gibi hususlara cesametli bir bölüm ayrılmıştır.(Fermayan, 1995, 176)

1845'te ise Şah, 5 öğrenciyi Fransa'ya göndermiştir. Bu ekip içinde yer alan Hüseyin Kali Ağa, Kaçar modernleşmesinde bir dönüm noktasıdır. O, kendinden öncekilerden farklı olarak İran toplumunun İslam öncesi İran kültürüne yönelmesi gerektiğini savunmaktadır. İran'daki hanedanların geleneksel yöntemi dini ve siyasi meşruiyeti dengeli şekilde sağlamak iken Hüseyin Kali Ağa ve ondan sonraki pek çok modernleşmeci İranlı İslamiyet öncesi motiflere dönerek bir tür sekülerleşme ve "halka doğru" siyaseti benimsemişlerdir. 1811'de ilk öğrencilerin gönderilmesinden 1853'teki Batılı anlamda ilk okul olan Dar al-Fünun'un kuruluşuna kadar 29 öğrenci yurt dışına eğitime gönderilmiştir. 19.yy'ın ikinci yarısında ise Mirza Taki Han, Nasreddin Şah ve Mirza Huseyn Han eğitimdeki kurumsal değişimin öncüleri olmuşlardır. Mirza Taki Han, soylu bir aileden gelmemiştir ve bir aşçının çocuğudur. Babası Abbas Mirza'nın himayesindeki bir idarecinin evinde aşçı olarak çalışmaktadır. Kalemeye'den yetişmiştir. Kariyerine Tebrizin Askeri İşler kaleminde devam etti ve Hüsrev Mirza heyeti ile Rusya'yı ziyaret etti. 1845'te Osmanlı-İran sınır anlaşmazlıkları komisyonunda görevlendirildi ve 4 yıl İstanbul'da yaşadı. Muhammed Şah'ın 1848'deki ölümü sonrası Nasreddin Şah'ın Başbakan'ı olarak Tahran'a döndü. Dar al-Fünun'un açılmasına ön ayak oldu. Tıp, madencilik, mühendislik ve askeri bilimler alanında yabancı öğretmenlerin teminini sağladı. Okula ilk yıl 100 öğrenci kaydolmuştur. 1900'de ise bu sayı 300'dür. Tekstil ve silah yedek parçası için fabrikalar kurdu. Bu fabrikalarda çalışacak ustaları eğitmek için Rusya ve Osmanlıya başvurdu. Nasrettin Şah ise 1857'de İngilizlere yenilene kadar liberal bir tutum içindeydi. Daha sonra aşamalı olarak modernleşmeyi bir tür askeri ve endüstriyel sıçrama olarak görmeye başladı. Onun tahtı kaybedeceği korkusu modernist eğitim faaliyetlerini yavaşlatmasına sebep oldu. Osmanlılar ile benzer şekilde 1860 sonrasında değişim, anayasal ve özgürlükçü bir söylem repertuarına kavuşmaya başlamış teknik ve idari vurgu azalmıştır. Bu hem Osmanlı sarayı hem de Kaçar sarayı için önü kesilmesi gereken bir durumdu. Mirza Huseyn Han ise memur kökenli geniş bir aileden gelmekte ve kariyerini hariciyede ilerletmekteydi. 1870'te adalet bakanı, 1871'de savaş bakanı oldu. Aynı yıl Başbakan oldu. Fransa'da eğitim görmüş, Rusya ve Osmanlıda sefirlik yapmıştır. Osmanlı liberallerinin lideri Mithat Paşa ile sıkı bir dostluk geliştirmiştir. Osmanlı devletindeki liberal ve milliyetçi fikirleri, bürokratik reformlar ve Osmanlı'nın dış siyaseti saraya yazdığı raporlar arasında dikkat çekici olanlarıdır. İran Adliye teşkilatında usulü yeniliklerin yanı sıra adli işlerin görülmesinde eğitim görmüş personel ihtiyacını karşılamak için çeşitli girişimlerde bulundu. Kabine sistemi, adli teşkilatın merkezileşmesi ve yüksek mahkeme kurulması gibi konulara öncülük etmiştir. Demiryollarının Reuters'a verilmesi ve bu konuda Şah'ı Mirza Huseyn Han'ın ikna ettiği kanaati kamuoyunda yayılınca muhalifleri, ulema ve Rus propagandası etkisi ile görevinden uzaklaştırıldı.(Farmayan, 1995, 178) 1881'deki vefatı sonrası Kaçar İran'ı modernleşmenin kişiler ve olaylarla sınırlı kaldığı bir devlet görünümündeydi. Eğitim ve kültür alanındaki her gelişme reformist kişinin şahsi ikbalı ve günlük siyasetle yakından ilgili halde aksak işledi. Osmanlı ve Kaçar seçkinleri arasındaki temel fark eğitim meselesinde görülebilir. Merkezileşmenin ve tabiiyet sisteminin standartlaşmadığı bir yapı içinde Kaçar seçkini modernleşme konusunda dezavantajlara sahiptir. Diğer yandan Osmanlı seçkini için tehdit çok daha yakından gelmekte, parçalanma tehlikesi özellikle yüzyılın ikinci yarısında hızla artmaktadır. Bu durum Osmanlı bürokratik seçkini ve Müslüman orta sınıf arasında hem bir ittifak hem de gerilim vesilesi olmuştur. Ayanların tasfiyesi ile birlikte bürokratlar kültürel ve siyasi iktidar alanlarında rakipsiz kaldılar. İktisadi iktidar alanında ise gayrimüslim tebaa hızlı ve kolay bir zenginlik şebekesinin içindeydi. Müslüman orta sınıf, bürokrasinin iktisadi alandaki tavizkarane tutumu karşısında muhafazakar kimlik siyasetini vurgulayan ve temsil yetkisi isteyen bir politikleşme sürecine girdi. Kaçarlar'ın bu durumu 1910 sonrası tecrübe etmeye başladığı düşünüldüğünde Müslüman orta sınıfın 1860 sonrası yükselişi Osmanlı seçkinleri arasında bir düalizme yol açmıştır. Merkezileşme ve idari reform konusundaki mutabakat, parlamento ve

anayasa konusunda şiddetli ikilikleri beraberinde getirmiştir. Kaçar seçkinleri içindeki gerilim ise bir tür meşruiyet problemi şeklinde cereyan etmiştir. 19.yy'ın ilk çeyreğinden sonra tedrici olarak ikili bir hukuk doğdu. Örfi-modern ve şerii hukuk. Bir diğer husus ise modernleşme ile beraber dini sınıf içinde de aklın özgürleşmesi ve diğer meseleler hakkında fikir ayrılıkları doğmuştur. Osmanlı uleması da 19.yy boyunca benzer tartışmaları yürütmüştür. Ancak bu tartışmalar, kitlesel eylemlere veya iktidar ilişkilerindeki somut değişimlere neden olmamıştır. Hem Osmanlı uleması hem de modern fikirlerin savunucusu entelektüeller, yöneticilerin öne sürdüğü icaplar karşısında, hainlikle itham edilme kaygısı içinde olmuşlardır. Kaçarlar, dini grupların göreceli olarak bağımsızlaştığı bir dönemde iktidarda kaldılar. Kaçarların ilk zamanlarında Safeviler dönemine benzer şekilde ulema devletle iç içe bulunmaktaydı ve resmi pozisyonlara sahipti. Geç Kaçar döneminde ise devlete karşı ulema merkezli hareketler görülmüştür. Bu hareketlerde ulemanın bağımsız yapı arz etmesinin önemi büyüktür. (Gleave, 2005)

Kaçarlar, 19.yy'ın başında Safevilerden farklı bir dini yönetim ve geçici iktidar anlayışının formüle edildiği iki güç teorisine sahiptirler. Safevilerden kalma devamlılıklar daha çok siyasi etik ve pratik felsefenin bir dalı olarak devlet adamlığı anlayışı iken, geçmişten kopuş Şii içtihad geleneğinde gözlenir. 19.yy'ın ikinci yarısında bu özellikle dikkat çekici hale gelmiştir Devlet adamlığı literatürünün dışına çıkılarak eleştirel politik yazının doğuşu, modern siyasi düşüncenin İran'daki başlangıcı olarak görülebilir. Mirza Mehdi ve Rustem El-Hakemi, ikisi de hükümete ve ulemaya karşı eleştirel yazılarını kamuoyuna sunmak üzere yazmışlardır. Öte yandan bunu örtük bir dille yapmışlardır. Bu iki eski devlet görevlisinin siyasi-kamusal eleştiri yazımını broşürler vasıtası ile başlattığı söylenebilir. Erken Kaçarlar dönemindeki bazı içtihadî yorumlar siyasi düşüncüyü etkilemiştir. Bunlardan önemli bir tanesi 1818'de yazılan Sayyid Cafer Kashfi'nin "Tuhat al-Mulük" eseridir. Kashfi, Safevilerin kendilerinin 12 imam soyundan geldiği ve onların temsilcileri oldukları yönündeki absürt iddiayı yalanlayıcı tezler ileri sürmüştür. O, 12 İmam Şiiliğinin siyasi etiği ve kraliyetin(Kaçarlar) patrimonial "ethos"unu yeniden konsile eder. Kashfi'nin eseri devlet ve "hierokrasi" arasında otoritenin kurumsal bölünmesini meşrulaştırır. Safevilerin dini ve dünyevi otoriteyi ellerinde topladığı yerde, Kashfi, hükümetin din karşısındaki konumunu ayrı ama dengeli bir formülasyonla yapmaya çalışır. (Arjomand, 2005)

Somut iktidar ilişkilerine bakılacak olursa, Safevilerden miras alınan bu teorik geleneğin yanında müçtehidlerin iktidarı, mukallidlere (onu taklit edenlere), mükelleflere (vergi ve bağış yapanlara) ve icazete (onun ehilliğini onaylayanların gücüne) bağlıdır. (Zubaida, 2008)Osmanlıda ise çoğunlukla ulema padişahın kontrolündeki bir aparat olan Şeyhülislam tarafından idare edilmekteydi ve padişah, düalist bir meşruiyet iddiasına yol açmayacak "halife" unvanına sahipti. İran'da örfi mahkemeler ise taşranın büyük çoğunluğunda yerel kabile reisleri, aileler, müçtehidler veya bazı silahlı gruplar ilişkiliydi. Merkez, Osmanlı örneğinde olduğu gibi örfi ve dini hukuk üzerinde açık bir denetime sahip değildi.

İran toplumunda önde gelen müçtehidler, önemli müçtehidlerin ailelerinden gelirler ve evliliklerini genellikle zengin tüccarların ya da toprak sahibi ailelerin kızları ile yaparlardı. Müçtehidler içinde yükselme merkezi bir sistemle değil bir tür teamüli konsensüs ile olurdu. Bu durum Osmanlıdan farklı olduğu gibi Katolik Kilisesi'nden de farklıdır. Kutsal şehirler ve buradaki medreseler en büyük insan kaynağıdır müçtehidler için. Sünni ve Şii dünya arasında içtihad anlayışı açısından da bariz farklar vardır. İcma yani konsensüs ve miras alınan dini hükümler Sünni dünyada içtihadı sınırlandırmada etkilidir. Şii dünyada içtihadın işlevi yenilik için yol açmak değil, müçtehidin otoritesi ve özerkliğini desteklemektir. 1906'da ulema bu işlevi ile bir yenilik yolu açmış ve meşrutiyeti desteklemiştir.⁸ Sünnilikte metinsel birikim daha önemsenirken, Şiilikte mistik ve felsefi unsurlar içtihadta daha çok devreye sokulur.

⁸Zubaida:İslam dünyasında hukuk ve iktidar. İstanbul Bilgi Üniversitesi.,290: Nasreddin Şah'ın ölümünün ardından gelirleri azalmış esnaf-tüccar, iktidarı sarsılmaya çalışılan müçtehidler ve yeni entelektüellerin anayasacı tutumu birleşerek Şah'ın daha fazla merkezleşme talebine karşı bir ittifak oluşturdu. 1906'ya giden sürecin toplumsal iktidar ilişkilerindeki görünümü böyledir. İlk "adaletane" talebine yönelen kitleler, zamanla meşrutayı yani şartlı yönetimi telaffuz etmeye başladılar. Bu durum

SONUÇ

Sonuç olarak denilebilir ki 19.yy'da Osmanlılarda seçkin statüsü himaye ve aile bağlarından bürokratik konum, benimsenen seküler adap ve ideolojik konuma doğru kayma yaşamıştır. Kaçarlarda da benzeri bir durum söz konusu ise de geleneksel olarak ulemanın ve devlet dışı seçkinlerin iktidar ilişkilerindeki ağırlığı devam ettiği için bu gruplara özgü davranış kalıpları da etkili olmaya devam etmektedir.

Osmanlılar, 17 ve 18.yy'da bile dini otoritenin tedrisatından ayrı ve iktidar mevkilerini işgal eden seçkinlere sahiplerdi. Bunların başında reis-ül küttablık görevlileri ve donanma subayları gelmektedir. Kaçarlar ise bu olanaklardan yoksundur.

Osmanlı seçkinin, hem ülkenin farklı coğrafi alanlara sahip olması hem de nüfusun etnik-dini dağılışı sebebiyle karşılaştığı problemlerin çeşitliliği ve dolayısı ile sorun çözme kabiliyeti daha fazladır.

Kaçarlarda ulema, merkezi bir atama ve tedris sistemine tabî değildir. Oysa Osmanlılarda hilafet makamı ile güçlendirilmiş padişah tarafından atanan ulema, merkezi bir tedris ile hukuk ve eğitim işlerini de yürütmektedir. Ayrıca, kazançlarının büyük çoğunluğu devlete aittir. Dolayısı ile Osmanlı padişahı ve 19.yy'da bürokrati, siyasi meşruiyet için fiilen ulemaya ihtiyaç duymamıştır. Hal vakaları ve politik ajitasyon süreçlerinde ulemanın fonksiyonu artmakla birlikte, yüzyılın ikinci yarısından itibaren bürokratik yapı kendi özerk alanını ve meşruiyetini kabul ettirmiştir. Osmanlı yönetici eliti, mesleki ve kültürel birikimi ile orantılı olarak iktidar konumunun bilincindedir. Bu bilinçlilik iki açıdan Kaçarlardan farklıdır. İlk Osmanlı seçkini, herhangi bir toplumsal sınıfla doğrudan aidiyet ilişkisi içerisine girmemiştir. İkincisi Osmanlı seçkinleri, 18.yy sonlarından itibaren padişahı bağımsız soyut bir devlet fikrini açıkça benimsemeye başlamışlardır. Bunda Batı ile olan temaslarındaki artış kadar, kendi iktidar konumlarının ve özerk güçlerinin farkına varmaları da etkili olmuştur. 16 ve 17.yy'ın kudretli paşalarından farklı olarak bu modern kalem efendileri ve subaylar, gayrişahsi aidiyet nesnelere yönelimlidir. (Keyder, 1988)

Osmanlılarda gayrimüslim nüfusun Kaçarlara göre çok daha fazla olması hem bu nüfusun taleplerinin dikkate alınmasını hem de bu nüfus adına müdahalelerde bulunan büyük güçlerin dayatmalarına cevap verilmesini gerekli kılmıştır. Bu durum "icapçılık" mantığının bir sonucu olarak Osmanlı seçkininin yeni fikirleri benimsemesini kolaylaştırmıştır. Kaçarlar da ise imtiyaz ve basiretsizlikler, yükselen tüccarlar ile ulemanın ittifakını perçinlemiş, yeni entelektüellerin etkisini ve sayısal artışını kısıtlamıştır. Bunun sonucunda ise Kaçarlar "yeni fikirleri benimseyememe esprisi" ile yüzleşmişlerdir.

Osmanlılar ve Kaçarların her ikisi de yüzyılın başında geleneksel grupları yanına almış olan dini muhalefetle karşılaştılar. Osmanlılar, Yeniçeriliğin ilgası, Tanzimat Fermanı ve II.Abdülhamid'in simgesel İslamizmi ile dini ve din kurumlarını çevrelemişlerdir. Ardından İTC iktidarında da sekülerize etmişlerdir. En azından dini muhalefeti ve onun toplumsal uzantılarını parçalamışlardır. Çevreleme ve parçalama, özellikle uzak eyaletlerde ve tekke İslam'ına karşı aşamalı şekilde uygulanmıştır. Kaçarlar ise tam tersi bir yönelime sahiptir. Onlar, müçtehidlerin 18.yy'da oynadığı rolleri görmezden geldikleri gibi emperyalizme karşı tüccar-esnafı olan politik dayanışmalarına da kulak tıkamışlardır. Osmanlılarda fikir mücadelesi çok daha merkeziydi. İstanbul'da olmayan bir fikir mücadelesinin 19.yy'ın son çeyreğine kadar bir anlamı yoktu. Taşrada ise bazı şehirler İstanbul'daki mücadeleyi kopyalayıp yerel çelişkilerle harmanladılar.

merkezleşmenin keyfi yönetim olarak algılandığını gösterir. İktidarları sarsılanlar ve kamuoyu üzerinde nüfuz kurmak isteyen yeni entelektüeller merkezleşmeye karşı harekete geçti. Anayasayı destekleyen ulemanın başını Muhammed Hüseyin Naini çekmekteydi. Karşısında, mutlakliyetin devamını savunan ise Fazlullah Nuri'dir. Şah, anayasayı Rus askerinin yardımıyla devrimcileri Tahran'dan sürdükten sonra askıya almıştır.

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THE INVESTIGATION OF THE EFFECTS OF LIVING WITH A SINGLE PARENT ON CHILDREN AND ADOLESCENTS

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ABSTRACT

The aim of this study was to examine the effects of living with a single parent on children and adolescents. Because single parenting has significant effects on children and adolescents. It is important for future generations to grow up as healthy individuals and have psychocial resilience so that they can adapt to social, economic, cultural and communicative, scientific and technological changes and find solutions to problems such as global warming climate changes, urbanization and population density and migrations. In this context, the need to examine children and adolescents living with a single parent arose. Children are left to live with a single parent for reasons such as divorce, living apart, abandonment, prolonged separations due to working in a different city or country and death. Young age marriage, low education level, divorced parents, having a baby before marriage, miscommunication, social, economic and cultural differences are among the factors that lead to an increase in divorce. Divorce affects not only parents, but also children and other members of the family. The effects of divorce differs depending on the child's age, developmental characteristics, relationship with child's parents and relatives. At pre-school children; regression (thumb sucking, bed wetting, parents and pounding, connecting to a favorite toy or object, clinging), increase in emotional needs, dependency, aggression, fear, anxiety, sadness, anger, sleep problems, as can be observed. At school age, problems such as outbursts of anger, defiance, committing crimes, school failure and truancy may occur. In a study conducted with 155 adolescents whose parents were divorced, it was found that there were statistically significant ($p < 0.01$) differences ($F(4,425) = 13.679$, $p = .000$) between the self-worth scores of the divorced ($x=21,589$), non-subsistence ($x=27,13$) and living in subsistence family ($x=20,95$). Adolescents who are divorced and raised in non-subsistence families have lower self-esteem than the children of subsistence families. Living in an non-subsistence family negatively affects the self-worth of children more than a divorced family. The self-esteem, trust in people, parental interest scores of the children of the subsistence family are higher, depressive affect and psychic isolation scores are lower ($p < 0.5$). In a study in which the social skill scores of 309 adolescents living with single parents were compared: It has been found that social skill scores of the adolescents who go to the cinema (293.61), are higher than those who don't (279.28; $t(307) = 4.53$, $p = .000$), who go to the theater ($x=303,58$), are higher than those who don't ($x=285,00$; $t(307) = 4,57$, $p = .000$), who go to the concert ($x=299,20$), are higher than those who don't ($x=285,02$; $t(307) = 3,82$, $p = .000$), who go to the cafeteria ($x=296,00$), are higher than those who don't ($x=281,71$; $t(307) = 4,64$, $p = .000$). Social skill scores of the adolescents who play computer games ($x=284,04$), are lower compared to those who do not play ($x=291,71$) ($t(307) = -2,43$, $p = .01$). The difference between them is statistically

significant ($p < .01$). According to these data, the effects of living with a single parent has been discussed in terms of psychological and family counseling and some suggestions have been presented.

Keywords : Self-Worth, Divorce, Single Parent, Social Skills

GİRİŞ

Günümüzde her alanda çok hızlı bir değişim yaşanmaktadır. Toplumlardaki hareketlilik ve hızlı değişim, bireylerde ve ailelerde yeni seçenekler, değerler ve kurallar ortaya çıkarmaktadır. Gelecek kuşakların sosyal, ekonomik, kültürel, iletişimsel, bilimsel, teknolojik değişimlere uyum sağlayabilmesi ve küresel ısınma, iklim değişiklikleri, şehirleşme, nüfus yoğunluğu, göç gibi sorunlara çözüm üretebilmesi zorunludur. Bu çalışma, tek ebeveynli ve boşanmış aile sorunlarına yönelik olarak, literatür taramasıyla yapılmıştır. Elde edilen verilere göre tek ebeveynle ve boşanmış ailede yaşamın etkileri, psikolojik danışma ve aile danışmanlığı açısından tartışılmış ve bazı öneriler sunulmuştur.

Konuyla ilgili aile, tek ebeveynli aile, tek ebeveynlik, sosyal beceri, boşanmış, geçimli (sağlıklı) ve geçimsiz aile, benlik değeri gibi kavramlar açıklanmış ve ortaya çıkan sorunlara yer verilmiştir.

Aile: “iki veya daha fazla kişiden oluşan aralarında doğum, evlilik, evlat edinme nedeniyle bağ olan ve aynı hanede yaşayan” bireyler topluluğudur. Bu geniş tanım, hiç evlenmemiş kişileri de çocuk sahibi olmamış, evlilikleri boşanma veya ölümden dolayı bitenleri ve birçok geleneksel olmayan yollarla bir araya gelen bireylerin birlikteliklerini anlatmakta; bireyin içinde büyüdüğü aileyi tanımlamaktadır. Çağlar boyunca ailenin yapısında değişim olmuşsa da bazı işlevleri aynı kalmıştır. Aile, çocukların dünyaya getirilmesi ve sosyalleşmeleri; bir ekonomik iş birliği ünitesi olma, çocuklara, eşlere ve ebeveynlere roller verme ayrıca da bir yakınlık kaynağı olma gibi işlevleri yerine getirir. Aynı şekilde, aile; yaşamda rastlanan sevgi, adanmışlık, bağlanma, ait olma ve mutluluk gibi bazı önemli duyguları en derin ve tatmin edici düzeyde sunan yerlerin başında gelir. Aile ayrıca, üyelerini dinleme, yardım etme, destekleme ve acılarını-sevinçlerini hissetmekle önemli terapötik işlevler de sunar (Gladding, 2011, s.3).

Tek ebeveynlik; **bir çocuğu veya çocukları bir eş olmadan tek başına yetiştiren bir ebeveynliktir. Tek ebeveynliğin etkileri**, ebeveynin, ebeveynlik tarzına, tutumuna, isteğine ve destek sistemine göre değişmektedir. Tek ebeveynliğin olumsuz etkileri; ekonomik sıkıntılar, terk edilmeye bağlı güvensizlik sorunları, disiplini kurma zorluğu olarak sıralanabilir. Çocuk yetiştirme, ev işi ve finansal sıkıntılar, stresler, yorgunluklar, ebeveynlerin daha sabırsız ve sınırlı olmalarına neden olabilir, bu da çocuklarıyla etkileşimlerini aksatabilir (Yy, Wei, 2022)

Tek ebeveynli aile; anne ya da babanın, ebeveyn olarak tek başına ve çocuk/çocuklarının bakımından sorumlu ve ailenin reisi olduğu ailedir. Bu aileler, tercih, boşanma, ölüm, terk etme, evlilik dışı hamilelik, evlat edinme, eşlerden birinin şehir dışında ya da bir başka ülkede görevlendirilmesi nedeniyle oluşan ailelerdir (Gladding, 2011, ss. 5, 75). Tek ebeveynli aileler, ağırlıklı olarak kadın ve çocuklarından oluşmaktadır. Çoğu çocuk için tek ebeveynli bir ev, boşanma ya da ölüm neticesinde meydana gelir. Çocukların duruma uyumları, boşanma ve ölüm öncesi işlevsellik düzeylerine, yeni aile düzeninin meydana geliş sürecinin niteliğine ve yeni koşullarda sahip oldukları kaynaklara bağlı olarak farklılık gösterir.

Tek ebeveynli aile olmanın zayıf yönlerinden bazıları şunlardır: Tek ebeveynli ailelerde açık olmayan ve sınırları tanımlanmamış roller bulunmaktadır. Bu ailelerin çocukları, akademik başarı açısından düşük

performans gösterebilmektedir. Çocuklar, kimlik kargaşası, sosyal becerilerde zayıflık, iletişim kurma zorlukları yaşayabilmektedir. Tek ebeveynli haneler genellikle yoksulluk içinde ya da sınırında yaşamaktadır. Bu hane bireyleri aşırı stres ve depresyon kaynaklı birçok sağlık sorunu ile baş etmek zorundadır (Gladding, 2011).

1, Sosyal Beceriler

Sosyal beceriler; kişilerarası ilişkilerde, sosyal bilgiyi alma, çözümlenme ve uygun tepkide bulunma, hedefe yönelik ve sosyal bağlama göre değişen, hem gözlenebilen hem de gözlenemeyen bilişsel ve duyuşsal öğeleri içeren ve öğrenilebilir davranışlardır (Yüksel, 2004:5). Riggio geliştirmiş olduğu Sosyal Beceri Envanterinde, sosyal becerileri duyuşsal ve sosyal beceriler olarak açıklamıştır. Duyuşsal anlatımcılık (emotional expressivity); Bireylerin sözel olmayan iletişim becerileri, özellikle duyuşsal mesajları gönderme becerisidir. Bu yapı ayrıca, bireylerarası etkileşimde eğilimlerin sözel olmayan anlatım yönünü ve duyuşsal durumları tam olarak ifade becerisidir. Duyuşsal anlatımcı birey, canlı ve neşelidir, bu becerileri ile diğer insanları etkileyebilmektedir. Duyuşsal duyarlık (emotional sensitivity): Başkalarının sözel olmayan iletişimlerini alma ve yorumlama becerileridir. Duyuşsal yönden duyarlı bireyler, başka bireylerin duyuşsal imalarını doğru ve tam olarak yorumlarlar. Başka bireyler, duyuşsal olarak duyarlı bireyleri çabuk etkileyebilirler. Duyuşsal kontrol (emotional control): Bireylerin duyuşsal ve sözel olmayan tepkilerini düzenleme ve kontrol becerileridir. Duyuşsal kontrol, belli başlı duyguları yetenekle birleştirme ve bu duyguları bir maske altında gizleme becerilerini kapsamaktadır.

Sosyal anlatımcılık (social expressivity): Sosyal etkileşimde başkalarıyla ilgilenme, sözel anlatım ve konuşma becerisidir. Bireylerin sözel anlatımcılığı ve bireylerin sosyal iletişim kurma becerileridir. Sosyal duyarlık (social sensitivity): Başkalarının sözel iletişimlerini yorumlama becerisidir. Sosyal duyarlı bireyler, sosyal davranışları sergilerken, sosyal normlara özen gösterirler ve ortama uygun hareket etme bilincindedirler. Sosyal kontrol (social control): Sosyal rol oynama ve bireyin sosyal olarak kendini ortaya koyma becerileridir. Sosyal becerisi gelişmiş bireyler, herhangi bir sosyal durumda ortama uygun hareket eden, kendinden emin ve sosyal durumlara kolayca ayak uydurabilen bireylerdir (Yüksel, 2004).

Ergenlik döneminde bireyin iç dünyasında ve çevresinde birçok değişiklik meydana gelmektedir. Bu dönemde sosyal etkileşimler ve ilişkiler daha karmaşık hale gelir. Bu dönemde ergen çevresiyle iletişim kurma, okulda başarı kazanma, sosyal faaliyetlere katılma gibi aktivitelerle sosyal becerilerini geliştirir. Tek ebeveynli aile çocuğu, sosyalleştirici bir çevreden yoksun kalmışsa sosyal becerileri yetersiz olabilir.

Tek ebeveynle yaşamının ergenlerin sosyal becerilerine etkilerini incelemek amacıyla yapılan bir araştırmada (Karataş, 2012), örneklem grubu yaşları 14 ile 17 yaşları arasında değişen, 309 (197 kız %63.8, 112 erkek %36.2) ergenden oluşturulmuştur. Araştırmada veri toplama aracı olarak kişisel bilgi formu ve Sosyal Beceri Envanteri kullanılmıştır. Veriler, sosyal beceri toplam puanına göre bağımsız örneklem için *t* testi kullanılarak analiz edilmiştir.

Tablo 1’de tek ebeveynle yaşayan ergenlerin bazı değişkenlere göre sosyal beceri puanlarının *t* testi sonuçları yer almaktadır.

Tablo 1. Tek ebeveynle yaşayan ergenlerin sosyal beceri puanlarının *t* testi sonuçları

Değişkenler	Gidenler			Gitmeyenler			<i>t</i>	<i>p</i>
	n	x	ss	n	x	ss		
Sinema	192	292.61	27.66	117	279.28	25.75	4.53	.000*
Tiyatro	53	303.58	26.80	256	285.00	26.97	4.57	.000*
Konser	69	299.20	27.44	240	285.02	27.14	3.82	.000*
Kafeterya	140	296.00	26.54	169	281.71	27.21	4.64	.000*
Bilgisayarda oyun	Oynayanlar			Oynamayanlar			-2.43	.000*
	142	284.04	27.28	167	291.71	27.83		
Sd.307 <i>p</i> <.05								

Kaynak; Karataş, 2012.

Tablo 1’de görüldüğü gibi, tek ebeveynle yaşayan 309 ergenin sosyal beceri puanlarının karşılaştırıldığı bir araştırmada; sinemaya gidenlerin (293,61), gitmeyenlerden (279,28; $t(307) = 4,53$, $p = .000$), tiyatroya gidenlerin ($x = 303,58$), gitmeyenlerden ($x = 285,00$; $t(307) = 4,57$, $p = .000$), konsere gidenlerin ($x = 299,20$), gitmeyenlerden ($x = 285,02$; $t(307) = 3,82$, $p = .000$), kafeteryaya gidenlerin ($x = 296,00$), gitmeyenlerden ($x = 281,71$; $t(307) = 4,64$, $p = .000$) sosyal beceri puanları daha yüksektir. Bilgisayarda oyun oynayanların ($x = 284,04$), oynamayanlara ($x = 291,71$) göre ($t(307) = -2,43$, $p = .01$) sosyal beceri puanları daha düşüktür. Aralarındaki farklılık istatistiksel olarak anlamlıdır ($p < .01$).

2. Tek Ebeveynli Boşanmış Aile

Boşanma: Resmi memur önünde yapılan evliliğin **boşanma davası** açılarak ancak hâkim kararı ile sona erdirilmesidir. Boşanmış aile, aile birliğinin dağıldığı, parçalandığı ailedir. Boşanma farklı sosyo-ekonomik gruplarda genel olarak görülmesine rağmen bazı gruplarda daha yaygın gözlemlenmektedir. Genç yaşta evlilik, düşük eğitim düzeyi, düşük gelir, dini inanca sahip olmamak, boşanmış ebeveyne sahip olmak, evlilik öncesi bebek sahibi olmak, boşanmada artışa yol açan faktörlerdir. Ayrıca eşlerden birinin alkolik olması, psikolojik sorunlarının bulunması, şiddet sergilemesi, sadakatsizliği ve ev işlerini yeterince paylaşmaması, boşanma olasılığını artırmaktadır (Santrock, 2011, s.459).

4721 sayılı Türk Medenî Kanununda, boşanmanın özel sebepleri; zina, hayata kast, pek kötü muamele, onur kırıcı davranış, küçük düşürücü suç işleme, haysiyetsiz hayat sürme, terk ya da akıl hastalığı ve **genel sebepleri; evlilik birliğinin temelinden sarsılması, örneğin, geçimsizlik, mizaç uyuşmazlığı nedeniyle tartışma, hakaret, şiddet, güven sarsıcı davranışlar, evlilik yükümlülüklerini yerine getirmeme gibi sınırsız sayıda nedenler ve anlaşmalı boşanma olarak yer almaktadır.**

Türkiye İstatistik Kurumu (TÜİK) verilerine göre, ülkemizde kesinleşen boşanma davaları sonucunda 2021 yılında 174 bin 85 çift boşanırken, 165 bin 937 çocuk velayete verilmiştir. Boşanma davaları sonucu, çocukların velayetinin %76,1’i anneye, %23,9’u babaya verilmiştir. Evlilik süresine göre boşanmalar incelendiğinde, gerçekleşen boşanmaların %33,6’sı evliliğin ilk 5 yılı, %20,9’u ise evliliğin 6-10 yılı içinde gerçekleşmiştir. Boşanma oranlarındaki artış hızı ise yüzde 27,46 artmıştır. En az bir kez boşanmış bireylerin boşanma nedenleri bakıldığında, Türkiye genelinde en fazla boşanma nedeni % 32.2 ile ‘sorumusuz ve ilgisiz davranma’ % 14.1 ile aldatma, % 9.8 ile evin ekonomik olarak geçimini sağlayamama ve % 8.1 ile dayak/kötü muamele olduğu görülmüştür. Sorumsuz ve ilgisiz davranma oranı, erkekler için %41.2, kadınlar için % 24.2 olarak saptanmıştır. Erkekler için sorumsuz ve ilgisiz davranmadan sonra en önemli boşanma nedenleri %11 ile aile büyüklerinin aile içi ilişkilere karışması ve % 9.7 ile evin ekonomik olarak geçimini sağlayamama; kadınlara göre sorumsuz ve ilgisiz davranmadan sonra en önemli boşanma nedenleri ise %19.3 ile aldatma ve % 14.6 ile dayak/kötü muamele olarak sıralanmıştır (TÜİK Haber Bülteni, Sayı: 45568).

2.1. Tek Ebeveynli ve Boşanmış Ailede Yaşamın Etkileri

Tek ebeveynli aile çocuklarında bağımlı olma, öfke kontrolü problemi, şiddete eğilim, riskli ortamlarda bulunma, okula devam etmeme, okuldan kaçma, okul uyumsuzluğu, okulda yüksek düzeyde davranış problemleri sergileme, otoriteye başkaldırma, eğitimi yarıda bırakma eğilimi; herhangi bir işte devamlılık gösterememe, sigara ve/veya teknoloji bağımlılığı, intihara teşebbüs gibi sıkıntılar saptanmıştır. Ayrıca tek ebeveynli çocukların daha fazla sağlık sorunları yaşadıkları, alkol tüketimi, uyuşturucu kullanma ve kumara yönelik eğilimlerinin çok fazla olduğu görülmüştür. Onlar kaybetme, reddedilme, utanç, terk edilmiş olma, kızgınlık duygularına kapılabilirler. Erkek çocuklar davranış ve uyum bozuklukları gösterirken, kızlar içine kapanır, depresyon ve yoksunluk belirtileri gösterirler (Atıla Demir, & Genç Çelebi, 2017). Tek ebeveynli olduktan sonra çocukların okul başarısı düşmektedir. Onların, okul başarısını düşüren faktörler; dershaneye devam edememe, ek kitap satın alamama, iş gücüne katılmak zorunda olma ya da ev işlerine yardım etmek amacıyla okulu bırakma türünden faktörlerdir (Orung & Turgut, 2010).

Boşanmanın etkisi çocuğun yaşına, gelişim özelliklerine, anne- babası ve yakınlarıyla olan ilişkisine göre farklılaşmaktadır (Amato, & Keith, 1991). Okul öncesi çocukların, okul çağında olanların ve ergenlerin **ebeveyn boşanmasına tepkileri aşağıda yer almaktadır.**

Okul öncesi çocuklarda regresyon (parmak emme, yatağı ıslatma, anne-babaya vurma, anne babaya aşırı düşkünlük, sevilen bir oyuncuğa ya da nesneye bağlanma, yapışkanlık), emosyonel gereksinimlerde artma, bağımlılık, agresyon, korku, kaygı, üzüntü, öfke ve uyku sorunları... gözlenebilmektedir. Boşanmadan sonra 2-5 yaşlarındaki çocukların emosyonel tepkileri öfke, korku, anksiyete ve üzüntü, irritabilite, akut seperasyon anksiyetesi, uyku problemleri, bilişsel konfüzyon, oto-erotik aktiviteler (mastürbasyon) olarak saptanmıştır (Wallerstein ve Kelly, 1975).

Ergenler boşanmaya; öfke ve hayal kırıklığı, terk edilmişlik duygusu, ailede kontrol kurma çabası, okul başarısızlığı, okuldan kaçma, dikkatini toplayamama, hırsızlık, kaygı ve depresyon düzeyinde, intihar eğiliminde artma, madde kullanma, reddedilme, çaresizlik, korku ve yalnızlık, utanç gibi duygu ve davranışlar gösterebilirler. Bu duyguların sonucu olarak baş ağrısı ya da mide ağrıları gibi psikosomatik tepkiler verebilirler. Boşanmış ailedeki çocukların yetişkinliklerinde, karşı cinsle sorunlu ilişkiler yaşama ve kendilerinin de boşanma olasılığı vardır (Yavuzer, 1982: 66).

Tablo 2. Okul öncesi çocukların, okul çağında olanların ve ergenlerin ebeveyn boşanmasına tepkileri:

	Okulöncesi çocuklar	Okul çağı çocukları	Ergenler
Boşanmanın etkileri	Okul öncesi çocuklarda regresyon (parmak emme, yatağı ıslatma, anne-babaya vurma, anne babaya aşırı düşkünlük, sevilen bir oyuncuğa ya da nesneye bağlanma, yapışkanlık), emosyonel gereksinimlerde artma, bağımlılık, agresyon, korku, kaygı, üzüntü, öfke ve uyku sorunları... gözlenebilmektedir.	İstenmeme duygusu, okul başarısızlığı, okuldan kaçma, okula devamsızlık ve iştah sorunları, baş ağrısı-karın ağrısı gibi bedensel sorunlar yaşayabilir. Kaybetme, reddedilme, utanç, terk edilmiş olma, kızgınlık duyarlar. Erkek çocuklar davranış ve uyum bozuklukları gösterirken, kızlar içine kapanır, depresyon ve yoksunluk belirtileri gösterirler.	Öfke ve hayal kırıklığı, terk edilmişlik duygusu, ailede kontrol kurma çabası, okul başarısızlığı, okuldan kaçma, dikkatini toplayamama hırsızlık, madde kullanma, Reddedilme, çaresizlik, korku ve yalnızlık, utanç gibi duygu ve davranışlar gösterebilirler.

Benlik, bireyin kendini görüş biçimidir. Benlik değeri ise; kişinin kendini tanıması ve gerçekçi olarak değerlendirmesi ile kendi yetenek ve güçlerini olduğu gibi kabullenip benimsemesi sonucu, kendisine

karşı duyduğu sevgi, saygı ve güven duygularıdır. Kendini olduğu gibi kabul etme, benlik imgesini beğenip benimseme, benlik değerini oluşturur.

Benlik değeri, ana babanın çocuğuna verdiği değere çok bağlıdır. Ana babanın ittiği, değersiz bulduğu, önemsemediği çocuğun kendisini değerli bulması beklenemez. Boşanmada yaşananlar, ailenin işleyişini değiştirdiği için ergende de benlik saygısını tehdit edebilecek birtakım etkiler bırakabilmektedir. Boşanma sonrasında anne babanın tutarlı ve doğru davranmamasının, çocuğun benlik saygısında düşmeye yol açtığı belirtilmektedir (Yörükoğlu, 1985). Evlilik sorunları yaşayan, geçimsiz, çatışmalı anne babaların ilişkileri, çocuğun benlik değerini düşürmektedir

Benlik değeri yüksek kişinin, kendine güven, iyimserlik, başarıma isteği, zorluklardan yılmama, uyum sağlama özellikleri vardır.

Anne babası boşanmış, geçimsiz ve geçimli ailelerde yaşayanın, ergenlerin benlik değerini incelemek amacıyla yapılan bir araştırmada (Kuyucu, 2007), örneklem grubu yaşları 14 ile 17 yaşları arasında değişen, 155 (84 kız %54, 71 erkek %46.) ergenden oluşturulmuştur. Araştırmada veri toplama aracı olarak kişisel bilgi formu ve Rosenberg Benlik Saygısı Ölçeği kullanılmıştır. Veriler, benlik değeri toplam puanına göre tek yönlü varyans analizi (ANOVA) kullanılarak analiz edilmiştir. Bulgular Tablo 3'te yer almaktadır.

Tablo 3. Boşanmış, geçimsiz ve geçimli ailedeki ergenlerin benlik değeri puanlarının ANOVA sonuçları

Ölçek ve alt ölçekler	Boşanmış aile		Geçimsiz aile		Geçimli aile		F	P
	X	Ss	X	Ss	X	Ss		
Kendilik değeri	21.58	8.944	27.13	7.488	20.95	6.752	13.679	.000* Sd. (4,425)
Benlik saygısı	2.53	2.415	3.81	2.520	2.30	1.898	11.910	.000* Sd. (4,554)
İnsanlara güvenme	2.70	.837	3.10	.879	2.68	.780	6.545	.000* Sd. (4,534)
Depresif duygulanım	2.83	2.035	3.97	1.940	2.57	1.809	14.009	.000* Sd. (4,560)
Psişik izolasyon	.75	.756	1.04	.710	.68	.738	6.454	.000* Sd. (4,560)
Ana baba ilgisi	1.85	1.628	2.45	1.566	1.52	1.368	9.342	.000* Sd. (4,525)

Kaynak: Kuyucu, 2007.

Tablo 3'te görüldüğü gibi; anne babası boşanmış 155 ergenle yapılan bir araştırmada (Kuyucu, 2007), boşanmış ($x=21,589$), geçimsiz ($x=27,13$) ve geçimli ($x=20,95$) ailede yaşayan ergenlerin benlik değeri puanları arasında istatistiksel olarak anlamlı ($p<0.01$) farklılıklar olduğu ($F(4,425) = 13.679, p = .000$) saptanmıştır. Boşanmış ve geçimsiz ailede yetişen ergenlerin, geçimli ailelerin çocuklarına göre benlik değeri daha düşüktür. Geçimsiz ailede yaşamak, boşanmış aileye göre çocukların benlik değerini daha çok olumsuz yönde etkilemektedir. Geçimli aile çocuklarının benlik saygısı, insanlara güvenme, ana baba ilgisi puanları, diğerlerinden daha yüksek; depresif duygulanım ve psişik izolasyon puanları daha düşüktür ($p<0.1$).

Anne babanın birbiriyle anlaşamaması, sürekli çatışma içinde olması ergenin benlik değerini büyük oranda etkiler. Geçimsiz (sağlıksız) aile; evlilik sorunları yaşayan, sürekli çatışmalı, kavgalı anne babaların oluşturduğu ailedir. Evlilik sorunları yaşayan anne babaların, çocuklarıyla sağlıklı ilişkiler kurabilmeleri, tutarlı, dengeli tutum ve davranışlar göstermeleri güçleşmektedir. Çatışmalı evliliğin,

çocuk üzerinde yaratacağı olumsuz etkiler, bazen boşanmanın yaratacağı etkilerden daha fazla ve yıkıcı olabilir. Geçimsiz ve çatışmalı anne babalar, birbirlerine gösterdikleri sözel ya da fiziksel saldırgan davranışlarıyla çocuklarına kötü bir model oluştururlar. Çatışmalar sonucu yıpranmış bir ailede yaşayan çocukların, boşanmış ailelere oranla daha fazla problemler yaşadığı saptanmıştır. Sürekli bağırış çağırışlardan, fiziksel şiddet göstermeye kadar çeşitli anlaşmazlıklara tanık olmuş çocuklar, boşanmış aile çocuklarından daha uyumsuzdurlar (Wallerstein & Kelly, 1975).

Eşler arasında yaşanan çatışma, çocuklar üzerinde sağlanan disiplinin ve tutarlılığının azalmasına, anne babaların çocuklardan uzaklaşmalarına, onları reddetmelerine neden olabilmektedir. Bunların sonucu olarak çocuklarda antisosyal davranışlar artabilmekte, kaygı ya da depresyon gelişebilmektedir. Yapılan araştırmalarda ayrılmamış olmakla birlikte aile içinde sürekli çok kötü ana-baba-çocuk ilişkileri yaşamış gençlerde depresyonun, ana-babaları ayrılmış gençlerden daha sık ortaya çıktığı görülmüştür (Ekşi, 1990: 42). Ebeveynler, anne-babanın sürekli anlaşmazlık yaşaması durumunda ayrılmalarının aile üyeleri için daha sağlıklı sonuçlar doğuracağını düşünmektedirler (Feyzioğlu & Kuşçuoğlu, 2011: 97-109).

Geçimli (sağlıklı) aile: Sağlıklı olmak ve sağlıklı oluşu korumak için aile bireylerinin bir bütün olarak sürekli çabasını gerektirir. Sağlıklı aileler, açık ve kendi kendini düzenleyen ailelerdir. Aynı zamanda da daha geniş sosyal sistemlerle etkileşim halindedirler. Sağlıklı ailelerin bazı ortak özellikleri: Değişime uyum sağlama, uygun sınırlar koyma, ilişkileri açık iletişim üzerine kurma, sorumluluk almayı destekleme, kendine ve çocuklarına ilişkin güven ifade etme ve gelecekleri hakkında iyimser olmadır. Ayrıca aile bireylerine ve aileye bağlılık, karşılıklı kıymet bilme ve yakınlık, birlikte zaman geçirmeye istekli olma, etkili iletişim örüntüleri, yüksek düzeyde dini/tinsel oryantasyon, kriz durumlarıyla olumlu bir şekilde baş edebilme yetisi (ör. uyum sağlayabilme), aile bireylerini destekleme/cesaretlendirme, açık seçik roller gibi özellikleri vardır (Gladding, 2011, ss. 329).

3. Tartışma ve Öneriler

Bu çalışmadan elde edilen veriler üç grupta toplanmaktadır. Bunlardan birincisi tek ebeveynle yaşayan ergenlerin sosyal becerilerine, ikincisi boşanmanın etkilerine, üçüncüsü de boşanmış, geçimsiz ve geçimli aile çocuklarının benlik değerine ilişkindir.

1. Tek ebeveynle yaşayan ergenlerin sosyal becerileri katıldıkları etkinliklere göre farklılık göstermektedir. Sinemaya, tiyatroya, konsere, kafeteryaya gidenlerin, gitmeyenlerden sosyal beceri puanları istatistiksel olarak anlamlı ($p < .01$) derecede daha yüksektir. Bilgisayarda oyun oynayanların oynamayanlara göre sosyal beceri puanlarının daha düşük olduğu, aralarındaki farklılığın ise istatistiksel olarak anlamlı ($p < .01$) olduğu görülmüştür (Tablo 1).

Ergenlerin sosyal becerilerini artırmak için, onların birlikte olmalarını sağlayan sosyal faaliyetlere yer verilmelidir: Bilgi yarışmaları, halk oyunları çalışmaları, gezi, tiyatro, sinema, konser, müzik programları gibi. Ekip çalışmaları gerektiren akademik çalışmalara da yönlendirilmelidirler. Ergenlerin bilgisayarda oyun oynamaları sınırlandırılmalı, daha çok arkadaşlarıyla, sosyal çevresiyle iletişim kurmalarına yardımcı olunmalıdır. Tek ebeveynli ergenlerin sosyal becerilerini geliştirmek için arkadaşlarıyla kafeteryaya ve pikniğe gitme, oyun oynama gibi çeşitli ortamlarda bulunmaları sağlanmalıdır. Akran ilişkileri, bireyin, sosyal beceriler kazanması için uygun ortamlar sağlar. Sosyal beceri yetersizliğindeki ergenler için, sosyal beceri eğitim programları uygulanmalıdır.

2. Boşanmanın okulöncesi çocuklarına, okul çağında olanlara ve ergenlere etkisinin ve onların tepkilerinin neler olduğu tablo 2'de bulunmaktadır.

Çalışmadan elde edilen veriler, çeşitli araştırmalar ve literatür bilgileriyle desteklenmektedir. Boşanma ortamı, çocuğu kaygıya ve güvensizliğe iter. İlk günlerde yaşanan bu panik ortamında çocuğun sorunlarla

başa çıkabilmesi, onun kişilik özelliklerine, yaşına ve kendisine sunulan ortama büyük ölçüde bağlıdır. Babadan ilgi ve sevgi görmeyen çocuklarda güvensizlik, özsaygısını yitirme, terk edilmişlik duyguları gelişiyor. Eşinin desteğinden yoksun kalan anne, evin yükünü tek başına taşımak zorunda kalınca çocuklarıyla sağlıklı ilişki yürütemez (Yörükoğlu, 1988; Yavuzer, 2003: 81-82).

Boşanmış ailede yetişen çocukların hem diğer insanlara karşı güvensizlik yaşadıkları hem de yoğun bir anlaşılma ve kabul görme ihtiyacı içinde oldukları; çocukların uyum düzeylerinin ebeveynlerinin uyum düzeyine bağlı kaldığı; ebeveyn ve çocukların «boşanma» konusunu ayrıca ve açıkça konuşmayıp ele almadıkları; çocukların akademik olarak desteklenmesinin dolaylı olarak uyumu artırdığı gözlenmiştir (Nazlı ve arkadaşları, 2021).

Ebeveynler, çocuklarının boşanmalarından olumsuz olarak etkilenmemeleri için gereken önlemleri almalıdırlar. Anne- baba-çocuk ilişkisini güçlendirmeli, bunun için çocukla birlikte kitap okuma, film izleme, onunla en sevdiği oyunları oynama, en sevdiği şeyler (spor, müzik gibi) hakkında konuşma, başarılarını övme gibi yollarla kaliteli zaman geçirmek yararlı olabilir.

3. Boşanmış ($x=21,589$), geçimsiz ($x=27,13$) ve geçimli ($x=20, 95$) ailede yaşayan ergenlerin benlik değeri puanları arasında istatistiksel olarak anlamlı ($p<0.01$) farklılıklar olduğu ($F(4,425) = 13.679, p = .000$) saptanmıştır. Boşanmış ve geçimsiz ailede yetişen ergenlerin, geçimli ailelerin çocuklarına göre benlik değeri daha düşüktür. Geçimsiz ailede yaşamak, boşanmış aileye göre çocukların benlik değerini daha çok olumsuz yönde etkilemektedir. Geçimli aile çocuklarının benlik saygısı, insanlara güvenme, ana baba ilgisi puanları, diğerlerinden daha yüksek; depresif duygulanım ve psişik izolasyon puanları daha düşüktür (Tablo 3).

Benlik değerinin düşüklüğü; kişinin kendisini değersiz ve yetersiz görmesine, stresli olaylarla baş edememesine yol açar. Aynı zamanda; bireylerde başarısızlığı bekleme, sinirli olma, daha az gayret gösterme, gelecek hakkında olumsuz düşüncelere sahip olma, karamsar olma, kendini suçlama eğilimlerine neden olur. Ayrıca yetersiz benlik değerinin aşırı katı bir bakış açısına, otorite bağımlılığına, içe kapanık ve pasif davranışlara, psikosomatik hastalıklara, depresyona, saldırgan davranışlara ve suç işlemeye eğilimli bir kişilik yapısına yol açtığı kanıtlanmıştır (Torucu, 1990 s.5).

Ergenlerin benlik değeri, sağlıklı aile ortamında yükseltilebilir. Onların kimlik sorunları geçimli (sağlıklı) ailelerde çözümlenebilir. Çünkü bu ailelerde, aile bireyleri birbirlerine saygılıdır, kurallara uyar, rol karmaşası yoktur, aile bireylerinin tüm ihtiyacı karşılanır.

Tek ebeveynli ailelerle çalışma yaklaşımları: Travmatik bir ayrılıktan sonra, eşlerden birine hazırlanan programlar son derece yararlıdır. Eğitsel ve davranışsal stratejiler, eş zamanlı uygulandıklarında etkili oluyor. Yaklaşımlardan biri, aile üyelerinin açıklıkla ve sıklıkla birbirleriyle iletişim kurmalarına dayanır. Terapistler, eşlerin duygusal boşanmayla ilgili sorunlarını bir yana bırakmalarına, destek gruplarından faydalanmalarına yardım etmelidir. Aile terapisinde tek ebeveynli ailelerin üyeleri, kendi yaşamları, aile dinamikleri ve uygun davranışlar konusunda daha net bir bakış açısı kazanırlar. Terapistler tek ebeveynli ailelerle çalışırken; iletişim tekniklerinden, bibliyoterapiden, destek gruplarla bağlantı kurma ve maddi danışmanlardan yararlanmaktadırlar (Gladding, 2011: 75-94).

Tek ebeveynle yaşamamanın, çocuklar ve gençler üzerinde yaratacağı olumsuz etkilerle başa çıkmada psikolojik danışmanlar, aile danışmanları, psikologlar, sosyal hizmet uzmanları, gerekiyorsa psikiyatristler, öğretmenler yardımcı olabilirler. Psikolojik danışmanlar, boşanma olgusunu yaşayan öğrencilerin belirlenebilmesi ve onlara psikolojik danışmanlık yapabilmek için ailelerle, öğretmenlerle ve velilerle koordineli bir şekilde çalışmalıdırlar.

SONUÇ

Tek ebeveynle yaşamının ergenlerin sosyal becerilerine, ebeveyn boşanmasının okulöncesi çocuklarına, okul çağı çocuklarına ve ergenlere olumsuz yönde etkilerinin olduğu saptanmıştır. Tek ebeveynle yaşayan ergenlerin sosyal becerileri katıldıkları etkinliklere göre farklılık göstermektedir. Sinemaya, tiyatroya, konsere, kafeteryaya gidenlerin, gitmeyenlerden sosyal beceri puanları istatistiksel olarak anlamlı ($p<.01$) derecede daha yüksektir. Bilgisayarda oyun oynayanların oynamayanlara göre sosyal beceri puanlarının daha düşük olduğu, aralarındaki farklılığın ise istatistiksel olarak anlamlı ($p<.01$) olduğu görülmüştür (Tablo 1).

Boşanmış ($x=21,589$), geçimsiz ($x=27,13$) ve geçimli ($x=20,95$) ailede yaşayan ergenlerin benlik değeri puanları arasında istatistiksel olarak anlamlı ($p<.01$) farklılıklar olduğu ($F(4,425) = 13.679, p = .000$) saptanmıştır. Boşanmış ve geçimsiz ailede yetişen ergenlerin, geçimli ailelerin çocuklarına göre benlik değeri daha düşüktür. Geçimsiz ailede yaşamak, boşanmış aileye göre çocukların benlik değerini daha çok olumsuz yönde etkilemektedir. Geçimli aile çocuklarının benlik saygısı, insanlara güvenme, ana baba ilgisi puanları, diğerlerinden daha yüksek; depresif duygulanım ve psikik izolasyon puanları daha düşüktür (Tablo 3).

Çocuk ve ergenlere, öğretmenlerin, psikolojik danışmanların, aile danışmanlarının, psikologların, psikiyatristlerin, sosyal hizmet uzmanlarının yardımı gerekebilir. Değişen koşullara göre tek ebeveynle yaşamının etkisi araştırılabilir.

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COMMUNICATION COMPETENCE OR LANGUAGE PROFICIENCY FOR EMPLOYABILITY? AN INVESTIGATION INTO MALAYSIAN POLYTECHNICS' ESL ENGINEERING STUDENTS

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ABSTRACT

There are issues concerning language proficiency, communicative competence, and employability at Malaysian polytechnics. This study examined the relationships between communicative competence, language proficiency, and employability using descriptive analysis and inferential statistics. Pearson's Correlation determines the correlation between communication competence, language proficiency, and employability skills of Malaysian Polytechnic ESL engineering students. The total number of participants was 81 final-year engineering students. The findings revealed high positive correlations between communicative competence ("I can talk with a friend in English.") and employability skills ($r = 0.854$, $p = .031$) and language proficiency ("I can understand the English songs I listen to") and employability skills ($r = 0.887$, $p = .038$). The result is consistent with the theories. The result revealed that for the 81 students, communication competence, language proficiency, and employability skills are firmly and significantly correlated. Thus, it concluded that communicative competence and language proficiency are equally essential to ensure higher employability among Malaysian polytechnic ESL engineering students.

Keywords : Communicative Competence; Language Proficiency; Employability; Malaysian Polytechnic; ESL

INTRODUCTION

Polytechnics have been introduced in Malaysia since 1969 and are part of the higher education system. There are 37 polytechnics across the country, split into three groups: premier, conversion, and metro. An additional 1.3 million TVET workers are expected to reach the job market by 2020.

1.1 Problem of Statement

Communicative ability is more important than language proficiency among university students. The English language syllabus for Malaysian education does not prepare students to speak English but focuses exclusively on outcomes and grades. When these students graduate from secondary school and enrol in higher education, they start to have trouble adjusting to more difficult assessments.

1.2 Research Objectives

There are three study goals focused on the context of the problem statement, which are:

- i. To identify communication competence and language proficiency among Malaysian polytechnic students.
- ii. To investigate if communicative competence is positively correlated with employability
- iii. To investigate if language proficiency is positively correlated with employability.

1.3 Research Questions

In this regard, this study aims to discover the language and communication skills of Malaysian polytechnic students to provide further information on employability, in particular, some of whom are directly involved in curriculum design and planning. The following query focuses on this study:

- (1) What are the students' perceptions of language proficiency and communicative competence among Malaysian polytechnic students?
- (2) Is a positive correlation between communicative competence and employability among Malaysian polytechnic students?
- (3) Is there a positive correlation between language proficiency and employability among Malaysian polytechnic students?

Research Hypotheses

HO₁: There is no statistically significant correlation between communicative competence and employability skills among Malaysian polytechnic students.

HA₁: There is a statistically positive correlation between communicative competence and employability skills among Malaysian polytechnic students.

HO₂: There is no statistically significant correlation between language proficiency and employability skills among Malaysian polytechnic students.

HA₂: There is a statistically positive correlation between language proficiency and employability among Malaysian polytechnic students.

1.4 Significance of Study

i. English language educators

For Malaysian polytechnic English language educators, the study's findings would be a parameter to emphasise the relevant teaching and learning pedagogy, methodologies, materials, and strategies to achieve the target employability skills that are sought after by all employers. It is vital for English language educators to learn, unlearn, and relearn the most recent updates on job-hunting skills.

ii. Department of Polytechnic Education Malaysia

This study is a good platform for the Department of Polytechnics Education Malaysia to study the latest trends and better understand students' perceptions of their communication competence and language proficiency after completing three compulsory English subjects designed to improve their overall language ability and skills. Thus, with the findings and results, improvement and enhancement programs can be materialised to combat the issues of Malaysian polytechnic graduates' lack of communication skills to be employed in the related field of studies.

iii. Malaysian Higher Education Institutions

Other higher education institutions in Malaysia struggling with a similar issue can benefit from this research. Malaysian college students are perceived as having poor communication skills, which is an essential factor in being unemployed despite good academic grades. Hence, the study findings could provide insights into similar issues and address them aptly.

iv. Stakeholders, Industry Collaborators, and Panels

The study is helpful for stakeholders, industry collaborators, and panels working closely with Malaysian polytechnics. When the needs of the industry are met, it solves all the issues that come afterward. As Malaysia's workforce is going global, undeniably, the semi-skilled professionals of Malaysian polytechnics partake in a vital role. A strong command of English and communication skills is undeniably one of the determining factors for being hired by job firms and even for job promotions.

2.0. Literature Review

Introduction

Malaysian polytechnic students' poor grasp of English language proficiency despite the shift from English for Specific Purposes to Communicative English in 2011. What is hampering students' efforts to be more competent in English language users? Employers consider language proficiency and communication skills as distinct qualities in the Malaysian private sector.

2.1 Language Learning in ESL Classroom

The purpose of English language learning in polytechnics is to provide students with the skills needed in the academic and technical sense. Polytechnic students are exposed to multiple methods to establish contact and social interaction during classroom teaching and learning. The communicative method is derived from the linguistic theory of the communicative abilities of Dell Hymes. Communicative English was introduced in 2011 with the primary objective of meeting the increasing demands of sectors that require TVET graduates to communicate well. Strong communication skills undeniably assure a healthier social and community working climate. For polytechnic students, learning many languages uses and applications, particularly in the workplace setting, is therefore necessary.

2.2 TVET Graduates and Employability

The purpose of English language learning in polytechnics is to provide students with the skills needed in the academic and technical sense. Polytechnic students are exposed to multiple ways to establish contact and social interaction during classroom teaching and learning. The communicative method is derived from the linguistic theory of the communicative abilities of Dell Hymes (1972). Communicative English was introduced in 2011 with the primary objective of meeting the increasing demands of sectors that require TVET graduates to communicate well. Strong communication skills undeniably assure a healthier social and community working climate.

2.3 English Language Proficiency

The importance of the need to think critically and be fluent in English for university students is partially due to the issue of the country's high unemployment rate. Malaysian students have a moderate proficiency which is EF EPI score of 547, securing a number three position among all 24 Asian countries. A study by Sanmugam (2013) shows the lack of competence in English language skills as needed in the workplace. What is missing is a good understanding of what employers mean and require regarding employability. Unloading these words from employers' viewpoints would allow TVET to help train their students for the job market.

2.4 Theory of Communicative Competence (Canale & Swain, 1980)

Hymes (1972) pointed out Chomsky's concept of linguistic competence as the left object of concern, a significant gap in not coping with the problem of appropriateness: the understanding that a word is not well-formed but appropriately used in a particular context. Hymes put it this way: Communicative competence is an individual's ability to use and apply the target language effectively with other interlocutors in a social setting. According to Canale & Swain (1980), there are four communicative competences: grammatical competence, sociolinguistic competence, strategic competence, and discourse competence.

2.5. Theoretical Framework

The input theory implies that language learning happens when students receive input from the final semester related to mini project review, graphs and maps, terms and phrases to explain patterns and gestures that they can understand. The function of the lecturer is to encourage the student's learning activity from a Vygotsky perspective.

2.5.1. Classroom Learning (The Input Hypothesis by Stephen Krashen)

In Communicative English 1, 2 and 3, studying in the classroom, it is crucial to create a language condition by enabling the acquirer to recognise his or her present competence by listening or reading an input language. In another assessment, a job interview, learners turn from what they already know to what teachers will offer.

2.5.2. Theory of Communicative Competence (Canale & Swain, 1980)

Vygotsky's Proximal Development Zone (ZPD) is learning that happens when a child faces trouble managing his or her own learning. ZPD is based on cognitive growth, in which a learner transitions from the current level of competence to the future level of development.

2.5.3 Language Learning Strategies – (Cummin's Cognitive Academic Language Proficiency (CALP))

Cognitive Academic Language Proficiency (CALP) refers to how language is used in the school or work environment. CALP includes the ability to interpret, synthesise and assess or often called higher-order thinking skills. It takes at least five to seven years for a student to demonstrate CALP.

Theoretical framework

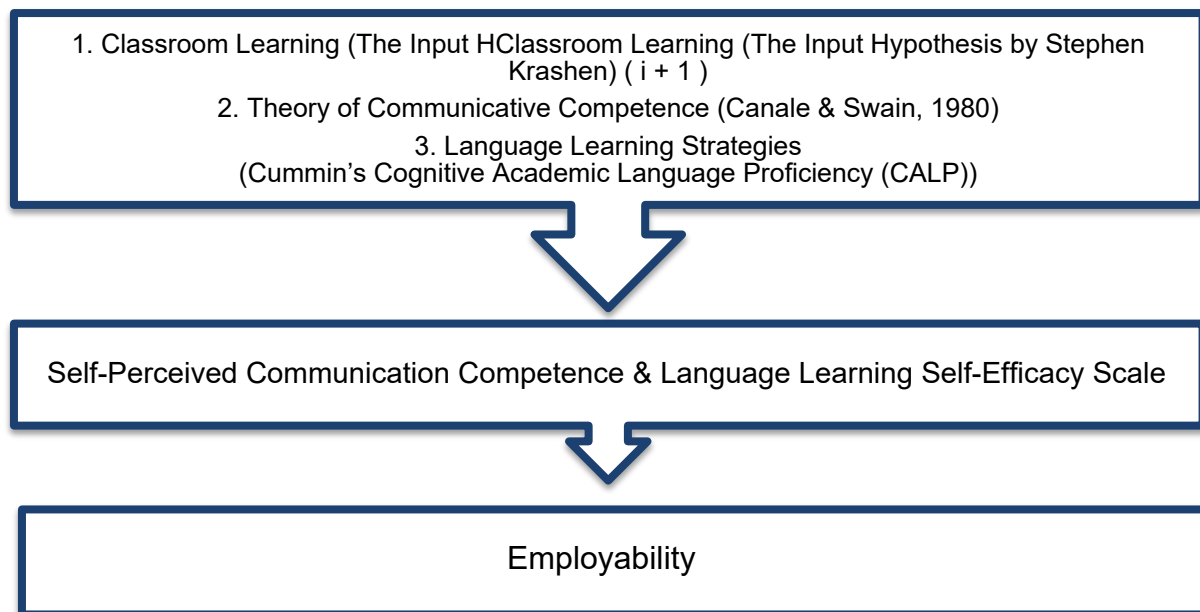


Figure 1 – A theoretical framework for investigating the relationship between Language Proficiency, Communication and Employability based on Krashen's Input Hypothesis, Theory of Communicative Competencies and Cummin's CALP

CHAPTER 3: RESEARCH METHODOLOGY

3.1. Research Design

It is a report from a sample using the Google form, an online data collection form to resolve the research issue and research questions, the data from this non-experimental design study is collected.

3.2. Research Participants

The goal participant for this study is 80 students from mechanical and electrical engineering departments in a polytechnic for the final year. They would have taken Communicative English 1, 2, and 3 subjects in all of their studies. As this is a small-scale sample, the data must be collected from a medium number of respondents. Sampling using probability methods, however, is used to classify possible participants in the sample, allowing population characteristics (e.g., social demographics, attitudes, preferences, opinions, skills, interests and values) to be estimated without obtaining data from all members of the population.

3.3. Research Instrument

Students are invited to complete a questionnaire consisting of 12 Self-Perceived Communicative Competence (SPCC) items and 22 English Language Self-Efficacy Scale items. The Employability Skills (ES) Measurement Model was developed in order to research the employability skills acquired in Malaysian engineering students.

3.4. Data Collection and Analysis

This study investigates the perceptions of students on language proficiency and communicative competence towards employability skills. The survey will be disseminated to the final semester students using WhatsApp instant messaging application. The analysis will collect data from students who have taken Communicative English 1,2 and 3 subjects.

Chapter 4: Findings and Results

Introduction

In this chapter, the questionnaire collected via Google form will be transferred into Google Sheets for descriptive and inferential analysis. For this study, mean and standard deviation have been used for descriptive statistics, while Pearson Correlation is used to interpret the relationship between variables.

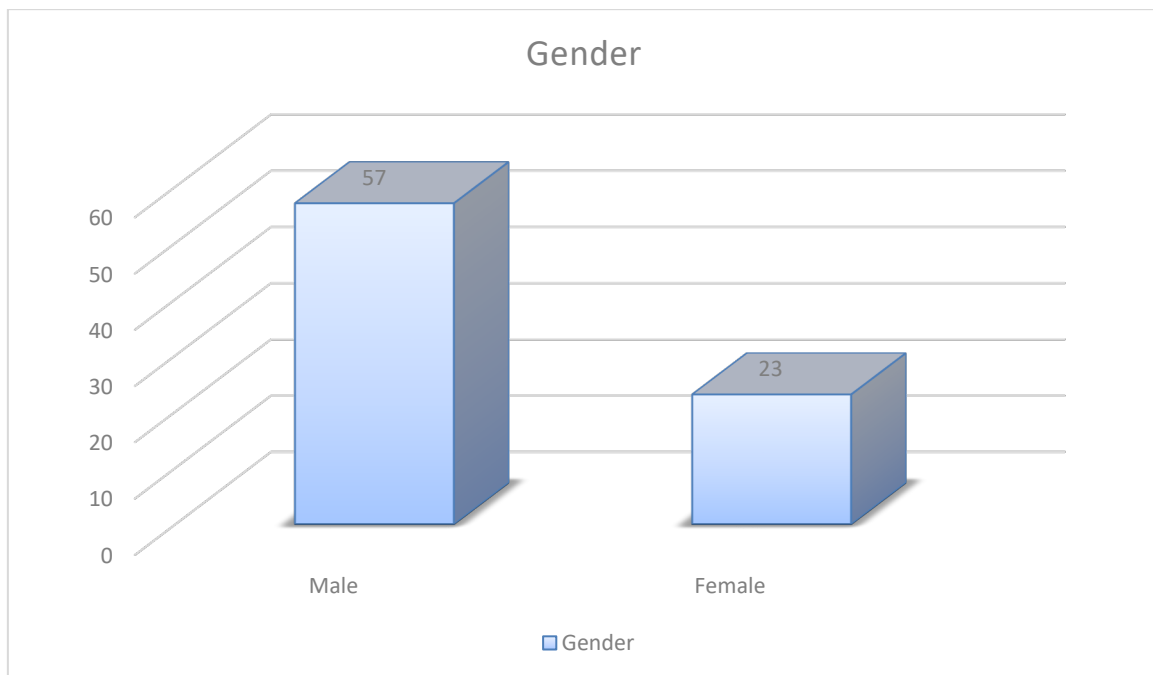
4.1. Descriptive Analysis

Descriptive analysis is used in this research to analyse the demographic profile of respondents, including gender, age group and study department.

4.2 Respondents' Demographic Profile

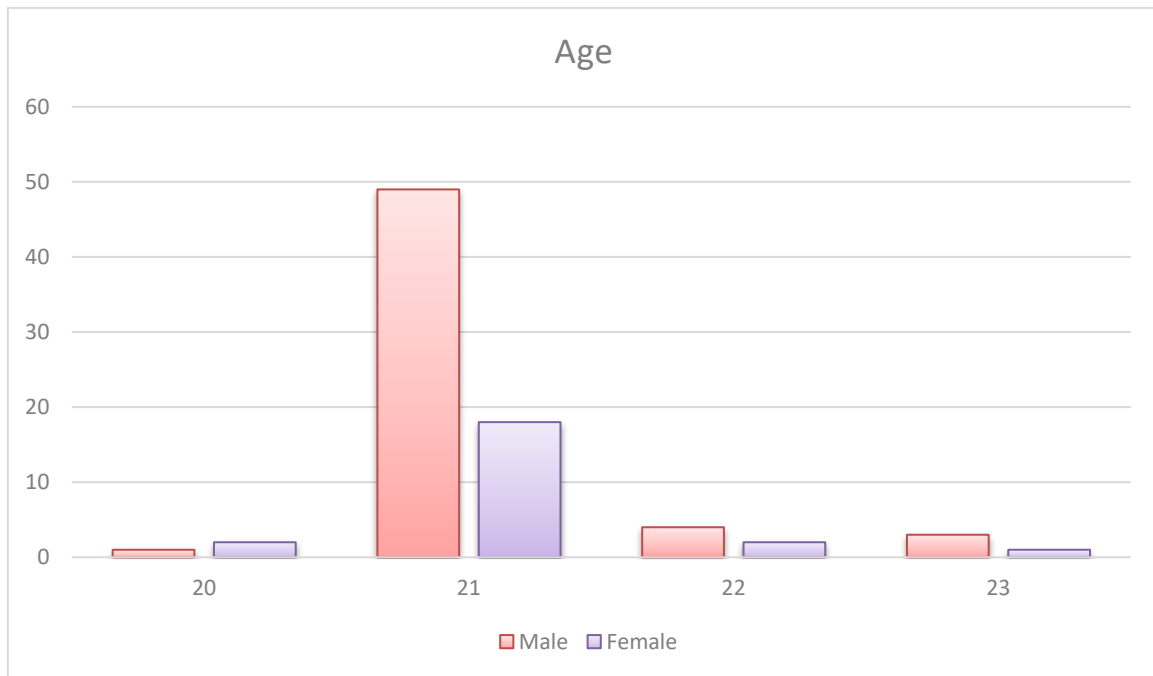
This study collects basic demographic information of the respondents for the researchers to further investigate the statistical relationship and significant differences between the variables mentioned above.

4.2.1 Respondents' Gender



In this study, 57 male and 23 female university students responded to the volunteering-based questionnaire. In other words, 71.25% of male students answered the questionnaire while 28.75% of female participants replied to the questionnaire invitation.

4.2.2 Respondents' Age



Another demographic background collected from the questionnaire was age. The highest age who responded to the questionnaire was 21, while the second-highest was 22, followed by the age 23. However, only three respondents were 20. In other words, 83.75% of respondents were 22 years old. It was because the respondents were final-year students from the September intake.

4.3. Mean, Standard Deviation and Correlations Among the Variables

4.3.1 The Mean Score, Standard Deviation and Pearson's Correlation (R) For Self-Perceived Communication Competence Scale (SPCC) and its Correlation with Employability Skills

Table 1. Mean, SD and Pearson's Correlation (r) for SPCC (n = 80)

Variables	Mean	SD	Pearson's Correlation
(1) I can present a talk to a group of strangers in English.	3.032	0.722	**0.655
(2) I can talk with an acquaintance in English.	4.089	0.544	**0.835
(3) I can talk in a large meeting of friends in English.	3.945	0.731	**0.805
(4) I can talk in English with a small group of strangers.	3.566	0.656	**0.768
(5) I can talk with a friend in English.	4.235	0.884	**0.854
(6) I can talk in a large meeting of acquaintances in English.	3.772	0.569	**0.770
(7) I can talk with a stranger in English.	3.128	0.457	**0.675
(8) I can present a talk to a group of friends in English.	3.567	0.642	**0.701
(9) I can talk in English with a small group of acquaintances.	3.423	0.590	**0.784
(10) I can talk in a large meeting of strangers in English.	2.980	0.569	**0.509
(11) I can talk to a small group of friends in English.	4.115	0.776	**0.812
(12) I can present a talk to a group of acquaintances in English.	3.776	0.459	**0.776

**Correlation is significant at the 0.01 level (2-tailed)

Based on Table 1 refers to the mean score, standard deviation and Pearson's Correlation (r) for the overall sample (n = 80). The highest Self-Perceived Communication Competence variable is 'I can talk with a friend (mean = 4.235), next followed by 'I can talk in a small group of friends in English' (mean = 4.115), while the third-highest is 'I can talk with an acquaintance in English' (mean = 4.089). The lowest Self-Perceived Communicative Competence score is 'I can talk in a large meeting of strangers in English' (mean = 2.980), and the second-lowest is 'I can present a talk to a group of strangers in English' (mean = 3.032). It is understood that the polytechnic students are more comfortable talking with a friend, a small group of friends and acquaintances. The mean scores are above 4. Polytechnic students are not afraid to use English to communicate with a friend, group of friends or acquaintances. It also means that they trust their friends to use English. It can be shown in classroom activities like group discussions or role-plays where students must always apply the English language. In other words, polytechnic students enjoy being with friends or acquaintances to practice and use English.

On the other hand, the respondents are afraid to talk to a large group of strangers in English. It is followed by 'I can present a talk to a group of strangers in English'. These students are not confident to communicate outside of their circle of friends. They find it challenging to express their ideas or opinions with a group of strangers. It can refer to the fact that in second-language acquisition, the desire to communicate (WTC) is those language learners who can communicate in the second language are

constantly searching for opportunities to communicate; in addition, in the second language, these learners communicate.

Moreover, the study showed a high positive correlation between "I can talk with a friend in English." and employability skills ($r = 0.854$). Next, "I can talk with an acquaintance in English." and employability skill ($r = 0.835$). Then, "I can talk to a small group of friends in English." and employability skill ($r = 0.812$). Lastly, "I can talk in a large meeting of friends in English." and employability skills ($r = 0.805$).

4.3.2 Self-Perceived Communication Competence Score

Table 2. Mean, SD and Pearson's Correlation (r) for Bachelor Degree sample (n = 80)

SPCC	Sub-score	Pearson' Correlation
(1) Public	3.458	0.537
(2) Meeting	3.565	0.547
(3) Group	3.698	0.523
(4) Dyad	3.807	0.712
(5) Stranger	3.174	0.507
(6) Acquaintance	3.765	0.723
(7) Friend	3.966	0.788
(8) Total SPCC score	3.635	0.754

·**Correlation is significant at the 0.01 level (2-tailed)

Based on Table 2, Self-Perceived Communication Competency (SPCC) Score can be obtained by adding the categories of variables together; the highest SPCC is Friend (mean = 3.966), this is followed by Dyad (mean = 3.807), then acquaintance (mean = 3.765). However, the lowest SPCC score is stranger (mean = 3.174).

Higher SPCC scores (strangers, acquaintance, friend) indicate higher self-perceived communication skills with fundamental communication contexts (public, meeting, party, dyad) and receivers, according to McCroskey & McCroskey (2013). On the other hand, the SPCC also correlate with employability skills. Some of the strong correlations are friend ($r = 0.788$), acquaintance ($r = 0.723$) and dyad ($r = 0.712$). Therefore, it proves that communication skills are the secret to establishing relationships in an employment environment. The ability to interact effectively and adjust the style appropriately is essential throughout working relationships. One must get along with colleagues, listen to their directions and understand them.

Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted based on the findings and results.

HO₁: There is no statistically Correlation between communicative competency and employability among Malaysian polytechnic students.

HA₁: There is a significant relationship between communicative competency and employability among Malaysian polytechnic students.

4.3.3 The Mean Score, Standard Deviation and Pearson's Correlation (R) For English Language Self-Efficacy Scale (ELSES) and its Correlation with Employability Skills

Table 3. Mean, SD and Pearson's Correlation (r) for ELSES and Employability Skills (n = 80)

Variables	Mean	SD	Pearson' Correlation
Reading Skills			
(1) I can understand when I read a magazine article in English.	3.032	0.722	**0.672
(2) I can understand when I read a newspaper in English.	4.115	0.544	**0.835
(3) I can understand when I read a book in English.	3.945	0.731	**0.802
(4) I can understand when I read a novel in English.	3.800	0.656	**0.743
(5) I can understand when I read short stories in English.	3.334	0.674	**0.723
Writing Skills			
(6) I can write an English text according to the spelling and punctuation rules.	4.112	0.884	**0.640
(7) I can write an English text that forms cohesion with parts of speech (conjunctions, etc.).	3.772	0.569	**0.693
(8) I can notice my spelling mistakes when writing in English.	3.128	0.457	**0.592
(9) I find myself sufficient in the writing parts of English exams.	3.567	0.642	**0.673
Speaking skills			
(10) I can make dialogue in English.	3.423	0.590	**0.748
(11) I can express myself easily in informal conversations.	3.980	0.569	**0.824
(12) I can speak English fluently.	4.089	0.776	**0.768
(13) I can speak English in a given subject without prior preparation.	3.776	0.459	**0.757
(14) I can express my feelings and thoughts in different forms in English.	3.445	0.563	**0.660
(15) I can speak English in educational interviews (Erasmus, Graduate etc.).	3.212	0.477	**0.588
(16) I find myself sufficient in the speaking parts of English exams.	3.332	0.512	**0.624
Listening Skills			
(17) I can understand conversations in English.	3.563	0.578	**0.705
(18) I can understand the English songs I listen to.	3.889	0.694	**0.887

(19) I can listen to and understand English videos (TV programs, series, etc.).	3.482	0.612	**0.677
(20) I can do the activities while listening to English (filling in the blanks, questioning, etc.).	3.675	0.590	**0.665
(21) I can write what I hear while listening to English.	3.342	0.625	**0.734
(22) I find myself sufficient in listening to English exams.	3.444	0.663	**0.782

**Correlation is significant at the 0.01 level (2-tailed)

Based on table 3, the highest English Language Self-Efficacy Scale (ELSES) for reading skills is "I can understand when I read a newspaper in English." (mean = 4.115), but the lowest is "I can understand when I read a magazine article in English." (mean = 3.032). It is surprising as polytechnic students in this study enjoy or prefer reading newspapers more than magazine articles in English. It can be due to many exercises in the classroom for Communicative English subjects based on current issues. In Communicative English 1 subject, students are required to carry out a group discussion on current issues happening around Malaysia and the world.

For writing skills, the highest score is "I can write an English text according to the spelling and punctuation rules" (mean = 4.112), and the lowest score is "When writing in English, I can notice my spelling mistakes." (mean = 3.128) The result is not surprising as polytechnic students are taught to write well and are always guided to apply all punctuation rules. Besides that, students are not aware of their spelling mistakes, but if peer evaluation or peer editing is done in the class, students can be more careful about their spelling errors.

For speaking skills, the highest score is "I can speak English fluently." (mean = 4.089), and the lowest score is "I can speak English in educational interviews (Erasmus, Graduate etc.)." (means = 3.212) The findings show that the participants are confident with their productive language skills. They have trust in their ability to converse in the target language effectively. However, it is limited to casual occasions, classroom settings or among their friends. Students find it challenging to speak or answer interviews which are very formal and require good English skills. It could remind the institution's instructors to include more academic English lessons like TedTalk, educational podcasts and many more into the lessons.

Lastly, for listening skills, the highest score is "I can understand the English songs I listen to." (mean = 3.889), and the lowest is "I can write what I hear while listening to English." (mean = 3.342). It implies that the study participants have participated in learning English through songs; it is an excellent speaking and pronunciation practice. Students also can learn new vocabulary and grammar. Most of all, it is a fun learning activity. On the other hand, students feel they cannot write what they hear or listen to in English. It goes back to receptive and productive skills. Not all good listeners are good writers.

For correlation aspects, it is found that "I can understand the English songs I listen to." ($r = 0.887$), "I can understand when I read a newspaper in English." ($r = 0.835$), "I can express myself easily in informal conversations." ($r = 0.824$) and "I can understand when I read a book in English." ($r = 0.802$) have strong Correlation. Thus, the null hypothesis is rejected, and the alternative hypothesis is accepted based on the findings and results.

HO₂: There is no statistical correlation between language proficiency and employability among Malaysian polytechnic students.

HA₂: There is a significant relationship between language proficiency and employability among Malaysian polytechnic students

4.3.4 The Mean Score, Standard Deviation for Employability Skills

Table 4. Mean and SD for Employability Skills (n = 80)

Variables	Mean	SD
(1) Communication	3.600	0.537
(2) Team work	3.619	0.547
(3) Leadership	3.207	0.523
(4) Long life learning and Information management	3.408	0.540
(5) Critical thinking and problem solving	3.578	0.563
(6) Entrepreneurship	3.783	0.683
(7) Ethic and moral	3.543	0.509
(8) Technology Utilizing Skills	3.656	0.612
(9) Social skills	3.892	0.786

Based on table 4, the highest score is social skills ($m = 3.892$), then, it is followed by entrepreneurship ($m = 3.783$), teamwork ($m = 3.619$) and communication ($m = 3.600$). From the findings, polytechnic students perceive themselves have the highest social skills, entrepreneurship, teamwork and communication skills. These are essential for all future job seekers. Undeniably, students know employers are looking for employees who can manage interpersonal relationships among coworkers, superiors and clients. Next, social skills also mean cooperating with others and showing respect and mutual understanding in a working environment.

Entrepreneurship and teamwork are the following essential skills Entrepreneurship experience is vital in the hiring process because nowadays, employers value entrepreneurship skills such as risk-taking ability, creative thinking, persistence and self-discipline to be successful entrepreneurs. In the polytechnics syllabus, entrepreneurship is a compulsory subject. Students would need to pass the paper in order to graduate. It is how much the polytechnic education system value and appreciate the current industrial needs.

Besides that, a candidate with solid teamwork skills is sought out by employers for many reasons. A team player demonstrates leadership, collaboration, and good communication. Communication is the fourth highest mean score in these findings, and practical communication skills are always vital to interpreting what is being asked for, delivering the instructions, negotiating terms and conditions with clients and many more. Thus, in this study, polytechnic students are concerned and understand the much-needed employability skills based on their perceptions.

4.3 Conclusion

This chapter shows findings and results after running descriptive and inferential statistical analysis using Google Sheets. In conclusion, all research questions are answered; there is a significant relationship between communication competence and employability skills and language proficiency and employability skills.

Chapter 5: Discussion and Conclusion

5.1. Interpretations of the Study

The study demonstrates a strong correlation between communication competence and employability skills, as also language proficiency and employability skills. This analysis supports the theory that Cummin's Cognitive Academic Language Proficiency (CALP), the input hypothesis by Stephen Krashen and the Theory of Communicative Competence by Canale & Swain (1980). Cummins (1998) asserted that as second language proficiency increased, linguistic proficiency in English increased. When they can read, hear and comprehend the language, students are deemed to have acquired a language (Krashen, 2003, 2011; Lesaux & Rangel, 2013). "In addition, language understanding is thought to have occurred when an individual can analyse and interpret the data that is taken in, often known as "input hypothesis" (Krashen, 2003, 2011); while learning to read, write, and speak in the second language is centred on "comprehensible input hypothesis (Krashen, 2003, 2011). Thus, reading and language comprehension has been completed by learning what one sees, learns and writes (Krashen, 2003, 2011; Lesaux & Rangel, 2013). Intentionally acquired knowledge creates the ability to edit and control language but does not necessarily experience the language with comprehensible input (Krashen, 2003, 2011). Language proficiency can be described as "the ability to use language effectively and appropriately across the range of social, personal, school, and work situations required in a given society for daily living" (Peregoy & Boyle, 2008, p.34). As Reid (2011) said, "To do right for students, we must allow the time it takes to move students to English proficiency and create valid and reliable evaluations for LEP students to report their level of accomplishment to the federal government properly" (p. 22)

Comparing the study of Azmi, Hashim & Yusoff (2018) reported that public universities scored higher on soft skills such as communication, coordination, problem-solving, decision-making, creative and innovative thinking and leadership. In this study, polytechnic students scored higher on social skills ($m = 3.892$), then, it is followed by entrepreneurship ($m = 3.783$), teamwork ($m = 3.619$) and communication ($m = 3.600$). The results contradict the claims of Esa, Selamat, Padil & Jamaludin (2014) claims that civil engineering diploma students did not apply the soft skills aspect, which are communication skills, lifelong learning, enterprise skills, and moral and professional ethics. In line with the hypothesis, it is important to note that both students' perceptions of communication competence and language proficiency are high and have a strong Correlation with employability skills.

5.2 The implication of the Study

A host of significant developments in higher education have been catalysed by the global emphasis on improving employability skills in Malay polytechnic graduates. The study provides insight into the relationship between Malaysian polytechnic ESL learners' perception of communication competency and language proficiency with employability skills. Communication skills are the secret to establishing relationships in an employment environment. The ability to interact effectively and adjust the style appropriately is essential throughout working relationships. It is important that potential staff get along with their peers and listen to and comprehend instructions. The study demonstrates, along with global

patterns, that local employers strongly appreciate communication skills when hiring new graduates, and unique communication skills needed in the industry represent the content of the course.

5.2 Limitation of the Study

Firstly, the methodological choices were constrained by non-probability sampling as the researcher faced difficulties getting more respondents due to the Malaysian government's Covid-19 pandemic's movement restriction policy. Thus, bias may exist in this study. However, the researcher invites other scholars to contribute to the body of knowledge in this study in Malaysia as there are similar limited studies. Also, this was a small-scale study where the sample was only 80 though the researcher wanted to study a sample of 100-150 participants. There was little demotivating as the triangulation method could not be carried out as classroom observation, interviews, and library visiting are nearly impossible to be carried out. Also, the generalizability of the results is limited to only one polytechnic and engineering student from three departments.

5.3 Recommendation for Future Research

In order to set up and add to the body of information, more research is required. First, the same study can be conducted on a larger scale or choose a few polytechnics using probability sampling. Next, research comparing Malaysian polytechnic students' different departments such as engineering, commerce, hospitality and tourism. Researchers and scholars are also encouraged to use different self-perceived communication competency and English language self-efficacy scales to study and compare the same purpose as stated in this study.

5.6 Conclusion

This chapter discusses the summary of all significant findings and results of the study by relating to the literature reviews and theoretical framework in chapter 2. Most notably, readers or writers are invited to develop a deeper understanding of the study's intent and recommendations for potential studies.

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MENU PLANNING: PERCEPTIONS TOWARDS MENU SERVED ON CAMPUS AMONG STUDENTS OF POLITEKNIK SULTAN IDRIS SHAH

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ABSTRACT

Students are always complaining about the food and beverages served at on-campus foodservice operations. I believe there are reasons behind their complaints, based on a study conducted there are negative responses regarding their satisfaction of foodservice operation inside campuses including the elements such as quality of food, ambiance, value for money, food and beverage selections, and service quality. To find out the students' perception on menu served of an on-campus foodservice operation in Politeknik Sultan Idris Shah, Selangor. This study will help to further elaborate regarding the foodservice operation operated on-campus with the elements as such quality of food, value for money, and food and beverage options. A survey will be conducted by distributing questionnaire to a sample of 30 to 300 respondents. The set of data and findings collected are of standard and precise. The demographic data illustrated above found that many of the respondents that took part in answering the questionnaires are female, and group age between 21 – 23 years old. The relationship between the components of value and quality of food, and food and beverage options with perceptions of students were evaluated in this chapter. Apart from that, item price value shown to be the upmost contribution in students' perceptions towards the element of value and quality of food. The analysis was done to obtain the factors contributing or affecting the level of satisfactions and perceptions towards on-campus food service operation among Politeknik Sultan Idris Shah's students. The results showed that the value and quality of food has the most positive effect towards students' perceptions towards on campus cafeteria followed by the food and beverage selections. Furthermore, based on the results, the perceptions of students towards Politeknik Sultan Idris Shah's cafeterias were found to be positive whereas mostly agreed that they were satisfied.

Keywords : Menu Planning, Perceptions, Menu Served

INTRODUCTION

The word perception is defined as the outlook of something or your view on a certain thing. Perceptions and level of satisfaction from each of the individuals can vary according to their culture such as the food that they enjoy consuming. (Qiong, 2017). In Malaysia, the number of students enrolls in higher education is 1,215,021 in 2019 which includes every level of study. (MoHE, 2020) Other than that, one of the biggest segments worldwide is on-campus foodservice operations. Studies have shown that the number of students dining on-campus during their studies is increasing. Plus, their perceptions of foodservice outlets on campus are immensely essential in contributing to their satisfaction. However, due to cultural diversity and unstable dining practice, it is difficult to meet their overall level of satisfaction as there is a limitation to the menu that can be offered in on-campus foodservice. (Smith et al., 2020)

Students spend most of their time inside campus especially students that accommodate the campus's hostel. Hence, it is essential for the foodservice outlets on-campus to provide a variety of menus each day. Besides, Malaysia is a multi-racial country and each race has its own passed-down culture that influences its eating habits. Moreover, not only the menu offered each day has to be different, but the cuisine also has to be offered in variety such as Indian cuisine, Malay cuisine, and Chinese cuisine.

The aim of this study is to find out the students' perception on menu served of an on-campus foodservice operation in Politeknik Sultan Idris Shah. This is to help the foodservice establishment to identify their mistakes and in which area they have to improve. Also, to identify the relationship between qualities of food, value for money, and food and beverage selections with students' satisfaction on menu served of an on-campus foodservice operation.

1.0 PROBLEM STATEMENT

Although most of the campuses offer a variety of food and beverage selections, there is still room for improvements to implement in order to achieve more significant results to improve customer satisfaction. The life of students which requires going back and forth to classes confines them inside the campus. Furthermore, students who live inside the campus are less likely to prepare their own food. In response to that, students visit cafeteria often for their nourishment.

However, students are always complaining about the food and beverages served at on-campus foodservice operations. There are reasons behind their complaints, based on study conducted there are negative responses regarding their satisfaction of foodservice operation inside campuses including the elements such as quality of food, ambiance, value for money, food and beverage selections, and service quality. (Smith et al., 2020)

Hence, this research is to verify whether the same elements specifically on quality of food, value for money, food and beverage selections, applied to the student's satisfaction towards foodservice operations in Politeknik Sultan Idris Shah.

1.1 Research Objective

The objectives of this research are:

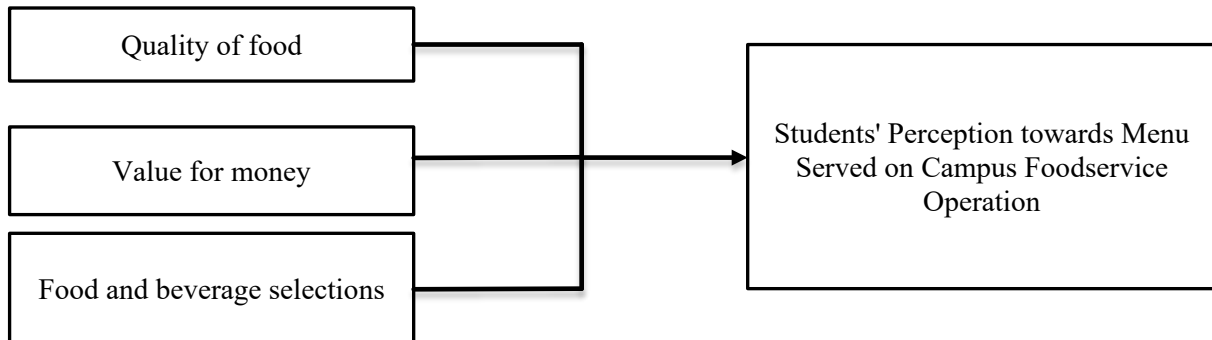
1.1.1 To identify students' perceptions on on-campus foodservice operation when involving quality

of food.

1.1.2 To identify students' perceptions on on-campus foodservice operation when involving value of money.

1.1.3 To identify students' perceptions on on-campus foodservice operation when involving food and beverage selections

1.2 Conceptual Framework



The objective of this study is to ensure that the aim to grasp the comprehension of students' perception attained. In order to steer clear of the study from going off-road, the framework needs to be finalized. In this study, students' perception towards menu served on campus in Selangor will be examined by the quality of food, value for money, and food and beverage selections. Perceptions on the menu served are intimately related to the quality of food, value for money, and food and beverage selections.

2.0 LITERATURE REVIEW

There are a number studies conducted to research the quality of service, quality of food, value for money, food and beverage selections, and ambiance in university foodservice. Furthermore, on-campus foodservice operations are a popular topic in research that is done worldwide to gain information on students' perception regarding menu served on the on-campus foodservice outlet. (Joung et al., 2016)

Most of the universities provide on-campus foodservice outlets or normally called cafeterias. In regard to that, it can be said that students' perceptions of the menu served at on-campus foodservice are highly important as they spent plenty of time dining inside the campus's cafeteria. The students' outlook on the menu or services will be reflected on their overall satisfaction whether they are pleased or unsatisfied with the menu offered.

2.1 Quality of food

Previously, an observation about the elements that play a huge part in customer satisfaction of higher education foodservice at 25 universities of an area in Malaysia and found out that most of the customers' expectations of the on-campus foodservice are not met. (Smith et al., 2020) Customer satisfaction plays a significant role in determining the students' perceptions on the menu served in cafeterias. Satisfied customers will create positive perception or outlook from the students of the campus' cafeterias, it can be seen when the dining frequency of a certain cafeteria is inclining in numbers. The outlook of shoppers in the quality of product or services are influenced by their perceptions of value which will indicate their level of satisfactions. (Choi et al., 2013).

Moreover, a survey has been conducted among 346 participants at a public university in the southwest USA to identify the elements such as gender, perceived quality and perceived value of on-campus foodservice will affect customer satisfaction. The outcomes of the study showed that the perceived quality and perceived value have solid effects in regards to customer satisfaction. (Smith et al., 2020) Therefore, in accordance with the stated evidence, we can conclude that the quality of food affected students' perception of the menu served on-campus foodservice operation.

2.2 Value for money, Food and Beverage selections

In the words of researchers Joung et al (2016), Kwun (2011), and Lim (2010) which is stated by (Smith et al., 2020) the two fundamental factors that in control of the level of perceived value and customer satisfaction are customers' perceptions of the quality and price which at length influence customers' positive behavior.

As (Smith et al., 2020) have noted based on Nadzirah et al. (2013) the students would agree that they gain the right value with the paid price if the portion of food is appropriate and suitable which in return will increase the dining frequency. Students search for value on the things they are spending. (Ali & Ryu, 2015) Foodservice outlet that offers cheaper and more affordable price for the menu they serve is more likely to gain visitations from the students. According to (Choi et al., 2013) when customers receive an appropriate or better value for their money, they will believe that they are receiving higher levels of quality.

A survey was done among HBCU's students in regards of their perceptions towards on campus foodservice operation specifically includes elements such as quality of food, ambience, value, food and beverage options and service and how it affected their dining frequency. The survey indicated that there is positive response that all of the services and operation elements investigated gave an impact on the student's overall satisfactions. (Smith et al., 2020) Hence, improvements should be done in order to gain positive responses in correlation to the foodservice operation inside campuses.

3.0 METHODOLOGY

This chapter will cover the methodology designed to identify the students' perceptions towards menu served on campus in Selangor in the correlation with the elements including quality of food, value for money, and food and beverage selections. The process of selecting a research design, samples, instrument, procedure, data collection, and data analysis are to be included in this research.

3.1 Research Design

This study was conducted with the method of quantitative. All of the data were collected through questionnaire. This study was design to collect the data of students' perceptions towards menu served

on campus in Selangor with the elements including quality of food, value for money, and food and beverage selections.

Table 3.1: Components of the survey instrument

Component Research question	Total Questions
Perceptions on on-campus foodservice operation when involving value and quality of food?	7
Perceptions on on-campus foodservice operation when involving food and beverage selections?	3
Student perceptions towards on campus food service in Politeknik sultan Idris Shah	3
Total of number	13

The purpose of this research is to find out the students' perception on Politeknik Sultan Idris Shah's food service operation. The survey instrument used was developed by Kim et al. (2004) and Hall (2014) surveys as guide.

The instrument consists of four sections. The first section of six questions to identify the demographic and behavioral data on the respondents (gender, age, race, and religion). The second section consisted seven questions comprised statements of value and quality of food adopted by Smith et al. (2020). The third section consisted three questions on food and beverage selections adopted from Smith et al. (2020). The final section four questions which comprised two statements regarding customer satisfactions, adopted by Smith et al. (2020) and modified questions as see needed (dining frequency). A question about future suggestions from the students was asked for further improvements.

3.2 Sampling

The research instrument that is used in this study is questionnaire. The questions that are included in this questionnaire were carefully selected and customized. Based on Roscoe 1975 the sample size needed is between 30 to 500 respondents. Targeted number of respondents are 60 but only 58 were collected, and 47 responses were usable. All data were evaluated with Likert-type scale format to measure the strength of belief by using primary method using a scale of 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree. The data is collected to aid this research. The real data is collected using the planned sample. The questionnaire will be distributed through online platform using google forms.

4.0 FINDINGS AND CONCLUSION

The result of findings from chapter 3 are conveyed in this chapter. The end result of the earlier analysis was obtained from distributed questionnaire. The data are counted manually by using Microsoft Excel. In order to fulfil the research objective, the results are further discussed by addressing the research questions to verify the stated hypothesis. The data gained from each variable element were converted into mean score, descriptive analysis and graph. Three hypotheses were tested to satisfy the three objectives.

4.1 Response Rate

As mentioned earlier in the report, Roscoe 1975 method of sampling is being used in this research as a baseline. The number of responses collected from students of Politeknik Sultan Idris Shah throughout the survey were 58, and only 47 are usable. This means the targeted number of samples were achieved. Data screening was done and a few number of responses were eliminated as it can affect the accuracy of end result.

Table 4.1: Summary of Overall Sample Size and Response Rate

Sample Size (S)	Number of Respondents (N)
Targeted Samples	60
Samples Returned	58
Valid Sample	47
Valid Response Percentage (%)	81%

*Note: Recommended sample size of Roscoe 1975

4.2 Preliminary Data Analysis

The findings of preliminary data are discussed in this chapter. The purpose is to identify the missing data and failure in Frequency Table. Moreover, this is to inspect the occurrence of null values or failures, distributions normality, and outliers in the data sets.

4.3 Demographic Profile

The demographic profile data sets were collected from section. A of the questionnaire which includes gender, age, race and religion.

4.3.1 Gender

Table 4.2.1 indicates the gender description of the 47 Politeknik Sultan Idris Shah students from random faculties. There is a significant gap between the sexes proportion and female is the dominant respondent. From a total of 47 respondents, 78.7 percent (N=37) are female while 21.3 percent (N=10) are male. Therefore, we can conclude the number of respondents received were much higher compared to male respondents.

Table 4.2.1: Gender of Respondents

	Frequency	Percent
1 Male	10	78.7
2 Female	37	21.3
Total	47	100.0

4.3.2 Age

The result includes the information on age of the respondents. Table 4.2.2 below stated the youngest age is between 18 - 20 years old, and the oldest group is above 24 although it is expected that most students finished their diploma by 21, there are several cases especially in Politeknik, students are of various age. As shown in below tabulation, the highest percentage of respondents is from the age of 21 - 23 years old, 55.3 percent (N=26), followed by age group of 18 - 20 years old, 32.0 percent (N=16), and the lowest is 24 years old and above, 10.6 percent (N=5). Hence, it can be seen that most of the respondents are between the age group of 21 - 23 years old.

Table 4.2.2: Age of Respondents

	Frequency	Percent
1 18 – 20 years old	16	34.0
2 21 – 23 years old	26	55.3
3 24 years old and above	5	10.6
Total	47	100.0

4.4 Descriptive Analysis

Descriptive analysis was carried out to achieve the research objectives based on the meanscores and standard deviations received from the respondents. In this section, the data from each of the elements will be further analyzed in form of descriptive data. The components are value and quality of food, food and beverage selections, and customer satisfactions. Perceptions on Politeknik Sultan Idris Shah's food service operation. The overview of the mean and standard deviations for all perception factor dimension elements was displayed in Tables 4.3.1, 4.3.2 and 4.4. There were 10 elements calculated as perceptions factor: Factor 1 (Value and quality of food), Factor 2 (Food and beverage selections).

4.4.1 Value and quality of food

Table 4.3.1 displays the seven value and quality of food elements. T7 scored the highest rating with the highest mean of 3.894, with a standard deviation of 0.983. The lowest mean was T2 where the mean was 3.127 with a standard deviation of 0.97. These results indicate that the majority of respondents appear to strongly agree with the statement of analyzed elements in items are reasonably priced. Therefore, price was important in order to achieve the level of satisfaction among students to improve their perceptions on PSIS's cafeterias.

*Note: N=47

Mean μ): Score (>3.01 – High, 2.01 to 3.00 – Neutral, <2.00 – Low) 5 Points Likert-Scale

Table 4.3.1: Descriptive Statistics of value and quality of food

Code	Items	Mean(μ)	Std. Deviation (σ)	Rank
T1	The food taste good	3.574468	0.827376	4
T2	The food is fresh	3.12766	0.969469	7
T3	The food is healthy	3.425532	0.80067	5
T4	Hot food is served at right temperature	3.340426	0.915485	6
T5	Cold food is served at right temperature	3.680851	0.836826	3
T6	The portion size is appropriate	3.851064	0.807	2
T7	Items are reasonably priced	3.893617	0.983208	1

4.4.2 Food and Beverage Selections

Table 4.3.2 displays the three food and beverage selections elements. T2 scored the highest rating with the highest mean of 4.149, with a standard deviation of 0.834. The lowest mean was T1 where the mean was 3.596 with a standard deviation of 0.97. These results indicate that the majority of respondents appear to strongly agree with the statement of analyzed elements in their adequate variety of lunch item. Therefore, based on the findings, there are less variety of breakfast items.

*Note: N=47

Mean μ): Score (>3.01 – High, 2.01 to 3.00 – Neutral, <2.00 – Low) 5 Points Likert-Scale

Table 4.3.2: Descriptive Statistics of food and beverage selections

Code	Items	Mean(μ)	Std. Deviation (σ)	Rank
T1	There is adequate variety of breakfast item	3.595745	0.970423	3
T2	There is adequate variety of lunch item	4.148936	0.833503	1
T3	There is adequate variety of dinner item	3.702128	0.930519	2

4.5 Customer Satisfactions

Table 4.4 displays the two customer satisfaction elements. T1 scored the highest rating with the highest mean of 3.68, with a standard deviation of 0.726. The lowest mean was T2 where the mean was 3.638 with a standard deviation of 0.764. These results indicate that the majority of respondents appear to rate their overall satisfaction with the component food value and quantity. Also, based on Figure 4.5.3, students mostly visit the cafeterias between 2 – 3 times daily which was affected by the overall satisfactions of the students

*Note: N=47

Mean μ): Score (>3.01 – High, 2.01 to 3.00 – Neutral, <2.00 – Low) 5 Points Likert-Scale

Table 4.4: Descriptive Statistics of customer satisfaction

Code	Items	Mean(μ)	Std. Deviation (σ)	Rank
T1	Rate your overall satisfaction with the food value and quality	3.680851	0.72551	1
T2	Rate your overall satisfaction with the food and beverage selections offered	3.638298	0.764015	2

The set of data and findings collected are of standard and precise. The total 47 respondents can easily understand the questions. The demographic data illustrated above found that many of the respondents that took part in answering the questionnaires are female, and group age between 21 – 23 years old. The

relationship between the components of value and quality of food, and food and beverage options with perceptions of students were evaluated in this chapter. Apart from that, item price value shown to be the utmost contribution in students' perceptions towards the element of value and quality of food. Hence, it is proved that students prefer value over the quality of food. While, as for the component of food and beverage selections, mostly agreed that lunch time offered the most variations compared to breakfast which was rated the least variation and dinner.

CONCLUSION

In conclusion, the analysis was done to obtain the factors contributing or affecting the level of satisfaction and perceptions towards on-campus food services operation among Politeknik Sultan Idris Shah's students. The results showed that the value for money and quality of food has the most positive effect towards students' perceptions towards on campus foodservice operator followed by the food and beverage selections. The dominant component that has solid relationship with the customer was value for money (portion size and price). Therefore, it is essential for on campus foodservice operators to continue offering good value for money and quality of food to maximize the level of satisfaction of customers. Furthermore, based on the results, the perception of students towards Politeknik Sultan Idris Shah cafeteria were found to be positive whereas mostly agreed that they were satisfied.

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TRANSFORMATION OF INTERNATIONAL SECURITY IN THE POST-GLOBAL PANDEMIC: PROJECTIONS FOR THE FUTURE

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ABSTRACT

International security entered a new process in the nineties with the effect of the change in the global systemic structure. what the threat was clear at that time. The instruments to eliminate the threat were also relatively clear. In the new process, it seems that clarity has been replaced by ambiguity. In the institutional context, what will be the mission and vision of organizations such as NATO in the new process? What should be the changing agenda of security at national and global scales? Especially with the wave of technological change and transformation, non-state actors, which show an upward trend, have changed the parameters of the security equation. This has produced priority confusion among reference objects and problems of who and what the threat is. It is important how the new systemic structure that is in the construction process will respond to this new developments. The main purpose of this study is to examine the effects of the global pandemic crisis on international security in the process of change and transformation. Within the framework of this main purpose, first of all, the effects of the pandemic process on international security are discussed. Secondly, the transformation of international security is examined in the context of actors. Finally, the future reflections of the international security transformation are discussed.

Keywords : Global Pandemic, International Security, Threat, Actor

Özet

Uluslararası güvenlik, doksanlı yıllarla birlikte, küresel sistemik yapının değişiminin de etkisiyle yeni bir sürece girmişti. Tehdidin ne olduğu, tehdidi bertaraf edecek enstrümanlar gibi ana sorunsallar görece netliğe sahipti. Yeni süreçte ise netliğin yerini, muğlaklık almış görünmektedir. Kurumsal bağlamda, NATO gibi örgütlerin yeni süreçteki misyon ve misyonun ne olacağı, ulusal ölçekte güvenliğin değişen gündemi gibi konular öne çıkmaktadır. Özellikle teknolojik değişim ve dönüşüm dalgasıyla birlikte yükseliş trendi sergileyen devlet dışı aktörler güvenlik denkleminin parametrelerini değiştirmiştir. Bu durum referans nesneleri arasında öncelik karmaşasını ve tehdidin kim ve ne olduğu sorunlarını üretmiştir. İnşa süreci içindeki yeni sistemik yapının bu yeni sürece nasıl bir cevap vereceği merak konusudur. Bu

çalışmanın temel amacı küresel pandemi krizinin değişim ve dönüşüm sürecindeki uluslararası güvenliğe etkilerini incelemektir. Bu temel amaç çerçevesinde, ilk olarak, pandemi sürecinin uluslararası güvenliğe etkileri ele alınmaktadır. İkinci olarak, uluslararası güvenliği dönüşümü aktörler bağlamında incelenmektedir. Son olarak, uluslararası güvenlik dönüşümünün geleceğe yansımaları tartışılmaktadır.

Anahtar Kelimeler: Küresel Pandemi, Uluslararası Güvenlik, Tehdit, Aktör

GİRİŞ

Küreselleşme olgusunun dünyayı nasıl etkilediği ve nereye sürükleyeceği tartışmalarının ortasında Covid-19 salgının patlak vermesi gidişatı farklı bir düzleme ve boyuta taşımıştır. Pandeminin ürettiği şok dalgasıyla “küreselleşmenin sonu mu ?” soruları ekseninde zihinsel egzersizler yapılmaya çalışılmıştır(Yıldızoğlu, 2021). Bu yeni gelişmeler, özellikle seksenli yıllarla birlikte değişim ve dönüşüm sürecine giren güvenlik çalışmalarına da sirayet etmiştir. Geleneksel dönemde, güvenliğin referans nesnesi hususunda genel çerçevede bir oydaşmanın olduğunun altı çizilebilir. Küreselleşme etkisi, teknolojik gelişim, kitle iletişim araçlarının yeni bir aşamaya geçmiş olması, devlet dışı aktörlerin yükselişi ve köklü transformasyonlar bu süreci hızlandırmıştır. Geleneksel dönemde “kimin güvenliği? sorusuna verilecek cevap görece netliği haizdi. Bugün bu soruya verilecek cevap tek konu ve aktör üzerinden cereyan etmemektedir. Pandemi süreci bu durumu daha da netleştirmiştir. Pandeminin patlak verdiği ilk anlarda gündemin baş köşesi ekonomik sonuçlara odaklıydı. Siber güvenlik, nefret suçları, iklim değişikliği gibi güvenlik konular ekonomik meselelerle karşılaştırıldığında daha az yer kaplamaktaydı(Gargard, 2021).

Küresel pandeminin etkisini göstermeye başlamasıyla, küresel düzlemde bir hazırlıksız hali ve şok halini gözler önüne sermiştir. Aciliyet arz eden bu döneme, soğukkanlı ve rasyonel bir cevap verilememiştir. Tıbbi alanda kendisini hissettiren sistemik kriz süreci içinde diğer sektör ve alanlara da yayılarak yeni bir güvenlik krizi üretmiştir. Ekonomik, sosyal, psikolojik ve güvenlik alanları da bu dalgadan etkilenmiştir. Karantina önlemleri çerçevesinde hemen hemen her alanda uygulanan kısıtlamalar küresel ekonomik sistemi etkilemiştir. Bireysel ölçekte ise bireyler psikolojik olarak negatif etkilenmişlerdir (Liddo, 2021). Negatif etkilerle ilgili yapılan değerlendirmeler bunun yıllarca devam edeceği yönündedir. Özellikle küresel tedarik zincirinin sektöre uğraması, gıda arzında yaşanan kritik aksaklıklar, fiyat artışı gibi gelişmeler ekonomik ve sosyo-politik alanlarda çözülmesi zor problemler ortaya çıkarmıştır. İstihdamda yaşanacak küçülme ve gıda güvensizliği gibi sonuçlar siyasi gerilim, şiddet ve çatışmayı tetikleyebilecek potansiyeller taşımaktadır (WEF, 2020). Bu çalışmanın temel amacı küresel pandemi krizinin değişim ve dönüşüm sürecindeki uluslararası güvenliğe etkilerini incelemektir. Bu temel amaç çerçevesinde, ilk olarak, pandemi sürecinin uluslararası güvenliğe etkileri ele alınmaktadır. İkinci olarak, uluslararası güvenliği dönüşümü aktörler bağlamında incelenmektedir. Son olarak, uluslararası güvenlik dönüşümünün geleceğe yansımaları tartışılmaktadır.

1. Kovid -19 Salgınının Uluslararası Güvenliğe Yansımaları

Kovid -19 küresel pandemisi, uluslararası güvenliği çeşitli açılardan etkilemiştir. Soğuk Savaş sürecinin iki kutuplu yapısından, çok kutuplu yapıya doğru geçilirken yaşanan bu kriz, küresel düzlemde yaşanan belirsizliği daha da derinleştirmiştir. Aynı zamanda, küreselleşme olgunun mahiyetini ve işlevinin sorgulanmasını daha da alevlendirmiştir (Yıldızoğlu, 2021). Bölgesel ölçekte yaklaşıldığıdaysa, Afrika, Latin Amerika, Avrupa Birliği gibi bölgelerin farklı bir cevap verme girişimlerini ortaya çıkarmıştır. Özellikle, krize hazırlıksız yakalanmış olan Avrupa ülkelerinin, krizi

karşılama biçimleri ve krize karşı alınan önlemlerin yetersizlikleri bölgesel ölçekli başarısızlıkları göstermesi bakımından önemlidir. Bir başka seviyede ise, devletlerin krize karşı gösterdikleri reaksiyonların yetersizliği ve şaşkınlığı yaşanmıştır. Bireysel ölçekte ise farklı bir psikolojik süreçle karşı karşıya kalma durumu gözlemlenmiştir. Sosyal ilişki biçimleri izolasyon yönünde bir eğilime doğru evrilmiştir. Tüm bu farklı analiz düzeylerinin etkilenme biçimleri göstermektedir ki pandemi krizi uluslararası güvenliği genel olarak negatif etkilemiştir. Bu durum sistemi tehdit eden aktörler üzerinden de test edilebilir.

Terör örgütleri veya terörizm bu tarz tehdit unsurlarıdır. Terörizm, küresel güvenliği ve istikrarı tehdit eden devlet dışı illegal aktörlerden biridir. Bu tehditle mücadele, Kovid -19 salgının başlamasından sonra kademeli bir şekilde etkisizleşmeye başlamıştır. Karantina önlemlerinin etkisiyle de terör örgütleri ve üyeleri bu süreçte faaliyetlerini online alana taşımışlardır. Finansal destek arayışları, üye kazanma, propaganda çabaları ve siber saldırılar öne çıkan faaliyet formu olmuştur. Devletlerin özellikle paralize olmuş sağlık sektörüne, önlemlere ve salgınla yaşanan can kayıplarına odaklanması terör örgütleri ve mensupları için adeta bir geçici hayat sahası etkisine neden olmuştur. Bir başka boyutuyla pandemi teröristlerin hareket etme biçimlerini değiştirmiştir (UN, 2021).

Pandemi sürecinin negatif yansımalarından biri, enformasyon düzleminde yaşanan savaş veya mücadeleyle ilintilidir. Pandeminin patlak vermesiyle birlikte adeta hapis hayatı yaşayan insanları, internet ve sosyal medya kullanımını en üst seviyelerde kullanıma teşvik etmiştir. Dezenformasyon, böyle kritik süreçlerde yükseliş trendi sergilemiştir. Virüsün, biyolojik bir savaşın laboratuvar ürünü olup olmaması, aşılardan uygun olup olmaması, virüsün siyasal ve bürokratik aktörlerce manipülasyon aracı olarak kullanıldığı gibi söylentilerin sanal dolaşıma girmesi, siyasal ve toplumsal güveni zedelemiştir. Aşı olup olmama konusunda toplumun ve kamuoyunu kutuplaşması, toplumsal güvenliği tehdit etmiştir. Bu durum aynı zamanda genel güvenlik sisteminin bir bileşenin nasıl etkilendiğini ve dönüştürdüğünü göstermesi bakımından önemlidir. Uluslararası güvenliğin dönüşümü bu küçük alt dönüşümlerden ayrı düşünülemez.

2. Uluslararası Güvenliğin Dönüşümü

Geleneksel dönemin güvenlik iklimini temsil eden Soğuk Savaş küresel düzlemde cereyan eden bir çatışma formuydu. Bu sürekli çatışma hali uluslararası sistemin aktörleri olan hemen hemen tüm ulus devletlerin maddi ve entelektüel açılardan kaynaklarını tüketmiştir (Smith, 2020, s.54) Soğuk Savaş sonrasında ise uluslararası güvenlik gündeminde belirgin dönüşümler yaşanmıştır. Bu dönüşümlerin uluslararası güvenlik çalışmalarına yansımaları olmuştur. Bu yansımalar iki ana eksenle incelenebilir. İlk olarak teorik düzlemde bir takım yeni eğilimler ön plana çıkmıştır. Liberalizm veya idealizmin çok boyutlu olarak yeniden yükselişe geçmesi göze çarpanlardır. Aynı zamanda, sosyal inşacılık, eleştirel güvenlik çalışmaları ve feminizm gibi kuramlar güçlenmeye başlamıştır. Araştırma konuları açısından ise geleneksel savaş ve silahlanma gibi konular aşılarda analiz seviyeleri üzerinden derinleşme ve genişleme yaşanmıştır. Sistemik, ulusal ve bireysel analiz düzeyleri üzerinden çok boyutlu bir yaklaşım sergilenmeye çalışılmıştır (Smith, 2020, s.61).

Pandemi sürecinin küresel, bölgesel ve ulusal düzlemlerde üretmiş olduğu ekonomik tahribatların siyasal, sosyolojik ve kültürel yansımaları olmuştur. Kovid-19 küresel pandemisi bir yönüyle küreselleşme olgusu üzerinden tartışılmışsa da diğer taraftan da ekonomik bakımdan detaylı ve çok boyutlu olarak incelenmeye çalışılmıştır. Ekonomi, geleneksel dönemde, güvenlikle içli dışı bir kavram olarak ele alınmazdı. Soğuk Savaş Sonrasında, yeni kuramsal anlayışların da etkisiyle güvenliğin bir unsuru veya bileşeni olarak değerlendirilmeye başlanmıştır. Bunda geleneksel güç algısı ve anlayışında yaşanan değişimlerin de payı bulunmaktadır. Güncel süreçte ekonomik gelişmişlik seviyesi, ülkelerin güç

seviyesi hakkında birtakım bilgiler vermektedir. Bu nedenle devletler arasındaki güç mücadelesi askeri ve siyasal alanlarla birlikte ekonomik cephelere de genişlemiştir. Siyasal karar vericiler bu noktada, güvenlik hedeflerine ulaşmak için stratejik ekonomik araçları kullanmaktadırlar (Shiffman, 2017, s.213) Yaptırımlar, ticari ilişkilerin gelişimi veya kesintisi, finansal seçenekler, ekonomik yardım gibi enstrümanlar dış politik alanda devletlerin güvenlik ihtiyacına paralel doğrultuda tercih edilen seçeneklerdir.

Salgının ekonomik etkileri ise en çok küresel ölçekte yaşanan çip kriziyle kendisini hissettirmiştir. Teknolojik gelişim, Endüstri 4.0, otomobil sektörünün dijitalleşmesi veya elektronikleşmesi, gündelik yaşamda kullanılan araçların akıllı özellikler taşıması gibi gelişmeler yarı iletkenler ve çip piyasasını stratejik bir ürüne veya silaha dönüştürmüştür. Kovid-19 salgının başlamasıyla azalan talep eğrisi, göreceli normalleşme ile birlikte yukarı doğru bir sıçrama yapmıştır. Piyasalar ve üretim merkezleri, bu ani talep patlamasına hazır olmadığı için dünya genelinde yarı iletken ve çip kıtlığı yaşanmıştır. Tedarik zincirlerinde yaşanan bu aksama küresel ölçekte bir kriz yaşanmasına neden olmuştur (Scott, 2022).

3. Geleceğe Yönelik Projeksiyonlar

Pandeminin patlak vermesi sonrasında genel olarak güvenlik zafiyetine neden olmuştur(Kurum, 2020). Küresel güvenlik sistemi ve onun bileşeni olan devletler bu sürece hazırlıksız yakalanmışlardır. Teknolojik gelişim hızı, küresel ısınma, iklim değişikliği, ekonomik çelişkiler, hızlı nüfus artışı, düzensiz göç akımı gibi pek çok gelişme gelecekte derin yapısal krizlerin yaşanacağını göstermektedir. Endüstri 4.0, dijitalleşme, sosyal medya devrimi gibi pek çok gelişme insanlığı çok ilerilere taşıyacakken, ekolojik dengesizleşme, zengin ve fakir ayrımının derinleşmesi, gıda krizleri, korumacılık refleksi gibi unsurlar geleceği belirsizleştirecek faktörler veya parametreler olacaktır. Dünyanın bu tür istikrarsızlaştırıcı tehditlere karşı cevabı geleneksel bir formda olmayacaktır. Klasik ulusal güvenlik odaklı refleksler, zindeliğini koruyacak olmasıyla birlikte, bölgesel ve küresel işbirliği ürünü ortak anlayışlar ve çözüm formları belirlemeye ve güçlenmeye başlayacaktır.

Bu bağlamda “kimin güvenliği?” gibi temel güvenlik sorularının cevabı esneklik, çeşitlilik ve derinlik kazanacaktır. Özellikle robotik alanda yaşanacak ilerlemeler, sosyo-ekonomik alanda pozitif ve negatif sonuçlara odaklı tartışmaları ve bloklaşmayı besleyecektir. Bu durum beraberinde, yeni bir kimlikselliği ve onun türevi gerilimleri üretecektir. Ticaret, sanat, bilim ve teknoloji bu süreçten çok boyutlu olarak etkileneyecektir. Gelecekte yaşanacak bu gelişmelerin nasıl bir küresel, bölgesel, ulusal ve ulus altı yapılar ortaya çıkaracağı henüz net değildir. İnsanlığın bu konulara ilgisi de yüksek bir seviyede değildir. Pandemi krizi üzerinden bir projeksiyon yapıldığıdaysa, gelecekte de tüm sistemi paralize edecek doğal krizlerin ve gelişmelerin olabileceği olasılığı görülmektedir. Bu negatif olasılıkların ortaya çıkmasını engelleyecek önlemlerin alınması için güçlü bir ortak iradenin olmayışı, geleceğe yönelik kötümserliği beslemektedir.

SONUÇ

Kovid-19 pandemi krizi, Soğuk Savaş sonrasında değişim ve dönüşüm süreci yaşayan uluslararası güvenlik sistemini pek çok bakımdan etkilemiştir. Özellikle küresel sistemin vazgeçilmez unsuru olan ulus devletlerin bu krize hazırlıksız yakalanması, krizin tahribat seviyesini artırmıştır. Gelişmiş ülkelerin bile krize karşı almış olduğu önlemlerin yetersiz kalmış olması, krizin yıkıcılığını ve zedeleyiciliğini göstermesi bakımından önemlidir. Terör örgütleri, bu süreci sanal alanda faaliyetlerini artırma fırsatı olarak değerlendirmişken, ekonomik alanda özellikle tedarik zincirlerinde yaşanmış olan aksamalarla ekonomik güvenlik alanında krizlerin yaşanmasına neden olmuştur. Piyasadaki arz ve talep dengesi pandeminin patlak vermesiyle büyük etkilere maruz kalmıştır. Bunun ekonomi-politik alana negatif

etkileri olmuştur. Devletlerin bu sürece hazırlıksız yakalanmaları, geleceğe yönelik önlem ve kapasite artırma girişimlerini güçlendirecektir. Geleceğe yönelik genel bir projeksiyon yapıldığında ise, pesimizmin, optimizme karşı daha güçlü olduğunun altı çizilebilir.

STUDY OF THE LOAD FACTOR ON THE EFFICIENCY OF AN HV/MV TRANSFORMER". CASE OF THE UNILU SUBSTATION

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ABSTRACT

The load factor is a ratio that exists between the electrical energy actually produced by a transformer over a given period and the energy it would have produced over a given period if it had operated at its nominal power during the same period. In principle, it is a time-dependent quantity, which follows the respective transformer power consumption depending on the transformer load. According to our analyzes on a UNILU post transformer, the load factor is average over the duration of the analysis, we calculated over a week (see the curve). And this average is calculated over the operating time (the moments of energy interruptions are not taken into account). Thus as a result obtained, depending on the load of each week.

Keywords : Factor, Charge, Yield, Transformer

INTRODUCTION

The transformer is a device in which the phenomena of electromagnetic induction are used without the intervention of a movement to transmit the power supplied to one of the windings, called the primary winding, to another winding called the secondary winding.

The transformation of a current system into several other alternating systems, of generally different voltage and intensities but of identical frequency.

The transformer being a capital element in the transport and distribution of electrical energy, we were interested in the load coefficient and its efficiency by entitling our subject: impact of the load factor on the efficiency of a HV / MV transformer case of the UNILU station.

To help operators better understand how efficiency varies with load factor, load factor is a function of load current and voltage.

At the end of our work, we will become an essential reference in the field of load factor on the efficiency of a transformer, because we have carried out our research on and abundant in the concerns of being able to achieve good results in order to achieve our pursued goals.

Our work is focused on the influence of load factor on the efficiency of a transformation which could be useful to the national electricity company and other sector using power transformations in order to know the load factor at each hour. load and to make a decision at any time whether to increase a load in order to operate the transformer at its maximum efficiency.

Having noted that the lack of load available in this station to better distribute power to subscribers according to their needs at the load is not stable, even also the performance of the transformer will experience a decline following this load instability ; while a transformer's mission is to lower or raise a voltage under the conditions of always having a good efficiency, while watching over the load factor. Given this observed difficulty, we are assigned the mission to ask ourselves a few questions in order to elucidate this nebulous situation:

- ✓ How to calculate the coefficient of loads per hour on a transformer?
- ✓ What is the variation of the load coefficient according to the yield?
- ✓ For how long the transformation reached its maximum yield during a day

For our work, we will use three methods, in this case the hermeneutic one which consists in analyzing, interpreting and giving the fruits of our research and this method will be useful to us in a first chapter, the second is the functionalist one consisting in observing the functioning of the transformer in the electrical energy transformer station and will be used in the second chapter and the third and last method is the experimental method which consists in observing and selecting the data necessary for our work, and the latter will be tested in the third chapter. And as a technique that we have taken is that of participant observation which consisted in transforming us into an agent of the SNEL during our internship period.

Our research was carried out in the commune of kampemba, precisely in an electrical energy transformation station called the UNILU station. Our investigation was spread over the period of this year 2022 from March to APRIL.

The specificity in this study is to plot the curves showing during different load hours of each day the variation of the load factor in relation to the efficiency of a power transformer. Our work is in the field of electrical energy transmission research.

II: PRESENTATION FROM UNILU POST

Introduction

This chapter is devoted to the presentation of the environment which is the subject of our work and we will begin by presenting the SNEL of Lubumbashi, then the presentation of the substation, the HV/MV distribution of the city of Lubumbashi, the installed power, the diagram substation power supply, substation operation, busbar configuration, current peak, so we will drop by the conclusion of the chapter.

II.2. Presentation de la SNEL/ Katanga

II .2.2. Objectifs de la FAST

Following the commissioning of this State establishment, the latter therefore had to ensure the production, transport and distribution of electrical energy at the lowest cost, like regideso and six other commercial companies. private companies existing and for following the same corporate purpose; then ensure direct control of strategic resources for the country's economic and social development.

II.2.3. Legal status

SNEL as predicted, is a public law establishment of an industrial and commercial nature, created by Ordinance No. 73/033 of May 16, 1970.

Indeed, anxious to meet the energy needs of the country, the public powers, by presidential ordinance n°67-391 of September 23, 1967, instituted the committee of technical and financial control for the works of Inga which committee will be replaced in 1970 by SNEL.

However, this public electricity service is entrusted to SNEL, set up in the form of a State company, and governed by the framework law on public companies and Ordinance No. 78/196 of May 5, 1978 approving its statutes, under the technical futility of the energy ministry and the administrative and financial futility being handled by the portfolio ministry.

II.2.4. Location and geographical situation

The national electricity company "SNEL" in acronym is located west of the city of Kinshasa, capital of the DRC, in the commune of Gombe, on the avenue de la justice n ° 3281 at the crossroads of the avenues justices and Batetela, right in the administrative center. Indeed, it is one of the largest public companies in Central Africa where its services are located throughout the national territory, in order to better and better play its role as the backbone of the Congolese economy.

The UNILU substation was built in 1973 and put into service in 1974 with the aim of supplying the various cabins of the university halls of residence, the Kassapa prison, the Kassapa pumping station, the Gambela district and the pumping relay station of Kassapa. It is powered by the old Gécamines RS splitter through a 50kV line.

(FAST ; 2021).

II.3.1. Geographical locations

The UNILU substation is located northeast of the city of Lubumbashi on the extension of boulevard M^osiri going towards LUANO airport, 100m from the TEXACO bus stop.



Figure 1. Geographical location of the UNILU post (Google Earth, 2021)

II.4. Post description

The UNILU substation is powered by the old Gécamines RS distributor at 50kV as shown in Figure 2.2 by a 20km overhead line. It supplies different cabins with 15kV HTB in the Gambela district, the university residences, the Kassapa relay station, the Kassapa pumping station, the Kassapa prison and the Moise district. (BCC SNEL, 2021) as shown in the following figure:

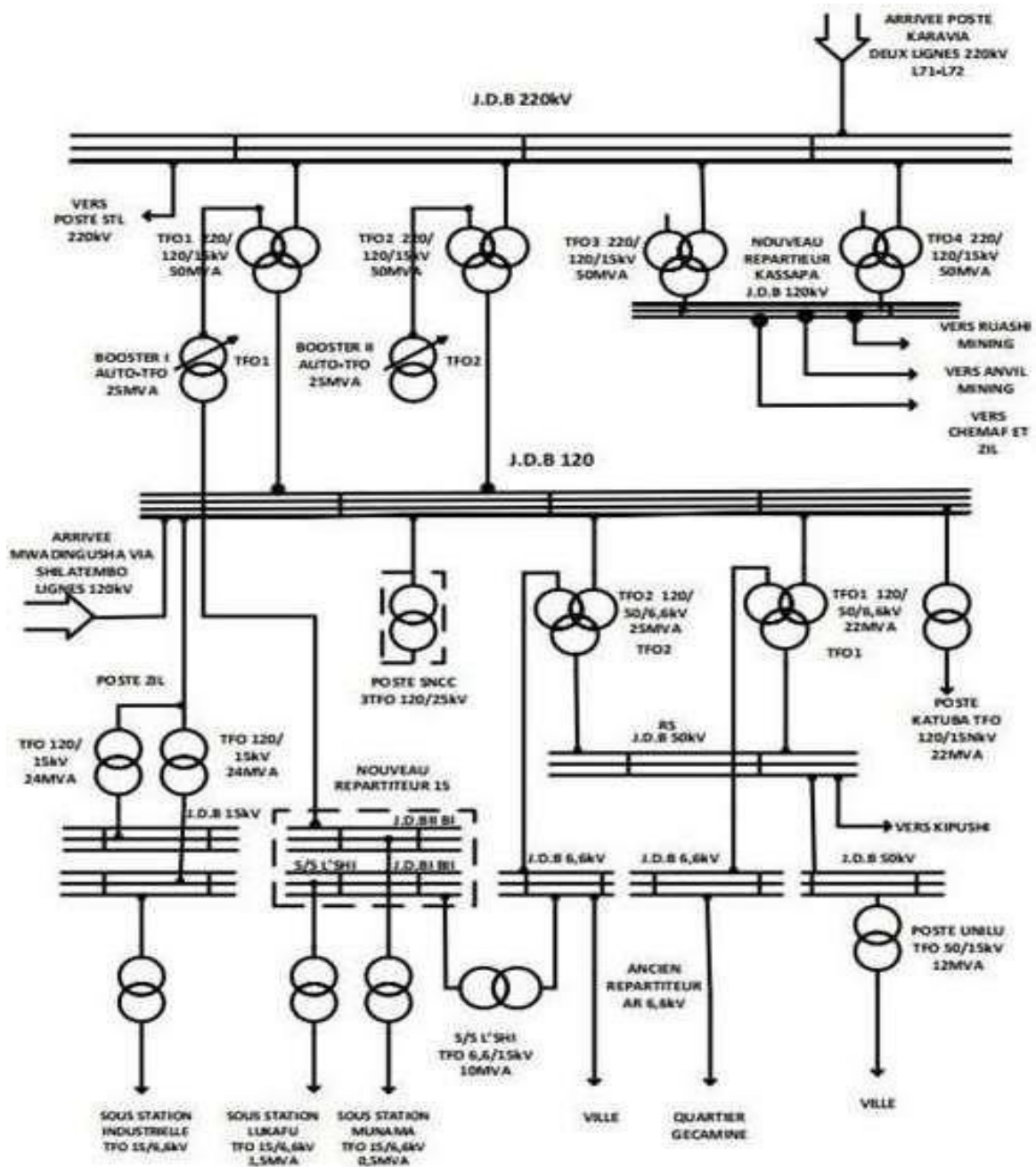


Figure 2. Distribution HT/MT de la ville de Lubumbashi (FAST, 2021)

The city of Lubumbashi is supplied by 4 HV lines, 3 of which come from SCK at 220kV and one comes from Mwadingusha at 120kV. The 220kV voltage arrives on the 220kV busbars of the KARAVIA substation. This supplies 220kV to the NR15 Kasapa station, the RS station and the STL station. Then it lowers the voltage to 120kV and 15kV. In 120V it supplies the DCS station and the NR15 station and in 15kV it supplies some cabins.

- The NR15 Kasapa substation steps down to 120V and supplies the companies RUASHI MINING, CHEMAF, MMG and the ZIL substation.
- The ZIL substation transforms the voltage from 120kV to 15kV and supplies the industrial substation and some cabins.

- The DCS substation transforms the 120kV voltage into 25kV to supply the catenary line.
- The RS substation supplies 120 kV to the Katuba substation on the line that goes to Kipushi and lowers the voltage from 120kV to 50kV which goes to Kipushi and to the UNILU substation, and to 6.6kV which supplies the Lubumbashi substation and some cabins in the center -city and the Gécamines district.
- The KATUBA substation transforms the voltage from 120kV to 15kV to supply certain cabins.
- The NR15 substation transforms the 120kV voltage into 15kV to supply the LUKAFU and MUNAMA substations and supplies other cabins with 15kV.

The second voltage of 120kV from Mwadingusha supplies the RS substation busbars.

II.5. Installed power of the substation

It was started with a 12.5MVA transformer with characteristics indicated in table II.1.

Table II.1: Characteristics of the substation power transformer (SNEL, 2021).

Nominal power	10-12,5 MVA
Transformer cooling	ONAN-ONOFF
Year of manufacture	1973 CEI
Winding coupling	Dy11
Ucc	8.6-8.13-7.72%
Insulation class	72.5/24
phase name	3
Primary and secondary voltage	50 kV/15 Kv

The transformer is protected on the primary and secondary side by circuit breakers using oil to extinguish the arc and is controlled by the Argus type relay and voltage and current reducers whose characteristics are described in table 3 Table 1 characteristics of the circuit breaker

HV circuit breakers	
Tensions nominal	75.5 KV
Permissible overdensity	15 KA
breaking capacity	1500 MVA
Closing power	37.5 KA max
Impulse voltages	325 kV peak
Nominal current	1250 A

II.6. Operation of the UNILU HT / MT post

The transformer is supplied by a voltage of 50 kV said primary side is said secondary side by a voltage of 15 KV; as well as a current of 150 A called primary rating as well as 450 A at the secondary (so we can say that it is a lower voltage transformer with current booster) the power of the transformer is 10 to 12.5 MVA. They also have an auxiliary power transformer of 75 MW allowing to carry out the various works on the station as well as to overload the batteries, so that the battery injects direct current to the circuit breaker; it should be noted that each feeder is protected by its own circuit breaker powered by direct current 110 DC (SNEL 2021)

II.6.1. Supply Mode

The UNILU substation has a single transformer shown in Figure 0.4 and is powered by a single 50kV line from the RS substation. The disadvantage of having only one line as shown in the first chapter is that the network will not be much more reliable because on the line there can be a breakdown and this will put out of tension all the network of the station. As shown in the following figure:



Figure 3. Unilu substation power transformer

II.9.2. Protective equipment in the post

The equipment that allows us to protect UNILU substation electrical installations are:

- And TI
- And TP
- The disconnecter
- The lightning arrester
- circuit breakers
- The protection relay

II.6.2.1. Lightning arresters and lightning conductors

The surge arrester protects the internal equipment of an electrical substation such as the transformers, conductors and other HV equipment against overvoltages of internal origin (switching) or of external origin (lightning). Its principle is to level the shock wave by causing the overcurrent to flow to ground and to limit the overvoltage on the network. The location of surge arresters in the electrical network plays an important role in the coordination of insulation. They are preferably positioned at the terminals of the transformers, and at the arrival of the high voltage lines. The lightning conductor, on the other hand, protects the entire structure of the substation against lightning.

II.6.2.2. the disconnecter

Disconnectors are devices intended to open or close an off-load electrical circuit, have no breaking capacity, they only allow a circuit to be opened in the absence of any current, The main function of a high voltage disconnecter is to be able to separate an element of an electrical network (high voltage line, transformer, portion of electrical substation, etc.) in order to allow an operator to carry out a maintenance operation on this element without risk of electric shock.

II.6.2.3. circuit breakers

A circuit breaker is intended to make, carry and break currents under its rated voltage. It allows the opening and closing of circuits in normal operation and the interruption of the fault current that may occur in the network. It consists of an interrupting chamber and a mechanical spring or motorized control. The energy stored in the actuator spring is released on command to separate the contacts. The arc between the contacts is extinguished by spraying oil under pressure or by SF₆ gas.

II.6.2.4. The protective relay

It is a device receiving information or electrical quantities from voltage or current converters and is intended to control cut-off, signaling or automation devices. The technologies used in relays have evolved from electromechanical technology to static technology (analog electronics) and then digital technology.

II.7. Current peak

It should be noted that since the establishment of the UNILU substation until today, the power has increased following the demand for electrical energy which is increasing each year.

II.7.1. Feeder UNILU et METALEC

The UNILU feeder has been reinforced by the METALEC feeder in order to reinforce the power of the cabins in the Gambela district, university residences and the Moise district. They are therefore coupled in parallel in the substation on the 15kV busbar. The table below shows the cabins they supply.

Table 2. Cabin powered by UNILU AND METALEC feeders (SNEL 2021)

Applied Science		Comedy	500 kVA
Moulin d'or	250 Kva	Unilu homes	30 kVA
Mulilla	500 Kva	Unilu household	75 kVA
Unilu restaurant	3×400 Kva	Unilu is celibate	50 kVA
Ecole Kassapa	315 Kva	laundry room	500 kVA
Prison Kassapa	400 kVA	Bonne do you think	500 kVA
Camp police	250 kVA	Fraternity	315 kVA
Kassapa pumping	1000 kVA	Isthmus	250 kVA
Mel's	630 kVA	Chaplaincy 1	630 kVA
olive trees	450 kVA	Chaplaincy 2	400 kVA
In the past	500 kVA	Kasangulu	400 kVA
Pluena	500 kVA	Magistrate Alain	100 KVA

(all its data comes from the SNEL of Lubumbashi according to their consumption per cabin. kVA: kilovolt ampere)

II.7.2. Feeder SECRET

The MSIRI feeder feeds some cabins all around Boulevard Msiri to the vicinity of Carrefour. Table 5 shows the different cabins it supplies. Table 3 cabin powered by M'SIRI feeders (SNEL 2021)

Prestige	750 kVA	Inpp service	250 KVA
Inpp	250 kVA	Solar power	160 Kva
Didier is a song	160 kVA	Gambela	1000 kVA
Luvlungi	250 kVA	Manoah	400 kVA
Redjaf	250 Kva	Transmissions	500 kVA

II.7.3. Feeder GUEST HOUSE

The Guest House feeders feed some cabins all around the Guest House.

Table II.5. Cabin powered by Guest House feeders (SNEL 2021).

G home	630/400 kVA	Try 2	630 kVA
Transmissions	500 kVA	Regideso Relay	630 kVA
Killed 1	500 kVA	Magistrate Jimmy	100 kVA

II.8. CONCLUSION

In this point we have given an idea of the entire constitution of the UNILU substation without forgetting the history of SNEL, the observation made is that the power of the MV network that this substation supplies has practically doubled which leads to the load shedding of the cabins and very often to untimely cuts of the main circuit breaker of the power transformer and that the configuration of the busbars and mode of supply are not at all favourable, the solution of which will be provided in the following chapter.

III: STUDY OF THE VARIATIONS OF LOAD COEFFICIENTS ACCORDING TO YIELD

III.2. Calculation of maximum yield and load coefficient

We have a maximum load coefficient, when the iron losses are equal to the joule losses

$$P_o = k Ch^2_{max} \times P_{cc} \quad (6)$$

$$kch^2_{max} = \frac{P_o}{P_{cc}} \quad (7)$$

$$kch_{max} = \sqrt{\frac{P_o}{P_{cc}}} \quad (8)$$

To find the maximum yields we must first calculate the average yields of the week morning, noon and evening

III.2.1. THE MORNİNG PERFORMANCE

$$\text{Monday } \eta = \frac{5.5}{11.6} \times 100 = 41,4\%$$

$$\text{Tuesday } \eta = \frac{6.7}{11,6} \times 100 = 57.7\%$$

$$\text{Mecredi } \eta = \frac{6,6}{11,6} \times 100 = 56.8\%$$

$$\text{Thursday } \eta = \frac{7,3}{11,6} \times 100 = 62.9\%$$

$$\text{Friday } \eta = \frac{7,4}{11,6} \times 100 = 63,7\%$$

$$\text{Saturday } \eta = \frac{7,1}{11,6} \times 100 = 61,2\%$$

$$\text{Sunday } \eta = \frac{7,1}{11,6} \times 100 = 61,2\%$$

III.2.2. THE MIDDAY PERFORMANCE

$$\text{Monday } \eta = \frac{7,6}{11,6} \times 100 = 65,5\%$$

$$\text{Tuesday } \eta = \frac{6,1}{11,6} \times 100 = 52,5\%$$

$$\text{Wednesday } \eta = \frac{7,8}{11,6} \times 100 = 67,2\%$$

$$\text{Thursday } \eta = \frac{6,9}{11,6} \times 100 = 59,4\%$$

$$\text{Friday } \eta = \frac{6,7}{11,6} \times 100 = 57,7\%$$

$$\text{Saturday } \eta = \frac{8,6}{11,6} \times 100 = 74,1\%$$

$$\text{Sunday } \eta = \frac{8,1}{11,6} \times 100 = 69,8\%$$

III.2.3. EVENING PERFORMANCE

$$\text{Monday } \eta = \frac{7,6}{11,6} \times 100 = 65,5\%$$

$$\text{Tuesday } \eta = \frac{6,1}{11,6} \times 100 = 52,5\%$$

$$\text{Wednesday } \eta = \frac{8,4}{11,6} \times 100 = 72,4\%$$

$$\text{Thursday } \eta = \frac{7,7}{11,6} \times 100 = 66,3\%$$

$$\text{Friday } \eta = \frac{7,5}{11,6} \times 100 = 64,6\%$$

$$\text{Saturday } \eta = \frac{7,6}{11,6} \times 100 = 65,5\%$$

$$\text{Sunday } \eta = \frac{8,2}{11,6} \times 100 = 70,6\%$$

III.3. The maximum yield

To determine the maximum efficiency of each peak hour (morning, noon and evening) we will take the maximum secondary power, that means we will take in each peak the high secondary power value divided by the primary power (see the UNILU cabin table and METALEC).

❖ morning

$$\eta_{max} = \frac{7,4}{11,6} \times 100 = 63,79\%$$

❖ midi

$$\eta_{max} = \frac{8,6}{11,6 \times 100} = 74.13\%$$

❖ evening

$$\eta_{max} = \frac{8,2}{11,6 \times 100} = 70 ; 69\%$$

III.3. The average maximum yield of the week

To find the oldest η max for the week, we add the three yields morning, noon and evening, divide by 3.

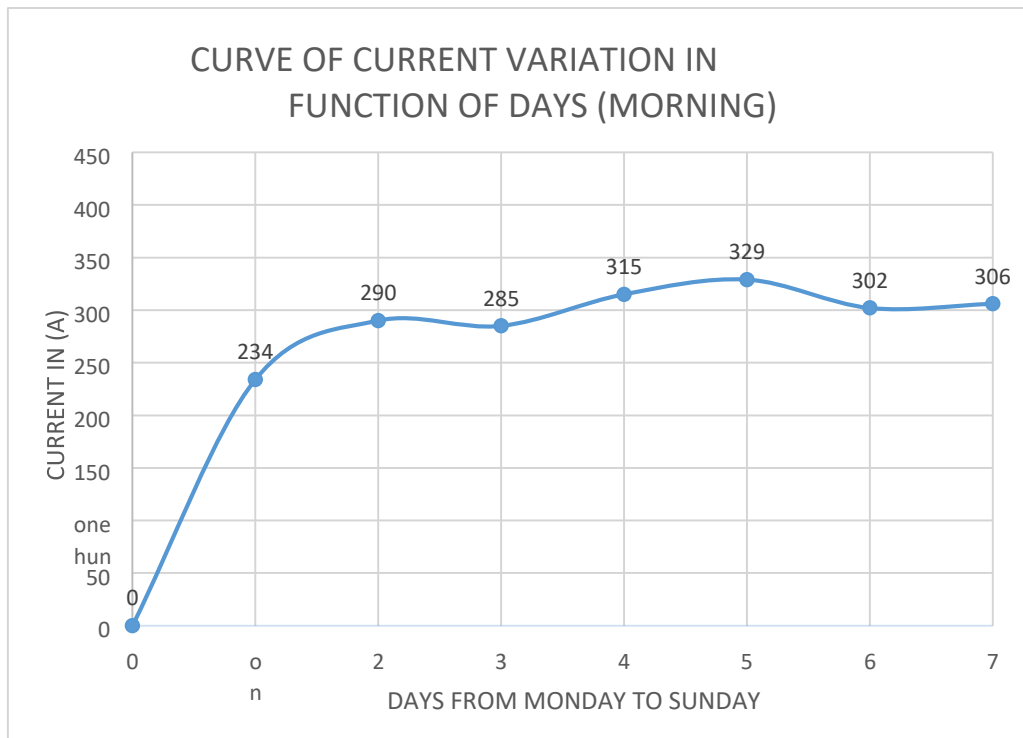
$$= \frac{63,79 + 74,13 + 70,69}{3} = 69,50\%$$

III.4. Variations in the weekly load factor as a function of performance

PictureIII. 1: Morning peak reading tables (08:00)

Day	IN	I	S	Pnon	Kch	Pcc	P2	P1	η
Monday	15kV	234A	3,5kVA	12.5MW	3.1	8.92	5,5MW	11,6MW	47.4%
tuesday	15kV	290A	4.3kVA	12.5MW	3.2	8.92	6,7MW	11,6MW	57.7%
mecred	15kV	285A	4.2 kVA	12.5MW	2.9	8.92	6,6MW	11,6MW	56.8%
Thursday	15kV	315A	4.7kVA	12.5MW	2.9	8.92	7, 3MW	11,6MW	62.9%
Friday	15kV	329A	4.9kVA	12.5MW	3.2	8.92	7,4MW	11,6MW	63.7%
Saturday	15kV	302A	4,5kVA	12.5MW	2.9	8.92	7.1MW	11,6MW	61.2%
sunday	15kV	306A	4,5kVA	12.5MW	2.9	8.92	7.1MW	11,6MW	61.2%

(all its values were taken in the morning at 8:00 a.m. from SNEL in the UNILU station during the operation of the transformer)



We see a strong current inrush on Friday (the number 5 represents Friday on this curve) and a weak current on Monday and this curve follows the shape of the variation of the current each day according to the load that the transformer supports.

Table 4. Noon peak reading tables (12:00 p.m.)

day	IN	I	S	Pnom	Kch	Pcc	P2	P1	η
Monday	15kV	327A	4.9kVA	12.5MW	3.1	8.92	7,6MW	11,6MW	65.5%
tuesday	15kV	262A	3.9kVA	12.5MW	3.2	8.92	6.1MW	11,6MW	52.5%
Wednesday	15kV	335A	5kVA	12.5MW	2.9	8.92	7,8MW	11,6MW	67.2%
Thursday	15kV	295A	4.4kVA	12.5MW	2.9	8.92	6,9MW	11,6MW	59.4%
Friday	15kV	286A	4.2 kVA	12.5MW	3.2	8.92	6,7MW	11,6MW	57.7%
Saturday	15kV	370A	5,5kVA	12.5MW	2.9	8.92	8,6MW	11,6MW	74.1%
sunday	15kV	347A	5.2 kVA	12.5MW	2.9	8.92	8.1MW	11,6MW	69.9%

U : the voltage in volts

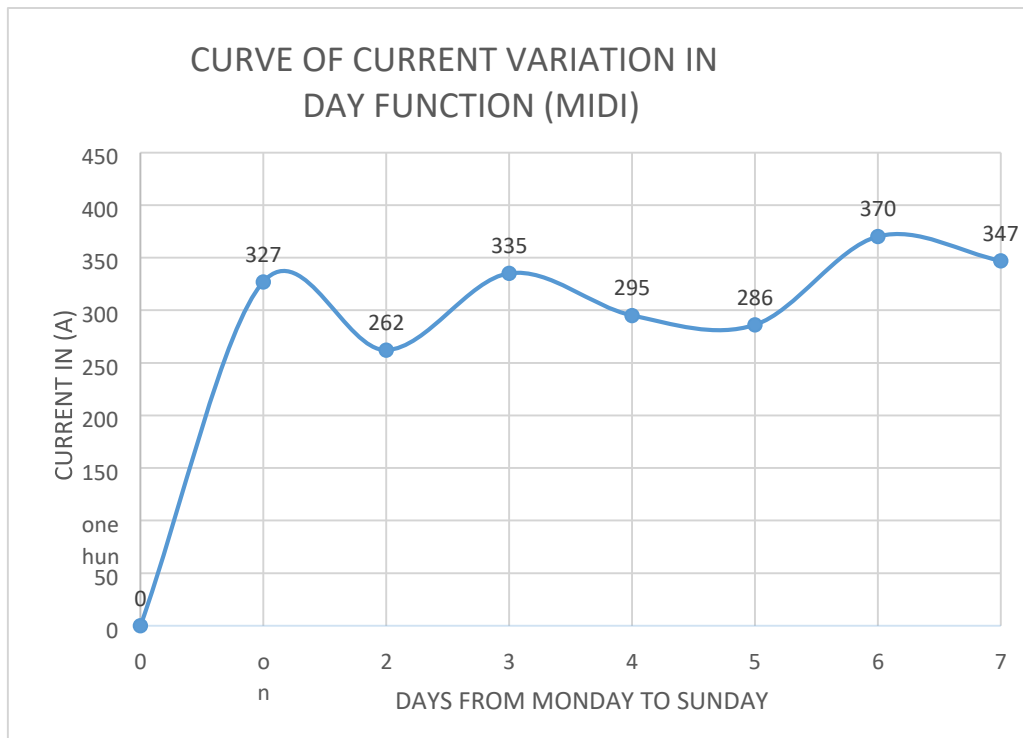
I: the current in ampere

S: the apparent power in kilovolt amperes

Pnom: rated power in megawatts

Kch: load factor

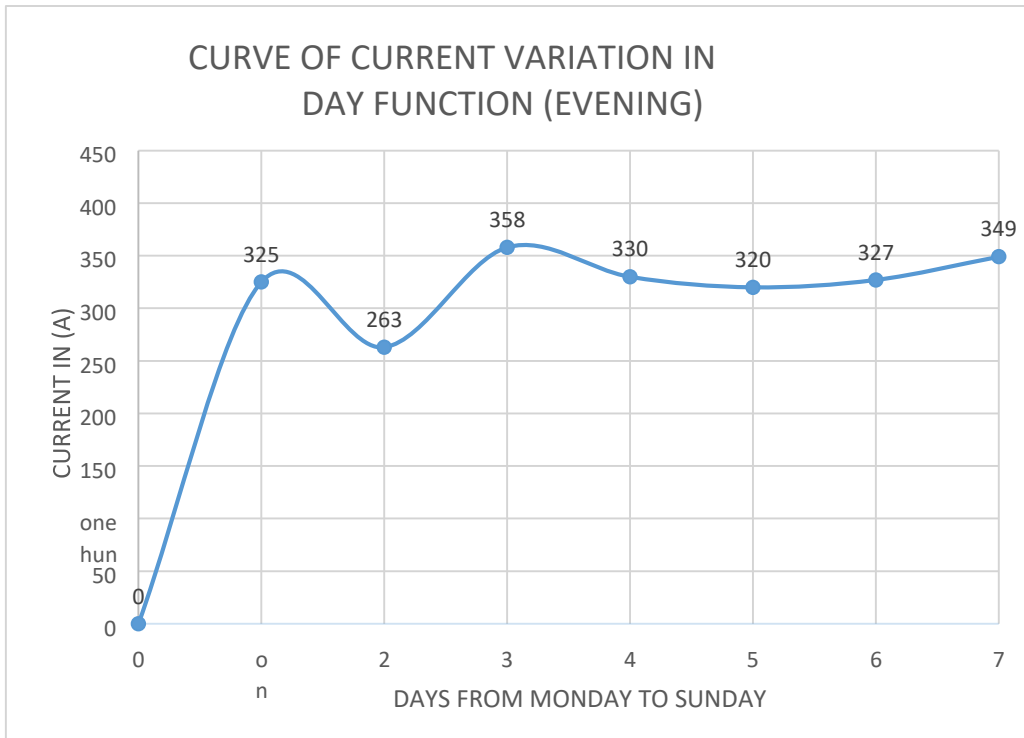
η : yield in percentage



We see a strong current inrush on Saturday (6 represents Saturday on this curve) and a weak current inrush on Tuesday (2 represents Tuesday on this curve).

Table 5. Evening peak reading tables (6:00 p.m.)

day	IN	I	S	Pnon	Kch	Pcc	P2	P1	η
Monday	15kV	325A	4,8kVA	12.5MW	3.1	8.92	7,6MW	11,6MW	65.5%
tuesday	15kV	263A	3.9kVA	12.5MW	3.2	8.92	6.1MW	11,6MW	52.5%
Wednesday	15kV	358A	5.3kVA	12.5MW	2.9	8.92	8,4MW	11,6MW	72.4%
Thursday	15kV	330A	4.9kVA	12.5MW	2.9	8.92	7,7MW	11,6MW	66.3%
Friday	15kV	320A	4,8kVA	12.5MW	3.1	8.92	7.5MW	11,6MW	64.6%
Saturday	15kV	327A	4.9kVA	12.5MW	2.9	8.92	7,6MW	11,6MW	65.5%
sunday	15kV	349A	5.2 kVA	12.5MW	2.9	8.92	8,2MW	11,6MW	70.6%



We see a strong inrush current on Wednesday (the number 3 represents Wednesday on this curve) and a weak current on Tuesday (the number 2 represents Tuesday on this curve)

III.5. The different calculations

III.5.1. max power of the week

$$\text{Monday } P_2 = \frac{5,5+7,6+7,6}{3} = 6,9 \text{ MW}$$

$$\text{Tuesday } P_2 = \frac{6,6+7,8+8,4}{3} = 6,3 \text{ MW}$$

$$\text{Wednesday } P_2 = \frac{6,6+7,8+8,4}{3} = 7,6 \text{ MW}$$

$$\text{Thursday } P_2 = \frac{7,3+6,9+7,7}{3} = 7,3 \text{ MW}$$

$$\text{Friday } P_2 = \frac{7,4+6,7+7,5}{3} = 7,2 \text{ MW}$$

$$\text{Saturday } P_2 = \frac{7,1+8,6+7,6}{3} = 7,7 \text{ MW}$$

$$\text{Sunday } P_2 = \frac{7,1+8,1+8,2}{3} = 7,8 \text{ MW}$$

III.5.2. The maximum yield of the week

$$\text{Monday } \eta = \frac{41,4+65,5+65,5}{3} = 57,4 \%$$

$$\text{Tuesday } \eta = \frac{57.7+52.5+52.5}{3} = 54.2\%$$

$$\text{Wednesday } \eta = \frac{56.8+68.1+72.4}{3} = 65.7\%$$

$$\text{Thursday } \eta = \frac{62.9+59.4+66.3}{3} = 62.8\%$$

$$\text{Friday } \eta = \frac{63.7+57.7+64.6}{3} = 62\% \text{ Saturday}$$

$$\eta = \frac{61.2+74.1+65.5}{3} = 66.9\%$$

$$\text{Sunday } \eta = \frac{61.2+69.8+70.6}{3} = 67.2\%$$

III.5.3. The maximum current of the week

$$\text{Monday } I_{max} = \frac{327+234+325}{3} = 295A$$

$$\text{Tuesday } I_{max} = \frac{262+290+263}{3} = 271A$$

$$\text{Wednesday } I_{max} = \frac{335+285+358}{3} = 326A$$

$$\text{Thursday } I_{max} = \frac{295+315+330}{3} = 313A$$

$$\text{Friday } I_{max} = \frac{286+329+320}{3} =$$

$$307A \text{ Saturday } I_{max} = \frac{370+302+327}{3} =$$

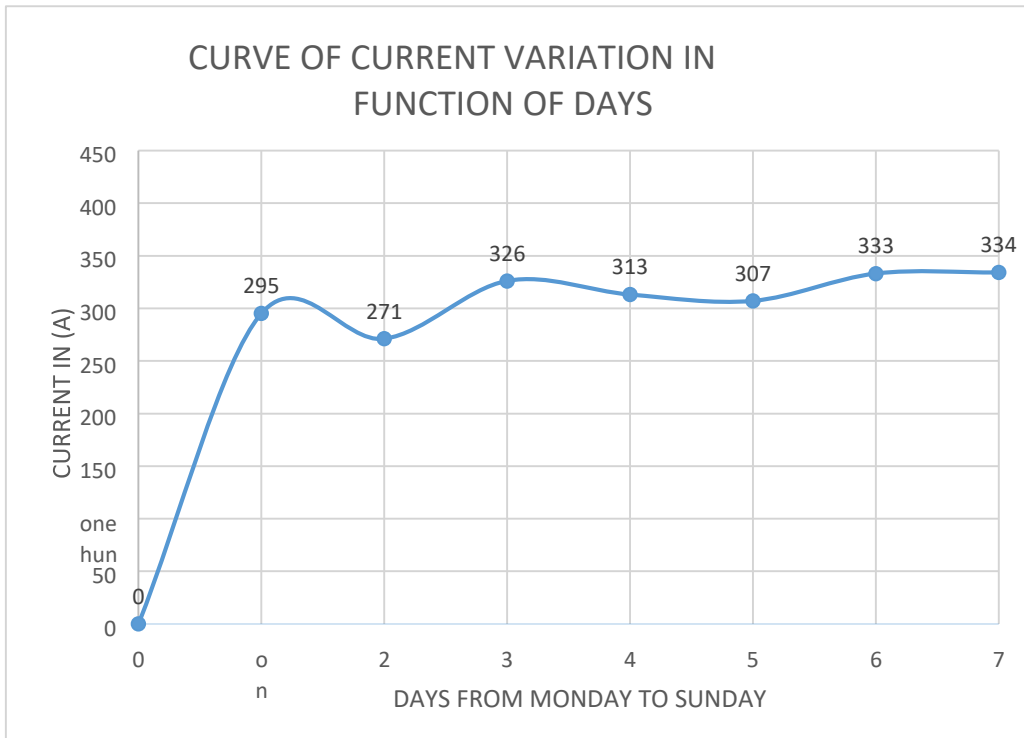
$$333A \text{ dimanche } I_{max} = \frac{347+306+349}{3} =$$

334A

Table 6. Table of peak survey sets (morning, noon and evening)

Day	IN	I	S	Pnon	Kch	Pcc	P2	P1	η
Monday	15kV	295A	4.4kVA	12.5MW	3.1	8.92	6,9MW	11,6MW	59.4%
tuesday	15kV	271A	4kVA	12.5MW	3.2	8.92	6,3MW	11,6MW	54.3%
Wednesday	15kV	326A	4,8kVA	12.5MW	2.9	8.92	7,6MW	11,6MW	65.5%
Thursday	15kV	313A	4.6kVA	12.5MW	2.9	8.92	7,3MW	11,6MW	62.9%
Friday	15kV	307A	4.6kVA	12.5MW	3.1	8.92	7,2MW	11,6MW	62%
Saturday	15kV	333A	4.9kVA	12.5MW	2.9	8.92	7,7MW	11,6MW	66.3%

sunday	15kV	334A	5kVA	12.5MW	2.9	8.02	7,8MW	11,6MW	67.2%
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We see a strong current draw on Sunday (the number 7 represents Sunday on this curve) and a weak current draw on Tuesday

III.6. determining the joule loss value

$$PJ = R2 \times I (9)$$

III.6.1. resistance value calculation

$$\text{Monday } R = \frac{15000}{295} = 50,8 \Omega$$

$$\text{Mardi } R = \frac{15000}{271} = 55.3 \Omega$$

$$\text{Mecredi } R = \frac{15000}{326} = 46 \Omega$$

$$\text{Thursday } R = \frac{15000}{313} = 47.9 \Omega$$

$$\text{Friday } R = \frac{15000}{307} = 48.8 \Omega$$

$$\text{Saturday } R = \frac{15000}{333} = 45 \Omega$$

$$\text{Sunday } R = \frac{15000}{334} = 44.9 \Omega$$

III.6.2. calculation of joule loss value Monday Pj
= $(58.8)^2 \times 295 = 761.2 \text{ W}$

$$\text{Mardi PJ} = (55,3)^2 \times 271 = 828,7\text{W}$$

$$\text{Mecredi PJ} = (46)^2 \times 326 = 689,8\text{W}$$

$$\text{Thursday PJ} = (47.9)^2 \times 313 = 704.3 \text{ W}$$

$$\text{Friday PJ} = (48.8)^2 \times 307 = 731.1 \text{ W}$$

$$\text{Saturday PJ} = (45)^2 \times 333 = 674.3\text{W}$$

$$\text{Sunday PJ} = (44.9)^2 \times 334 = 673.3\text{W}$$

III.6.3. calculation of load coefficient values

$$\text{Monday Kch max} = \sqrt{\frac{761,2}{8,92}} = 3, 1$$

$$\text{Mardi Kch max} = \sqrt{\frac{828,7}{8,92}} = 3, 2$$

$$\text{Wednesday Kch max} = \sqrt{\frac{689,8}{8,92}} = 2, 9$$

$$\text{Thursday Kch max} = \sqrt{\frac{704,3}{8,92}} = 2,9$$

$$\text{Friday Kch max} = \sqrt{\frac{731,1}{8,92}} = 3,1$$

$$\text{Samedi Kch max} = \sqrt{\frac{674,3}{8,92}} = 2,9$$

$$\text{Sunday Kch max} = \sqrt{\frac{673,3}{8,92}} = 2,9$$

III.7. Efficiency study taking into account the different load coefficients

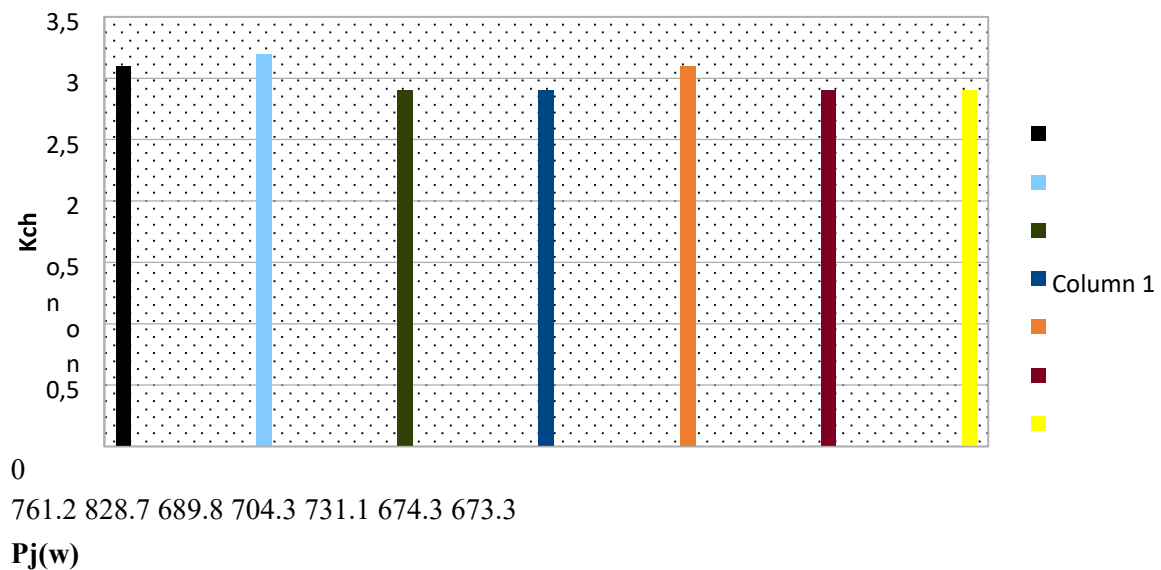
Table 7. Calculation table of different load coefficient and efficiency

S	Kch	so	pcc	Kch pcc	P2	P1	η
4.4kVA	3.1	0.8	8.92	27.6	6,9MW	11.6MW	59.4%
4,1kVA	3.2	0.8	8.92	28.5	6,3MW	11.6MW	54.3%
4,8kVA	2.9	0.8	8.92	25.8	7,6MW	11.6MW	65.5%
4.6kVA	2.9	0.8	8.92	25.8	7,3MW	11.6MW	62.9%
4.6kVA	3.1	0.8	8.92	27.6	7,2MW	11.6MW	62%
4.9kVA	2.9	0.8	8.92	25.8	7,7MW	11.6MW	66.3%
5kVA	2.9	0.8	8.92	25.8	7,8MW	11.6MW	67.2%

III.7.1. Curve of the Joule loss variation as a function of Load coefficient

We note that the load coefficients vary with the joule losses, this by the fact that the joule losses depend on the load current so the more the load coefficient increases the more the transformer heats up and becomes more and more dangerous.

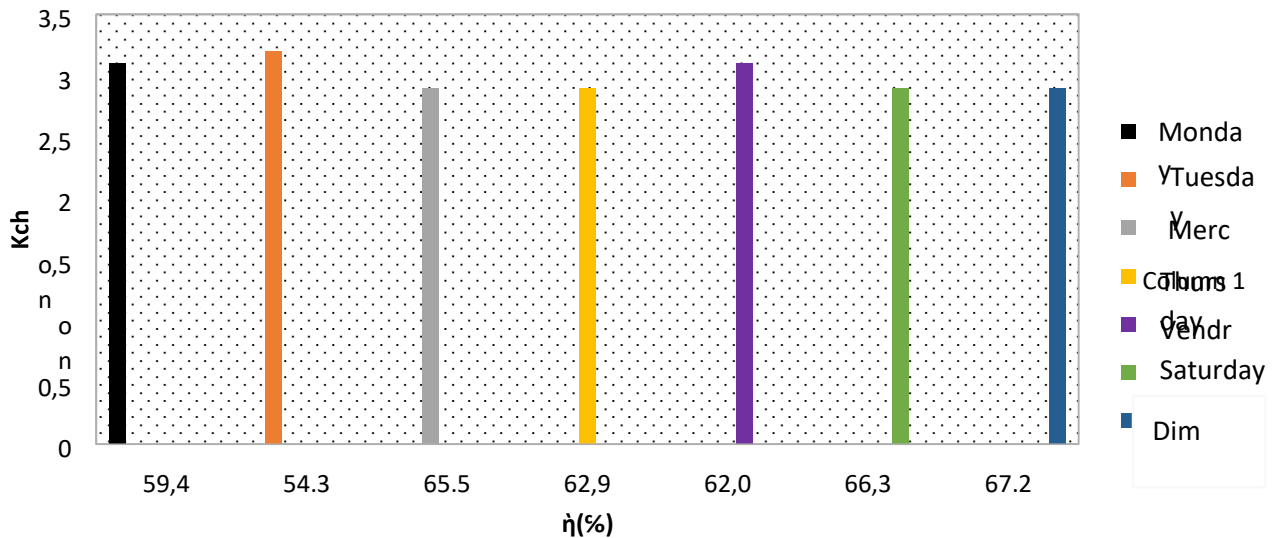
HISTOGRAM OF VARIATION OF COEFFICIENT OF LOAD ACCORDING TO JOULE POWER



III.7.2. Load coefficient curve as a function of efficiency

The maximum yields are reached on Monday, Tuesday, and Friday, this indicates a good exploitation of the transformer during these days compared to the others.

HISTOGRAM OF LOAD COEFFICIENT VARIATIONS AS A FUNCTION OF PERFORMANCE



We find that the more the load coefficient no longer increases and the efficiency decreases.

So when it increases to what point max after it decreases despite the increase in the load factor. So the efficiency of the transformer becomes zero when the maximum efficiency is exceeded.

GENERAL CONCLUSION

The transformers are entirely static electric machines, this absence of movement is elsewhere at the origin of their excellent efficiency as we have seen in this work or beyond 95%, their use is essential for the transport of electrical energy or it is preferred to carry volts rather than amps.

They raise the voltage between the source (alternators supplying 20,000V) and the transmission network (120 kV and 220 kV in the DRC), then they allow the lowering of the voltage from the network to the user.

Here we are at the end of our investigation, the subject of which was: impact of the load coefficient on the efficiency of a power transformer (case of the UNILU substation).

In the third point, we started with the voltage readings, currents for 6 days in the specifications of the station, the measurements were taken every hour at the (secondary) output of the 125/15Kv transformer. Knowing the nominal power, this allowed us to calculate the load coefficient per day (morning, noon and evening). The relation between the load coefficient and the tables showing per day the variation of the yield according to the load coefficient.

Finally, we found that:

1. the variation of the load coefficient as a function of time (per day): we have observed a fluctuation of the load coefficient, this is due to the fact that at each hour the values of the currents and the voltage vary according to the load (increase, or decrease in load);

2. it was also found that almost every day, one could reach the max coefficient 0.66 and the max efficiency 95.35 percent. This demonstrates good use of this transformer in operation.

3. There was also a report of the readings saying in no case of an overload was observed (a coefficient exceeding 1)

4. The joule losses vary with the load coefficient, in overload the transformer heats up and gives poor performance.

We must avoid overloading and underloading the transformer finally not to have a bad performance, it should be used at its maximum load coefficient and at its maximum performance to optimize operation.

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THE DIMENSION THAT SOCIAL MEDIA, A COMMUNICATION TOOL, BRINGS TO SOCIAL CHANGE

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ABSTRACT

This study examines the effects of the use of social media, which is a communication tool, on communication and relationships. Social media, which reaches large masses at once, influences many cultures and understandings and causes changes in person/person-specific behaviours. Behavioural changes shape relationships and add a different dimension to communication. The dominance of internet technology in today's new world order and keeping all fields within its scope has turned social media into a manipulation and communication tool. The increase in internet usage, the people spending time in the new world order, new digital media and entering a normalized life harmony such as breathing has taken social media out of just a communication tool and turned it into an interactive agency in today's world order. It evolved into a form that has made it impossible for individuals to stay away from this indispensable technology. Hence, the communication habits of individuals have also changed in such a digital life flow. While change takes place rapidly, and the flow of information takes place in our lives at a tremendous speed, it has brought with it, sometimes conscious and sometimes unconscious, all change, flow, what is wanted to be manipulated and manipulation methods. Although social media, which is a communication tool, affects social, cultural and political movements, it has the power to provide global mobility in the desired direction as an interaction tool. In the new world order, life ceases without social media, which controls it as the main factor of life, though it is agreed that nothing can be done. Social media means a world of advantages, but it also brings disadvantages. It is necessary not to ignore that the balance of advantages and disadvantages can be achieved through social approaches, though it is the person/persons in the first place. This study has tried to reveal how social media, which is the basis of the new world order, and how social media affect communities, cultures, thoughts and beliefs, how and how communication changes, especially people, and how it can change the dynamics in communication. It has been tried to reveal how even known facts can become tied to a thread and how the subject in question can be transferred to millions of people with the desired methods and techniques and become accepted. The fact that values are affected and changed so quickly, of course, what a significant disadvantage in the life cycle with misuse and the fact that it creates an infrastructure for pollution in the new world order has an importance that cannot be ignored. The study will reveal the advantages and disadvantages of social media in the new world order in the process of change and development. It will raise awareness about what to pay attention to in the subsequent digital flow.

Keywords : Social Media, Communication, Interaction, Change, Development Process

GİRİŞ

İletişim yazının icadı ile başlamış ve günümüzde sosyal medyaya kadar teknolojinin gelişim ve değişimi ile gelmiştir. İletişim insanlığın en temel ihtiyaçlarından biridir. İnsanoğlunun iletişimsiz yaşamını sürdüremediği bilinen gerçeklerdendir. Geçmişten günümüze çeşitli iletişim biçimleri ve araçları ile sağlanan iletişim, 2000’li yıllarda bir çok sosyal ağ siteleri ile sosyal medya kavramını gündeme getirmiştir. Sosyal medya küresel olarak kişilerin iletişim içerisinde bulunduğu web2.0 tabanlı dijital alanları içinde bulundurmaktadır. Sosyal medya ile kişi - kişiler, topluluklar, kurumlar ve toplumlar arasındaki mesafe ortadan kalkmaktadır. Geleneksel olarak ifade edilen sıradan, bilindik medyadan sonra dijital iletişim çağında yeni medya karşımıza çıkmaktadır. Yeni kelimesi dijitalleşme ile farklı bir önem kazanmış ve ilgiyi artırmıştır. Geleneksel medya da yerini yeni medyaya bırakmıştır. Yeni medya çağımızda çok yönlü kullanılabilen vazgeçilmez bir araç olmuştur. İletişim teknolojilerinin gelişimi yeni iletişim ortamlarını ortaya çıkarmış, bu da yeni medya olarak isimlendirilmiştir. “Yeni medya hızın ön plana çıktığı, coğrafik ve demografik anlamda kapsanan alanın genişlediği, iletişimde uzak mesafelerin engel oluşturmadığı, iletilerin kitleler tarafından seçilip, ayıklanıp gönderilebildiği, büyük bir bellek kapasitesinin söz konusu olduğu iletişim biçimi olarak tanımlanmaktadır” (Aktan, 2017, s. 49). Teknoloji sosyal medyayı beraberinde getirerek hız kavramını süratlendirerek yaşamı yakalanamayacak bir hareketlilik içine yerleştirmiştir. Yapılacak işler, kurulacak iletişimler teknoloji sayesinde artmış ve öncelik denilen konuların sürati ile insanlık her an her yerde olabilmeyi gerçekleştiriyor olmaktadır. İletişim anında kurulup, istenilen bölge, istenilen hedef kitleler tarafından mesajlar anında alınarak, saklanabiliyor, yanıtlanabiliyor, yanıtlar bir diğer kitleler tarafından yorumlanabiliyor olmaktadır. İnternet ile başlayan ve teknolojinin gelişimi ile devam eden süre içinde çeşitli iletişim imkanları doğmuştur. Bu imkanlar içerisinde küresel olarak eşzamanlı ses ve görüntü şekli ile iletişim de bulunmaktadır. İletişimi sanal dünyadan gerçekliğe taşıyan bu önemli gelişim sadece bireylerin ve toplulukların iletişimini değil, kurumların ve işletmelerin pazar dilimlerindeki etkililiğini de artırmaktadır. Hedef kitlelerin etkilenebileceği pazarlama çalışmaları hazırlanıp dijital platformlarda sunulmaktadır. Yeni medya olarak tanımlanan sosyal medya ile sadece kişiler arası iletişim değil, kurumlar arası ve İşletme – tüketiciler ve tüketici - tüketiciler arasında bir etkileşim sağlanabilmektedir. Yaşam döngüsü yeni medya ve olanakları ile hızlı bir akış içerisinde gerçekleşmektedir.

Yeni dünya düzenini oluşturan, oluştururken şekillendiren sosyal medya kültür, düşünce ve inanışları etkilemekte ve ilişkilerdeki dinamikleri istenilen yönde tetikleyip, istenen yönde etkileşime neden olabilmektedir. Sosyal medya kullanımı, kullanım şekli ve ilişkilerde oluşturduğu altyapı ile aslında dünya düzenini, teknoloji ile hızlanan yaşam sürecinde istenen davranışların ortaya konmasını sağlamaktadır.

Çalışma, çok kapsamlı yönlerle detaylı incelemeye açık olan keşfedici araştırma niteliğinde olmakla birlikte sonrasında nicel çalışmalara yön verebilecek bir çalışmadır.

1.1. Sosyal Medya

Sosyal medyayı bireylerin duygu, düşünce ve tecrübelerini paylaşmak için iletişimde oldukları online platformlar olarak tanımlanabilir. Bunun yanında zaman ve mekan ayırımı yapmayan çift ve çok yönlü iletişime olanak tanıyan bir online iletişim platformudur da denebilir. “Mobil iletişim teknolojileri sayesinde de sosyal medya her an her yerde ulaşılabilecek ve kullanılabilir bir konuma gelmiştir. Bunun sonucunda kullanıcılar anlık paylaşım gerçekleştirmeye başlamıştır”(Aktan, 2017, s.56). Sosyal medyada herhangi bir konuda bireysel kullanım ve paylaşım yapmakla birlikte, kişiler çevrimiçi gruplar oluşturabilmekte, kişisel mesaj ve markalarını oluşturabilmektedirler. Yine kişiler arası, gruplar arası ve

kurumlar – işletmeler arasında bilgi alış verişinde bulunabilmekte ve hizmet sağlanmasında altyapı olmaktadır.

Yeni medyanın yaşama gelmesinde en önemli etken internet olmuştur. İnternetin gelişim göstermesi ile her geçen gün sosyal ağlar çeşitlilik göstermiş çok yönlü iletişim yaşam bulmuştur. İnternetin gelişimi ile gerçek dünya sanal dünya içerisinde yaşanmaya başlanmıştır.

İnternet bir bilgisayar ağı olmakla birlikte bir kitle iletişim aracıdır. Kişi, kişiler, kurumlar ve işletmelerin kullandığı bilgisayarlar ve farklı işletim sistemlerini bünyesinde barındıran internet iletişim kurulmasına imkan sağlar. En temel işlevlerinden ikisi iletişim kurma ve haberleşmedir. İnternet aracılığı ile yıllardır görülmeyen kişilere ulaşılabilir, yeni dostluklar kurulabilir, yeni kültürler keşfedilebilir, her konuda bilgi sahibi olunarak elde edilen bilgiler bilgisayara yüklenebilir. İnternet ile yaşamın her alanında tüm istek ve ihtiyaçlara ulaşılabilir. Örnek verilecek olursa, oturduğunuz yerden alış veriş yapılabilir, seyahat ederek ülke ve kültürleri tanınabilir, müzik dinleyerek, kişilerle sözlü ve yazılı tartışma ortamlarına girilebilir. Küreselleşmenin en güçlü destekçisi olarak görülen internet aynı zamanda yaşamın da en önemli kaynaklarından biri olarak yerini almıştır. Davran'ın da söylediği gibi internetin gelişmesi ile pek çok sosyal ağ ortamları sağlanmıştır. Sosyal medya kavramı bu yeni ortamlardan biridir. “Sosyal medya, internet ve internet araçlarının alt yapısı olmadan var olması mümkün olmadığından, sosyal medya değer zincirinin ilk destekleyici bileşeni olarak karşımıza çıkmaktadır. Genel olarak sosyal medyayı tanımlamak gerekirse, internete bağlı bir veri sunucuları ağı olarak tanımlanabilir” (Davran, 2020, s. 33) Küresel hakimiyetin altyapısı olan internet, sosyal medya ile geleceği şekillendirir bir duruma gelmiştir. Yaşamın olmazsa olmazı, alınan nefes gibi yaşamda yer etmesi ile tanımlanabilen sosyal medya kitleleri her alanda etkisi altına alarak sosyal, kültürel, psikolojik ve ekonomik anlamda etkilemektedir.

1.2. Sosyal Medya'nın İlişkilere Yansıması

Sosyal medya, yeni dünya düzeninde rekabetin giderek arttığı küresel hareketlilikte kendini etkin bir şekilde ortaya koymaktadır. Her alanda olduğu gibi işletmelerin pazar çalışmalarında, marka yaratma çalışmalarında, tüketici kitlesini müşteri kitlesine çevirme çalışmalarında internet aracılığı ile sosyal medyanın varlığı görülmektedir. İnternet altyapısının giderek iyileştirilmesi ve internetin erişilebilirliğinin kolaylığı sayesinde pek çok alan internet üzerinden aktif olarak çalışmaktadır. İnternet sayesinde geleneksel olarak yapılan işler artık dijital olarak yapılabilmektedir. Dijital ticaret, bankacılık işlemi, yurtdışlık hizmeti gibi faaliyetler bulunulan yerden mobil cihazlarla yapılabilmekte ve coğrafik sınırlar ortadan kalkmaktadır. Bostancı'nın da vurguladığı gibi “varılmak istenen nokta gündelik hayatta sıklıkla gerçekleştirilen faaliyetlerin internet aracılığıyla gerçekleştirilebileceği yeni bir yaşam biçimine dikkat etmektir” (Bostancı, 2015, s.50).

Bugün neredeyse her evde internet bağlantısı bulunmaktadır. Büyük küçük herkesin iletişim kurmasını sağlayan internet, bireylerin sadece aile ve arkadaşları ile değil, iş yerleri ile de bağlantı içinde olmasına olanak sağlamaktadır. İnternet kullanımı daha evvel gençlerde yoğunluk gösterirken bugün interneti orta yaş ve orta yaş üstünün de etkin bir şekilde kullanıyor olduğu görülmektedir.

İnternet mesafeleri ortadan kaldırarak sosyal ilişkiler kurulmasına fırsat sağlamaktadır. Bunun yanında birbirine yabancı kişiler arasında da gerçek veya yapay arkadaşlıklar kurulmasına olanak tanımaktadır. Bazı eleştirmenlere göre internet, akraba ve arkadaşlarla olan yüz yüze iletişimin çekiciliğini ortadan kaldırmakta ve bu karşılıklı etkileşimin gücünü azaltmaktadır. Kırel, Kayaoğlu ve Gökdağ, Carnegie Mellon Üniversitesinde bir grup araştırmacının internet kullanımının sosyal yaşam üzerindeki etkililiğini ortaya çıkarmak adına yaptığı çalışma sonucunu “İnternet kullanımının sosyal katılımı ve ruh sağlığını etkilediğini saptamışlardır. Yoğun internet kullanımı aile olan iletişimi azaltmakta; çevredeki arkadaşlarla olan birlikteliği azaltmakta, yalnızlığı artırmakta ve daha çok depresyona neden olmaktadır” (Kırel,

Kayaoğlu ve Gökdağ, 2004, s.99) İnternetin bireylerin iç dünyasına yansımaları ve aile ile çevre arasındaki ilişkilerine etkisi dışında iş dünyasında piyasa kullanımında da etkileri bulunmaktadır. Yaşamı olduğu gibi etkileyen internet, kullanım çeşitliliği ve bu kullanımda yarattığı etkiler açısından da çeşitlilik göstermektedir. İnternet reklamlarının tüketicinin satın alma davranışlarına etkileri üzerine yapılan bir araştırmada İnternet kullanım durumunun %98.4, İnternet kullanımının yıllar içerisinde arttığı, İnternete nereden bağlanıldığına bakıldığı zaman %54.8 ile evden, %23,8 ile okul ve işten, %19.0 ile internet kafeden, %2,4 ile cep telefonu üzerinden (3G, WIFI), İnternete bağlanma sıklığı gün boyu %45,2, hergün bir kez %31,0, hergün bir kaç kez %23.8 olduğu gözlemlenmiştir (Gümüş, Güngör, Bilim, 2014, s.97-98). Sosyal medya, son dönem teknolojisi içerisinde hakkında sürekli konuşulan bir gelişmedir. Almış olduğu konum internet yapısının yıllar içerisinde aldığı değişim ve gelişim ile olmuştur. İnternet Web 1.0 ile başlamıştır. Burada mail göndermek, fotoğraf görmek, çeşitli sitelerde gezinmek temel kullanım çeşitleri içerisindeydi. “2000’lerin ilk yıllarında kullanılmaya başlanan ve 2004’te Web 2.0 adını alan gelişmeler sayesinde internet kullanıcıları kendilerine ait içerikleri kolayca internette paylaşmaya ve mevcut içerik üzerinde de yetkili olmaya başlamıştır” (Genç, 2010, s.486). Web 2.0 ile üretmek paylaşım yapacak herkes bu dönem itibarı ile harekete geçmiştir. Bu dönem ile birlikte sınırlı üretim ve sınırlı bilgi paylaşımı yerine sınırsız bilgi üretimi ve sınırsız bilgiye ulaşma fırsatları doğmaya başlamıştır. Bu durumda Web 2.0 için Sosyal medyayı oluşturan teknik altyapı tanımlaması yapılabilir. İnternetin gelişimi ile her geçen gün sosyal medya sitelerinin sayıları artmakta ve kendi içerisinde üretilenlerle, paylaşım ve etkileşimlerle daha geniş bir yelpaze çizmektedir. Web 3.0’e bakıldığında, semantik web ve yapay zekanın öne çıktığı görülmektedir. Web 3.0’de sosyal medya tarafından yüklenen resimlerin tarama ve tanıma sistemi ile var olacağını vurgulayan Gezgin, “ilerleyen yıllarda aktif olarak kullanılması beklenen web 4.0 ise tamamen yapay zekanın hakim olduğu, gerçek dünyanın internete ve bilgisayara taşındığı, bilim kurgu filmlerindeki olayların gerçekleştiği bir sistem” olacağını da belirtmiştir (Gezgin, 2018 s.142).

Sosyal medya kavramı genel bir bakış açısı ile değerlendirildiğinde, sosyal kelimesi bireylerin diğer bireylerle bağlantı içinde olmasını ifade ederken, medya kişilerin aralarında bağlantı kurmak ve neler olup bittiği hakkında bilgi sahibi olmak için buldukları ortamlar olarak tanımlanmaktadır. Bu ortamlar, davul, çan, yazılı kelime, telgraf, telefon, radio, televizyon, elektronik posta, web sitesi, fotoğraf, ses, video, cep telefonu veya kısa mesaj gibi bu bağlantıları kurmak için kullanılabilen teknolojilerdir (Safko, 2012, s.3)

Sosyal medya ile medya sektöründe bulunan üretici ve tüketici hareketleri her geçen gün değişim göstermektedir. Sosyal medya araçları gelişim göstererek çeşitlenmekte ve kişileri bu araçları kullanmaya yönlendirmektedir. Sosyal medya olarak adlandırılan iletişim ağlarının başında “Twitter, Facebook, LinkedIn, Instagram, MSN, Blogger, Myspace, Youtube vb. Sosyal ağlar olarak tanımlanan bu yazılım ağları, aynı anda/eşzamanlı olarak milyonlarca kişiye ulaşmaktadır”(Alav, 2020, s.47). Sosyal medya ağları ile her alandan pek çok bilgi sağlanmakta ve rahatlıkla iletişim kurulabilmektedir.

“İnternet Web yazılım destekli çalışan bu sosyal ağlar, benzer ve farklı sınıflardan birçok insanı kendi platformlarında buluşturabilmektedirler. Önceleri masum bir arkadaşlık sitesi olarak kurulan bu ağlar sonraları ise, birey ve toplumları örgütlü veya örgütsüz olarak etkileme sürecine almışlardır” (Alav, 2020, s.47)

Sosyal medyanın farklı kullanım amaçları olmakla birlikte bu amaçlar kişilerin özelliklerine göre değişim göstermektedir. İlgi, tatmin ve doyum hangi alanla kişileri memnun ediyorsa, kullanım o yönde olmaktadır. Sosyal medya ne kadar genele açık yeni bir alan olsa da bazen bireyler sosyal medyayı bir kaçış alanı olarak görmektedirler. Sosyal medyaya izleyici olarak katılmak ve yalnızlığı ortama seyirci olarak yaşamak bu kişiler için daha tercih edilebilir olmaktadır. Bunun aksine yine bazı bireyler sosyal

medya ortamı ile kendilerini yeni sosyal çevrelere açmayı ve izleyici kitlelerini genişleterek kendilerini takip ettirmeyi tercih etmektedirler.

Sosyal ağların oluşumunda internet esas rol oynamaktadır. Gün geçtikçe de gözlemlenen çevrimiçi sosyal ağların artışı bu durumu gözler önüne sermektedir. Bireyler, bilgi, duygu, düşünce olsun tüm paylaşım amaçları için sosyal ağlarda biraraya gelmektedirler ve onlar için tüm mesafeleri ortadan kaldıran bu sosyal ağlar yaşamlarına anlam katmaktadır. Özüpek'in de belirttiği gibi "Sosyal ağ platformları, ortak ilgi, faaliyet ve düşünceleri paylaşan kullanıcıların içerisinde yer aldığı online topluluklardır. Web 2.0 teknolojisi ile içerik üretimine ve paylaşımına imkan tanıyan sosyal ağlar, etkileşimli bir yapıya sahiptir" (Özüpek, 2018, s.132)

Sosyal medya özellikle reklam ve pazarlama çalışmalarında da stratejik öneme sahip bir pazarlama kanalı olarak karşımıza çıkmaktadır. Sosyal medyada yapılan reklam iletişimi çalışmaları, sosyal medya ağlarındaki kullanıcı sayısı ve bu kullanıcılar hakkında bilgi artışı oldukça bu ağların pazar gücünü artırmıştır. Bu nedenle işletmelerin sosyal medyada reklam yapması kaçınılmaz olmuştur (Şengül, 2017). Sosyal medyada pazarlama ile işletmeler pek çok platformda varlıklarını gösterip kendilerini tanıtabilmektedirler. Böylelikle satış marjlarını yükseltip hedef kitleler ile bağlarını güçlendirebilmektedirler.

Gelişen iletişim teknolojileri ile gerek kişiler, gerek kurumlar sosyal medyada gerçekleşen bazı çalışmaların farkında olmakta bazı çalışmaların da farkında olmamaktadırlar. Farkında olmamak ilgisizliği ve belli başlı olayları gözden kaçırmayı beraberinde getirmektedir. Kaçırılan olay ve mesajlar, kişileri yeni iletişim portallarına itmektedir. Bu portallar kişi veya kişilere farklı kültür, anlayış, düşünce, fikir ve enformasyon akışı sağlamaktadır. Sosyal medya ile iletişim ağları, kişileri ve kurumları büyük değişimler yaşamaya itmekte, yaşama ve iş yapma şekillerini önemli ölçüde etkilemektedir.

Günümüz çocukları dijital dünya çocukları olarak tanımlanabilmekte, düşündürücü şekilde dijital dünyaya uyum ve adaptasyon sağladıkları görülmektedir. Anne karnından öğrenerek dünyaya geliyorlar ifadesi de buradan gelmektedir. Bugün pek çok bireyin defalarca deneyim yaptıktan sonra dijital olarak bir şeyleri öğrenmeleri, çocukların ise şaşırtıcı şekilde hep kullanıyorlar gibi bilinçli olmaları göz ardı edilemez bir gerçek olarak karşımıza çıkmaktadır.

2. Sosyal Medya ve Değişim

Medya internet yolu ile uçsuz bucaksız gücünü topluma hatta toplumlara yaymaktadır. İletilmek istenen haber ne tür bir haber olursa olsun aynı anda geniş kitlelere ulaşabilmektedir. Bu kitlelerin değerleri, tutum ve davranışları, bakış açıları ve düşünce şekilleri ne olursa olsun aynı ileti geniş bir alanda duyurulmuş olmaktadır. Kültürel değerler bu iletiler ile derinleşebileceği gibi, bu iletiler ile kültürel değerlerden de soyutlanılabilmektedir. İşte tam da bu noktada medyanın gücü sadece bireyler üzerinde değil, toplumlar üzerinde de ortaya çıkmaktadır.

Uluslararası medya aracılığı ile dünya haberleri, gerçekleştirilen bilimsel çalışmalar, buluşlar, yenilikler, dünyanın herhangi bir yerinde gerçekleşen olaylar sağlanabilmekte ve küresel bilgilendirme yapılabilmektedir. Dünya devletlerinin ortak kamuoyu bilinci ve yardımlaşma duygularının gelişmesine etki ederek ortak kültürlerin ve milletlerin bir araya gelmesi ve kaynaşmaları, birçok farklı konularda konuşabilmeleri, uzlaşabilmeleri veya ayrışmaları uluslararası medya ile gerçekleştirilmektedir. Bu yönden değerlendirildiğinde, uluslararası medya oldukça etkili bir yapıya sahip olmaktadır (Alav, 2020).

İnternetin yaşama girmesi ile medyanın internet üzerinden cep telefonu, bilgisayar gibi iletişim araçları ile yayılım yapması küresel hareketliliği beraberinde getirmiştir. Bu hareketlilik dijital ortamları kaplayan

medyanın sosyal medya adı ile geleneksel medyayı arka plana itmesine sebep olmuştur. “Terim olarak sosyal medya, kullanıcıların ağ teknolojileri kullanarak etkileşimini sağlayan araç, hizmet ve uygulamaların bütünü temsil etmektedir” (Boyd, 2008, s.92). Gezgin ve İralı, sosyal medya kavramını “aslında yeni iletişim ortamlarının yarattığı ağ teknolojileri için geliştirilmiş olsa da, oldukça kısır bir tanımdır. Çünkü sosyallik ve medya kavramı hiçbir zaman birbirinden ayrılmamış, hangi teknolojik seviyede medyayı kullanırsak kullanalım her daim sosyallik içinde olduğumuz bir gerçektir” (2017, s.79) ifadeleri ile vurgulamıştır.

Günümüzde her yaş grubundan kullanıcı sosyal medyadan bilgi edinip, grup olarak çevrimiçi ortamlarda bulunabilmekte, bireysel mesajları ve her türlü paylaşımlarını yapabilmekte, elektronik olarak iletişim kurabilmektedirler. Sosyal medyanın teknolojik içeriği her geçen gün bir özellik daha kazanırken, sosyal medya sosyolojik etkilerle bireyleri ve toplumları etkilemektedir çünkü bireysel ve toplumsal her değer etkileşim ve değişim ile karşı karşıya kalmaktadır. Bireylerin ve toplumların yaşam şekilleri internet ile birlikte tamamen değişmiş ve kullanıldığı sosyal ağlar bireyler ve toplumlar üzerinde sınır tanımayan bir etki gücüne hakim olmuştur. İnsan yaşamının tamamen her anını dolduran ve her duygu, düşünce, hareket ile bütünlük içinde olunan en favori sosyal medyalar; Facebook, Instagram, Twitter, LinkedIn, Youtube... gibi sosyal ağlar olduğu bilinmektedir. Bu gelişmiş teknoloji dünyası ile birlikte dünyaya gelen bireyler konuşmaya, yürümeye başladıkları andan itibaren sosyal medyayı takip edebilir durumda olmakta iken, yaşı ileri olan büyükler de özellikleri ve cazibeleri ile kısa zamanda sosyal medyanın aktif kullanıcılarından olmuşlardır. Geleneksel medyanın içinde bütünlüşmüş ve daha ilerisinin olamayacağını, sosyal medyanın kullanılamayacağını düşünen, böyle bir yaklaşım içerisinde sosyal medyaya yaklaşan ileri yaş kişiler de aynı anda interaktif etkileşim içerisinde olmanın cazibesi ile sosyal medyanın bağımlısı olmuş durumdadırlar. Sosyal medyada anında iletişim kurmanın ve etkileşime girmenin yanında yerine göre görüntülü olarak da bu iletişimi kurabilmektedirler. Tek yönlü olmayan ve geri dönüşü zaman almıyan bu iletişim şekli, aynı zamanda farklı mesajları ard arda alabilmeye ve kişinin kendine özgü tepkilerle bu mesajlara geri dönüş yapmasına olanak sağlamaktadır.

Günümüz dünyasında bireyler ve toplumlar yeni bir iletişim medyası ve küresel bir etkileşim süreci içerisindeyler. İnternet teknolojisinin yarattığı sosyal medya aynı anda milyonlarca insanı etkileşime geçirmektedir. Dünyanın herhangi bir yerinde gerçekleşen yerel bir haber bireylerin verdiği öneme göre ulusal bir habere, oradan da evrensel boyuta taşınabilmektedir (Alav, 2020). Böylelikle bir bölgenin haberi tüm dünyanın gündemine oturabilmektedir. Bu aynı zamanda toplumsal yapıların alacağı konumu göstermektedir.

3. Sosyal Medya ve Gelişim Süreci

Son yıllarda her anlamda ve her alanda yaşanan hızlı değişimler beraberinde pek çok yeniliği getirmiştir. Teknolojinin yakalanamaz bir hızla gelişmesi, gerek bireyleri gerekse toplumları dönüşüme uğratmıştır. Bireyler, gruplar ve toplumlar olarak yaşam şekli değişmiş, teknolojinin gelişimi dünya genelini etkilemiştir. Yaşanan bu hızlı gelişim ve değişimler, insanların düşünce yapısını, tutum ve davranışlarını olaylara yaklaşımını, bakış açılarını farklı şekillerde yönlendirmiştir. Tüm bunlar gerçekleşirken, sosyal, kültürel, siyasal ve ekonomik alanlarda hızlı dönüşümler olmuştur. Tüm bunlar tartışılırken küreselleşme kavramı ortaya çıkarak, tartışmaların merkezine yerleşmiştir. Toplumların her konuda birbirinden etkilenmeye başlaması, ortak bağ oluşturması küreselleşme olarak adlandırılmaktadır. Küreselleşmeyi en genel tanımı ile Gezgin ve İralı topluma ait olanın sınırlarını aşarak toplumlararası boyuta ulaşması olarak tanımlarken, “bu tanımda yer alan yerel olgular, siyasal, sosyal, kültürel ve ekonomik faktörlerdir ve bu öğelerin yerellerdeki sınırlarını aşıp uluslararası boyutta en fazla sayıda insana kendini tanıtmayı ve kabul ettirmeyi; kaynaşma, bütünlüşme yani küreselleştirmeyi oluşturmaktadır” (2017, s.152) ifadelerini kullanmışlardır.

Mengü'ye göre; ekonomi ve politik bakış açısı ile sosyal medya ve internet değerlendirildiğinde, “küreselleşme ideolojisinin teknolojiyi geliştirme, bireyleri control etme, insanları tek yönlü manipüle etme, manipüle edilmiş bilginin gerçeklik sorunu, güven eksikliği, egemen gücün genel olarak kabulü, değerlerin yitimi gibi bazı benzerlikler gösterdiği ileri sürülebilir” (2012, s.109) vurgusunu yapmıştır. Ekonomik, politik ve toplumsal alanlarda etkililiğini gösteren küreselleşme, iletişim alanında da gelişen iletişim teknolojileri ile değerlerin aktarılması ve kabul ettirilmesinde etkili rol oynamıştır.

İletişim teknolojilerinin gelişimi ve iletişim şekillerindeki değişiklikler dünyayı bütünleştirmiştir. İletişim teknolojilerinin medya çalışmaları üzerindeki etkisine bakıldığında, gelişen iletişim teknolojilerinin genel olarak herkesi etkilediği söylenebilir. Bireyler, topluluklar ve toplumlar olsun, gelişen iletişim teknolojileri, alışkanlıkları değiştirmiş ve istenilen yönde hareket edilmesini fark ettirmeden zorunlu kılmıştır. İletişim teknolojilerinin gelişimi ile medya ve iletişim sistemi hız kazanarak, daha geniş kitlelere daha hızlı ulaşım ile imkan sağlamıştır. Bu da iletişimde küreselleşme kavramını ortaya çıkarmıştır.

Çok uluslu medya kuruluşları ile toplumlararası engelleri ortadan kaldırma çalışmaları olduğu bilinmektedir. Toplumların kendi içlerinde yaptıkları uygulamalar dışında dünya genelinde küreselleşmenin gelişmesi için ortam ve koşulları düzenleyen bazı uluslararası kuruluşlar da küresel medyanın önünü açacak çalışmalar yapmışlardır (Sayılğan, 2008, s.233-241).

Küreselleşme sürecinde medya her şeyin kara endekslendiği bir pazar haline gelmiş olmasından dolayı eleştirel bir bakış açısı almıştır. Bu özelliğinden dolayı medyanın pazar ekonomisinin tüm özelliklerini taşıdığı vurgulanmıştır. Böylece medyanın küreselleşme sürecinde üretimde etkin rol oynadığı ifade edilmiştir. Medyanın sermaye sahiplerinin elinde olması, haber ve bilginin kontrol edilerek verilmesi anlamına gelmektedir (Aziz ve Sungur, 2014). Günümüzde gelişen iletişim teknolojileri toplumlar arası güçlü ağların kurulmasını sağlamıştır. Ekonomiden, kültüre, siyasetten, sosyal alana kadar hakim olan bir ağlar bütünü oluşturulmuştur. Amaç geniş kitlelere ulaşabilmektir.

İletişim teknolojilerinin gelişerek günümüz dünyasındaki yerini alması iletişim sınırlarını ortadan kaldırmış ve küresel iletişime olanak sağlamıştır.

Bireylerin ve toplumların yaşam biçimlerini belirlemede medyanın önemli bir rolü vardır. Gezin'in de ifade ettiği gibi “bireylere yaşam ve davranış biçimi sunan medyadan kültürel bağlamda toplum da etkilenmektedir. Örneğin; gündelik hayatın önemli bir unsuru ve insanın temel ihtiyaçlarından biri olan yeme-içme konusunda topluma gereken alışkanlıkları gelişen teknolojiler ile birlikte medya kazandırmaktadır” (2018, s.96).

Medyada ortaya konan metin veya haber bireylerin buldukları toplum içindeki toplumsal ve bireysel algılarına göre hazırlanıp verilmektedir. Yaratılmak istenen algı, oluşturulmak istenen yargı hedef kitlenin hassas olduğu noktadan hazırlanmakta ve bunun diğer topluluklara veya kültürlere ulaşımı sağlanmaktadır. Özellikle sosyal medya aracılığı ile verilmek istenen mesaj kolaylıkla iletilmekte ve mesajı oluşturan kodlarla kişiler veya topluluklar etki altına alınabilmektedirler. Strateji mi kültürü? Kültür mü stratejiyi belirler sorusu karşısında verilecek yanıt, kültürün stratejiyi belirlediği iken, sosyal medya ile oluşturulan strateji kültürü etkiler denebilir. Gücünün bu denli önemli olduğu sosyal medyanın kullanımı da küreselleşme boyutunda o denli önemli bir yer tutmaktadır.

Genel olarak kültürlere bakıldığında temel bazı yapısal özellikler taşıdıkları görülür. Bu özellikler irdelendikçe topluma ait kültürün işlevi ve niteliği ortaya çıkar. İletişim araçlarının gelişimi kadar hızlı olmasa da zaman içerisinde kültürlerin değiştiği söylenebilir. Haviland'ın da belirttiği gibi “değişim; çevre krizleri, yabancı istilası, kültür içerisinde davranış ve değerlerin farklılaşmasıyla meydana gelir”

(2004, s. 84). “İnsan etkinlikleri sonucunda kültür oluşurken aynı anda kültür de insan etkinliklerinin oluşumunda etkilidir” (Barlowen, 2001, s.2). Bu ifadeden yola çıkarak yeryüzündeki en akıllı canlı varlık olan insanın geliştirdiği iletişim teknolojileri sayesinde kültürel değerler etkilenmekte ve insan etkinliklerinin bu etki yönünde gerçekleştiği söylenebilmektedir.

Küreselleşme ile dünyanın büyük bir bölümünde kültürlerin birbirine yaklaştığı ve etkilendiği görülebilmektedir. Kültürlerin birbirinden etkilendiği günümüzde küresel kültür düşüncesi ortaya çıkmaktadır. Küreselleşme ile kültürlerin etkileşimi dolayısı ile de etki alanını güçlü tutan kültürün hakimiyeti görülebilmektedir. “Ayrılıklar, benzerlikler ve farklılıklar daha görünür hale geliyor. Bu süreçte, insanlığın kültürel ortak zemininin güçlenmesi, imkan dahiline giriyor” (Aydın, Erdoğan, Sarıbay, Bolay, Altan, 2002, s.21).

Teknoloji kendine özgü değerler sistemine sahip, insan yaşamında büyük değişikliklere sebep olan bir uygulamadır.

Günümüzde kültürler, radyo, televizyon, gazete ile değil tamamen sosyal medya ile şekillenmektedir. Sosyal medyada üretilen ideoloji ve düşünce sunuş biçimleri izleyici kitlesini etkilemekte ve düşünce sistemlerini istemsiz bir şekilde dönüştürmektedir. Böylelikle manipülasyon gerçekleşmiş olur. Günümüzde gelişen iletişim teknolojileri ile kültürün değişim içinde olduğu ve bunun güçlü sebeplerinden birinin de kitle iletişim araçları olduğu söylenebilir.

Teknoloji ile gelişen kitle iletişim araçları geniş izleyici kitlelerini ideolojik ve kültürel olarak etkilemektedir. Bu etkilenme toplumdaki yaşam şeklinin gelişip değişmesinde önemlidir. Sosyal medya ile güncel haberlere, popüler her tür bilgiye, eğlenceye, spora, yaşama dair ne varsa anında ulaşılabilir.

Teknolojinin gelişip, güçlenmesi ile bilgi üretimi ve dağıtımı da güçlenmiş, iletişimin küresel olarak kurulup yaşandığı bir dünya gözlenmeye başlamıştır. Medya, sosyal medya olarak ön plana çıkmış ve popüler kültür oluşmuştur.

Yıldız’ın da vurguladığı gibi “popüler kültürün yaygınlaşmasıyla birlikte ortak zevkler ortaya çıktı. İletişim araçları sayesinde özellikle farklı yaş grubuna dahil kesimler aynı dizileri, aynı filmleri, aynı haberleri seyredip dünyalarının benzeşmesinin ve aradaki iletişim uçurumunun yok olmasının sosyal dünyaları hemen hemen aynı olmaktadır”(2005, s.139).

Gelişen iletişim teknolojileri ile bireyler ve topluluklar bilgilendirilip, yönlendirilmektedirler. Günümüzde bireylerin düşünce şekli, yapısı, tutum ve davranışı değil her gün, her an sosyal medyadan aldığı bilgiler doğrultusunda şekillenmektedir. Bu sebeple, sosyal medyada dönen, ortaya konan her türlü bilgi, içerik ve mesajın büyük dikkatle düzenlenmesi gerekmektedir.

Sosyal medya insanlık üzerinde öyle büyük bir etkiye sahip olmuştur ki tamamen bağımlılık yaratmıştır denebilir.

Sosyal medyada mesajlar sürekli bir döngü içerisindedir. Dolayısı ile düşünceler, fikirler, ideolojiler sınır tanımadan kişilere ulaşarak etkilemektedirler. Yeni medya bugün kültürü şekillendiren öğelerin odağındadır denebilir.

4. Dijitalleşmenin Küresel olarak İletişime Etkisi

Günümüzde insanlar arası ilişkiler ve bilgi paylaşımı, yer, mesafe, konum gözetmeksizin kitle iletişim araçları ile belirlenebilmektedir. İnternetin yaşama girmesi ile kitle iletişim araçları kişilerarası erişim ve bilgiye ulaşmak-bilgiyi paylaşmak için vazgeçilmez olmuştur. Işık'ın da belirttiği gibi "iletişim ağlarının merkezileşmesi ortak tüketim ve eğlence normları oluşturmuştur. Uydu teknolojileri yoluyla uluslararası bağlamda yayınlar gerçekleştiren medya devleri, kurguladıkları gerçekleri tüm dünya ölçeğinde paketleyip sunmaktadırlar" (2014,s.4).

Dijitalleşmenin küresel çapta ortak ağlar ile gerçekleşmesi iletişimin küresel yayılımını sağlamış ve medyanın aktif bir şekilde ön plana çıkmasına neden olmuştur. Medya bu denli sosyal ağlarda ön plana çıktıkça kullanılan dil ve ortaya konan mesajlar hassasiyet kazanmıştır. İnsanları birbirine bağlayan ve ortak paylaşımaya yönlendiren anadilleridir. Köksal'ın da belirttiği gibi, "ekin yumağının ortasında yer aldığı için başta dil olmak üzere, toplumsal kurumlardan herhangi birinde küçük bir değişim, bütün öteki kurumlarda da değişimler yaratır. Dil bu nedenle bütün öteki kurumlar arasında ayrıcalıklı bir yeri olan tek kurumdur" (2003, s.55).

Küreselleşme, kültür, dil ve toplumla ilişkilidir. Kültür bir toplumda geçerliliği olan ve adet, gelenek, görenek şeklinedevam eden her türlü dil, duygu, düşünce, inanç, sanat ve yaşayış öğelerinin tümüdür (Turan, 2003). Bir birey dünyaya geldiği andan itibaren çevresi ile ilişki içine girer. Önce çekirdek aile ile çevreyi tanımaya ve doğrularını öğrenmeye başlar. Bu doğrular aileden gelen, yetişme halinin verdiği kabul gören doğrulardır. Seneler içerisinde genişleyen çevre ile bireysel gözlemler, konuşmalar, alınan duyular ve eğitimde kazandıkları ile kültür konusunda edindiklerini geliştirir. Dil bu konuda kültürün içeriğini anlatabilmesi için hayati önem taşır. Bu noktada da herkes tarafından anlaşılabilmesi gereklidir.

Günümüzde, kültürel iletişim ile kültürel etkileşim birlikte gerçekleşmektedir. Kültürel etkileşim dünya ülkelerini ideolojik açıdan etkilerken bir taraftan da topluluklar ve bireyler arasında var olan farklılıkları da gözler önüne sermektedir. Dijital ortam iletişimdeki berraklığı artırmaktadır. Yine dijitalleşme ile sosyal, politik, kültürel ve ekonomik şartlar bakımından sınırlılıklar ortadan kalkmaya başlamış ve bu süreç küreselleşmenin giderek yaşamın vazgeçilmez bir parçası olduğunu göstermiştir.

Küreselleşme ve dijitalleşmenin bu küreselleşme kavramını daha şeffaf bir hale getirmesi ile toplumlar kendilerine ait değerleri öteki toplumlardan çok da ayrı tutamamışlardır. Gelişen teknoloji ile ulaşımın kolaylaşması, elektronik haberleşme sisteminin hızla ve önem kazanarak gelişmesi, nüfus hareketliliği, emek ve sermaye akışı gibi faktörler insanı hem mesafeli oldukları olay, kişi ve değerlerden etkilenmelerini kolaylaştırmış hem de onları yaşamlarının her anında farklı özellikte insanlar ve farklı değerlerle yüz yüze getirmiştir (Küreselleşme, Sekizinci Beş Yıllık Kalkınma Planı, Özel ihtisas Komisyonu Raporu, Ankara, 2000).

Küreselleşme modern bir olgu olup yaşanan dünyada siyasal, kültürel, sosyal, ekonomik ve teknolojik dönüşümü ifade eden en belirgin kavramlardandır.

Kitle iletişim araçlarının küreselleşme sürecinde etkileri büyüktür. Küreselleşme sürecinde dijitalleşme sayesinde hızın gerçekleştiği görülmektedir. Bu durum, dijitalleşme ile küreselleşme süreci hız kazanmıştır şeklinde ifade edilebilir. Bu hız ile küreselleşmedeki şeffaflık ortaya çıkmış ve sosyal medya araçları ile toplumlara etkili bir şekilde ulaşması gerçekleşmiştir. Küreselleşme sürecinde kitle iletişim araçları ile kazanılan hızı Yıldız, "bu aşamada ortaya çıkan önemli bir sorun, sürecin başlangıcında çok seslilik söylemi ve umuduyla ortaya çıkan kitle iletişim araçlarının zaman içinde tek seslilik ve tek perspektiften bakılan bir dünya görüşü üretmede adeta kullanılır duruma gelmeleri

olmuştur” (2005, s.169-170) şeklinde değerlendirmiştir. Günümüzde gelişmiş iletişim ağları ile her gruba ve her topluma ulaşabilmektedir.

Küreselleşmenin hedeflerinden birinin tek tip dünya kültürü oluşturmak olduğu söylenmektedir. Bu, kültür unsurlarını kapsayan bir hedef olarak ifade edilmektedir. Böyle bir sonuç ne kadar mümkün tartışılrsa da küreselleşme ile toplumsal kültürler, kendi kültür çerçeveleri içerisinde zarar verildiği görülmektedir. Gelişen iletişim teknolojileri ile sosyal medya kullanımı sonucu farklı toplumlardan insanlar giyim kültürü, yemek kültürü, film kültürü, kısacası aynı tüketim kültüründen zevk almaya başlamışlar, tek tip kültür düşünce ve tutumuna yönelmişlerdir.

Tüm bunların gerçekleşmesinde alt yapıyı internet oluşturmaktadır. “İnternet, içerik ve özellikleriyle özgür bir iletişim ortamıdır. Kullanımı kolaydır, ekonomiktir, yer/alan ve zaman olarak oldukça esnekler. Diğer iletişim kanallarına göre hedeflenen kitleye ulaşmada daha başarılıdır. Her istenilen konu istenildiği biçimde sunulabilir, paylaşılabilir” (Yıldız, 2005, s.184).

Dijitalleşme ile geleneksel medya değişim göstermiştir. Durna ve arkadaşları bu durumu, “Dijitalleşme, medya kuruluşlarının yapısını, iletim aracını, iletişim formatını ve içeriğini yapısal olarak etkilemektedir” (2019, s.33) ifadeleri ile açıklamaktadırlar.

Teknolojinin gelişimi ile teknoloji kullanımının artış göstermesi, sosyal ağların da bu gelişime paralel sayıca artması bilgi ve haberin pek çok kanaldan geçmesi anlamına gelmektedir. Sosyal ağların çeşitliliği medya ve medya içeriklerinin değişimine neden olmuştur. Medya kanallarının dijitalleşmesi yeni medya olgusunu ortaya çıkarmıştır. Yeni medya dijitalleşme ile bir dönüşümü ifade etmektedir. Bu dönüşüme örnek olarak; internet gazeteciliği, sosyal medya platformları, eğlence, sağlık, bilgi gibi pek çok konuya ulaşılabilirlik ve mobil uygulamalar gösterilebilir. Yeni medya, iletişim sürecinde kodlanmış verilerin internetle birlikte dijitalleşmesi ile ön plana çıkmıştır (Uçak, 2018). Uçak aynı zamanda “enformasyon ağları ve veri tabanı alt yapısının da olgunlaşmasını ve dijitalleşmesini sağlayan yeni medya aynı zamanda teknik, toplumsal, ekonomik alanlarda iletişimi sağlayan bir bilişim toplumu oluşturmuştur” (2018, s.132).

Günümüzde dijitalleşme sayesinde sosyal medya yaşamı etkileme ve yaşama yön verme konusunda etkin rol oynamaktadır. Sosyal medya ile kişisel içerikler üretilmekte ve bu içeriklere ulaşabilmektedir.

Dijitalleşme ile sosyal medya bugün yaşamın bütününe kuşatmış ve küreselleşme ile iç içe olmuştur. Dijitalleşme olgusu ile, bireyler ve toplumların direkt olarak etkilendikleri görülmektedir.

Sayar’ın da ifade ettiği gibi “Elektronik cihaz sayısının dünya nüfusunu geride bıraktığı günümüzde dijital teknolojiye erişim sağlayabilen insanlar, akıllı bileklikler ile uyku performanslarını, akıllı çantalar ile almaları gereken kalori miktarını ve akıllı telefonlar ile dünyanın eğilimlerini takip etmektedirler” (2019, s.37). Sosyal medya araçları ile anında gerçekleşen haberleşme sadece bireysel iletişime değil kitlesel iletişime de olanak sağlamaktadır. Yeni medya çağı hız çağı olarak da ifade edilirse bireyler, gruplar kısa bir zaman içinde ifade etmek istediklerini ifade ederek, vermek istedikleri mesaj veya mesajları hedef kitlelerine ulaştırabilmektedirler.

Hız çağı olan yeni medya, sahip olduğu bu özelliklerle bireyler arası iletişimde bireylerin emojiiler kullanarak ifadelerini belli şekil ve kalıplara sokabilmelerine olanak sağlamaktadır veya yaşama hızlıca devam etme gerekliliği ile bazı sözcükleri kısaltma yaparak kullanmalarına neden olmaktadır. Bu durum, iletişimde ilişkilerin belli bir kalıba girmesine yol açmaktadır. Örneğin sevgisini ifade etmek isteyen biri bu sevgiyi kelimelere dökmek ve duygularındaki ölçüyü vurgulamak yerine bir kalp emojisi göndererek göstermektedir. Kullanılan kalp sevgi ifadesini gösterirken, zaman içerisinde bu kalp emojisi sevgiyi

sıradan bir ifadeye çevirmekte ve belli bir kalıba koymaktadır. Bunun yanında kelime kısaltmaları, örneğin ‘tamam’ sözcüğü ‘tmm’ şeklinde yazılarak dilimiz kurallarına aykırı davranmaya itmekte ve bunu da yine belli bir kalıba koyarak sıradan, olağan bir dil kullanımının doğruluğu düşüncesine itmektedir.

Teknolojinin gelişimi ile dijitalleşme hızı beraberinde getirirken, yeni medya iletişimin hızlanmasına ve anında küresel olarak bireylerin her yere, her topluma ulaşabilmesine öncülük etmektedir. Mesafeler ne olursa olsun, iletişimin eş zamanlı sağlanması bazen olumlu bazen de olumsuz sonuçlar doğurmaktadır.

5. Toplumsal Yapı ve Sosyal Medya

Sosyal medyada iletişim süreci açık, hızlı, karşılıklı olumlu-olumsuz tepkilerin anlık gerçekleşmesi açısından güçlü ve etkili olmaktadır. Sosyal medya ile kişi bir yandan sosyal medyanın içindeyken bir yandan sosyal medyanın dışında olabilmektedir. Alav, bu durumu “sosyal medya bir nevi hibrit bir varlıktır. Bir tarafta iletişim kanalları, diğer tarafta ise iletişime maruz kalan canlı organizma/insan olgusu sosyal medyayı hibrit bir nesne haline dönüştürmüştür” (2020, s.30) şeklinde ifade etmiştir. Genel olarak geleneksel medya değerlendirildiğinde mesajlar kişilerin bilinçaltını etkileyerek, yönlendirmeye yönelik oluşturulur. Oysa sosyal medyada mesajlar açık kaynaklı ve katılımcı bir yapıdadır. Burada da, bilinçaltı etki altına alınabilecek mesajlar kullanılır ancak açık kaynaklı ve katılımcı içerikli olması, mesaja hareketlilik katmakta ve hızlı bir şekilde yön değişme özelliği sağlamaktadır. Sosyal medyanın kişiler ve topluluklar üzerinde etkili olmasında iletişim ile etkileşimin ve bir çok arkadaş edinme sitesinin önemli bir etkisi bulunmaktadır.

Toplumsal yapı kavramı irdelenecek olursa; sosyoloji bilminde toplumsal bir sistemin yapısal adı olarak tanımlanır. Toplumsal yapı içinde Alav’ın da vurguladığı gibi, “toplumsal ilişkiler, statü ve roller, toplumsal kontrol mekanizmaları, toplumsal normlar, toplumsal sapmalar, toplumsal gruplar ve sınıflar, kent ve metropoller, toplumsal tabaka yapıları, toplumsal hareketlilikler, siyasal yapılanmalar, kültür, sanat, hukuk, medya ve ekonomi gibi pek çok yapının yer aldığı görülmektedir” (2020, s.32).

Toplumsal yapı içindeki değişimler kişi ile başlar. Kişi toplumun en küçük hücresi konumundadır. Kişiden gruplara, sınıflara, topluluklara değişimler yansır ve böylelikle değişim yapının genelinde görülür duruma gelir. Bireyle başlayan toplumsal yapı içindeki değişim kurumsal yapı ve normlarına yansımakta oradan da değerler sisteminde görülmektedir. Sosyal medya ile sosyal ilişkiler ve dolayısı ile toplumsal yapı da etkilenmektedir. Buna paralel olarak toplumsal yapının ihtiyaç duyduğu herşey teknolojik gelişmeleri harekete geçirebilmektedir.

Sosyal medyada düşünceler paylaşılmakta, arkadaş edinilmekte, ticaret yapılmakta, görüş ve düşünce tartışmaları gerçekleşmekte olduğundan ve bu eş zamanlı olabildiğinden süratli bir yayılım gerçekleşmekte, bu da sosyal medya üzerinden bireysel etkileri toplumsal etkilere dönüştürebilmektedir.

Sosyal medya ile kişiler ve toplumsal yapılar sınırsız bir şekilde etkilenmektedir. Sosyal medya küresel olarak hızlı erişim gücüne sahiptir ve bu sosyal medyayı vazgeçilmez kılıp, bireyler ve toplumlar üzerinde bağımlılık yaratmaktadır. Toplumsal olarak sosyal medyanın gücü değerlendirildiğinde; sosyal medyada iletiler güncel olup, anlık geribildirimler gerçekleşmektedir. Sosyal medya mesajlarına kişisel ve toplumsal tepkiler sınırlandırılmamakta, özgür bir şekilde mesajlar zaman ve yer gözetmeksizin dolaşabilmektedir. Sosyal medyanın toplumsal gücünü ortaya koymak için bir örnek verilecek olursa; Arap baharı devriminde örgütlenmemiş halk, sosyal medya ile örgütlenmiş, toplumsal yapıyı siyasal olarak temelinden değiştirmiştir. Bu noktada sosyal medya demokrasinin savunucusu durumundayken diğer taraftan diktatörlerin tehdidi altında olmaktadır. Toplumsal yaşamda hız ve zaman önemli öğeler olmakla birlikte, sosyal medya zaman kavramını ortadan kaldırarak kişilerin ve toplumların yaşam hızını artırmaktadır (Alav, 2020).

6. Toplumsal Yapının Etkilenmesinde Sosyal Medya

Sosyal medya ile kişiler birbirini etkilemekte ve bu etkileşim topluma ve toplumun yapısına yansımaktadır. Sosyal medyada gerçekleşen iki yönlü iletişimde gönderici ve alıcılar herhangi bir konu ile ilgili düşüncelerini veya duygularını aktarmak istedikleri gibi şekillendirmekte ve uygun gördükleri kodlar ile sosyal medyada sunmaktadırlar. Bu noktada önemli olan verilmek istenen mesajın nasıl kodlanacağı ve hedef kitle /kitlelere nasıl aktarılacağıdır çünkü önemli olan alıcının almasının istenildiği şekilde mesajın gönderilmesidir. Sosyal medyada yerine ulaşmayacak, anlamsal olarak havada kalacak bir içerik göndericinin gerçekleşmesini istediği bir durum değildir. Propaganda amaçlı sosyal medya kullanımlarında ise kişilerin tepkileri yönlendirilmek istendiğinden mesajlar bu yönde kodlanabilmektedir ancak önemli olan düşünülerek verilen tepkiler olduğundan sosyal medyada dikkat edilmesi gereken nokta mesajın anlaşılacak şekilde alıcıya verilmesidir.

Toplumsal yapıda sosyal sınıflar bulunmakta ve bu sınıflar kitleleri ortaya koymaktadır. Kitleler, kişilerin oluşturduğu büyük gruplar olarak tanımlanmaktadır. Kişilerin oluşturduğu gruplar ve sınıfların toplumsal temsiliyeti varken aynı zamanda tüm grup ve sınıflar her bir kişiyi temsil etmektedir. Kitle içinde kişiler birbirlerini tanımakla beraber tanımayabilirler ancak sosyal medya bunu ortadan kaldırarak kişiler arasında etkileşimi sağlamaktadır.

SONUÇ

Günümüzde sosyal medyada pek çok kişi birbirini tanımamakta ancak paylaşımlar sayesinde görüş, düşünce, fikir alış verişini yapabilmekte ve de paylaşımcı olabilmektedirler. Fiziksel olarak kişilerin aynı ortamı paylaşıp paylaşmadığı önem taşımamakla birlikte, fikir birliği ve ayrılığı içerisinde veya yoruma açıklık platformu ile sanal münasebet söz konusu olabilmektedir. Düşünce, fikir ve görüşlerin bu kadar aktif olduğu ve yaşamın her anına hakim olduğu noktada fiziksel birliktelik önemini kaybetmeye başlamaktadır. Sosyal medyada kişilerin hangi sınıftan, kültürden, meslekten ve yaşam şekline geldiği önem taşımamaktadır. Bu noktada sosyal medya kitleleri birleştiricidir denebilir. Alav, kitleleri oluşturarak birarada tutan sosyal etkileşimin nedenini “kitlenin ortak hedef ve amaçlarının olmasıdır. Kitlelerin merkez noktaları ise, kitleyi ortak etkileşime çeken ve yönlendiren bireylerin çoğunluğunun bulunduğu yerlerdir. Kitle toplumlarının var olabilmesi için her şeyden önce açık (şeffaf), aktif ve dinamik bir toplum yapısının var olması gerekir” (2020, s.47) ifadeleri ile açıklamıştır.

Teknolojinin gelişimi, kitle iletişim araçlarının çeşitlenip gelişmesine fırsat sağlamıştır. Sosyal medya kişisel iletişim ve etkileşimleri, toplumsal iletişim ve etkileşime çevirmiştir. Sosyal medya ile kişiler toplumla bütünleşmiş, toplum kültürü almakla beraber diğer toplumların kültürlerini almaya açık hale gelmiştir. Sosyal medyanın kişiler ve toplum üzerindeki etkisi değerlendirildiğinde, kişilerin sadece kendi toplum insanı, kültür ve değeri değil, diğer toplumların kültür, değer inançlarını da benimsemesine neden olduğu görülmektedir. Değinilebilecek diğer bir nokta, kişilerin ve toplumsal yapıların birbirlerinden etkilenme derecesi sosyal medyayı ne kadar sıklıkla kullanmaları ile bağlantılıdır. Günün büyük bir bölümünü sosyal medya ile iç içe geçiren bir birey, burada gerçekleşen tüm etkinlik, aktivite, düşünce, eğlence vb. paylaşımları takip edebilmekte ve sanal dünya içindeki mesajların içerisinde kendini bütünleşmiş ve ayrılmış olarak bulabilmektedir. Kişinin sanal dünya ile bütünleşmiş olması sosyal medya içerisindeki pek çok şeyi kabul edip benimsemesi, mesajlar ile kişisel yapısını uyumlaştırması anlamına gelmektedir. Sosyal medya içinde ayrışması veya kişinin kendini mesajlardan ayrık düşünmesi ise, sosyal medyada ortaya konan mesajları alması değil, bu mesajlar içerisinde kendine uygun bulduğu, hoşlandığı, beğendiği, taktir ettiği ve ilgisini çektiği mesajları benimsemesi, diğerlerini göz ardı, kulak arkası etmesi demektir. Kişinin kendince mesajları süzgeçten geçirmesi ve kişisel, toplumsal, küresel bakış açısı

değerlerine yönelik uygun bulduğu mesajları alması, kabul etmediklerini de reddetmesi gözlenen bir gerçektir.

Medya ve kişiler arasında tepkisel iletişim ve karşılıklı güven olduğu sürece sağlıklı ve doğru ilişkiler kurulabilmektedir. Sosyal medyada paylaşılan bir düşünce, haber, eğlence, moda ve farklı bir yaşam tarzı örneği çok çabuk hatta anında tüm kitlelere ulaşabilmektedir. Bu paylaşımlardan etkileşim çok yüksek olmakla birlikte, kişilerin sosyal medyaya kontrollü uyumu toplumsal yapı için büyük önem taşımaktadır. Alav'ın da vurguladığı gibi "Medya ve bireyler; bilim ve bilgi toplumu olma yönünde karşılıklı etkileşim sürecinde oldukları müddetçe daha sağlıklı ve verimli bir birey – medya ilişkisi oluşacaktır" (2020, s.75). Önemli olan, kültürlerarası iletişim düşünüldüğünde, sosyal medyanın ortaya koyduğu mesajları kültürlerin doğru bir zeminde örtüştürebilmesidir. Etik kurallar çerçevesinde gerçekleşecek her türlü iletişim, her alandaki iletişim ve doğru aktarım yeni dünya düzeninin doğru şekilde şekillenmesinde önemli rol oynayacaktır. Sonuç olarak denilebilir ki, bilinçli kişiler bilinçli toplumları oluşturacak ve bilinçli toplumlar da böylelikle bilinçsiz toplumların her zaman önünde olacaktır.

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AN EVALUATION ON THE EFFECTS OF ENVIRONMENTAL CHANGES ON AGRICULTURAL PRODUCTION AND RURAL POPULATION MOVEMENTS IN TURKEY

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ABSTRACT

Agricultural lands, which are the source of meeting the nutritional needs of people, which are the basic necessity of their survival, tend to be abandoned periodically in Turkey. In addition to different problems such as division by inheritance, inability to provide the desired income, unplanned construction, terrorism, it is seen that the cost of agricultural production increases and the yield decreases due to the increase or decrease in precipitation and temperature due to climatic changes. The situation that arises on the basis of cost increase and inefficiency forces people to leave agriculture and migrate to cities, resulting in a process that results in the abandonment of agricultural lands. In this study, the effects of climate-related environmental changes on agricultural lands and population movements in Turkey since the 1970s, when climate change and environmental problems began to be discussed in the international arena, were examined. Based on the literature review, this study was created by utilizing the open data of different institutions on issues such as agricultural production, population movements, agricultural lands, precipitation changes. It is seen that especially the Northeast Anatolian Region, Southeastern Anatolian Region, Eastern Anatolian Region and Central Anatolian Region in Turkey have been in the process of emigration for years due to various reasons. While the population of the country increases regularly, the number of insured people working in agriculture tends to decrease, similarly, while the urbanization rate increases, the agricultural land ratio decreases. The decrease or depletion of lakes and underground water resources, especially in regions where irrigated agriculture practices are practiced, encourages people working in the agricultural sector to produce products based on dry agriculture or to leave their land and gain economic gain in other business areas in the cities. In the study, it is recommended to increase the incentives for returning to agriculture and to expand the scope of supportive policies in production processes in order to maintain agricultural diversity and protect sectoral population balances in Turkey. In addition, considering the diversity of Turkey's climate and soil structure, it is predicted that possible food crises can be prevented by developing a guiding and planning understanding for land use and agricultural production.

Keywords : Agricultural Lands,Climate Change,Population Movements,Urbanization

GİRİŞ

Tarımsal üretimin canlı tutulması ve tarım alanlarının korunması bir ülkenin gıda ihtiyacını karşılayabilme, bu ihtiyaca yönelik üretimden gelir elde edebilme ve gıda güvenliği açısından önemlidir. Ülkelerin bulunduğu coğrafyanın iklimsel özellikleri ve toprak yapısına bağlı olarak kimi ülkeler tarım alanlarının dar olmasına rağmen çeşitli projeler vasıtasıyla (teknoloji kullanımı, planlı üretim, alternatif tarım alanları oluşturma vb.) üretimlerini arttırabilmişken kimi ülkeler ise verimli ve geniş tarım alanlarından yeterli verimi alamamaktadır. Tarımsal nüfusunu ve tarım alanlarını güvence altına alıp, doğru planlama ve teknoloji yardımıyla üretimlerini arttıran ülkelerde ortaya çıkan ürünler hem ülke içi gıda ihtiyacını karşılamak hem de gelir elde edebilmek adına gıda, sanayi vb. alanlarda ham madde için ihraç edilmesi bakımından ülkelere farklı katkılar sunmaktadır. Fakat tarımsal üretimde verimliliği arttırmaya yönelik çalışmaların yetersiz kalabileceği bir sorun olan küresel ısınma ve buna bağlı ortaya çıkan iklimsel değişimler teknoloji kullanımı, planlama, yeni tarım alanları oluşturma vb. gibi tüm politikaları geçersiz kılacak etkisiyle zamanla tarımsal alanları yok etmekte ve insanlar için büyük bir tehdit oluşturmaktadır. Tarım alanlarını ve bu alandaki ekonomik sektörü etkileyen iklimsel gelişmeler benzer şekilde ülke içerisindeki nüfus hareketlerini de etkilemektedir. Tarım alanlarında istihdamı sağlanan kişiler ortaya çıkan olumsuz iklimsel değişimler neticesinde geçimini sağlayacak yahut tarımsal üretimini sürdürebilecek geliri elde edememesinden dolayı ekonomik kazanç şeklini değiştirmekte kentlere göç edip vasıflı yahut vasıfsız çeşitli işlerde çalışmayı tercih etmektedirler. Dolayısıyla ekonomik ve sosyal hayatı etkileyen çift taraflı bir plansız süreç ortaya çıkmaktadır. Kırsal alanların plansız bir şekilde göç vermesi ve kentlerin aynı şekilde göç alması hem kentlerdeki istihdam dengelerini etkilemekte hem de kırsal alanlarda mevcut tarımsal üretim dengelerini bozmaktadır. Ardında bırakılan ve geride işleyecek kimsenin kalmadığı arazinin yıllarca faaliyete sokulmadan beklemesi hem bölge hem de ülke ekonomisi için büyük bir kayıptır.

Çalışmada daha önce Türkiye’de tarımsal üretim, iklimsel değişimler ve nüfus hareketleri alanlarında ortaya konulmuş araştırmalardan yararlanılmıştır. Benzer şekilde bu çalışma Türkiye’nin iklimsel, tarımsal ve nüfusa yönelik yıllar içinde yaşanan değişimlere ilişkin resmî kurumlara ait verilere dayanılarak oluşturulmuştur. Çalışmada Türkiye’nin tarımsal üretim potansiyelinin ne ölçüde kullanıldığı, yıllara göre gelişen sanayi istihdam alanlarının yarattığı fırsatlar ve ülkedeki çevresel değişimler karşısında kırsal nüfusun davranışları ve tarımsal üretimin bu durumdan nasıl etkilendiğinin bir çıkarımının yapılması amaçlanmıştır. Benzer şekilde Türkiye’nin dinamik göç sürecinin ülke tarımına etkilerinin ilerleyen yıllarda nasıl olacağına ilişkin öngörülerde bulunularak ülke tarımını koruyucu çeşitli önermelerde de bulunmaktadır. Ek olarak iklimsel özelliklerin ve bu bağlamda tarımsal üretiminin ele alındığı Türkiye’de mevsimsel ve çevresel değişimlerin neler olduğuna ve tarımsal üretime etkilerinin nasıl olduğuna dair bulgulara da yer verilmiştir. Tüm bu bulgular kapsamında ise Türkiye’de kırsal alanlardan kentlere yaşanan göçler dönemsel olarak neden sonuç ilişkisi içerisinde irdelenmiştir.

1. Türkiye’nin İklimsel Özellikleri ve Tarımsal Üretimi

Türkiye kış mevsiminde kutupsal, yaz mevsiminde ise tropikal hava akımının etkisinde bir ülkedir. Kışın Sibiryaya, Atlas Okyanusu ve Avrupa’dan gelen soğuk hava kütlelerinden etkilenen ülke, yazın Kuzey Afrika ve Akdeniz çevresinden gelen sıcak hava kütlelerinin etkisi altına girmektedir (Şensoy vd., 2008). Bir diğer iklimsel özelliği de deniz etkisinin kıyı bölgelerinde çokça hissedildiği Türkiye, ara mevsimler olarak bilinen ılıman bahar aylarını da yaşamaktadır. Bölgelerde hâkim olan farklı iklimsel özelliklere göre kurak olan bölgelerde topraktaki yağmur suyundan faydalanarak Orta Anadolu, Doğu ve Güneydoğu Anadolu bölgelerinde kuru tarım yapılırken (nadas tekniği ile), su kaynakları bakımından avantajlı olan bölgelerde ise sulamaya dayalı olarak her yıl sulu tarım yapılmakta buna bağlı olarak birçok farklı tarımsal ürün üretilmektedir (WWF, 2021, s. 56). İklimsel özelliklere göre Türkiye’de dört tip iklimin hâkim

olduğu söylenebilmektedir. Ülkenin üç tarafının denizle çevrili olması, ılıman ve subtropikal kuşakta yer alması bu topraklarda özel iklim tipleri ortaya çıkarmıştır. Karasal İklim, Marmara İklimi, Karadeniz İklimi ve Akdeniz İklimi olarak adlandırılan bu iklimlerin ülkenin deniz kenarında olması, dağ şekilleri ve yükseltisine göre bölgesel olarak ortaya çıkmıştır. Karasal iklim de bölgelere göre nispeten farklılık göstermektedir. Trakya Karasal İklimi, Doğu Anadolu Karasal İklimi, Güneydoğu Anadolu Karasal İklimi ve İç Anadolu Karasal olmak üzere dört tip karasal iklim mevcuttur. Güneydoğu Karasal İkliminin hâkim olduğu yerlerde yaz ayları çok sıcakken kış ayları ise kısmen soğuk geçmektedir. Doğu Anadolu Karasal ikliminin etkili olduğu yerlerde ise kış aylarında uzun süreli ve şiddetli soğuklar hâkim olmaktadır. Don olaylarının sıklıkla yaşandığı bu iklim tipinde tarımsal üretimden daha çok hayvancılığın yapıldığı görülmektedir. İç Anadolu Karasal İkliminde ise yaz ayları sıcak, kış ayları ise soğuk olmaktadır. Hâkim olduğu bölge yağışları kış ve ilkbahar mevsimlerinde almaktadır. Bir diğer karasal iklim çeşidi olan Trakya Karasal İkliminde ise yaz ayları sıcak geçerken, kış ayları kısmen soğuk geçmektedir. Bölge en fazla yağışı kış, ilkbahar ve sonbahar aylarında almaktadır. Ülkede hâkim olan bir diğer iklim çeşidi olan Akdeniz İklimi ise yaz aylarının sıcak ve yağışsız, kış aylarının ise ılık ve yağışlı geçmektedir. Don olayları ve kar yağışı nadir olmakla beraber yüksek rakımlı yerlerde görülür. Bu iklimin ülkede Ege, Akdeniz ve İç Anadolu'nun bir kısmında etkili olduğu bilinmektedir. Geçiş iklimi olarak da adlandırılan Marmara İklimi ise Marmara Bölgesi ve Ege Bölgesinin kuzeyinde etkili olmaktadır. Karadeniz İklimi kadar yağış almayan, kış aylarında Akdeniz İklimi kadar ılık olmayıp, Karasal İklim kadar da soğuk olmayan bir ara iklim gibi düşünülebilecek bu iklim yağışların çoğunu kış aylarında almaktadır. Ülkenin Karadeniz Bölgesinde etkisini gösteren Karadeniz İkliminde ise yaz ve kış ayları sıcaklık farkı aşırı olmamakla beraber yaz ayları serin, kış aylarının ise deniz kıyılarında ılık ve yağışlı, yüksek rakımlı yerlerde ise soğuk ve kar yağışlı olarak geçmektedir. Hemen her mevsim yağış alan bu bölge, su konusunda sorun yaşamayan nadir bölgelerdendir (Şensoy vd., 2008).

Harita 1: Türkiye'deki Tarım Havzaları



Kaynak: tarimorman.gov.tr

Harita 1'de görüldüğü üzere Türkiye'de yedi coğrafi bölgede toplam 30 tarım havzası bulunmaktadır. Sahip olduğu iklimsel özelliklere göre hemen her mevsim farklı bir bölgesinde tarım yapılabilir. Ülke topraklarının büyük çoğunluğunda tarımsal üretime uygun toprak yapısının ve iklim özelliklerinin bulunması mevcut konumu itibariyle bölgesinde ekonomik olarak büyük bir ayrıcalıktır. Fındık, incir, kiraz ve kayısı üretiminde dünya birincisi olan Türkiye'de, temel gıda ham maddeleri, farklı meyve ve

sebze türleri, kimyevi tarımsal hammadde gibi pek çok tarım ürünleri de üretilebilmektedir. Ayva, haşhaş tohumu, karpuz, kavun, Antepfıstığı, kestane, hıyar, vişne, ceviz, domates, elma, zeytin, patlıcan, biber ve ıspanak ürünlerinde ise dünyada ilk dört ülke arasında yer almaktadır. 2000'li yılların başlarında 30 milyar lira dolaylarında tarımsal ihracat yapılan Türkiye'de son yıllarda bu miktar 200 milyar liralara ulaşmıştır (tarımveorman.gov.tr, 2021). Ancak Türkiye, bu alanda potansiyelinin altında kaldığı farklı araştırmacılar tarafından dile getirilmektedir. Türkiye yüzölçümü olarak 78 milyon hektardır, bu alanın 24 milyon hektarı ise tarım arazisidir. Ülkenin mevcut su potansiyeli ile sulanabilecek arazi alanı 8,5 milyon hektar olarak hesaplanmıştır. 2019 yılı itibariyle bu alanın 6,65 milyon hektarı sulamaya açılmıştır. Yıllık yağış ortalamasının 574 mm olduğu Türkiye'de bu oran yıllık 450 milyar m³'e denk gelmektedir. Ülkenin mevcut teknoloji ve ekonomik koşullarıyla yeraltı ve yerüstü toplam kullanılabilir su kaynakları 112 milyar m³'tür. Ancak 44 milyar m³'ü sulama suyu, 13 milyar m³'ü içme/kullanma ve sanayi suyu olmak üzere toplam 57 milyar m³ su kullanılabilir (dsi.gov.tr, 2022). İlerleyen yıllarda Türkiye'nin sanayi hacmi ve nüfusunun artması beklentisi su kullanım ihtiyacını daha da arttıracak düşünülürken, iklimsel değişimlere bağlı olarak yaşanılması muhtemel kuraklığında buna paralel olarak artacağı önlemlerin yetersiz kaldığı takdirde içme/kullanma, sanayi, tarım gibi alanlarda hayati önemi olan su sorununun yaşanacağı öngörülmektedir.

2. Mevsimsel ve Çevresel Değişimlerin Tarımsal Üretime Etkileri

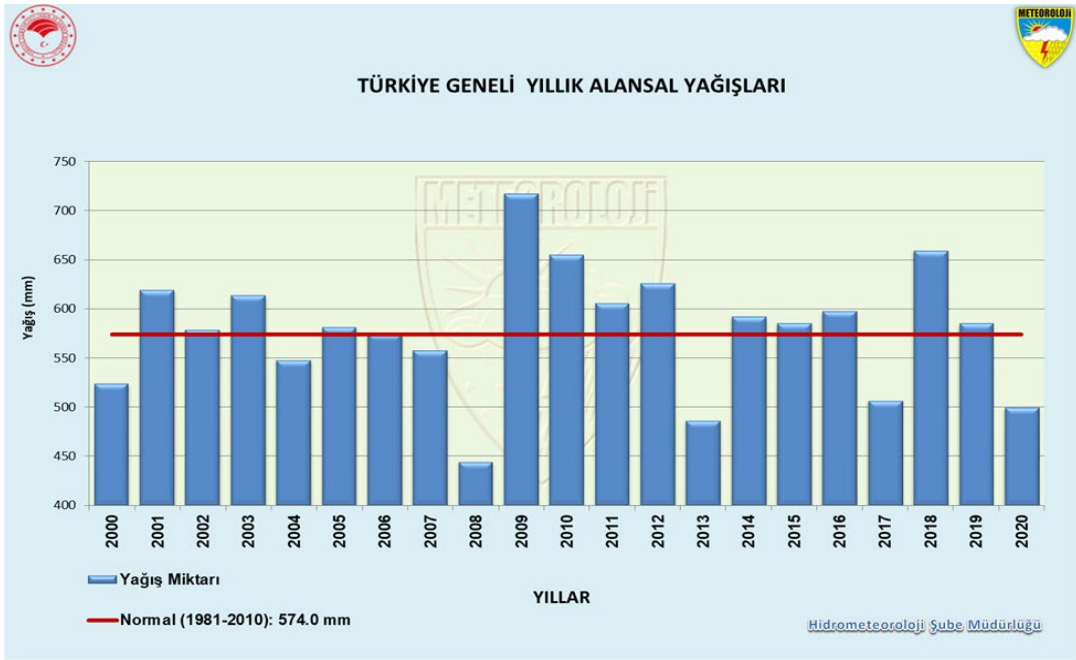
İklimde dayalı çevresel değişimlerin sebebi olarak görülen küresel ısınma, Güneşten gelen kısa dalgaboylu ışınların yeryüzüne çarptıktan sonra uzun dalgaboylu ısı ışınları şeklinde atmosferde bulunan sera gazlarına çarparak tekrar yeryüzüne yansımaya sıcaklığın yer küre ile sera gazları arasında sıkışmasıyla atmosferin dünya yüzeyine yakın taraflarında ortalama sıcaklığın doğal olarak ya da insan faaliyetleri sonucu artması (Aksay vd., 2005, s. 31) olarak tanımlanmaktadır. Yerkürede meydana gelen ortalama sıcaklık artışının sebep olduğu gelişmeler neticesinde Dünya üzerinde canlıların doğal yaşam alanları ve buna bağlı olarak yaşamları etkilenmektedir. Ortaya çıkan bu etkilenme kısa vadede özellikle kuraklık olarak kendini hissettirmektedir. Dünya üzerinde mevcut kuraklığın daha da yaygınlaşması beklenirken özellikle ılıman orta kuşak ülkelerinin yakın gelecekte belirgin bir kuraklık yaşayacağı ve bu süreçten en çok etkilenen ülkelerden birinin Türkiye olacağı bir gerçektir. Yıllık olarak artış gösteren sıcaklığın devamlılığı durumunda yakın gelecekte olumsuz etkiler yaratacağı, Türkiye'de hâkim olan tarımsal ürünlerin, toprak yapısının, bitki örtüsünün, su kaynaklarının ve tüm bunların çeşitliliğinin sıcaklık artışına bağlı olarak topyekûn etkileneceğini ön görmek mümkündür. Ancak küresel ısınmaya bağlı iklimsel değişimlerin yalnızca sıcaklık temelli algılamak doğru bir yaklaşım olmamaktadır. Sıcaklık artışı olduğu gibi bazı bölgelerde de yağışlarda şiddetlenme ortaya çıkmakta ve çeşitli afetler meydana gelmektedir.

Türkiye'de küresel ısınma kaynaklı mevsimsel değişimler ele alındığında yıllık yağış miktarlarında yaşanan değişimlere bağlı olarak bazı bölgelerde kuraklık artışı bazı bölgelerde ise aşırı yağışların ortaya çıkardığı sel baskınları yaşanmaktadır. Yağışların Ege ve Akdeniz kıyılarında azaldığı, Karadeniz kıyılarında ise artma eğiliminde olduğu görülmektedir. Ege ve Akdeniz Bölgelerinin yanı sıra Doğu, Güneydoğu Anadolu ve İç Anadolu Bölgelerinde de kuraklık artışı yaşandığı görülmektedir (Uğurlu ve Örçen, 2007, s. 18). İklimsel değişimler sonucunda fırtına ve sel gibi doğal afetlerin şiddeti artmakta insanlar için temel gereksinimlerden olan beslenme, sağlık ve suya erişim alanlarında olumsuzluklar doğurmaktadır. Sıcaklık artışının tarımsal üretimi olumsuz yönde etkilediği, yağışlardaki artışın ise olumlu bir etki yaptığı görülmektedir. Fakat yapılan çalışma neticesinde sıcaklık değişkeni katsayısı, yağış değişkeni katsayısından büyük olması sebebiyle iklimsel değişimlerin tarımsal üretimi olumsuz yönde etkilediği ortaya çıkmaktadır (Başoğlu ve Telatar, 2013, s. 22). Benzer şekilde yağmurların dengeli yağmasından ziyade sel baskını yaratacak şekilde şiddetli ve ani olması bu yağışla yeryüzüne inen suyun tutulmadığı takdirde toprağı ve tarımı olumsuz yönde etkilediği bilinmektedir. İklim değişikliği tarımsal üretimde riskleri arttırmaktadır. Özellikle ekim dönemlerinin kurak geçmesi ya da tarım alanlarının

şiddetli yağışlar sonucunda sele yahut doluya maruz kalması (çürüme, parçalanma, kırılma, sökülme, seralarda yıkım vb.) ürün veriminin düşürmektedir. Bir diğer konu Türkiye’de karma yem üretimiyle ilgilidir. Son 20 yılda 25 milyon tona çıkan karma yem üretiminin ithalata bağlı olarak arttığı gözlemlenmektedir. Mısır, soya ve kepek gibi hayvancılık açısından önemli olan yem hammaddelerinin %50’si ithalatla temin edilmektedir. İthalat oranının yüksek olduğu ürünlerin ilerleyen dönemlerde ithal edilme sorunları ya da ülkedeki üretimi etkilediği unutulmamalıdır (Yıldırım, 2020).

Bayraç ve Doğan (2015, s. 34-36) çalışmasında iklim değişikliğinin tarıma etkilerine yönelik olarak bitkisel ürün miktarı ve verimliliği, toprak yapısı, hayvansal üretim ve verim, su kaynakları üzerindeki etkiler ve diğer etkiler olmak üzere beş önemli etkiden bahsetmektedir. Sıcaklık artışı, yağışlar, havadaki CO2 içeriği ve diğer iklimsel ekstrem olayların sıklıkla meydana gelmesi tarımsal ürünlerin verimini, rekoltesini, hasat zamanını, çayır ve mera alanlarında otlatma zamanını ve verimini değiştirmektedir. Sıcaklığın artması toprağın nemini kaybettirmekte ve sulama ihtiyacını arttırmaktadır. Toprağın yapısındaki azot, ph değeri, mikro bakteriyel bileşenler gibi özellikler sıcaklık artışıyla değişmekte ve toprak yapısı olumsuz etkilenmektedir. Sıcaklıkların artması kırsal alanlarda hayvancılık sektörü üzerine de çeşitli etkiler yapmaktadır. Hayvanlarda ölüm oranlarını arttırmakla beraber hastalık ve parazitlerin artması, yem ve ilaç kullanımının artması, et- süt üretimi ve verimi, gebelik ile ilgili olumsuz sonuçlar doğurmaktadır. Sıcaklık artışının su kaynakları üzerine etkisine bakıldığında ise doğal kar, yağmur yağışlarının zamanının ve miktarının değişimi buna bağlı olarak yer altı ve yer üstü su kaynaklarının olumsuz etkilenmesine sebep olmaktadır. Aynı zamanda su kaynaklarındaki buharlaşmayı arttıran sıcaklıklar su kaybına da sebep olmaktadır. Deniz sularının buzulların erimesiyle artması, şiddetli yağışların su baskınlarına yol açması, UV ışınları ya da ozon seviyesinin tarımsal ürünlerin büyüme sürecine yaptığı etkiler, kuraklığa bağlı toprak erozyonu ve çölleşme gibi sorunlar ise sıcaklığın kırsalda yol açtığı diğer sorunlar olarak karşımıza çıkmaktadır. Benzer şekilde Kadıoğlu vd. (2017, s. 10-11) yaptıkları çalışmada iklimsel değişimlerin Türkiye’de tarım sektörü üzerine etkileri konusunda şu hususlar üzerinde durmaktadırlar: Tarımda ve hayvancılıkta verimin azalması, tarımda kullanılan suya talebin artması, bitkilerin dikim ve hasat zamanlarında değişimler, tarımsal ürün yetiştirmeye elverişliliğin azalması, hayvanlar ve bitkiler üzerinde hastalık artışı, deniz suyunun ısınmasıyla balıkçılık sektörünün riske girmesi.

Tablo 1: Türkiye Geneli Yıllık Alansal Yağış Miktarları



Kaynak: mgm.gov.tr

Türkiye’de yıllık alansal yağış miktarlarının gösterildiği Tablo 1 incelendiğinde 2000 yılından 2020 yılına kadarki 20 yıllık süreçte ülke, 7 yıl ortalama yağış düzeyinin altında yağış almıştır. Ülkede özellikle 2008, 2013, 2017 ve 2020 yıllarının oldukça kurak geçtiğini söylemek mümkündür.

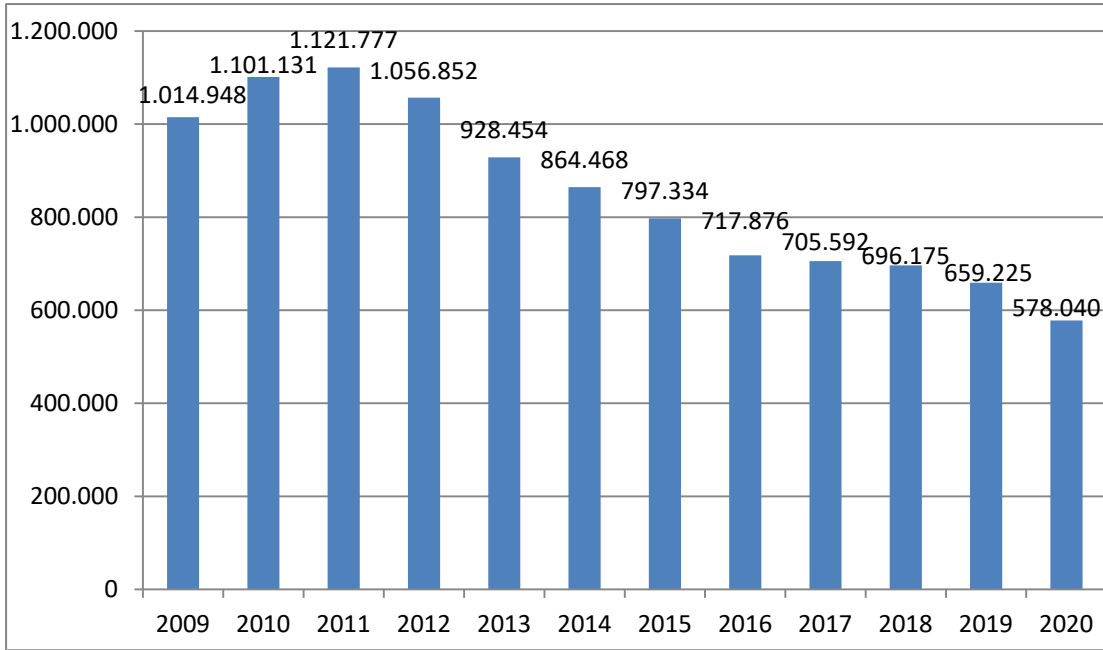
Türkiye, gerekli önlemlerin alınmadığı takdirde özellikle iç ve güney bölgelerinde kuraklığı çokça hissedecek bir ülkedir. Küresel ısınmaya bağlı olarak dünya üzerinde ortaya çıkacak kuraklıktan en çok etkilenecek olan bölge ılıman orta kuşaktır. Dolayısıyla ılıman orta kuşakta yer alan Türkiye kuraklık riski altındadır. Öyle ki, Milliyet Gazetesi’nin “*Kuraklığın vurduğu köylerini terk ediyorlar*” başlıklı haberinde, Elazığ’ın Baskil ilçesinin Akuşağı Köyü’nde kuraklık nedeniyle insanların geçim kaynağı olan kayısı ağaçlarının kurduğunu ve içme suyu sıkıntısı dahi yaşayan köylülerin arazilerini satıp köyü terk etmeye başladığı yazılmıştır (Milliyet Gazetesi, 24.06.2014). Benzer şekilde Sputnik Türkiye’nin “*Artan maliyetler ve kuraklıktan şikâyet eden çiftçiler iş bırakıyor: 90 hanelik köy, 25 haneye düştü*” başlıklı haberinde ise Diyarbakır çevresinde yaşanan kuraklık ve artan maliyetler sebebiyle tarım ve hayvancılık yapmanın zorlaştığı, köylülerin ise kentlere göç ederek alternatif işler aradıkları bu sebeple 90 hane olan köyün 25 haneye kadar gerilediği yazılmıştır (Sputnik Türkiye, 05.10.2021). Tarıma yönelik bir başka önemli sorun ise tarımsal üretimin cazibesini yitmesidir. Bir uluslararası içecek ve gıda şirketinin 800 kişi (Ebeveynleri çiftçi olan 400 kişi ve ziraat ile ilgili bölümlerde eğitim gören 400 kişi) üzerinde yapmış olduğu araştırmaya göre katılımcıların %65,5 tarımsal üretim yapma konusunda kararsızlardır. %28,2’si ise tarım yapmayı düşünmemektedirler. Tarım yapmayı istememelerinin sebepleri olarak ise, köyde yaşamayı istememek, yetersiz gelir olması, yorucu, sosyal olmayan ve itibarsız bir iş olduğu kanaatinde dirler (Bloomberght, 24.11.2017).

3. Türkiye’de Kırdan Kente Nüfus Hareketleri

Türkiye’de ülke içi nüfus hareketleri incelendiğinde özel sektörün ekonomik girişimleri ve kırsal nüfusun ekonomik kaygıları sebebiyle iç göçlerin, çok partili hayata geçişin ardından 1950’li yıllarda başladığını söylemek mümkündür. 1950 yılından sonra yaşanan iç göç hareketleri kent nüfusu, kamusal hizmet sunumu ve istihdam dengeleri açısından sıklıkla literatüre konu olmuş pek çok araştırmacının

dikkatini bu alana yoğunlaştırmıştır. Türkiye’de kentsel nüfusun artışını büyük orandan kırsaldan gelen göçlere bağlamanın yanlış bir vurgu olmayacağını belirten Keleş (2017, s. 76) İkinci Dünya Savaşı’nın ardından Türkiye’ye pek çok traktörün girdiğini 1952 yılında ülke içerisinde 31 bin 145 olan traktör sayısının 1973 yılına gelindiğinde ise 156 bin 139’a ulaşmış 1992 yılında 723 bine yükselen traktör sayısının 2008’de ise 1 milyon 70 bin 746’ya ulaştığını vurgulamaktadır. Bir adet traktörün araziye girişi ortalama 6 tarım işçisinin yerini aldığı ve dört kişilik hane varsayıldığında bir traktörün 24 kişiyi etkilediğini varsayan Keleş, 1950’den günümüze Türkiye’de kentsel nüfusun 60 milyon kişi artmasında traktörün tek etki olmadığını ancak etkisinin büyük olduğunu savunmaktadır. Öyle ki bu savı destekler nitelikte bir başka çalışma ise Tanyol (1958, s. 210) tarafından traktör giren elli köy üzerinde yapılmış ve özellikle Doğu Anadolu ve Güneydoğu Anadolu Bölgelerinde ağa yahut efendi köylerine traktörün girmesiyle işçi ihtiyacı son bulmuş ve o bölgelerdeki kırsal alanlardan nüfus boşalmaları yaşanmıştır. Teknoloji odaklı bu nüfus hareketleri tarımsal üretimde istihdam edilen kişi sayısını etkilemiş ancak üretimde gerileme sağlamamıştır. Tarımda makineleşme ile daha az insana ihtiyaçla daha fazla iş yapmak olumlu bir etki ortaya çıkarmaktadır. Ancak iklimsel değişimler neticesinde teknoloji kullanımı ve makineleşmenin de yetersiz kalabileceği ve toprak sahiplerini de verimsizlikle mücadele etmeye zorlayacak yahut toprağını terk etmeye mecbur bırakacak gelişmeler yaşanabileceği unutulmamalıdır.

Tablo 2: Türkiye’de Yıllara Göre Tarım Sektöründe Çalışan Sigortalı Sayısı

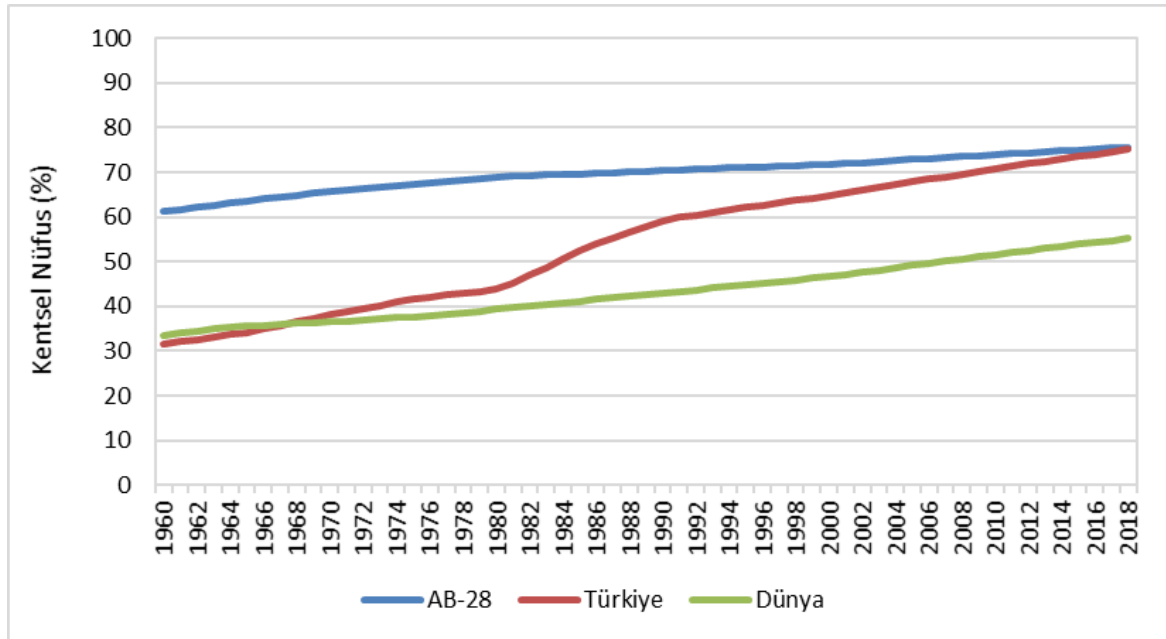


Kaynak: veri.sgk.gov.tr

Türkiye’de son yıllarda tarım sektöründe sigortalı olarak çalışan kişi sayılarının bulunduğu Tablo 2’de de görüldüğü üzere 2009 yılından 2020 yılına kadar geçen 11 yıllık süre içerisinde tarım sektöründe çalışan sigortalı sayısında yüksek miktarda düşüş olduğu görülmektedir. 2009 yılında tarım sektöründe çalışan kişi sayısı 1 milyon 14 bin 948 kişi iken 2020 yılına gelindiğinde ise 578 bin 40 kişinin bu sektörde istihdam edildiği görülmektedir. Türkiye’de geçen 11 yıllık süre içerisinde tarım sektöründe çalışan sigortalı kişi sayısında %43 oranında azalma yaşanmıştır. Kentlere göçün hızı azalsa da devam etmesi, tarımda kayıt dışı çalışanların yayılımı, maddi verim kaybından dolayı alternatif istihdam alanlarına yönelmek, istihdam edilme ihtiyacında ilginin başka alanlara kayması gibi birçok olay bu azalışın sebebi olarak görülebilir. Tarım sektöründe çalışanlara yönelik yaşanan bu düşüşün kırsal alanların dezavantajlı sosyoekonomik yapısının yanı sıra kentsel alanların sahip olduğu fırsatlar da bu sürece hız

kazandırmaktadır. Kuraklığa bağlı olarak sulu tarım yapılan yerlerde yaşanan verim düşüklüğü, tarımda istihdam edilecek işgücü konusunda sorun yaşayan yerlerde işçi yevmiyelerinde yaşanan artış, tarımsal üretimde kullanılan malların üretim maliyetinin artması (gübre, zirai ilaç, yakıt, vb.), üretimde arz-talep dengelerinin göz ardı edilmesi, tarımsal üretim sektörünün sosyal hayatta cazibesini yitirmesi, üretimin planlama dahilinde yapılmaması gibi birçok sebep insanları tarımsal üretimden uzaklaştırmaktadır. Benzer şekilde kentlerde (özellikle büyükşehirlerde) ulaşım imkanlarının gelişmiş olması, farklı alanlarda uzmanlık gerektirmeyen pek çok istihdam imkânı bulunması, sağlık, eğitim, sosyal hizmetler başta olmak üzere kamusal hizmetlere erişimin daha kolay olması, sosyal ve ekonomik yaşam standartlarının yüksek olması ya da zamanla yükselmesi, gıda, giyim gibi çeşitli yaşamsal ihtiyaçlara erişimin kolay olması gibi birçok sebep kişileri kentlere çekmektedir.

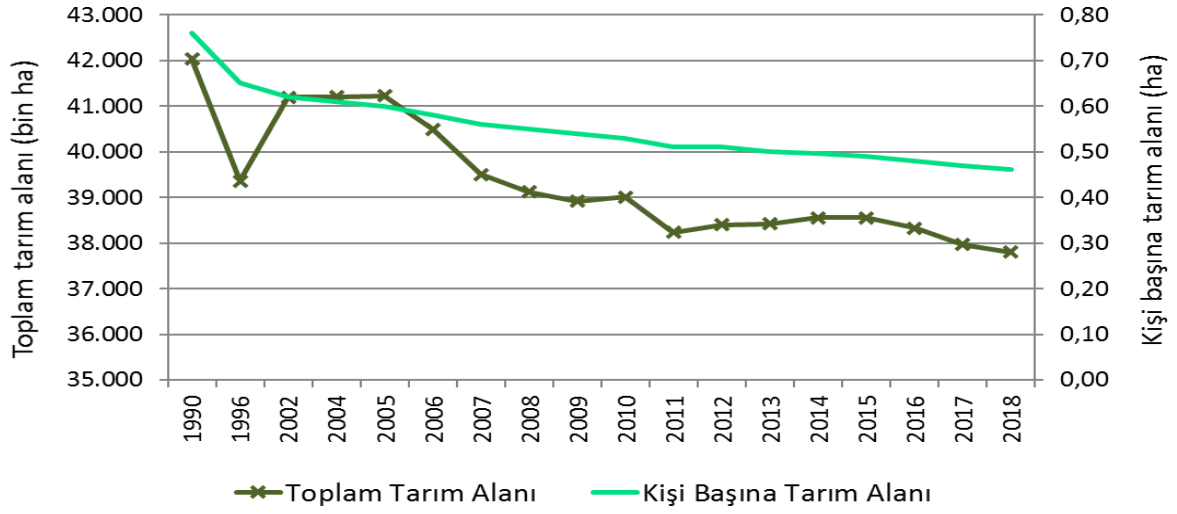
Tablo 3: Türkiye’de Kentsel Nüfus Oranının Yıllara Göre Değişimi



Kaynak: csb.gov.tr

1960 yılından itibaren Türkiye, Avrupa ve dünya genelinde kentleşen nüfus oranındaki değişimin gösterildiği Tablo 3’te 1960’lı yıllarda Türkiye’de kentsel nüfus oranı %30 seviyelerindeyken, bu oran günümüzde AB’nin kentsel nüfus oranını yakalamış, dünya genelinin ise üzerine çıkmıştır. Kentsel nüfus Büyükşehir Yasası ile her ne kadar %91 olarak beyan edilse de gerçek anlamda kentsel nüfusun Türkiye’de %75 seviyelerinde seyrettiği bilinmektedir. Bu oran dikkate alındığında dahi Türkiye’nin son 60 yıl içerisinde çeşitli kentsel yatırımlar ya da kırsal gelişmeler aracılığıyla nüfusunun kentleşme alanında büyük bir sıçrama yaşadığı ortaya çıkmaktadır. Türkiye’de özellikle 1980 yılı itibariyle kentleşme hızı yükselmiştir. Tabloda Türkiye’nin kentleşme oranını gösteren kırmızı şerit dikkate alındığında 1980’de %40’larda seyreden kentleşme oranı 1990 yılına gelindiğinde %60’lara çıkmıştır. Bu artış Türkiye’de devlet anlayışının ve ekonomi politikalarının değişmeye başladığı döneme denk gelmektedir. Öyle ki, piyasanın serbest yapıya bürünmesi ve özel sektör girişimlerinin artması bu dönemde kentlerde ortaya çıkan istihdam olanaklarını fırsat bilen kırsal nüfusun kentlere taşınmasını hızlandırmıştır.

Tablo 4: Türkiye’de Kişi Başına Tarım Alanını Miktarının Yıllara Göre Değişimi



Kaynak: csb.gov.tr

Türkiye’de 1990 yılı ile 2018 yılları arasında yaklaşık 30 yıllık dönemde kişi başına ve ülke genelindeki toplam tarım alanlarında yıllara göre ortaya çıkan değişimi gösteren Tablo 4’e göre ülkedeki toplam tarım alanlarında zaman zaman artış ve azalış yönünde değişimlerle beraber genel olarak azalış eğilimi görülürken, kişi başına düşen tarım alanlarında sürekli bir azalış olduğu görülmektedir. Ülkenin nüfus artışına bakıldığında düzenli bir yükseliş seyri gözlemlendiğinden kişi başına düşen tarım alanında yaşanan düzenli düşüşün normal bir hareket olduğu ancak toplam tarım alanlarında yaşanan azalışın doğal olaylar (kuraklık, erozyon, obruk vb.) ya da insan eliyle başka alanlara (sanayi alanı, imara açma, yanlış sulama, miras yoluyla bölünme/parçalanma vb.) dönüştürülmesi sonucunda olduğu düşünülebilmektedir.

Tablo 5: Türkiye’de Yıllara Göre Genel, Kırsal ve Kentsel Nüfus Değişimi (1927-2000)

Yıl	Türkiye			Kırsal Alanlar			Kentsel Alanlar		
	Nüfus	Artış (%)	Endeks	Nüfus	Artış (%)	Endeks	Nüfus	Artış (%)	Endeks
1927	13 648 270	-	100	10 342 391	-	100	3 305 879	-	100
1935	16 158 018	18,38	100	12 355 376	19,46	100	3 802 642	15,02	100
1940	17 820 950	10,29	100	13 474 701	9,05	100	4 346 249	14,29	100
1945	18 790 174	5,43	100	14 103 072	4,66	100	4 687 102	7,84	100
1950	20 947 188	11,47	100	15 702 851	11,34	100	5 244 337	11,88	100
1955	24 064 763	14,88	100	17 137 420	9,13	100	6 927 343	32,09	100
1960	27 754 820	15,33	100	18 895 089	10,25	100	8 859 731	27,89	100
1965	31 391 421	13,1	100	20 585 604	8,94	100	10 805 817	21,96	100
1970	35 605 176	13,42	100	21 914 075	6,45	100	13 691 101	26,7	100
1975	40 347 719	13,31	100	23 478 651	7,13	100	16 869 068	23,21	100
1980	44 736 957	10,87	100	25 091 950	6,87	100	19 645 007	16,45	100
1985	50 664 458	13,24	100	23 798 701	-5,43	100	26 865 757	36,75	100
1990	56 473 035	11,46	100	23 146 684	-2,81	100	33 326 351	24,04	100
2000	67 803 927	20,06	100	23 797 653	2,81	100	44 006 274	32,04	100

Kaynak: data.tuik.gov.tr (20.09.2021)

Tablo 5’te verilen bilgiler kapsamında 1927 yılından 2000 yılına kadar Türkiye’de kırsal ve kentsel nüfusun değişimi göz önüne alındığında yıllar içerisinde artış ve azalış şeklinde dönemsel dalgalanmalar yaşanmıştır. Kırsal nüfus sürekli olarak artış göstermiş ancak askeri, siyasi ve toplumsal olaylar ve serbest piyasa ekonomisine geçiş tartışmaları ile bilinen 1980’li yıllara gelindiğinde ise kırsal nüfus azalış yönünde bir değişim göstermiştir. Kentsel nüfus değişimleri incelendiğinde ise istikrarlı bir artış yaşandığı görülmektedir. Özellikle 1950’li yıllardan sonra benimsenen merkezi politikalar ve ekonomik girişimler neticesinde kentlerdeki nüfus artışının hızlandığı ve düzenli bir artış seyrinde olduğu görülmektedir. 2000’lerin başında 23 milyon olan kırsal nüfus 2010 yılında 17 milyona, 2012 yılında 6 milyona inmiş, 2019 yılında ise yine 6 milyon civarında seyretmektedir (Toç Bir-Sen, 2020). 2012 yılında kırsal nüfusta yaşanan keskin düşüş insanların köylerini terk etmesinden kaynaklı değildir, o yıl çıkarılan 6360 sayılı Büyükşehir Yasası olarak bilinen yasa ile büyükşehir sınırları içerisinde bulunan köylere mahalle statüsü verilmesiyle kırsal nüfus resmi rakamlarında düşüş yaşanmıştır. Benzer şekilde bu yasayla beraber ülkede kentsel nüfus oranı da %91’e yükselmiştir. 2020 yılında yapılan değerlendirmeler neticesinde Türkiye’de kentsel nüfus oranı %93’e yükselirken, kırsal nüfus oranı %7’ye düşmüştür (data.tuik.gov.tr, 2021).

Kırsal nüfusun kentlere göç etmesinin temel sebepleri olarak tarımsal üretimde düzensiz verimlilik, yüksek maliyet, düşük gelir, sınırlı kamusal hizmetler sayılabilmektedir. Türkiye’de kişi başı milli gelir dışında tarım sektöründe çalışan kişilerin satın alma gücünde ve ekonomik durumlarında yaşanan değişimleri görebilmek amacıyla “iç ticaret hadleri” kullanılmaktadır. Belirli bir yıl baz alındığında çiftçilerin üreterek piyasaya sunduğu ürünlerin fiyatları, çiftçi kesimin bu ürünleri üretmek için satın aldıklarının fiyatları ve kendi temel ihtiyaçlarını karşılamak için yaptığı harcamalar ile kıyaslanmakta, çiftçinin üretilen piyasaya sunduğu malların fiyatlarında bir düşüş yaşanmış ise bu çiftçinin bir gelir kaybı yaşadığı ve refahında bir düşüş yaşandığı anlaşılmaktadır. Zaman zaman dalgalanmaların yaşandığı Türkiye’de genellikle iç ticaret hadleri tarımsal nüfusun aleyhine geliştiği görülmektedir (Arısoy, 2019). Dolayısıyla karını istenen seviyede tutamayan, üretimini sürdürebilecek kazancı elde edemeyen kırsal nüfus tarımsal üretimi terk edip kentlerdeki istihdam alanlarına yönelim göstermektedir. Kırsal nüfus 1980’li yıllarda azalış eğilimi göstermiştir. 1980’li yıllarda kırsal nüfusun azalış göstermesinin hükümetin

uyguladığı ekonomi politikasının bir sonucu olarak ortaya çıktığını söylemek mümkündür. 1980’li yıllarda siyasi ve ekonomik sistem “sosyal devlet” kavramını saf dışı etmiş, piyasa ekonomisini kurtarıcı bir şart olarak sunmuştur. Küreselleşme temelli liberal siyaset başta Amerika Birleşik Devletleri (ABD) olmak üzere Kıta Avrupa’sı ve Türkiye’de Özal hükümetiyle yükselen bir görüş haline gelmiştir. Liberal politikalar kapsamında toplumun yerini birey, kamunun yerini özel girişimler, emeğin yerini ise sermayenin alması gerekliliği vurgulanmıştır. Bu görüş daha sonra hükümetler için cazip hale gelmiş ve iktidarların ekonomi politikalarının temelini oluşturmuştur (Duman, 2011, s. 114). Türkiye’de Özal hükümetinin benimsediği serbest piyasa ekonomisine geçiş sürecinin etkileriyle özel girişimlerin artması, ticarete serbestlik, sermaye yatırımları gibi girişimler kentsel alanlarda istihdam olanakları açığa çıkarmıştır. Bu sebeple zaten kırsal alanların sosyoekonomik dezavantajı altında ezilen bir kısım kırsal nüfus bu politikaların yarattığı çıktıları fırsat bilerek kentlere göç etmişlerdir.

Türkiye’de 2007 yılından 2020 yılına kadar geçen 13 yıllık süre içerisinde bölgesel olarak nüfus değişimleri incelendiğinde en fazla göç veren bölgenin Kuzeydoğu Anadolu Bölgesi olduğu görülmektedir. Bölgenin geçen yıllar içerisinde aldığı ve verdiği göçler incelendiğinde yıllık ortalama %19,02’lik bir azalış yaşadığı görülmektedir. En fazla göç veren bir diğer bölge ise yıllık ortalama %9,46 azalış ile Ortadoğu Anadolu Bölgesidir. Göç verme bakımından üçüncü sıradaki bölge ise yıllık ortalama %5,73 azalma gösteren Güneydoğu Anadolu Bölgesi olarak kayıtlara geçmiştir (data.tuik.gov.tr). En fazla göç veren bu üç bölgenin ekonomik, sosyal ve coğrafi özellikleri incelendiğinde özel ve kamusal ekonomik girişimlerin kısıtlı olduğu, endüstrileşmeye uygunluk, pazar alanları ve aktarma bölgelerine ulaşım bakımından topografik ve iklimsel verimliliğin diğer bölgelere göre daha kısıtlı olduğu yerlerdir. Dolayısıyla bu bölgelerin ekonomik faaliyetleri mera hayvancılığı ve düşük ekonomik çıktıya sahip tarımsal ürünlerdir. Doğu Karadeniz ve Batı Karadeniz Bölgeleri nüfus hareketleri incelendiğinde ise zaman zaman göç alma eğiliminin yükseldiği ancak çoğunlukla göç verdiği görülmektedir. Ayrıca bu iki bölgenin nüfus hareketleri konusunda benzer özellikler taşıdığını söylemek mümkündür. Öyle ki, her iki bölge de 2011-2012, 2015-2016 ve 2017-2018 yıllarında nüfusunda artış yönünde bir değişim yaşarken diğer yıllarda bu değişim azalış yönünde olmuştur. Tarımsal nüfustaki azalış eğilimi tarımsal işletme sayılarına da yansımıştır. 1991 yılında Türkiye’de yapılan tarım sayımı verilerine göre, bitkisel ve hayvansal temelli üretimle uğraşan tarım işletmesi sayısı 4 milyon 91 bin 531’dir. Bu sayının 90’lı yıllara kadar artış gösterdiği bilinmektedir. Öyle ki, 1950 yılında ülkede tarımsal işletme sayısı 2 milyon 500 bin civarında, 1980’li yıllarda ise 3 milyon 600 bin civarlarında seyretmiştir. Ancak 2001 yıl tarım sayımlarına göre tarımsal işletme sayısı 3 milyon 697 bin 743’e gerilemiştir (Günaydın, 2006, s. 15). Bu sayı 2019 yılında ise 3 milyon 100 binlere kadar inmiştir.

SONUÇ VE ÖNERİLER

İnsanların ekonomik uğraşları sonucu meydana gelen çıktılar ve diğer canlılardan kaynaklanan karbon ve sera gazları neticesinde yerkürede meydana gelen ısınma, “küresel ısınma” olarak kavramlaştırılmış, 20. Yüzyılın ortalarından itibaren literatürde sıklıkla tartışılan bir konu olmuştur. İklim değişikliği ve küresel ısınma kaynaklı ortaya çıkan sorunlar ele alındığında şunları söylemek mümkündür: Bu ısınma ve iklimsel değişimlere bağlı olarak çevresel değişimler, mevsimsel olayların süresi ya da şiddetinde değişimler (mevsim kaymaları), doğal afet sayısında da artış gibi olayların gerçekleşmesi beklenmektedir (Sel, hortum, yangın, kuraklık vb.). Türkiye’de Güneydoğu Anadolu ve İç Anadolu Bölgesinde kuraklık artışı ve uzun süreli tarımsal verimsizlik olacağı düşünülmektedir. Özellikle tahıl ürünlerinin üretim alanlarının kuzeye doğru kayacağı (Karadeniz Bölgesi) tahmin edilmektedir. İklim değişikliğinin su kaynakları üzerinde de olumsuz etkisi bulunurken, yüzey su kaynakları bakımından zengin bir ülke olmayan Türkiye’nin yer altı sularının da azalma eğiliminde olduğu unutulmamalıdır. Ayrıca tarımsal üretim sürecinde ürünün elde kalması, verimsizlik, maliyet artışı, tarımsal üretimi sürdürecekt kazancı sağlayamama, miras yoluyla toprakların parçalanması, kuraklık, zirai hastalıkların artması, kırsal yaşamın

cazibesini kaybetmesi gibi sebepler insanları tarımdan uzaklaştırmaktadır. Türkiye’de 1950’lerden beri sosyoekonomik nedenlerden ötürü devam eden göç sürecinin tarımsal verimsizlik, işgücü yoksunluğu ve üretimde maliyet artışı sebebiyle bölgesel olarak “tarımı terk etmek” sonucu doğurabileceği öngörülmektedir. Demografik ve istihdam dengelerini korumak adına iklim değişikliğinin beklenen sonuçlarını gözeterek toprak kullanım planı ve tarımsal nüfusu kırsalda tutacak destekleyici politikalar genişletilmelidir. Demografik dengeleri korumak açısından yurtiçi göç sürecinin devam etmesi, yurtdışından da iklim mültecilerinin uluslararası göç dalgası yaratacağı unutulmamalıdır (Özellikle Güneydoğu Asya ve Afrika).

Bayraç ve Doğan (2016, s. 46) yaptığı araştırma ve analizler sonucunda, CO² yayınındaki değişimlerin tarımsal Gayrisafi Yurt İçi Hasıla (GSYİH) üzerinde anlamlı ve negatif etkide bulunarak tarımsal üretimde verimi ve ürünlerin kalitesini olumsuz etkilediğini vurgulamaktadırlar. Benzer şekilde sıcaklıktaki değişimler de tarımsal üretimi etkilemektedir. Bu etki yağış değişimlerinin yarattığı etkiden daha fazla olmaktadır. Tarımın geleceği açısından ortaya çıkması muhtemel durumları önleyici ve uyum sağlayıcı politikaların yerel ve ulusal stratejik planlarda denetimi yapılarak geniş yer verilmesi gereklidir. Tarımsal destekler arttırılmalı, çiftçilerin plansız bir şekilde öngörüsüz üretim yapmalarından ziyade ürettiği ürünü piyasaya satabileceği arz fazlasına düşmeyeceği güvenli bir ortam oluşturulmalıdır. Tarımsal üretim doğada yapıldığından iklim değişikliğinden en fazla etkilenen sektördür. Tarım doğrudan toprak, hava, su, güneş gibi etkenlere bağlı olduğundan birçok dezavantajla mücadele gerektiren hassas bir süreçtir. Çeşitli destekleyici faaliyetler sonucu bu dezavantajların etkisinden sıyrılabilen tarım sektörü konu iklim olunca müdahale edilebilirlik zorlaşmaktadır. Dolayısıyla iklimde yaşanabilecek değişikliklere karşı savunmasızdır (Akyüz ve Atış, 2016, s. 121). Dolayısıyla üreticilerin üretim süreçlerini ortaya çıkan mevcut duruma göre şekillendirmeleri özendirilmeli ve desteklenmelidir. İklimle bağlı çevresel değişimlerin etkileriyle mücadele ve süreci yönetebilme konusunda çiftçilerin bu konuda hassasiyetlerinin arttırılması gerekmektedir (Vahşi sulama, akıllı tarım uygulamaları, hidroponik (topraksız) tarım vb.). Tarım ve hayvancılık sektöründe potansiyeli olan illerde «Tarım ve Hayvancılık Meslek Okulları» kurulmalı ve istihdamlarına yönelik kurumsal alanlar (çiftlik vb.) oluşturulmalıdır. Özelliğini yitirmiş tarım alanlarının geliştirilerek üretime kazandırılması. Benzer şekilde miras yoluyla bölünmüş ve tarımsal üretimden kopmuş alanların birleştirilmesi sağlanmalıdır. Karbon yutak alanlarının genişletilmesi ve bu yönde desteklerin arttırılması. Toprağı kirleten maddelerin takibinin yapılması ve üreticilere kapsamlı eğitim verilmesinin (Zirai ilaç vb.) bu süreçte faydalı olacağı düşünülmektedir. Tarım sektöründe baş aktörler üretimi bizzat yapan çiftçiler olduğundan iklimle bağlı çevresel değişimlerin etkileriyle mücadele ve süreci yönetebilme konusunda çiftçilerin bu konuda hassasiyetlerinin arttırılması gereklidir. Benzer şekilde, üreticilerin üretim süreçlerini ortaya çıkan mevcut duruma görüne şekillendirmeleri özendirilmeli ve desteklenmelidir (Akyüz ve Atış, 2016, s. 125). Tarımsal üretim, insanların yaşamlarını sürdürülebilmeleri için temel gereksinim olan beslenme ihtiyacını karşılamalarının en önemli koşuludur. Bu sebeple gıdaya erişim, gıda güvenliği gibi konular ülkelerin öncelediği politikalarındandır. Gelecek kuşakların da gıdaya erişim konusunda sorun yaşamamaları ve Türkiye özelinde beklenen çevresel değişimlerin tarımsal üretime etkilerini en aza indirebilmek adına gerekli önlemlerin geç kalınmadan alınması gereklidir. Mevcut tarım alanları ve tarımsal işgücünün en verimli şekilde değerlendirilebilmesi adına bu sürecin girişimciler ya da üreticilere bırakılmasından ziyade bir devlet politikası olarak değerlendirilip üzerine daha fazla düşünülmesi ve politika üretilmesi zaruri olmaktadır.

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SHAPING SUSTAINABLE DEVELOPMENT THRU SUSTAINABLE EDUCATION: AN INVESTIGATION AMONG SUSTAINABLE CONSCIOUSNESS AMONG ADOLESCENTS IN TVET EDUCATION

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ABSTRACT

Sustainability holds to an ability to maintain at a certain level which is bearable and capable. As sustainable development is something which an individuals should consider and aware, the level of sustainability is less entirely adequate and consciously understood. Sustainable development acquires several qualities to shape the future. However, consciousness towards it is doubtful; looking on the way our planet, people and profit are managed. Thus, this study is aiming at crystallizing the sustainability knowledge, attitude, and behavior among young generation. This cross-sectional study is aiming at measuring sustainability consciousness among TVET youngsters. This quantitative study has utilized four sets of adapted items and has been distributed to all TVET institutions in Malaysia. The questionnaire has been preliminary conducted on 30 samples of a pilot test before it could be administered to the samples using simple random sampling. The finding is expected to give quite an impact and infer to sustainability awareness in Malaysian TVET education. The reliability of all constructs is more than good to measure what it supposes to measure. This preliminary study is randomly distributed via face to face and online questionnaire.

Keywords: Sustainable Learning, Consciousness, Sustainable Knowledge, Sustainable Attitude, Sustainable Behaviour, Youngsters.

1. INTRODUCTION

Learning in a new era has been vastly challenging. Transform from traditional learning to outcome-based education (OBE) has been tremendously becoming emerging practice. Transformative learning which requires integration of various teaching and learning approaches which engage the head, heart, and hands for various discipline is quite complex to chew (Mahmud, 2017). Hence learning and sustainability have become an emerging field of inquiry (Rodríguez Aboytes & Barth, 2020).

Sustainable learning would be from various perspectives. There would be from organizational perspectives (Wijethilake & Upadhaya, 2020), supply chain (Sarkis, 2021), or from different levels of education. Sustainability learning would capture attention on the school approach (Bosevska & Kriewaldt, 2020) or higher education (Risopoulos-Pichler, Daghofer, & Steiner, 2020). Thus questions emerge as to how learning would sustain and contribute to education and further accelerate the growth of online learning especially during and after the Covid19 pandemic.

To date, various efforts have been made to understand and investigate these questions. This paper aims to help in closing the gaps and provide some overview on sustainable learning in higher education and the focus is aiming at providing insight to TVET Education. Learning is defined variously and Henry (2009) defines it as:

The continuous and active process that “takes place both in action and interaction and focuses on the cognition-action relationship” and by which individuals, collective agents, or wider social systems assimilate information and update their cognitions and behavior accordingly.

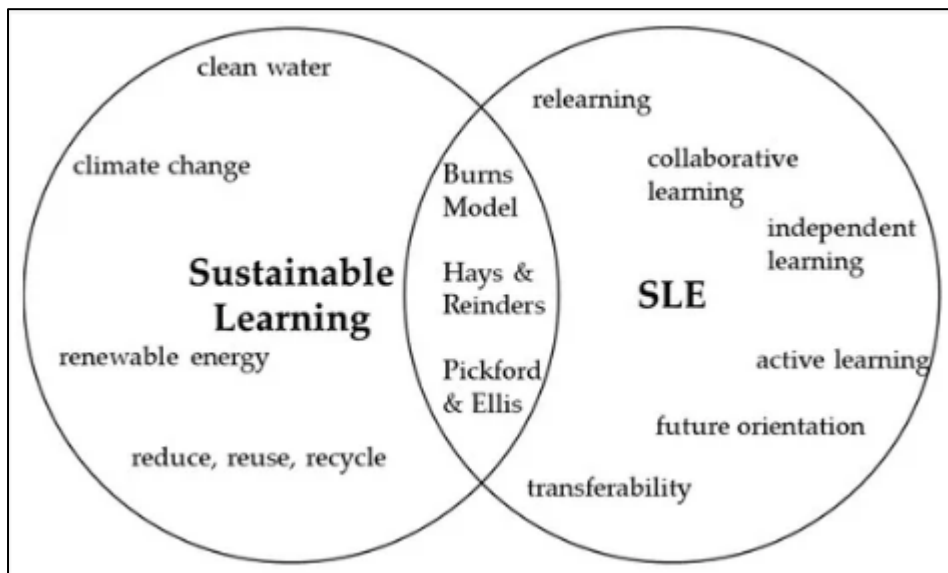


Figure 1: Overlaps on SL and SLE (Purvis, 2018)

The above figure 1 somewhat defines sustainable learning a way differently from sustainable learning in education (SLE) (Ben-Eliyahu, 2021). Sustainable learning (SL) is an emerging concept that is initially understood as learning that is retained and may be transferable (Hays & Reinders, 2020). It emphasizes retained knowledge and skills which would consist of ongoing, purposeful, responsive, and proactive learning.

As sustainability is concerned, there are three pillars namely economy, society, and environment (Purvis, 2018). These three pillars are also known as profit, people, and the planet. The so-called Prophet of Sustainability; Elkington (2020) predicts in his book an approaching crisis in the world economy and he offers solutions to crash capitalism which will be the systematic solution to global challenges and make this a better place for prosperity, people, and the planet. However, concern on sustainability is also aroused due to increasing environmental and society's problems. When 23% of people live in the cities, CO2 emission and consequential climate could end the world. Not to mention the plastic pollution, over-fishing, deforestation, biodiversity loss, and illegal wildlife trade would jeopardize and bring mass-scale destruction to the future habitable world (Figgenger, 2021).

Today, time can't be turning back but education would make people grow more trees, green the cities, clean up rivers and ocean and make peace with nature. As money talks and sustainability of prosperity, people and the planet is on the run, effortlessly.

1.1 Sustainable Learning

Sustainable learning is associated with lifelong learning (Livingstone, 1999) and a transferable process to learning to learn with engaging possibilities (Hays & Reinders, 2020). Others may also view sustainable learning as ecological thinking which sees sustainability as not an option rather than imperatively important. Holding the principles that we are all an agent in the ecosystem, sustainable learning put a great notion to sustainability. Hays & Reinders (2020) also believe that sustainable learning is the need to provide for today without damaging the future. Thus weighing on the future direction is seemly required to ensure that today's preparation is enough. Awareness and consciousness are vital to see the future undertaking.

1.2 Sustainability Consciousness

Sustainability consciousness is related to the experience or awareness of sustainability phenomena. It would be viewed from self-experiences and perception which associated with one's belief, feeling, and action (Gericke, Berglund, & Olsson, 2018). Often, business and marketing sustainability has captured the attention and been explored frequently. It would be due to the fact that environmental and sustainability concern companies have higher earning (Ahmed, Motagno, & Firenze, 1998).

In education, TVET Technical and Vocational Educational Training in Malaysia is developing. TVET has been regarded as a primary provider of human capital in industrialized nations. TVET has become primary education in most developed countries and it has been witnessed that almost 70% of students in Germany have entering TVET (Ahmad et al., 2015). Thus to be more competitive in preparing its human capital, Malaysia put enhancement on its TVET.

Until 2010, it is only 28% of higher-skilled workers in Malaysia is Malaysian and this situation put the Malaysian government realize how important it increases TVET graduates. Thru its Economic Transformation Program (ETP), TVET graduates are expected to take 1.5 million from 3.0 Million employment in 2020. Today there are more than 500 TVET institutions from various ministries in

Malaysia. TVET has become an engine of growth, especially in RMK 12 (Rancangan Malaysia Ke 12). These graduates are expected to become higher-skilled workers who will fulfil the demand for semi-skilled and skilled talents in the country. In 2016, more than 50% of school leavers joined TVET institutions proves that TVET institutions enrolment is succeeding (Technical and vocational education and training (TVET) in Malaysia, 2016). Above all, consciousness among these TVET students and lecturers becomes vital and crucial to future endeavours towards sustainability.

2. METHODOLOGY

To better measuring the sustainable learning consciousness among TVET students and educators, this cross-sectional study plan is as follows: First, we provide the literature to describe the underpinning theory to support this study. Second, a set questionnaire is designed to measure how knowledge, attitude, and behavior towards sustainable learning is influencing the consciousness of sustainable learning. Thirdly, the item has been developed and adapted from Michalos et al. (2011) which is based on Reasoned Action Theory. The framework is based on the work of Fishbein & Ajzen (2009) which found that knowledge, attitude, and behavior are the factors to consciousness.

Figure 2: Conceptual Framework

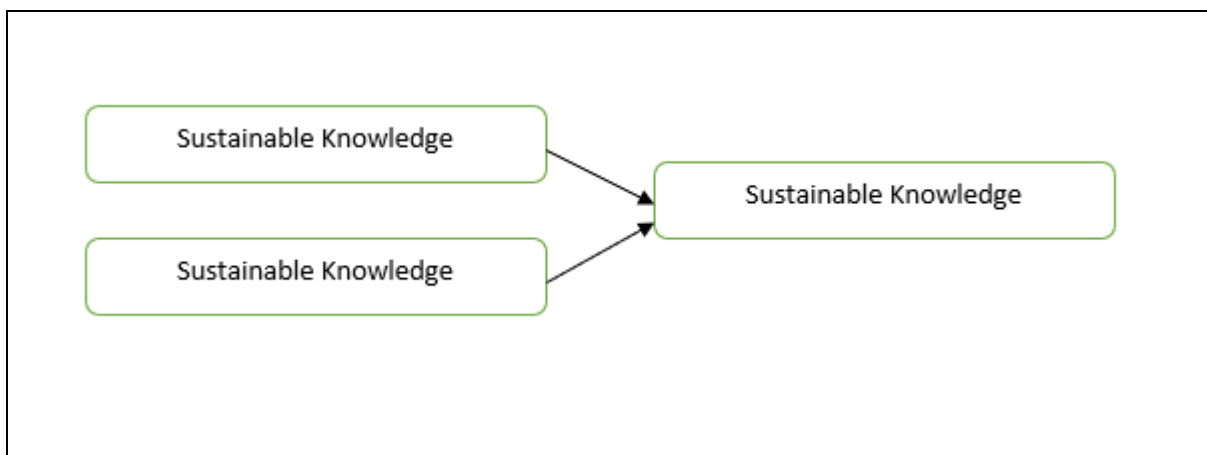


Figure 1 : Theoretical Framework

This Likert scale questionnaire uses a 4-point scale ranging from Definitely False to Definitely True. After this stage of writing, the item will be sent for peer-reviewed and then undergo a pilot test. 30 samples of the pilot test will be used. The sample frame would be the name list of all students in TVET institutions in Malaysia which will be acquired from each institution.

After the pilot test, the Cronbach Alpha would be used to see the reliability test as suggested by Creswell et al (2016). The original set of the questionnaire has been showing an overall internal consistency. This model showed an almost acceptable fit to the data (RMSEA = 0.033; CFI = 0.921; TLI = 0.917). All items to measure three independent variables and a single dependent variable would be conducted online in this yet ending pandemic. A sampling frame of 384 respondents (Krejcie & Morgan, 1970) would be targeted to measure the sustainability consciousness among TVET students and lectures.

Variables	Cronbach Coefficients	Alpha	Number of items in a construct	Reliability Coefficient
Sustainable Knowledge	0.916		12	Excellent
Sustainable Attitude	0.916		10	Excellent
Sustainable Behaviour	0.917		15	Excellent

Table 1 : Reliability Statistics

Criteria	Description	Frequency	Percentage
Age	16 to 19 years	3	4.7
	Above 20 years	60	95.3
Gender	Male	13	19.4
	Female	50	80.6
Location	Rural Area	23	37.5
	Sub Urban Area	33	53.2
	Urban Area	7	9.7
Education Level	Certificates	2	1.26
	Diploma	58	92.1
	First Degree	2	1.26
Races	Postgraduate	1	1.5
	Malay	60	95.2
	Indian	3	4.8

Table 2 : Demographic Detail

The above tables show the reliability statistics and demographic detail from the preliminary findings of the study. The reliability coefficient exhibited a high level of internal consistency. The instruments are good to measure the variables and infer to population.

The demographic details as in the table show the brief description of the respondents. However, the details should be more vary and distributed. For instance, the race and gender should be distributed among all races in TVET Education. While the instruments have an overall excellent internal consistency, this pilot study would pun more concern on

3. CONCLUSION

Based on described development and validation of adapted instruments, this study utilized to measure sustainable learning consciousness among the TVET community in Malaysia. Consequently, these instruments will be used for the study of the community at large and would fill the gap of the unknowing state of consciousness towards sustainability.

This study will utilize a cross-sectional quantitative study to measure Sustainable Learning and Sustainability Consciousness in TVET Education during Covid 19 Pandemic. It utilizes simple random sampling and infer into the bigger TVET population. The pilot finding employs high-reliability sources of instruments which showed 0.9 of Cronbach Alpha value. The instrument have been developed and adopted which have four main construct and two screening and demographic detail section. The constructs would have more than three items to ensure high value of reliability measurement.

Sampling procedure will be followed in order to have robust result which can be successfully generalized. The result is hoped to contribute to TVET society at large using Theory of Reasoned Action which could significantly show the level of sustainability learning and consciousness. The findings could be used to integrate an appropriate sustainability plan and these inferential statistics using correlation and multiple regression would lead to factor identification of the dependent variables; sustainability behavior.

Sustainable behavior which will portray sustainability consciousness would be the first indicator to picture green and sustainability among youngsters in Malaysia. It should be taken into consideration that sustainability consciousness would hold valuable information on to escalate Malaysia in line to make this planet a better place for people in order to live in prosperity.

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THE SOCIO-ECONOMIC PROBLEMS OF URBANIZATION IN THE CITY OF LUBUMBASHI STATE OF AFFAIRS AND PERSPECTIVES

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ABSTRACT

The increase in the standard of living; the creation of new penetration networks; the reduction of the hours of leisure and the industrial techniques of the current economic growth, bring important transformations of the urban forms which one can define like increase in the number of inhabitant in cities compared to the whole of the population is noticed in already existing cities; generally in territories considered attractive among other problems related to industrialization and urbanization, such as public hygiene, the complexity of which varies with many factors such as the climate; the traditions ; insalubrity and in particular the already existing health evolution; the multiplicity of informal commercial activities; the unsuitability of basic infrastructures (school; hospitals; markets; car parks) in the face of an ever-increasing population explosion; urban banditry; floods and overflows of water see the clogging of the gutters due to the bad management of waste are as many problems which result from the brutal urbanization of the city of Lubumbashi and which deserve to be taken into account to relate to the current state of urban spaces which must be developed and organized according to universal urban standards and a balance between the well-being of the inhabitants, the economic dynamics, the improvement of social relations without forgetting the preservation of the environment.

Keywords : The socio-economic, urbanization, city of Lubumbashi.

INTRODUCTION

Among the problems that concern urban planning and urban morphology and require to be subjected to an in-depth analysis, we have chosen for scientific communication to be presented during the scientific days organized by the higher technical institute of Lubumbashi; the socio-economic problems of urbanization in the city of Lubumbashi

Starting from the analysis that the diversity of the multiplicity of social facts in urban environments associated with urban dynamics not yet mastered to date make the planning actions of Third World governments very complex because of a planning that does not take into account the synergy between the public administration; development technicians and civil society which is the foundation for the success of any development project, Urbanization understood as a movement to transform the forms of society which can be defined as an increase in the number of those who live in the city compared to the whole population; often seen in attractive areas especially cities.

Issues relating to land use planning in the Congo are talked about and deserve to be analyzed to arouse interest, arouse curiosity and attention to a field which seems to be less taken into account by the public authorities in day-to-day management; while the relaxation in this area has corollary effects on several factors, it seemed more than important to us to make an interdisciplinary outline before proposing avenues for improvement in terms of appropriate diagnoses and adaptation to the consequent solutions, this research aims to establish a diagnosis of the current state of urbanization and to identify the main bottlenecks that prevent the city of Lubumbashi from taking full advantage of the benefits of urbanization,

The lack of drinking water makes it difficult to access quality health care or even the resurgence of old diseases such as typhoid fever, malaria, etc., which makes the number of slums greater than the rate of urbanization itself.

Finally, the study of the phenomenon of the development of cities has recourse to the concept of urbanization; it introduces our analysis into the field of urban sociology in relation to development and the urban economy and the planning of space which serves as a guide for this study; it falls within the field of regional planning, passing quite naturally through urban planning; all these fields give our object of study a complexity; each approach of which is part of a global framework of a space considered as a framework of production and interactions.

Two questions arise:

- Firstly, what is the role of the Congolese State and the provincial authorities in the development of the territory of the decentralized territorial entities?
- Secondly, who is responsible for enforcing urban planning standards in the city of Lubumbashi exposed to recurring socio-economic difficulties and problems?

GOAL OF THE STUDY

This analysis is intended for a wide public first, the State in its role of planner responsible for driving the national policy of regional planning, the local communities then the politicians in the sense that they mark of their borrowings on the construction or not for electoral purposes then and anxious to make a contribution to the national construction of a scientific thought and to establish a relationship between the urban dynamics and the organization of the space of the city of Lubumbashi it is therefore:

- To appreciate the value and importance of the development actions carried out so far by the State in the logic of a better organization of the city of Lubumbashi
- To decipher at the city level the evolutionary contributions and implications and limits of development policies
- Proposing ways and means to perfect and standardize development actions in the province and particularly in the city of Lubumbashi.

REVIEW OR REVIEW OF THE LITERATURE⁹

LWEU KAFUTSHI AND ALEX MUSOYA MAZAWA, in their article on the urbanization policy of the Democratic Republic of Congo: supervision and areas for improvement; case of the regulation of waste water and drainage of rainwater in the headlines of the communes of Lubumbashi; annex and Rwashi; mention in their article the reform of management institutions which must focus on the objectives of urban planning, land use planning and deforestation with regard to the failures observed in the management of decentralized territorial entities because such a question brings several ramifications in terms of questioning.

NSELE KESONGO Maurice, the mismatch between population growth and urbanization in Lubumbashi, for this master's degree in urban agriculture from the University of Liège in Belgium, referring to his article on the state of agriculture and peri-urban development in Lubumbashi; demonstrates that the city of Lubumbashi at its creation had only 250,000 inhabitants within it and that currently the number is estimated at 7,000,000 according to the UN report for the statistics of the town hall of Lubumbashi reveal that the city of Lubumbashi receives more of 15,000 People each year who influence a strong demographic

Alassane BARRO in his thesis on uncontrolled urbanization and industrial risk: the case of the kounoune power station; works engineer in land-use planning, environment and urban management National School of Applied Economics (INEA); 2010;

Y useni sukuzani, S cabala kaleba, JM Halleux, J bogaert & F. Munyemba kankumbi; characterization of the special urban growth of the city of Lubumbashi (Haut Katanga RD Congo) between 1989-2014 in their article which aims to characterize the urban spatial growth of the city of Lubumbashi from the analysis of six satellite images; and underlines that the city of Lubumbashi has recorded a high annual urban growth rate compared to that recorded in other cities of Saharan South Africa between 1989 and 2014, the proportion of buildings has tripled in the landscape from 6% at 20% and their survey results indicate that urbanization in Lubumbashi exhibited a complex pattern of coalescence diffusion;

The interest of the present study is centered on several domains: scientific; social ; academic on a scientific level the city of Lubumbashi is the subject of publications which relate either to the extension of the city in relation to its periphery or to land issues and urban renewal; either among other things on the causes and consequences of urban growth and sub-regional inequalities in the province; the particularity of this analysis lies in the problem of urbanization and its implications for socio-economic development.

THE METHODOLOGY, MATERIALS AND METHODS

This survey is carried out with the aim of apprehending in a qualitative way possible the explanatory factors of the interprovincial migratory movement of populations due to economic growth accompanied by sudden and uncontrolled changes in cities, the approach took place around forty individual interviews of the type semi directive; these interviews took place from January to March 2022 with 60 respondents from various neighboring and distant provinces of the city of Lubumbashi;

The exploitation of data collected by the method of content analysis and more specifically by thematic analysis made it possible to highlight the social representations or judgments of the respondents. However, particular attention was paid to the diversity of the respondents in terms of age and family situation (single; in a couple; separated from a widow; with or without children).

⁹Lweu KAFUTSHI and ALEX MUSOYA MAZAWA. The urbanization policy of the Democratic Republic of Congo; frameworks and areas for improvement: case of rainwater regulations in the municipality of Lubumbashi,

³ ALassana BARRO; uncontrolled urbanization and industrial risk: case of the Kounoune power station, dissertation in engineering works in land-use planning, environment and urban management; National School of Applied Economics (ESEA) 2010

Y useni sukuzani, S cabala kaleba, JM Halleux, J bogaert & F. Munyemba kankumbi; characterization of the special urban growth of the city of Lubumbashi (Haut Katanga RD Congo) between 1989-2014, University of Lubumbashi; Faculty of Agricultural Sciences, Ecology Unit; ecological and landscape restoration; University campus ; center of expertise in urban planning and management; Lubumbashi DR Congo 2015

The socio-demographic characteristics of the people met were described with regard to the population having made this trip between 2020 to 2021 and to present the results.

From a demographic point of view, we mainly targeted women whose age varies between 15 and 35 years in a couple or in a situation of single parenthood with an average of 4 to 6 children of school age or adults.

The people surveyed are between 25 and 55 years old if their average age of 40 is close to that of those who find themselves in this category of displaced persons in the years 2021. 2020. 2019 those over 55 are poorly represented within our population of study

RESULTS

Urbanization is an important current phenomenon since it concerns more than half of the world's population since 2008 and concerns by 2050; almost 70% of the latter, this makes it a subject that is more and more difficult to separate from the development of different societies but also from the environment; from 1999 to 2003 Lubumbashi then experienced an uncontrolled migratory movement due to the mining boom to this day and recorded a growth rate estimated at 40-60% which indeed leads to many positive and negative consequences in these areas, it is as a result, it appeared that the increase in the number of city dwellers could be closely linked to the development of industries, services to the population, means of transport, but also risked leading to an increase in the CO2 produced; soil degradation;

Table N°1: Evolution and demographic perspective in the city of Lubumbashi

The evolution of the population of the city of Lubumbashi from 1970 to 2021

Year	Number of inhabitants
In 1970	318,000 inhabitants
In 1984	564,000 inhabitants
In 1999	557,900 inhabitants
In 2003	1150,000 inhabitants
In 2004	1,300,000 inhabitants
In 2016	1794.118 inhabitants
In 2018	2,281,262 inhabitants
In 2021	2,584 133 inhabitants

Sources:summary of the survey report on the regional profile study of the urban sector of the city of Lubumbashi, UN, Habitat, UNDP, European Union; Ministry of Urban Planning and Housing

Comments: Since 2003 the city of Lubumbashi has experienced considerably accelerated migratory movements; between 1970 -1984 a proportion which increased to 24% account held of various functions considered normal among others that of since 1956 that this city became university with the creation of the official university of Congo and Rwanda Urundi could accommodate several young people for reasons studies;

Tables and figures

Table N°2 REASONS FOR DISPLACEMENT

REASONS	WORKFORCE	PERCENTAGE
SEARCH FOR WELL-BEING	30	50%
PLACE OF TRANSIT	10	16.7%
Studies	20	33.3%
Total	60	100

SOURCES:field surveys

Comments:Among the people subjected to the study, 50% say that the reasons for their displacement are due either to the search for well-being or a change of living environment, given that the city of Lubumbashi offers opportunities in terms of employment and business as their backgrounds; 16.7%

mention the reasons of transit environment which make Lubumbashi a gateway for the countries of Southern Africa (South Africa; Namibia; Zambia...) and finally for 33.3%, Lubumbashi being a center university since 1956 with the creation of the official university, arouses the greed of several finalists who swear by the University of Lubumbashi because of the fame that even makes neighboring countries envy this al mater and pour a fairly large number of learners.

Tables N° 3 Economic and social effects of urbanization

Negative effects

No.	Negative economic and social effects	Workforce	Percentage
1	The unsuitability of basic infrastructure to the needs of the ever-growing population (roads, markets, hospitals, schools, etc.)	28	46.6%
2	Crimes and social vices and insecurity, lack of schooling of children and poverty of parents	17	28.3%
3	Varieties of informal activities that escape state control	15	25%
	TOTAL	60	100

Sources: Our field surveys

Comments: according to this table linked to the negative economic effects of urbanization 46.6%

talk about the inadequacy of basic infrastructures to the needs of the ever-growing population (roads, markets, hospitals, schools, etc.) 28.3% mention the consequences linked to crime which mean that these unemployed people who no longer have to do engage in banditry, theft, rape as a means of survival for these unemployed migrants with a profile that does not respond to the proposed job market means that these idlers languish under the weight of poverty at the base of non-schooling and unwanted births which expose children of school age find themselves exposed to early marriage, has juvenile delinquency by engaging in any activity to have something to eat and divorces from migrant or resident parents who pave the way for their children to be on the street and 25% underline the fact that the effects coupled with the he industrialization and urbanization are the basis of the multiplicity of informal activities which escape the control of the State and the payment of the tax which constitutes a shortfall for the public authorities.

Table N° 4: Positive effects of urbanization

No.	Effects	Workforce	Percentage
01	Improvement of the morphology of slums into residential neighborhoods	25	41.7%
02	Development of entrepreneurial initiatives in the informal sector that vary by gender	35	58.3%
	TOTAL	60	100

Sources: field surveys

Comments: according to the people submitted to the survey 58.3.% mention the development of entrepreneurial initiatives in the informal sector which vary according to gender 41.7% present the positive effects of urbanization coupled with the massive displacement of people from their places of origin the city of Lubumbashi, to the improvement of the morphology of the morphology of the city or even shanty towns in residential districts.

Table N° of positive effects of urbanization by gender

	Man	Women
Effects	Development of crafts and workers in the construction sector, motorcycle drivers, truck pushers, collectors and sellers of scrap metal, scrap trade, device operators.	Development of petty trade, sale of food, small restaurants, store employees (low-cost labour, hairdressers, sale of water in sachets, and domestic braids

DISCUSSION

Urbanization as a process of settlement and urban concentration is one of the consequences of industrialization; it is accompanied by several social problems, in particular inequalities.

On this subject XAVIER Golczyk shows that in France for example; the segregations produced are first of all geographical: some places are more suitable for living than others thanks to better sunshine; a nicer view or more reliable terrain. But segregation can take other forms of living conditions; population density ; level of public and commercial equipment etc. unlike the countries of the North; these inequalities are glaring in the countries of the South; rapid population growth results in the expansion of neighborhoods; however, the housing conditions of the majority of the population are not good.

Among the reasons which explain this attraction of the population towards the cities; note the location of industries; the increase in the importance of the industrial sector urbanization has a proven exponential character since the 1800s which seems to be experienced as a fatality by most governments, this is observed by certain causes such as:

The rural exodus caused by the development of a society whose activities are geared towards tourism, the development of commercial activities; the political, cultural and sporting attractions of cities, the expansion of industry.

The rural exodus is therefore nothing other than a massive movement of rural people to urban areas in search of well-being; let's say that this displacement is not only related to space; it is also social because the migrant who leaves his environment of origin which no longer satisfies him with the hope of finding better where he is heading, he moves towards an environment where the adventure is worthwhile; either for employment or for various business activities...

This move to the urban environment therefore appears as a kind of economic calculation and a project, must be linked to social strategies aimed at transforming living conditions in urban areas where agriculture is expected to cease to be a main activity of city dwellers, even if the harvest remains that a large fraction of the urban population gathers in an area that is difficult to distinguish from the rural area where we observe a very widespread peri-urban agriculture in the heart of the city of Lubumbashi women are engaged in agricultural activities, the majority of the population earns a living totally or particularly thanks to agriculture and related activities

Population growth and The sprawl of the city of Lubumbashi clogging of the gutters, unsuitability of the basic infrastructures in the face of an ever-increasing demographic explosion, the sprawl of the city which invades the limits of the periphery, when the city expands the problems of equipment and infrastructure arise with acquitted which makes it the second largest city in the country alone takes nearly half of the country's population with 3,960. 945 inhabitants for an area of 132,425 Km², with road infrastructures that do not facilitate fluid traffic at the base of traffic jams, the untimely change of bus stops, the overflow of mortuary fridges; load shedding due to fraudulent connections; dirty hand diseases due to poor quality drinking water; urban banditry at the base of the security instability which undermines the efforts of the provincial government in terms of the security of people and property; all the people from neighboring provinces find themselves in Lubumbashi without doing anything, indulging in the hassle of the peaceful citizens; the high rate of the unemployed who have no professional occupation of the majority of the population which is the basis of the resurgence of attacks; alcoholism; juvenile and

senile delinquency; diffuse education; rape and prostitution of minors; Promiscuity: the plots and houses that should have been occupied by seven people today occupied by seven to ten families or even 30 people or 35 people, which are at the root of public health problems that there is a multiplicity of infectious diseases on the environmental level; urbanization has many consequences in terms of the environment, in all urban agglomerations there are many impacts on the environment such as air pollution, water pollution, etc. , in Italy, for example, we speak of soil consumption to designate artificialization and heavy coastal construction, excessive urbanization generates risks (weakening of the soil, pollution, looting of natural resources, etc.) so the authorities can put in place to respond to these risks through risk prevention plans (PPR)

Urbanization is a major cause of erosion, it induces loss of biodiversity and fragmentation of habitats which contribute to biotic homogeneity, a process which contributes to the disappearance of rare, specialized or even endemic species, and to the introduction of widespread, generalist and/or exotic or even invasive species.

The fragmentation of habitats due to urbanization allows them to subsist in the form of patches of habitats which constitute islands of nature: whose increasing isolation due to concreting, induces a reduction in connectivity and the disappearance of species. phenomenon has important consequences on biodiversity through its effects on the demography and genetics of populations, such as the decrease in alpha biodiversity and the increase in the abundance of synergistic species among urban flora, urban fauna

An increase in CO₂ produces a degradation of soils and living conditions Urbanization influences the economic development of the region; it multiplies the professional social strata and increases professional mobility; it is in this sense that a worker can leave a company and be recruited more competitively than the other, this situation causes a high economic cost of the standard of living in the urbanized region.

There is an indisputable relationship between urbanization and industrialization; taking into account the development of industrial activities as one of the causes of urbanization; we realize that the establishment of industries attracts many people to cities or other areas where factories are located.

It is in this sense that DANON notes that urbanization is a current phenomenon since it concerns more of the world's population since 2008, and will concern by 2050 nearly 70% of the latter, this makes it a subject of more and more difficult to detach from the development of different societies but also from the environment.

Urbanization indeed leads to many consequences, both positive and negative, in the areas. It therefore appeared that the increase in the number of city dwellers could be closely linked to the development of industries, services to the population, means of transport but also risked leading to a homogenization of lifestyles (precariousness of the existential conditions of the poor population

Socioeconomic and political impacts of urbanization in the city of Lubumbashi

It therefore seems relevant to study urbanization; the way in which it is managed by public authorities and the resulting consequences; whether these are global today; its intensity.

CONCLUSION

Urbanization and industrialization are social phenomena that characterize contemporary societies from the industrial revolution to the present day, these phenomena are accompanied by several social and economic problems depending on the context of each country in which they are observed.

The administration and management of the city of Lubumbashi facing this reality with regard to the mining boom which took place around 2000 having attracted the curiosity not only of investors but also having been the object of desire of several internal migrants.

Our objective through this scientific analysis was to appreciate the implications linked to this phenomenon in the city of Lubumbashi, there are serious problems of urbanization and waste water management, the rural exodus, the spreading of the city of Lubumbashi, the unsuitability of basic infrastructure in the face of an ever-growing population explosion due to non-compliance with urban

planning standards, each new owner of land built as he pleases, and the plots are distributed without taking into account the position of the land, geological standards and even the position of waterways, it proves necessary for the politico-administrative authorities to create subdivisions and new neighborhoods and still pure the measures no urbanization policy is envisaged or no urbanization plan is followed and the population is doing well not only is exposed to dangers such as erosion, storms, waterborne diseases such as: malaria, cholera, diarrhea and the collapse of dwelling houses by rainwater

Urbanization is a tool of development in Congo, a huge opportunity to meet the new challenges of development must design a local development plan defines indicative document which includes the guidelines of the entity concerning all aspects of development such as housing and demography, the economy and employment, the environment, mobility, facilities, social policy, trade, tourism, culture including land use planning in an integrated approach given that the needs of the population are unlimited while the means are limited how then to overcome this paradox? the government must consider urbanization as an opportunity and a tool that can facilitate development,

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VIOLATION OF THE PRESUMPTION OF INNOCENCE IN CONGOLESE LAW IN THE CITY OF LUBUMBASHI

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ABSTRACT

While the Universal Declaration of Human Rights of 1948 maintains in its first article that: "All human beings are born free and equal in dignity and rights.

The Constitution of the Democratic Republic of Congo of February 18, 2006, as revised to date, underlines the presumption of innocence, in its article 17 paragraph 9 in these terms: "Anyone accused of an offense is presumed innocent until his guilt has been established by a final judgment". The wish of the Congolese constituent is not to consecrate impunity by this principle, but on the other hand he defends that any delinquent who violates a rule of law, be arrested, auditioned while preserving his dignity, until the knowledge of his fate, by the final judgment.

Because does he believe that the recognition of human dignity constitutes the foundation of freedom, justice and peace in the world, in this same perspective, any commission of an offense does not lead ipso facto, the criminal responsibility of its author, given that the causes of justification and impunity are not ignored by the criminal code.

He wants the Congolese citizen to have confidence in the justice of his country, noting that he has not been tortured, violated or mistreated from his arrest, his invitation, his hearing until the pronouncement of the decision of the Tribunal, in all his human dignity.

Keywords : Violation, Offense, Presumption of innocence, Congolese law.

I. INTRODUCTION

Man is a social animal, according to ARISTOTLE, he is condemned to live in society together with his fellows, but the latter at times acts in an antisocial way, thus disturbing the public order and tranquility so desired and wanted by everyone. world, either through ignorance or selfishness. Faced with such an attitude, the public authorities, having already adopted an arsenal of legal, compulsory, impersonal, general texts which are binding on all, will repress any person who violates one of the provisions of the aforementioned texts; this task is entrusted in the Democratic Republic of Congo to the judiciary.

Indeed, since its accession on March 18, 1996 to the United Nations Convention of December 10, 1984 against torture and other cruel, inhuman and degrading treatment, the Democratic Republic of the Congo had not yet harmonized its legislation with the relevant provisions of the said convention, according to this convention, the Democratic Republic of the Congo has the obligation to establish specific acts of torture or their attempt as an autonomous offense and to apply to its authors, co-authors and accomplices the appropriate penalties. The constitution of the Democratic Republic of Congo in its article 16 prohibits torture and any cruel, inhuman and degrading treatment.

Wishing to comply with the aforementioned convention, the second book of the Congolese penal code has been amended and supplemented, article 48 bis of this code provides: "Is punished any person acting on his order or his instigation, or with his express or tacit consent , who has intentionally inflicted on a person severe pain or suffering, physical or mental, for the purpose of obtaining from him or a third person information or a confession to punish him for an act which he or a third person has committed or is suspected of having committed, to intimidate or put pressure on him or to intimidate or put pressure on a person or for any reason based on any form of discrimination whatsoever, will be punished five to ten years of main penal servitude and a fine of fifty thousand Congolese Francs" .

I.1. THE PROBLEM

As part of this reflection, we asked ourselves the following questions:

- Why do judicial police officers and law enforcement officers violate the presumption of innocence?
- What should the Ministry of Justice and the Ministry of National Defense of the Democratic Republic of Congo do jointly in the face of this violation?

I.2. THE HYPOTHESES

To answer the question, we made the following hypotheses:

- The law enforcement officers assigned to the various sub-police stations, alongside the Judicial Police officers as well as to the small dungeons, even to the prison violate the presumption of innocence, either, because of his ignorance, or because of their failure in this area or because of bad faith.
- Faced with this observation, the two Ministers of Justice and Defense must, in turn, properly popularize the presumption of innocence for all agents and officers of the judicial police, without forgetting its *raison d'être* on the subject of human dignity and properly train law enforcement officers assigned to places of preventive detention, finally to do their job well and not violate the presumption of innocence.

It should also be noted that the Congolese authorities have also expressed their will by signing Order No. 002/CAB/MIN/DH/2019 of November 07, 2019 establishing the National Committee for the Prevention of Torture, by the Minister of Rights Humans (10).

¹⁰Ministerial decree of 2019, Léganet CD

Like other countries, Congolese justice is entrusted to the judiciary, it is the third institution alongside the executive and the legislature; this judicial power is exercised in judicial jurisdictions under the court of cassation, in administrative jurisdictions under the council of state and in constitutional jurisdiction under the constitutional court (11).

However, justice is actively sought, despite criticism, justice has a very strong popular image: that of an essential institution on the tripod of institutionalized powers, that also of its equally popular mission in the fight against impunity , that of defending, according to the constitution, individual freedoms and the fundamental rights of citizens, and finally that of supporting society as one of its founding principles (12).

Curiously, this justice is exercised by agents who do not respect the presumption of innocence, one of the sacred principles, relating to access to criminal courts and this, from the moment of suspicion, investigation, arrest, police custody, provisional arrest warrant, at trial, until the final judgment is pronounced. That said, torture, violence, cruel, inhuman and degrading acts are fine in Congolese justice, in Lubumbashi.

I.3. HUMAN DIGNITY

The concept of dignity only came to the fore when traditional human rights centered on the individual, his freedom, privacy and autonomy. The principle of dignity is the first principle on which all the others are based.

It requires safeguarding against all forms of enslavement and degradation and implies that the human person remains master of his body and of himself (13).

Human rights have as their cardinal foundation, human dignity, which is considered as the respect, the consideration that a person deserves. It is intangible and must be respected and protected by the public authorities.

Any violation of human dignity is prohibited whatever the facts (14).

Paul TAVERNIER thinks for his part, that the notion of human dignity occupies a prominent place in the universal declaration of human rights, it is clear that from the first paragraph of the preamble, there is express mention of the inherent dignity to all members of the human family and their equal rights (15).

To LUKOLI Albert to add that human dignity is essential for the establishment of the rule of law, human dignity must be respected. Otherwise, it is a serious violation of human rights (16).

The Charter of Fundamental Rights of the European Union stipulates in Article 1 that human dignity is inviolable, it must be respected and protected, it is not only a fundamental right, but constitutes the very basis of fundamental rights.

Overwhelmingly, dignity is the respect, consideration or consideration that someone or something deserves, the dignity of the human person is the principle according to which, a person should never be treated as an object or as a means, but as an intrinsic entity (17).

Human dignity is the fundamental, unconditional and equal respect due to all human beings for being human, as well as respect for moral integrity (18).

¹¹Marcel YABILI, annotated and commented full text of the law, Kinshasa, July 2013, Organic Law n°13/011-B of April 11, 2013 on the organization, functioning and competence of the courts of the judicial order

¹²Humanitaire sans frontières, periodical of ADDIH, for education in rights and human rights, the dissemination of humanitarian law and the promotion of a culture of peace

¹³Humanitarian Without Borders , op cit .

¹⁴Universal Declaration of Human Rights of 1949, foundation of the rule of law, in Rule of law and human rights, l'Harmattan

¹⁵ <https://www.addihac.org>.dignity

¹⁶ <https://www.touple.org>

¹⁷ <https://www.grainesdepaix.org>

¹⁸ <https://www.cain.info.revue.inter>

The first obligation that derives from human dignity is to preserve people's lives and ensure their safety; the second is to work for the human development of all people, to recognize a unique personality and participation in the community (19).

As such, dignity has a legal nature, a first principle of the legal system, because the human person is an ultimate horizon of the law, in reality its finality. The principle of dignity thus establishes the primacy of the human being over all other interests.

This principle of dignity makes it possible to legally establish the value of human beings, it indicates how certain people must be treated or not with dignity, to be human, means humanly, a human being neither stronger, like a God, nor less like an animal or as a thing (20).

I.4. VIOLATION OF THE PRESUMPTION OF INNOCENCE

The presumption of innocence means that in criminal matters, any person prosecuted is considered innocent of the facts of which he is accused, as long as he has not been declared guilty by a competent court.

This principle is enshrined in international instruments (Universal Declaration of Human Rights of 1940 in Article 11 §1, International Covenant on Civil and Political Rights, etc.) and by the constitution of our country, the Democratic Republic of Congo, of February 16, 2006 as revised and supplemented by Law No. 11/002 of January 20, 2011 revising certain articles (21).

Article 17 paragraph 9 of this constitution provides that: “ Any accused person is presumed innocent until his guilt has been legally established by a final judgment ” (22).

Indeed, the two above-mentioned provisions affirm that a person accused of criminal acts is presumed innocent.

Moreover, this principle does not imply that a person accused of criminal acts is not deprived of his liberty, even when he is deprived of his liberty, during an investigation or preparatory investigation, the presumed perpetrator of the offense continues to enjoy the presumption of innocence. Some think with Château Briand that it is not killing the innocent as innocent that loses society, it is killing him as guilty (23).

To Montesquieu to add that “when the innocence of citizens is not assured, freedom is not either”. Idris SANGWA ILONDA, added in his study, " On the presumption of innocence in Congolese criminal law that: to presume a person innocent, it is therefore to ensure his freedom, a freedom which he could not have, if he knew he was a suspect in the eyes of its judicial system for everything it undertakes" (24).

However, the notion of freedom being inherent in the life of a person, it remains attached to that of criminal responsibility, understood as "The obligation to answer for one's criminal acts by undergoing a criminal sanction, under the conditions and according to the forms provided for by law" (25).

Although the criminal responsibility of the agent constitutes the condition allowing the implementation of criminal law, this does not mean, insofar as the mere fact of an offense has been committed, automatically engages the responsibility of its author (26) .

Isidore MFUAMBA MULAMBA and MUKEBA Julienne, dealing with the issue of the rule of law, clearly explained that this notion has generated crises in the Democratic Republic of Congo, sometimes

¹⁹ <https://www.cabinet.ati.com.dignity>

²⁰NGOTO NGOIE NGALINGI; The essence of Congolese criminal law. University Press. 2018, p.138

²¹The Constitution of the DRC, op cit . (2)

²²Château Briand , Memory of another tomb

²³Montesquieu, On the Spirit of the Laws (1), Tome I, livre XIII, chap. II. p.197

²⁴Idris SANGWA ILONDA, on the presumption of innocence in Congolese criminal law, UNILU, Public Law, 2016 (TFC)

²⁵Glossary of legal terms. D. 2007, p.577 in the term criminal liability

²⁶Marine POUIT, Attacks on her presumption of innocence

not only between politicians, but unfortunately against those called upon to say and/or challenge the law, while the justice sector is an essential pillar of democracy and the rule of law (27).

However, the connotation in the Democratic Republic of Congo of the rule of law is on the one hand, distorted more and more political than legal and on the other, it has turned out to be a bloodthirsty dagger which makes the young woman sting. Congolese democracy and which risks exterminating all the major political and judicial figures who are moving in the fight against anti-values, impunity, bad governance, social insecurity.

The cases of figures concerning violation of the presumption of innocence are in sandy quantity, in the Democratic Republic of Congo, in Haut-Katanga more particularly in Lubumbashi, it is enough only that someone is suspected or cited in a criminal case for to be stoned, handcuffed, tortured, beaten, undressed, stripped of his telephone, his belt, his shoes and this in an inhuman way.

I.4.a. The judicial police

This body is the secular arm of the Public Prosecutor's Office, a body of State agents responsible for noting breaches of the law, gathering evidence of the commission of these offenses and searching for the presumed perpetrators, with a view to their presentation to the public prosecutor (28).

The judicial police officers appointed by the ministry having justice in its attributions, violate the presumption of innocence, during police custody, they administer lashes to the presumed offenders, on the grounds that the latter tell them the truth.

The attitude displayed by these judicial police officers refers to individuals who are supposed to have already been convicted, forgetting that they are only authorized to act within forty-eight hours, and after which to send the suspect to the Public Prosecutor's Office.

What is sickening is when these judicial police officers even make the suspects work hard, as if they have already been sentenced to hard labor.

I.4.b. Crown

The officers of the Public Prosecutor's Office are part of the judiciary, that being the Public Prosecutor's Office is the part that represents society in criminal proceedings. The prosecution is seized for offenses (criminal) by:

- Complaint - denunciation and by referral.

Currently, each common law jurisdiction is attached to a certain number of standing magistrates (from the Public Prosecutor's Office) who deal with cases from judicial police officers or those opened in their office; and this for five days or for a period of five days; by a provisional arrest warrant (29). Curiously, during this time the accused is mistreated, deceived in the water, placed in the same conditions as the condemned, either so that he tells the truth about criminal facts that he does not know and that under the passivity of the Public minister.

II. METHODOLOGY

This reflection led us to use:

- To the exegetical method, in the understanding of the texts of the laws and especially of the constitution of the Democratic Republic of Congo of February 18, 2006 in its article 17a1 9 with the aim of explaining the will of the constituent, hidden behind the presumption of innocence ;

²⁷Isidore MFUAMBA MULAMBA and MUKÉBA

²⁸A. MAURIN et Al, judicial institution, 9th edition, Sirey 2013, p.155, code of criminal procedure, art. 2 and 3

²⁹Mathieu NKONGOLO TSHILENGU, Congolese Judicial Law – the role of courts and tribunals in the restoration of a violated or disputed right, Edition, documentary and study service of the Ministry of Justice and Keeper of the Seals, Kinshasa, 2003, p. 59

- To the historical method by constituting the history of the presumption of innocence, of other international legal instruments, to support it scientifically, while examining its content, if it is credible for the proper administration of justice in a State of law;
- To the analytical method by collecting data relating to the violation of the presumption of innocence, from the suspicion to the arrest (temporary deprivation of liberty), superabundantly by popularizing this principle on the one hand and on the other , the questioning of the population to stop committing the offenses, lest they see their dignity violated by some of the ignorant police officers (30).

³⁰ Pinto R. Grawitz M. 1965, *Social Science Methods* pp. 137-138

III. THE RESULTS

The investigations carried out in the city of Lubumbashi, since January 2021, until today on the violation of the presumption of innocence, have provided us with the results below:

- Of the ten cases of traffic violations committed by bus or taxi drivers, eight of them are tortured, assaulted, beaten by road traffic police, even before the final decision is taken by the commander-in-chief, which ends up fixing the almonds to the already humiliated drivers;
- Of the fifteen cases of simple suspicions recorded on the theft, half of these suspects are molested, burned alive, beaten to death, by law enforcement officers, when, at the end, justice acquits them following the lack of evidence, after they are filmed and presented to society as outlaws.
- From the examination of ten reports of the suspects' hearings drawn up by the judicial police officers sent to the prosecution, seven contain other allegations against the suspects at the time when they were obtained by torture and intimidation.
- Curiously, many of the suspects in the city have seen their criminal records tainted with acts that they have never committed, among them, some - some encountered, have been released by the prosecution, following the filing without follow-up of their files or for inappropriateness of prosecution.

IV. Discussion

Great is our astonishment to note that, during the prejurisdictional phase than during the jurisdictional one, it is in the first phase that there is more violation of the presumption of innocence, yet, even in the case of flagrante delicto, we are not still guilty before the law; serious thing, even the culprit is not deprived of enjoying his human dignity. Let us note that, under other skies and even in my country, the DRC, the presumption of innocence had remained totally absent from the Congolese judicial system, not only that there was no trace, but above all the very idea of conferring to the individual a right to be presumed innocent was contrary to the rules governing the criminal trial, according to some.

It is no secret that the sanctioning power depends on the existence of a justification for the offence; but then in the presence of circumstances specific to the author of the facts or external to him leading to the recognition of his criminal irresponsibility.

These circumstances are causes of criminal irresponsibility which result in a beneficial situation for the person prosecuted insofar as his responsibility will not be retained; The question then arises of the burden of proof of a cause of criminal irresponsibility. and provide proof. This mechanism of the burden of proof unfavorable to the accused or the defendant concerns all the causes of criminal irresponsibility, whether objective causes or justifying facts, or subjective causes or causes of non-imputability (31).

Consequently, when one is unaware of the cause of criminal irresponsibility and one strives to violate the law, to undermine the presumption of innocence, one is even exposed to criminal sanctions.

Thus: "Any statement that makes a person feel guilty, any suggestion of this guilt is defamation", the victim therefore has the right to sue or not, the author of the remarks that infringe his person (32) .

³¹Y. MAYAUD, *op cit* , p.428

³²Erick SUNGU, *presumption of innocence, a principle flouted in the DRC*

V. CONCLUSION

The culture of respect for standards is not internalized in the head of the Congolese, the presumption of innocence is flouted by the agents, the judiciary, when it is constitutional; without the Minister of Justice and Keeper of the Seals looking into it: notwithstanding all the publications relating thereto.

While the emergence of a rule of law in the Democratic Republic of Congo has been one of the main themes of all forms of peace and reconciliation that have marked the history of our country, since the sovereign national conference in the early 1990s, until the inter-Congolese dialogue in Sun City in South Africa in 2002.

Professor Jacques NDJOLI stigmatized for his part that, “Respect for the laws must be a culture. The constitution is not a book, but a state of mind that should be taught from kindergarten to Congolese.

This constitutional principle imposes itself on everyone, even on the agents of justice who must know that, the suspect does not become less human during the commission of an offense or a suspicion, necessarily he does not lose either his human dignity, recognizing it will in no way affect the effectiveness of the processing of his file, from the investigation, his hearing, the instruction of his file, until the pronouncement of his judgment.

All the Congolese who will learn this news, will restore confidence in our justice, yet very criticized on a daily basis.

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USERS EXPERIENCE FEEDBACK SURVEY ON JOB HUNTING ASSISTANT APPLICATION

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ABSTRACT

Hundreds of websites and mobile apps offer a variety of career services in many different sectors. Confused by the abundance of choices, many lecturers and students are put into a dilemma when it comes to the preparation of job applications. Challenges exist in terms of application quality, relevant context, costs and user display. Majority of the apps which are available in the open market do not cater to the Malaysian TVET students' needs, hence it leads to a very discouraging learning process for the students. This app is created in line with the Malaysia TVET context and is relevant to the students' needs of the Malaysian TVET system. The participants involved in developing this innovation are 30 lecturers and 156 students from nine (9) urban polytechnics. Through the users' experience feedback analysis, the most helpful section which is popular among the users are the content and information provided (tips/links/sample/video input), followed by the Interface of the application (visual/image), colours used in the application (theme/branding) and most importantly, there are video recording practices available in which users can record and review what they have recorded and improve their performance. This application has made the job search process easier by centralising all relevant documents needed and guiding job seekers through the entire procedure right before sitting for an interview.

Keywords : Job Interview, Job Hunting Application, Mobile Application, User Experience

INTRODUCTION

As our nation embarks towards Industrial Revolution 4.0 (IR4.0), the increase demand of a new era of automation technology which involves physical, digital and biological worlds have become the main emphasis to all sectors in Malaysia, including the education sector recently (Zulnaidi, 2020). Covid-19 took the entire world by storm. Many organizations including the educational sectors were heavily affected by it. Globally, many were forced to alter their methods and ways in providing education to those in need. Urgent ways and pleas were needed to protect our students, faculty, academic staff, societies and nation as a whole. Having said that, a saviour was needed. In present time, referring to the Malaysian Polytechnic system, lecturers will be considered as saviours to embark in this digital learning technology journey. In which, teaching and learning via online required lecturers to be able to quickly adjust, adapt

and always be ready with a contingency action plan at all times when needed (Shafei, Haris & Hamzah, 2018).

This new norm of teaching and learning has forced both students and lecturers to be obliged with challenges and transform difficulties to an opportunity in making sure knowledge and skills are synced together. Preparing students to it is one thing, assisting them to be successful in it will be a challenge.

1. Problem statement

Latest Institutional Operating Guidelines instructions were distributed from the Department of Polytechnic Education and Community College Education (JPPKK) in June 2020, where all polytechnic institutions must conduct all teaching and learning via online through 100% asynchronous or 100% synchronous or a combination of both subjected to the course study plan as advised. Institutions' E-Learning Unit was stormed by a sudden demand of training, guidance and query for online teaching support. Despite of very short time for preparation, classes were then resumed in August. As a result, many online learning alternatives were explored, exploited and the current course outline and assessments were re-framed.

At the first launch of the online teaching, many issues arised. As reported by the International Labour Organization and World Bank 2021, in response to technical and vocational education and training for TVET, online learning could not replace the quality of face-to-face classes, particularly given the exceptional emphasis of TVET on work-based learning and acquisition of practical skills during the initial national lockdown. However, the pandemic has forced lecturers to accelerate existing plans to expand remote learning options through the usage of online teaching platforms, tools, approaches, and applications have increased drastically.

As an initiative, a survey on the teaching and learning of DUE50032 Communicative English 3: Job Hunting Unit was conducted, 30 polytechnic lecturers teaching the subjects responded and about 33% of the lecturers agreed that the most challenging part in teaching the Job-Hunting Unit was the Job Interview. This is followed by 30% of the lecturers agreeing to the resume writing being difficult, 26.7% agreeing that the cover letter writing is also difficult. 6.7% of the lecturers responded that enquiring on job was difficult to teach where else only 3.3% of the lecturers chose job advertisement as the most difficult part to be taught.

The struggle is real. As mentioned by lecturers, it is challenging to assist students in preparing for the MOCK INTERVIEW assessments, especially students with poor English competency. Lecturers need to put in extra effort in helping the low proficiency students to excel, which results in lecturers going through the interview questions with the students one by one thoroughly. If students lost focus or were multi-tasking during class hour, they would usually be left out. It is not easy to assist and coach students via online because of the limited time to meet them due to internet issues specifically. Moreover, lecturers also shared that it is difficult for them to get the most suitable videos for job interviews which caters to the syllabus requirement, a genuine course content. Due to all these, lecturers' intention to enhance students' confidence level during job interviews becomes more challenging due to their poor language proficiency.

Besides that, marks allocated for the Job – Hunting unit under the continuous assessment is quite a great deal which is 65% (written assignment of cover letter 15%, resume 15% and mock interview 35%) and as we can see the allocated amount of marks for this unit is three quarter total for the overall marks. Due to all these reasons, an initiative to ease the online learning journey for Job Hunting unit is then planned, outlined, designed and tested.

2. Target group

The target group for this survey are the Semester 4 Commerce Department students and semester 5 Civil, Electrical and Mechanical Engineering Department students who have registered for the DUE50032 Communicative English course.

3. Research Objectives

The objectives of this survey are to: -

- gain insight about users' preference and views toward the application
- explore users' good experience and issues faced by the users when they use the application
- improve application performance, based on the feedback gain from the survey

4. Methodology

This survey consists of 56, Politeknik Port Dickson students, who enrolled in the DUE 50032, Communicative English 3 course. They were introduced about the Job-Hunting topic and were instructed to install the application from google play link shared. They were then given a chance to explore the application for the first time and were been brief about the development, functions, features and characteristics of the application section by section as described below. This application is created using a PRO version of Thunkable no code mobile app development. Teaching and learning with the application are applicable for android (google play store) and IOS (Apk) users. It is a one-time installation with a tiny storage (45.5Mb) used in installing this application on smartphones or tablet with smooth usability which supports independent and cooperative learning. This Pocket Assistance can be used independently by the users personally or can be used as a teaching and learning tool via online (synchronous/ asynchronous learning) or physical classroom.

This Job-Hunting Assistant Application is a free download and a mobile friendly tool which everyone needs, it will assist users with the job – hunting on the before, during and after job interview procedure. It is a complete step by step guide which consists information on where to start, what to do, how to do it, where to search and which job suits the candidate with detailed input, useful tips and interview practices.

The app consists of: -

- a) introduction to job hunting topic, definition, reason why people work, where to start, what to expect and tips on how to find the perfect job.
- b) interview preparations tips (what to do BEFORE the interview)
- c) interview dos and don'ts in writing a resume, cover letter format and sample, documentation, interview preparations, complete interview questions, answers, tips and a collection of sample mock interviews conducted for references (what to do During the interview)
- d) interview wrap up (what to do AFTER the interview)
- e) finally, interview practices with recorded functionality for review and built-up confidence activities for the mock interview assessment which in lined with the DUE50032 Communicative English 3 course. It is also applicable for non-polytechnic students who are interested to try it out.



Figure 1: Job-Hunting Assistant application interface preview

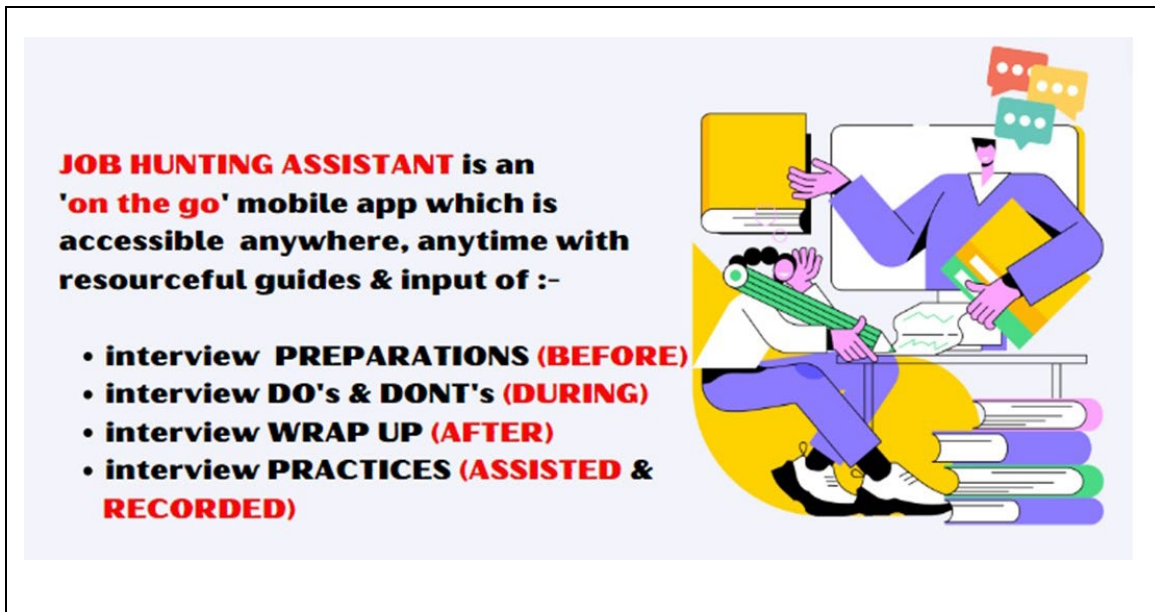


Figure 2: Job-Hunting Assistant application content preview

After the briefing, a modified Users' Experience Questionnaire (UEQ) created by Laugwitz was shared with the students and feedback was gathered. The questionnaire consists of 12 survey questions, which enquire information about which functions, features and characteristics of the application that the students like the most. It also enquires students to rate about their overall experience, application appearance, icons effectiveness and application loading speeds. Feedback about application helpfulness, to be used as reference for their mock interview and future references, as well as whether they will recommend this application with people around them or not and suggestion on how to improve this application were also been enquired.

5. Findings and discussion

As mentioned earlier, this survey is conducted based on a modified version of the Users' Experience Questionnaire (UEQ) created by using Laugwitz to gather participants' feedback. As referred to in the User Experience Questionnaire (UEQ) main goal is aim to collect immediate and fast feedback to measure users' experience of the interactive products developed by any developer (Laugwitz, Held, & Schrepp, 2008). UEQ has already been established and fully utilized in a variety of research contexts, for instance, it is used for the evaluation of business software (Rauschenberger, Hinderks, & Thomaschewski, 2011), development tools (Wieschnowsky & Heiko Paulheim, 2011), web sites and web services (Hartmann, 2011), even social networks (Hartmann, 2011). Due to these reasons that is why it is been used for this present research.

Participants for this project were semester 5 Diploma students from Mechanical Engineering Department and semester 4 Electrical Engineering Department, taking the DUE 50032 Communicative English 3 course.

Participants	Course/ Department	Gender	Frequency	Percentages
Students	Diploma in Mechanical Engineering	Male	29	51.8
		Female	2	3.6
	Diploma in Electrical Engineering	Male	21	37.5
		Female	4	7.1
Total			56	100

Table 1: Profile of Participants

The users' experience feedback survey results are presented in Table 2. It showed the mean and standard deviation of the students' experience with the application. In general, based on the response results we can see that students' experience using this application is excellent.

Item	Mean	Standard Deviation
Mobile application		
Experience	4.19	0.61
Interface	4.23	0.78
Icons effectiveness	4.14	0.67
Loading speed	4.08	0.83

Table 2. Mean and standard deviation towards Job- Hunting Assistant Application

While for the application preferences review given by the students is presented in table 3 below.

Item	Frequency	Percentages
Mobile application features preference		
Content and information (tips/links/sample/video input)	32	57.1
Interface of the application (visual/image)	13	23.2
Colours used in the application (theme/branding)	10	17.9
Video recording practice functions	1	1.8
Total	56	100

Table 3. Features preferences towards Job- Hunting Assistant Application

Based on the survey also 100% of the students agreed that they found that this Job – Hunting Assistant Application will be helpful and useful to be used for their mock interview practice reference and their career future reference and about 98.2% of the students responded that they will recommend this application to their friends and family members.

6. Impact

Based on the conducted users' experience feedback about the application, the impact of using this Job-Hunting Assistant application helps to provide systematic and helpful structure along with an approach to maximize users' ability to land a job which suits their qualification, field of study, experiences and skills. All content gathered came from the latest and updated blogs.

The section of input shared are divided to three most important job-hunting sections of before, during and after job interview. It is an 'on the go' and a 'one stop centre', just a click away. This application design is fresh, attractive and able to attract any user's interest, easy to access anywhere and relevant to the CEFR B2 English language. This app is also relatable to the Malaysian TVET context and input which is specifically designed to cater the needs of DUE50032 Communicative English 3 students who are taking this course and are very helpful to be used in preparation for their mock interview assessment and also applicable for their future career reference.

The most helpful section which is popular among users is the job search section because many job searches link directly to websites (private/government) and telegram platforms have been shared. Sufficient inputs and sample of resumes, cover letters, job interview Q&A samples (written/ video) are included in the application. Most importantly, there are video recording practices available in which users can record and review and further improve their performance.

7. Recommendations

There were a few recommendations suggested by the students to improve the Job – Hunting Assistant Application which were to make the application available and support the iPhone and published it in the Apple store. They also suggested adding animation for page transition, font and image used in the application. To make the application more interactive, it is suggested to add on/ embed online quizzes based on the information provided. While for video practice sections, reminders and setting instructions on the recording mode for the mobile phone should also be provided to assist users to ensure the recording function works. The UI interface of the application was suggested to be more professional and modernized following the current application trends at the present moment.

Conclusion

Based on the user experience survey feedback analysis, the most helpful section which is popular among the users are the content and information provided (tips/links/sample/video input), followed by the Interface of the application (visual/image), colours used in the application (theme/branding) and most importantly, there are video recording practices available in which users can record and review what they have recorded and improve their performance. This application has made the job search process easier by centralising all relevant documents needed and guiding job seekers through the entire procedure right before sitting for an interview.

We can conclude that this application serves not only students but also all job seekers around the world. The guidelines and examples given are sufficient and has an easy-to-use interface. The idea to innovate and create a tool which helps an individual at the very core after graduation is a pointer by its own. Nevertheless, taking into account the suggestions received in the findings, an upgrade of the application is welcomed for future research and references.

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CASE STUDY OF INVERTER AIR CONDITIONING LOGIC DURING UNDERCHARGE REFRIGERANT

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ABSTRACT

Preventive maintenance or regularly known as routine or schedule maintenance of equipment and assets to keep them running and prevent any costly unplanned downtime from unexpected equipment failure. In preventive maintenance of residential air conditioning, the evaporator, condenser, air filter cleanliness, running current and refrigerant charge must be check and recorded to ensure the design cooling capacity can be delivered. Failure to conduct the preventive maintenance will lead to component clogging, high energy consumption and component malfunction.

The main objective of this case study is to study the effect of the air conditioner system while running in undercharge state. In achieving the objectives, some methods that need to be done. First, to find suitable capacity of air conditioning by using rule of thumb method. Next, the installation of wall mounted inverter air conditioning to be done and observation of three parameter which is compressor discharge temperature, expansion valve opening and compressor frequency of inverter system that affected if the unit running in undercharge refrigerant capacity. As conclusion, new sets of data and information on Inverter split unit air conditioning can be used for teaching and learning reference and can assist the troubleshooting work at site as well.

Keywords : Undercharge refrigerant; Inverter Air conditioning; Maintenance

INTRODUCTION

An air conditioning is mainly used for treating air in an internal environment to establish and maintain required standard of temperature, humidity, air cleanliness and air motion. Direct expansion system or known as DX system is mainly use for residential as it has a lower price, light weight, quiet operation, ease of installation and maintenance and low energy consumption. (M. A. S. S.A. Nada, Appl. Therm. Eng, 2017) state split type is commonly used as their design simple and flexible. As for today, major electricity consumption among residential, commercial and industries is air conditioner (Mohsen Farzad, 1990). Variety of air conditioner brands and types including inverter and non-inverter unit are available in Malaysia market today, it's made easier for consumer to make a choice. Previously, non-inverter unit are often used by Malaysia consumer, as the price is much lesser compared to inverter unit. However, the energy consumption is much higher almost 40% due to compressor motor speed cannot be regulate

according to room temperature. Meanwhile, Inverter air conditioner has ability to run in partial load and control compressor frequency to maintain a desired room set temperature. As a result, the energy consumption can be reduced between 11% to 38%. Purchasing inverter unit will add more cost compared to non-inverter as this unit comes with multi speed compressor motor and condenser fan motor, add of intelligent sensor and printed circuit board (PCB) at outdoor unit to ensure the maximum thermal comfort can be delivered and maximum efficiency can be achieved. Nevertheless, the extra cost will be absorbed back by electric saving made by inverter unit. The electricity savings of inverter unit can be achieved by ensure the correct design load calculation, correct installation procedure made by installer or contractor, conducting schedule maintenance, usage time and usage method as well. Nowadays, as a quick and easiest way to conduct the refrigerant charging procedure, Malaysian air conditioning technician or contractor will conduct it by using the manifold gauge and ampere meter to measure the capacity of refrigerant in air conditioning system. By using this method, the accurate amount can't be

measured as the pressure inside the refrigerant system will fluctuate according to ambient temperature and even worse, if no vacuuming procedure conducted after installation or repairing of air conditioner completed. Lack of knowledge and awareness to conduct the refrigerant charging will lead to air conditioner components failure and the system unable to deliver their design cooling capacity. According to (Howard Cheung, James E. Braun, 2010) in their research, improper charge of refrigerant can be defined as contradictory mass of refrigerant with manufacturer standard, and it tends to decrease the capacity and energy efficiency of the system. Besides wrong procedure of refrigerant charging, the leakage of air conditioning components or piping route also can cause the undercharge situation occurred. The 30% reduction of refrigerant in air conditioning system can consume more energy from 17% to 23% (Domanski et al., 2015). (Proctor, 2000) in his study for California, found 4000 unit of residential air conditioner is operating without proper refrigerant charge where 34% of unit is undercharge, 28% overcharge and the balance is operated with sufficient refrigerant charge. According to catalogue and operation manual for some Malaysia air conditioner suppliers, the new split unit air conditioner will have certain amount of pre-charge refrigerant store on condenser unit where its sufficient for certain length of pipe which is from 6 to 10 metre. If the refrigerant piping exceeding the pre-charged length, the additional amount of refrigerant must be added to avoid from decreasing of capacity and efficiency of the system. Therefore, this research will study effect of refrigerant charge for residential inverter air conditioning unit from 60% - 100% refrigerant capacity. The result of compressor discharge temperature, expansion valve opening, and operation current will be presented.

The objective for the study is as follows: -

- a. To study the logic for compressor discharge temperature, expansion valve opening and operation current for R32 inverter air conditioner system while running in undercharge state.
- b. To prepare new sets of data and information on inverter air conditioner (split unit) for site troubleshooting and teaching & learning references.

METHODOLOGY

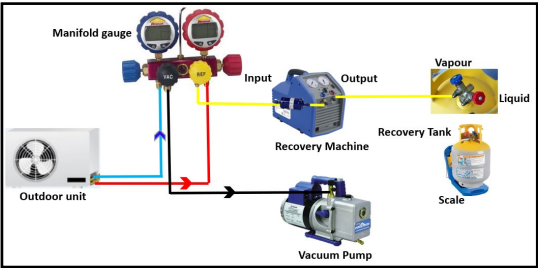


Figure 1 Recovery refrigerant setup

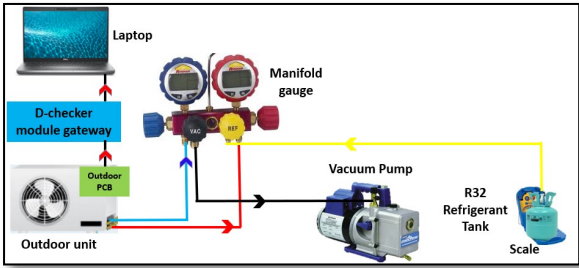


Figure 2 Refrigerant charging setup

The study setup was designed and implemented by using inverter air conditioner unit (split type) with a relevant equipment and accessories. The variable for this experiment work is refrigerant charge and each charge is observed for 15 minutes. The experiment is repeated for all level refrigerant charge from 60% to 100% charge. The findings of this experiment unable to compare with any manufacturer standard and any previous research as it conducted without applied the testing procedure as stated in Air-Conditioning & Refrigeration Institute (ARI) Standard 210/240 due to limitation of equipment and psychrometric room to maintain the fluctuation of outdoor air temperature, A.-C. & R. I. (ARI), Stand. 210/240 (2006). The first procedure before starting the study is to calculate the cooling load require for Lecturer room inside a Metallurgy Lab at Polytechnic Kuching Sarawak by using rule of thumb method as below:

$$\begin{aligned} \text{Rule of thumb} &= \text{Width (W)} \times \text{Length (L)} \times \text{Coefficient for laboratories} \\ &= 10\text{ft} \times 12\text{ft} \times 75\text{btu/hr/ft}^2 \\ &= 9000\text{Btu/hr} \end{aligned}$$

After the cooling load was determine, selection and installation of air conditioner unit was made. In this study, the air conditioner unit used is 9,100Btu/hr (2.67kW) inverter wall mounted. The unit used R32 refrigerant as the working refrigerant. D-Checker module is connected to inverter air conditioner PCB to collect the data and the software is used to observe the inverter parameter. The refrigerant charge inside an air conditioner unit will be taken out first to designated R32 recovery cylinder with assistant of recovery machine and continue with vacuuming process to pull down the pressure below the atmospheric value 760mmHg to ensure no remaining refrigerant and moisture trap inside as shown if Figure 1. The new R32 refrigerant cylinder was place on top of weighing scale and connect to manifold gauge and then connected to outdoor unit service valve of inverter air conditioner as shown in Figure 2. In this study, 5 different charges of refrigerant, parameter to be observed and air conditioner mode is shown in Table 1 below:

Table 1 Experiment setup parameter

Refrigerant charge (%)	60, 70, 80, 90, 100
Observe parameter	1. Compressor discharge temperature (°C) 2. Expansion valve opening (pls) 3. Operation current (A)
Temperature setting (°C)	18
Fan mode	High

RESULT AND DISCUSSION

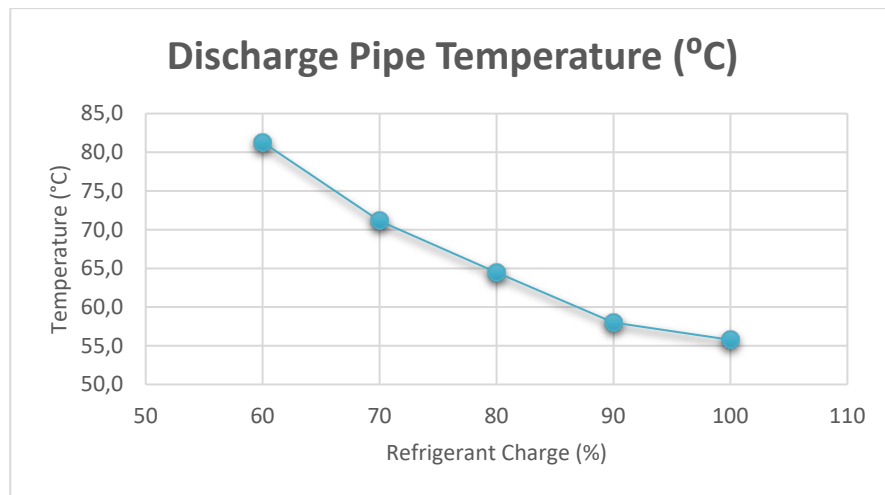


Figure. 1 Compressor discharge temperature (°C) data

Discharge pipe temperature (T_d) data was recorded 15 minutes for every refrigerant charge percentage. As shown in Fig. 1, the highest temperature for compressor discharge recorded was 81.3°C which is during 60% charge. The temperature of compressor discharge decreases almost 5-10°C upon 10% of refrigerant was added to the system, and it's going to decrease until 55.8°C once reach the optimum charge. During undercharge condition, the amount of refrigerant flow to compressor is lesser and it will cause increasing of superheat value, thus the compressor crankcase will be hotter and will affected the discharge temperature reading. This situation is almost similar with undersize of air conditioner unit, where capacity of air conditioner unable to cater the bigger room size. Hence, the refrigerant will fully be vaporized at the inlet of the evaporator while air conditioner continuously absorbs heat from entire room and it will cause high temperature evaporator outlet to the compressor. According to John Houcek [1] in previous study, state that the undercharged condition will cause decreasing of system capacity and create abnormal high superheat where it will increase the temperature of compressor windings and result to damage if continuous operation. Besides undercharge condition, surrounding fluctuation of outdoor air temperature, cleanliness of condenser fin coil, condenser fan speed and outdoor unit installation clearance will also cause change of discharge pipe temperature. The value of subcooling will rise slightly with increase of outdoor temperature, (Mohsen Farzad, 1999a).

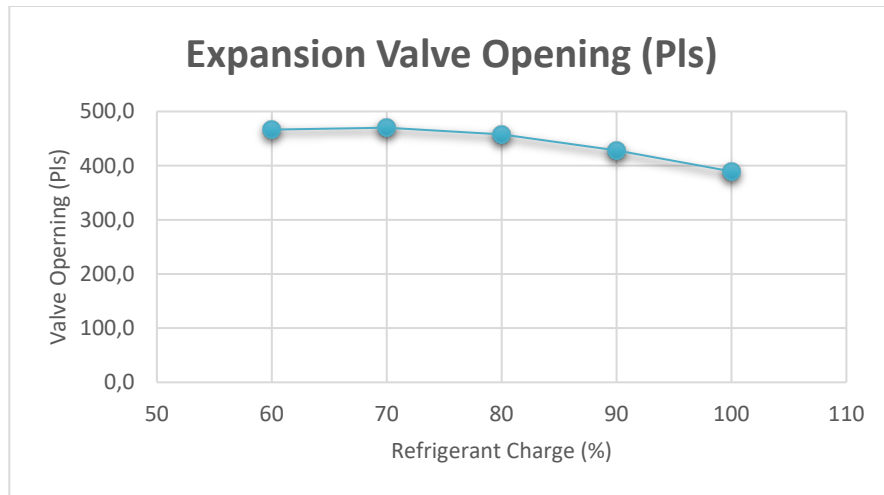


Figure.2 Expansion valve opening (Pls) data

Expansion valve opening (Pls) data was recorded 15 minutes for every refrigerant charge percentage. As shown in Fig. 2, the expansion valve tends to close steadily throughout the increase of refrigerant charge. Increasing of 10% refrigerant charge tends to narrow 33% (10 to 40pls) of expansion valve opening. This trend explained when more refrigerant was added into the system, it will cause more cold refrigerant flow into evaporator and compressor. Thus, once the temperature of evaporator and compressor superheat value is getting lower, the expansion valve opening value will going to decrease. This statement was supported by (Mohsen Farzad, 1999b) in his research mention that the superheat will decrease once the refrigerant amount was added into the system. During the observation, the temperature of compressor discharge data is directly related to the change of expansion valve opening. At the 60% refrigerant charge, the expansion valve opens wider to 466.4 pls to lower the temperature of discharge pipe which is 81.3°C and its reach the minimum opening 389.3 pls at 100% charge where compressor discharge temperature recorded was 55.8°C. (Kim, Woohyun and Braun, James E, 2010) state on their research, undercharge of 70% refrigerant will fully open the expansion valve. The situation indicates that wider the opening of valve is to allow more refrigerant flow to evaporator and to reduce the compressor discharge temperature.

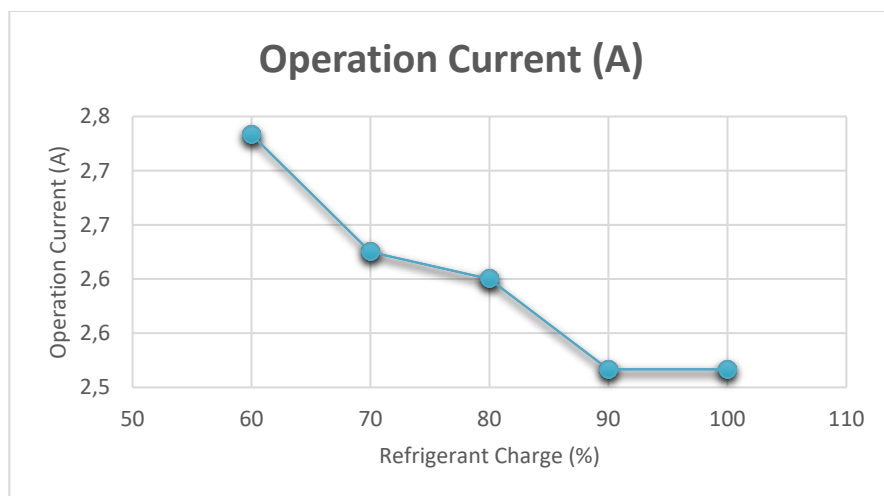


Figure.3 Operation current (A) data

Operation current (Amp) data was recorded 15 minutes for every refrigerant charge percentage. As shown in figure 3, it was found that the operation current (A) increase 0.1A during undercharge condition. The operation current was at maximum at 60% refrigerant charge where data recorded was 2.7A. During the observation, found that this trend happens due to increasing of compressor frequency where it tries to pull the evaporator temperature to achieve the desired operation setting temperature. The operation current (A) reduce steadily with increasing of refrigerant charge as the amount of refrigerant flow is sufficient to minimize the valve opening and reduce the discharge pipe temperature. Thus, the compressor tends to slow down its rotation and indirectly it will reduce the operation current. Although the value of current fluctuation is small if compared to others parameter recorded, but the compressor discharge temperature is high. Continuous operation of undercharge operation will shorten the lifespan of the compressor.

CONCLUSION

The present research emphasis on determining the value of 3 parameter of split unit inverter system. Since the experiment not conducted accordance with ARI 210/240 standard, thus the result could not compare directly to the others previous research and manufacturer standard. However, the data can provide some information to air conditioner technician on how air conditioner operated during undercharge refrigerant and could be used as a guidance for troubleshooting work on the inverter system. As a conclusion, all 3 data have relationship among each other's. Increasing and decreasing of refrigerant charge will give impact on the reading for each component. Besides, the summary for this case study is tabulated in Table 2 below:

Table 2 Case study summary

Refrigerant Charge (%)	Compressor discharge temperature (°C)	Expansion Valve Opening (pls)	Operation Current (A)
100	55	380	2.5
90	62	400	2.5
80	69	420	2.6
70	76	440	2.7
60	82	470	2.8

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A NEW CONCEPT IN THE ADAPTATION PROCESS OF EMPLOYEES: ARTIFICIAL INTELLIGENCE CONCERNS

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ABSTRACT

In today's organizations, differentiations have increased considerably in order to keep up with the rapidly changing age. The efforts of people to want and seek better day by day have revealed the necessity of improving the products offered by businesses. In this context, business owners and managers do not neglect to develop the human element, which is their main resource, and to benefit from digital tools while doing this. The use of artificial intelligence technologies has increased in Turkey in recent years in order to contribute to the work done by the human element, to gain speed, to provide cost advantage and more. Employees can sometimes be hesitant and hesitant to use new software, robots, technologies and tools. It is obvious that all these technologies will replace many professions in the future. Employees who develop themselves and learn new technologies avoid the necessity of adapting to these technologies, although they will be able to find jobs in higher positions in other companies in the future. In a study published in the Journal of Academic Value Studies 2022, it is mentioned that artificial intelligence technologies can replace the human race. Robots with features such as speaking, recognizing, having visual perceptions and making decisions have already started to take place in our lives. Since artificial intelligence technologies lack the emotional intelligence elements that belong to human nature, it seems impossible for some scientists to understand human, act like him and empathize. According to some employees, it is thought that they will not be needed as the business can get the work done in a longer time and cost by providing an advantage in a faster and more profitable way thanks to artificial intelligence technologies. In this study, the adoption of artificial intelligence technologies in the process of adaptation to the change and transformation that employees' organizations expect from them, and the elimination of the problems related to anxiety, hesitancy and adaptation of these technologies, will be tried to make suggestions by researching the previous studies

Keywords : Organizational Adaptation, Artificial Intelligence, Artificial Intelligence Anxiety

GİRİŞ

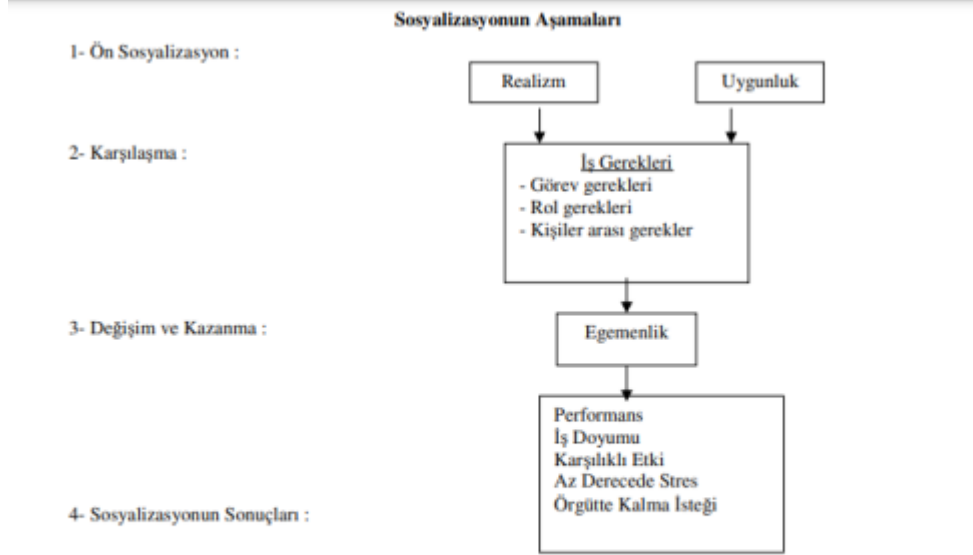
İşletme içerisinde çalışan personellerin örgüt içi ilişkilerde, yapılan tüm iş süreçlerinde örgütlere uyum sağlamaları oldukça önemlidir. Şayet çalışan personel yaptığı işe, örgüt içi süreçlere, tüm program ve faaliyetler uyum sağlamazsa ilerleyen süreçte örgüte karşı olan bağlılığı da azalacak bu durum örgütün etkinliğini ve verimliliğini azaltacaktır. Örgüt uyumu genel anlamda incelemek olursa çalışan kişinin örgüt ile özdeşleşmesi, bireysel amaçları ve örgütün amaçlarının ortak noktada birleşerek uyum sağlaması olarak adlandırılmaktadır. İlgili çalışan örgüte yeni katıldı ise uyum sağlamakta zorlanabilir. Bu zorluğun ortadan kaldırılabilmesi için insan kaynakları departmanları yeni başlayan çalışanlara oryantasyon yani uyumlaştırma eğitimi vermektedirler. Yeni dönemde örgüte yeni başlamış çalışanların kendi kendilerine uyum sağlama yeteneklerine çok fazla önem verilmektedir. Bu durum çalışanın kendi kendini etkilemesi, yönlendirmesi ve motive etmesi konusunda öz liderlik kavramı ile de ilişkilendirilebilmektedir. Kendi kendini yönetebilen duygu ve düşüncelerini kontrol altına alabilen, motivasyonlarını yüksek tutabilen bireyler işletme içi ve dışı süreçlerde değişim ve dönüşüme kolay uyum sağlayabilen bireylerdir. İşletmeler bu değişim ve dönüşümlere uyum sağlamak maliyet, hız, zaman, personel avantajı sağlamak için son dönemde yapay zeka teknolojilerini kullanma konusunda bir hayli artış göstermişlerdir. Bu bağlamda bu teknolojiler örgütlere avantaj ve karlılık sağladığı gibi bazı dezavantajları da beraberinde getirmiştir. Çalışanların yapay zeka teknolojileri kullanırken ve uyum sağlarken yaşadıkları stres, öğrenme güçlüğü, hızla uyum sağlama zorunluluğu gibi bir çok unsur çalışanları kaygılandırabilmektedir. Yapay zeka kaygısı konusunda Türkçe literatürde yapılan akademik çalışma sayısı bir hayli kısıtlıdır. Bu çalışmada kavramsal olarak çalışanların örgütlere uyum sürecinde yapay zeka kaygısı kavramı araştırılacak ve önerilerde bulunmaya çalışılacaktır.

ÖRGÜTE UYUM

Çalışanların iş yerinde başarılı olmaları isteniyorsa, örgütlerin kendi içerilerinde birer sosyal sistemler ve içerisinde bulunan çalışanların da kendilerine has özellikleri olan özgün varlıklar oldukları asla unutulmaması gerekmektedir. Yeni çalışanlar daha önce kişisel deneyimleri ve mesleki deneyimleri yolu ile kazanmış oldukları davranışlar, tutumlar, beklentileri ile beraber o örgüte katılım sağlamaktadırlar. Katılmış oldukları yeni örgütün kuralları, avantajları, faydaları vb. gibi iletişime etkileyen rol, görev ve sorumlulukları çalışanlar önemsemelidirler. Girmiş oldukları iş yerinde çalışanların nasıl hareket edecekleri ise kendilerine verilen statü yani bireylerden beklenen rol ve davranışları içermektedir (Fisher, 1986:101-145).

Çalışanların iş yerine uyum süreci sosyalizasyon olarak adlandırılmaktadır. Sosyalizasyon sürecinde yeni çalışanlar farklı alanlarda bilgi edinmektedirler (Chao ve Dierleri, 1994:730; Ostroff ve Kozlowski, 1993: 170) :

- Örgütün içeriği ve yapısı, misyonu, vizyonu, kültürel yapısı, stratejileri, örgüt politikası
- Çalışma üniteleri ve içerisinde bulunacakları grup hakkında bilgi
- Meslektaşlar ile gerçekleştirilecek olan ast, üst ilişkisi
- Kişisel imaj ve kimlik konusunda bilgiler
- Motivasyon unsurları ve örgütsel iklim



Şekil 1 . Örgütsel Sosyalizasyon Süreci : Aşamalar ve Sonuçlar

Kaynak : Nelson ve Quick, (1997: 487)

YAPAY ZEKA KAYGISI

Bilişim teknolojilerinin gelişmesiyle günümüzde yapay zeka kavramının kullanımı bir hayli sıklaşmıştır. Yapay zeka kavramı özellikle insanlar açısından merak uyandıran bir kavram haline bürünmüştür. “Yapay zeka” kavramın 1950’ li yıllarda ortaya çıkmaya başlamıştır. Bu kavram ile ilgili bir çok tanım ortaya atılsa da kısaca “insan gibi düşünebilen makineler bilimi” olarak tanımlanmaktadır (Pirim, 2006: 84). Başka bir tanım ile yapay zeka, bilgisayar sistemlerinin insan zekasına benzer şekilde görsel algı, konuşabilme, tanıyabilme, karar verebilme ve diller arası çeviri gibi konularda geliştirilmesine katkı sağlayan bilim diye adlandırılmaktadır (Lillehaug ve Lajoie, 1998: 198). Yapay zeka kavramı belirli kalıplardaki insan davranışlarının (veri hesaplanması, tıbbi teşhisler, soru sorma-cevap verme) taklit edilmesi sistemlerinden ortaya çıkmaktadır. Son dönemlerde yapay zeka alanında Türkiye’ de ve Dünya’ da çok önemli gelişmeler yaşanmış ve kayıt altına alınmıştır (Demirhan, Kılıç ve İnan, 2010: 32, Babalık ve Güler, 2007: 110).



Kaynak: <https://www.drozdogan.com/immunoterapinin-etkinligini-tahmin-eden-yeni-bir-yapay-zeka-modeli/>

Yapay zeka teknolojileri hızla gelişirken biryandan da insanların akıllarına “İnsan ırkı yok mu olacak?” “İnsan işgücü yerini robotlar mı alacak?” “Yapay zeka araçları sağlıkta insan gücünün ve zekasının yerini alabilir mi?” gibi sorular 49 Journal of Academic Value Studies, 8(1), 2022 javstudies.com gelmektedir. Yapay zeka teknolojileri geçmişe oranla gelecekte insanları daha çok zorluk altına alacağı düşünülmektedir. Yapay zeka teknolojilerinin, robotları bir hayli artış göstermesi bu zorlukların çok yakında başlayacağını göstermektedir. Jarrahi (2018)’e göre yapay zeka teknolojileri gelmiş oldukları noktada çok yetenekli olsalar bile yaratıcılık, hayal gücü ve sezgi gerektiren durumlarda doğru sonuca ulaşamayabilirler. Yapay zekâ duygusal zekâ gibi birçok öğeden yoksun olduğu için yapay zekânın insanı tehdit edebileceğini düşünmenin gerçek dışı olduğu, yapay zekâdan değil, onun yanlış amaçlarla kullanımından korkulmasının daha anlamlı ve gerçekçi olduğu kabul edilmektedir (Tugay ve Tugay, 2019).Bu konularla ilgili kimi araştırmacılar olumlu konuşurken kimi ise olumsuz gelişmelerden söz etmektedir (İşgüzar, 2021: 243).

SONUÇ VE ÖNERİLER

2020 yılı içerisinde Çin’ in Wuhan kentinde ortaya çıkan Covid19 pandemisi tüm Dünya genelinde çeşitli kısıtlar ve ekonomik problemleri de beraberinde getirmiştir. Enerji alanlarındaki yaşanan daralmalar, otomotiv sektöründe büyük çaplı yaşanan krizler, insan nüfusunda büyük bir çoğunluğun hasta olması ve aralarında hayatlarını kaybedenlerin fazlalığı vb. dünya ekonomileri için büyük problemler ortaya çıkarmıştır. Ayrıca Türkiye’ de yaşanan olumsuz koşullar, ekonomik daralmalar, ani kur atakları ve çok ciddi boyutlara ulaşan enflasyon da işverenleri ve çalışanları büyük derecede olumsuz etkilemiştir. İşletmelerin sürdürülebilir olabilmeleri için içerisinde buldukları koşul ve şartlara uyum sağlamaları zorunludur. Bu bağlamda işletmelerde yaşamlarını buna uygun hale getirmek için değiştirmek zorunda kalmıştır. İşletmelerin bu koşullarda ayakta kalması için en değerli hazineleri olan çalışanları iş tatmini ve örgütsel bağlılık sağlayarak refah içinde çalıştırmaları, çalışanların örgüte olan uyum ve devamlılığı için son derece önem arz etmektedir. Tüm bunlar göz önünde bulundurulduğunda hem işletmelerin hem de çalışanların birbirlerine ihtiyaçları söz konusudur. Çalışanların yaptıkları işte başarılı olabilmeleri için takdir ve ödüllendirme mekanizmalarına ihtiyaç duymaktadırlar. Bunlar çalışanların optimum seviyede verimli ve etkin olmalarını sağlamaktadır. Aksi olduğundan iş tatmini yakalayamayan çalışanların motivasyonu ve verimliliği düşmektedir. Değişim ve dönüşümlere uyum sağlamak isteyen

maliyet, zaman ve hız avantajı sağlayarak karlılığı yükseltmek isteyen işletmeler yapay zeka teknolojilerini kullanma oranlarını artırmadılar. Yapay zeka teknolojileri çalışanların uyum süreçlerinde teknofobi yani teknolojiyi kullanma konusunda korku duymalarına yol açmaktadır.

Çalışanların yapay zeka kaygısına maruz kalmamaları için işletmelerin ve yöneticilerin hızlı değişim ve dönüşümden kaçınmaları yavaş yavaş uyum sağlayarak değişikliğe yol açmaları sağlanması gerekmektedir. Değişimi anlama ve değişim yönetimi ile ilgili çalışanlara eğitimler verilmelidir. Danışmanlık ve koçluk süreçlerinde değişim konularından yeni teknolojilere uyum ve uyumlaştırma konularından bahsedilerek çalışanların güven duymaları sağlanmalıdır. Güven odaklı olarak yapay zekanın çalışanın işlerini almaktan çok işlerini kolaylaştıracağı kendisine verimlilik ve performans katacağı bilince olmaları sağlanmalıdır. Örgüte karşı uyumlu, motivasyonu yüksek çalışanların olduğu işletmeler rakiplerine oranla çok daha yüksek verimlilik sağlayacaklardır.

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KIMBANGUISM, THE NEW WORLD CIVILIZATION

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ABSTRACT

Professor ROHO YASIMBA has in his book "From the Cradle of Humanity to Modernity; affirmed that: few people know it, human beings as they are today, have existed for about a million years, the first known civilizations are Sumerian, Etruscan, and especially Pharaonic Nubian civilizations. For millennia the black Nubians of East Africa perfectly mastered architecture, mathematics, astronomy and created cities, arts and wonders. JOMO KENYATTA, former President of Kenya added that, "when the missionaries arrived, they had the Bible and the Africans had their land, they taught us to pray with our eyes closed. When we opened our eyes, they had our land and we have the Bible. Faced with the above, God spoke twice to humanity, first to Israel, a People who had a life inherent in the existence of God; his contact with God had gotten them into trouble, hence their various deportations to Egypt, Babylon and Roman rule. And for the second time, it is to the Africans who have seen their misery begin with the promulgation of the papal bull Romanus Lex on the slave trade, on January 8, 1454 for Pope Nicolas V; it was the start of six centuries of horrible oppression of Africa by the Christian West.

Indeed, as nothing new appears under the sun, in the same way that God had revealed the secret of the ancient civilization to Israel, it is in the same way that he did it to Africans. God's wish is to bring Africans into his destiny; after having heard them crying, oppressed, he sent them a saviour, Papa Simon KIMBANGU so that, through him, the secret code of the new civilization be revealed to Africans. Kimbanguism sees its base sitting on Love; command and work, an indisputable panacea of the new civilization; like Jesus who said I; " without me ; you can't do anything" jean 15; Papa Simon KIMBANGU also said to Africans this: "It will take a long time for the black man to acquire his spiritual maturity... then the third stage will be accomplished. In it, a Great Divine King will be born. He will come with his three powers: spiritual power, scientific power and political power. I myself will be the Representative of this king". Papa Simon KIMBANGU, Prophecy of September 10, 1921 in Banza Sanda

Keywords : Kimbanguism, The New Civilization

INTRODUCTION

We make the Paulian Thought our own, laid down in 1 Corinthians 2:9, in these Words: "But as it is written, these are things which eye has not seen, neither ear has heard, which have not entered the heart of man, which God has prepared for those who love him"⁽³³⁾; which will be developed in this reflection.

Nevertheless, history is an incessant search for truth, Africa belongs to Africans and it is time to put an end to the injustices, oppressions, wars, false beliefs and miseries inflicted on the Cradle of our humanity. ⁽⁴⁾ Frantz Fanon said with precision that, Africa has the shape of a revolver whose trigger is in the Congo, after having learned from the Bible, in turn, by the book of Deuteronomy 17:12 "The Lord your God will raise up a prophet for you like me from among you, for the Lord your God is the one who walks with you"⁽⁵⁾

And the book of Acts of the Apostles, chapter 3, verse 22 "Moses said the Lord your God will raise up for you from among your brothers a prophet like me, you will listen to him in all that he will say to you. Ultimately, John 14:15-17; "If you love me, keep his commandments and I will pray to the father and he will give you another comforter, so that he may dwell with you forever. The spirit of truth which the world cannot receive, because it does not see it and does not know it, but you, you know it because it dwells with you and it will be in you. » . All of these promises of God have already been explained by the following passages: Isaiah 11:11-12, "At the same time the Lord will stretch out a second time his hand to redeem the remnant of his people who are scattered in Assyria, in Egypt, Ethiopia... he will lift up a banner for the nations, he will gather the exiles of Israel, and he will gather the scattered of Judah, from the four ends of the earth."⁽⁶⁾

Isaiah 19: 19-21 "At the same time, there will be an altar to the Lord in the middle of the land of Egypt and on the highway, a monument to the Lord . It shall be for the Lord of hosts , a sign and a testimony in the land of Egypt , they will cry out to the LORD , because of the oppressors, and he will send a savior and a defender to set them free. And the Eternal will be known to the Egyptians , they will know the Eternal in that day , they will make sacrifices and offerings, they will make vows to the Eternal and will fulfill it.

The meticulous examination of these pericopes attests that, the savior in question is Papa Simon KIMBANGU, it is he who has the emitting source of the new civilization; for it is certainly true that, a civilization founded on blind and erroneous imitation; mental alienation will hardly benefit Africa and it is a veritable virus capable of destroying the dignity, even the identity of a people. The Force is to indicate that, by this reflection, we fulfill a sacred duty, as required in: Psalm 78: 3-4 "What we have heard, what we know, what our fathers tell us have told, we will not conceal it from their children, we will speak to the next generation, the praises of the LORD , and his power, and the wonders that he works. " 2 Timothy 2: 2 "And what you have heard from me in the presence of many witnesses, entrust it to the faithful who are able to teach it also to others".

³³Martin Bible, 1 Corinthians 2 : 9 Ir Leonard Roho Held , Op.cit ⁵ Louis Second , Deuteronomy 17 :12. ⁶ Louis Second , Isaiah, 11: 11-12.

PROBLEM

A few questions are worth asking about this:

- What is the place of dad Simon KIMBANGU in the New Civilization;
- What has been his plan of action and his mission for the benefit of oppressed man;
- What about the difficulties encountered;
- What to retain as axes of Kimbanguism, the New Civilization.

HYPOTHESIS

Here are some answers to the previous questions:

- Born September 12, 1887, three years after the Berlin Conference; Dad Simon Kimbangu is the son of Dad KUYELA and Mum LUEZI; his name means "Revealer of hidden things".

He appears on the Tableau de Panthéon des Résistants, the heroes of African freedom, he is the creative genius, the initiator and defender of African values, his being, his action, his teachings and his prophecies are full of clues capable of to nourish all areas of life: scientific, historical, theological, sociological...

Everyone who knows him sees the image he wants to give Africa to the world; an Africa free from all degrading and dehumanizing practices, namely witchcraft, magic, secret houses, slavery, alienation...

- About his plan to reach the new civilization:
 - a) He has a great project, it is the mind of man, hence the transformation of man, in everything and for everything = Ndika ya kopola = he miraculously transformed a rotten nut into a good one; hence the change in mentality. Metanoia, the new way of living; to think, to do and new skills.
 - b) To bring man back to his God, his Creator, when man had committed sin he had distanced himself from the Lord.
 - c) Liberate and rehabilitate man.
 - d) Build a new world.

It is at this last point that the analysis of the new civilization finds its total understanding and concerning its mission:

- e) Conquer Paradise Lost; the African can do nothing good outside Paradise.
 - f) To re-establish the spiritual connection with one's God, hence the merits of remaining one with God, the Father, Jesus Christ and God the Holy Spirit.
 - g) Reconnect with God and reclaim the birthright, the first place long lost in the commission of sin.
 - h) Fulfillment of the saying the white man will become black and the black will become white. Let us be orderly, serious, dedicated, persevering in our daily action to reach the new civilization. ⁽³⁴⁾
- Regarding the axes of Kimbanguism, New Civilization, they are three in particular, Love, command and work.

³⁴Reverend MARIO SUALEZI, The Return of the Empire, TRIBUNE

1. love

- a) The love of his God: source of inspiration and energy.
- b) From his country: nationalism above all, to make his environment clean and habitable, to fight against anti-values, in all its forms, corruption, tribalism, betrayal;
- c) Of his neighbour: personal interest is sacrificed for the benefit of the community interest, mutual respect, collaboration...

2. The commandment :

His respect is essential, as much for the ten commandments of God as for the laws of his country; the sinequanun condition of our success, of the new civilization, depends on the commandments.

3. Work :

Let him who does not work, neither eat, in the new civilization, laziness has no place; each to his post, to his duties and we will move forward. ⁽³⁵⁾

- The difficulties encountered were numerous and they remain to this day. In this Africa torn, bruised, annihilated, murdered, crushed, looted, suffocated, strangled, deprived of its daughters and sons, who built as slaves the Basilica of Saint Peter in Rome; instead of the beautiful stones of this Basilica being impregnated with the blood of Christ, it is rather the blood of Africans. The colonizers took three options in the face of his determination and bravery:

- Or, that he works on their behalf, as a Baptist catechist;
- Either they get together to work
- Either, if the first two failed, that he be arrested, imprisoned, ill-treated and killed; thing that was done.

KIMBANGUISM, NEW CIVILIZATION OF THE WORLD

It is no secret that the state of social, economic and social development reached by a given society makes it civilized than others; hence different efforts are made by all societies with a view to attaining at all costs this ideal, which is civilization. It is in this same perspective that Kimbanguism by its universal vocation and its worthy spirituality, the major assets in favor of its openness to the world, wants to be a new civilization. Understood as Christianity resulting from all the actions and teachings of Papa Simon KIMBANGU ⁽³⁶⁾, it is tinged with a high sense of solidarity (KINTUADI) which binds all its members. Kimbanguism has crossed our walls, our entities, the African continent and beyond being a religion; it is a civilization that should be the object of pride, let's not let others take care of it, a civilization based on Bolingo – Mibeko – Misala , love, respect for the commandments and work ⁽³⁷⁾.

The great victory of Kimbanguism, always fought but never defeated, is identified with the first indigenous Church to become a member of the World Council of Churches. ⁽³⁸⁾. Its financial autonomy, the savings from receiving injunctions from elsewhere as to the maintenance of its functional balance. To Papa Paul Salomon DIALUNGANA to add that, Kimbanguism is the instrument by which, Triune God

³⁵Justin KATSHIJI – TSHAUTA, Evangelism for All,

³⁶Joseph DIANGENDA, History of Kimbanguism, Kimb Edition , p.

³⁷Pastor MAKOLO – KATAMBOLA, of the Pentecostal Church, in Kinshasa.

³⁸Joseph DIANGENDA, Op.cit , p.

has completed the process of the eternal salvation of man; it is a nation, a culture, a way of life, a shortcut to paradise ⁽³⁹⁾ The colonizers did everything to stifle this civilization, but without success, because As they were the ones who mistreated the black man, the latter noted was awakened by the new teachings conveyed by one of them, dad Simon KIMBANGU. Kimbanguism has pursued an objective which is to restore man to his original state by the Gospel of Jesus - Christ sus vent, taught and enlivened by his special envoy.

The great fear of the colonizers was to see that they could no longer claim to play the intermediary between God and the blacks, insofar as Papa Simon KIMBANGU was close to God, who had given him a distant vision, superior to them, the Black messiah who called and continues to call, asking man to remain under the guidance and control of the creator.

The leitmotif of his teachings in this new civilization has as a single center of interest, to make God sit on his chair. Note that each civilization always has a lair, Israel the ancient civilization, with so many scholars, is considered the roots of the tree, and this new civilization will concern itself with improving, perfecting, renewing the leaves of the tree. 'tree.

However, any new civilization must meet the following criteria:

- a) Having its own religion: No people can develop without their own religion, because a people without religion is an unrevealed people.
- b) To have one's language: since 1921, dad Simon KIMBANGU has said that we will all learn Kikongo, this language which was spoken in the Old Babel and which is lived in several languages today.
- c) Having its writing, Kimbanguism has a Negro-African writing, Mandombe , which is the basis of all the depth of this new civilization.
- d) To have a science: it will be boosted by the above-mentioned Negro-African writing and we will find all knowledge at Nkamba , at Kinlongo , as those of ancient times had found them at the foot of the pyramids in Egypt.

His Eminence Joseph DIANGIENDA added that, when a people is not spiritually free, it is less stupid than the animals themselves; his fierce struggle in this new civilization is to achieve spiritual independence; because it is she who defends true liberation. Obtaining this independence is conditioned by the strict observance of these three fundamental values, love, the commandments and work, the corollary of this observance is the presence of God in the midst of his people; the people will organize themselves in all respects and that, according to the will of their creator. The aforementioned spiritual independence (= KIMPWANZA KIA MPEVE) must Begin, in the heart of man who will walk according to the benevolence of God; far from fraud and hypocrisy vis-à-vis God and his neighbour.

³⁹DIALUNGANA KIANGANI, Kimbanguism. The Way of Salvation, p.277.

METHODOLOGY

This reflection focused on:

- The analytical method, by bringing together the data related to Kimbanguism, the new civilization, while demonstrating its criteria and the failure of the old civilization which only served twice as much; while rejecting the best (supreme) interests of the creator⁽⁴⁰⁾
- The empirical method, in the sense that after long years all the characters in the Bible have been white and yet all are black, all pagans, Christians, scientists and politicians make no effort to respond to the question where this world is going; and when will the end of the catastrophe that characterizes all of humanity; if it is only the awareness coupled with the implementation of the values of Kimbanguism, the new civilization.⁽¹⁴⁾

RESULTS

History has remembered that when great African men stood up to let us know where we came from, what is our dignity, how to leave this shame where we live, they were fought and killed, like by Papa Simon KIMBANGU. Indeed, in our time, many European, African and American researchers and thinkers have been interested in this question, the viability of Kimbanguism, as a new civilization. In particular, Van Wing, in Kimbanguism seen by a Witness; p. 566, Jean Lasserre, in the nonviolent Church of the Kimbanguists; François Choffat , notes on Kimbanguism; Marie-Louise Martin; the Passion of Simon KIMBANGU; Jules Chomé , KIMBANGU founder of the Church; Willy Beguin and Marie-Louise Martin, in Discovery of Kimbanguism.

It emerges from their studies that really Papa Simon KIMBANGU is the African Messiah, designated and sent by God to put an end to oppression and to prepare the African man to recognize himself, to know his identity, his God and to become aware of the charge he has over all humanity.

DISCUSSION

The base of the dialectic in this reflection is the role that the Old civilization played during the promulgation of the Bull Romanus called Bull of the dehumanization of the Negroes. Several questions were asked in the face of this mistreatment; how a religion that calls itself love killed millions of people using violence. Africa, deprived of its sons, has seen its development blocked, unthinkable and even impossible. She sank into shame, an almost total curse; this dark picture sufficiently testifies that the imported God is not ours and we had to wait for the arrival of Papa Simon KIMBANGU.

Nzamba Mpungu Tulendo , the only one capable of knowing our difficulties, our miseries, and disposed to make our plea to the Lord; convinced of his mission of the Holy Spirit, of the spirit of truth, a good shepherd, who took care of us, who were oppressed peoples and who today suffer because we are dependent on the outside. He faithfully transmitted to us the will of God, a will that overflows with the meaning of our liberation, happiness, fulfillment, material and spiritual development. By this new civilization, all the biblical truths are revealed to us, in this case Adam and Eve were black, likewise Abraham, Noah, Moses, all the biblical characters.

⁴⁰Pinto, R. and Grawitz , M., Methods in Social Sciences, Paris, ed. Dalloz , 1971 , p. ¹⁴ Pinto , R. and Grawitz , M. , Op.cit., p.350.

God himself, his son and God the Holy Spirit are all black, Africans, the Bible tells the story of the life of a black people facing their God. The various parables used by Jesus during his teachings agree with the teaching methodology used in Africa, in all countries, sayings, stories and other wisdoms.

CONCLUSION

The hour has already struck for all Africans to wake up from sleep to know that, among the three black, yellow and white Magi, who had paid homage to Jesus, it was the African who had handed over the alms of great value, his name Melkior . Let us examine our situation in the face, we live in shame, the curse, because of the fear, of the complex, of the negation of our own existence (personality) we decide in such a way that we leave this situation, because wanting is power. An African thought maintains that, the day when a madman discovers his madness, it is on that day that he will be cured; let's stop being at the mercy of others, let's be at our own expense. Kimbanguism, the new civilization has the secret code of our progress, stability, let's examine it and all conform unanimously.

Besides mastering the quintessence of this revealed formula of our happiness, let us struggle to enter into the destiny of the people of God, let us be aware of being:

- Bearers of blessings to others,
- The deposit of the word of God, Zechariah 8:23,
- Disciplined in the visible and the invisible, Exodus 20:1-17.

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MINING REVENUE AND CORPORATE SOCIAL RESPONSIBILITY

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ABSTRACT

INTRODUCTION

The purpose of this communication is to reflect on the issues related to the policy of the distribution and/or management of mining revenue as elements of response to the environmental and organizational problems of the State . The latter has been engaged for some time in a process of reforming its management in order to ensure the mobilization of public resources. And is looking for performance and professionalization of mining management.

METHOD

While being part of a functionalist methodological vision, through the four basic functions, namely: the extractive capacity, the distributive capacity, the regulatory capacity and the responsive or reactive capacity. The information collected was analyzed by adopting a contextualist approach, which constitutes a methodology for analyzing the emergence of an organizational or managerial phenomenon. This approach fits, according to Brouwers et al. (1997), as one of the most promising and richest approaches to understanding organizations in their human and process dimensions. It consists in accounting for the interactions, in a longitudinal perspective, which occur between a management content which constitutes the "what", the internal and external contexts in which it is implemented the "why", and the process of its deployment that constitutes the "how" (Pettigrew , 1987).

RESULTS:

For two decades, the Government of the DRC has retained the Mining sector as one of the pillars of the revival of economic growth. However, there is no truly reliable quantitative and financial assessment of the country's mineral resources. With a large mineral potential, the country displays more than 1,100 different mineral substances and significant world-class deposits of cobalt, industrial diamonds and copper. It also has significant deposits of niobium (also called columbium), tantalum, tungsten, tin and gold, as well as secondary deposits of zinc, lead, nickel, uranium, manganese and silver. The Mining Code provides for the marketing of commercial products that come from the mining perimeters. From this marketing a tax commonly called royalty is collected. The mining royalty is the only tax which is directly proportional to the activity, since it is calculated on the basis of the quantities and the quality of the products exported, and which would be oriented towards the management of the externalities of the

mining companies and future generations. It therefore involves the various stakeholders who constitute the interface of the mining companies.

CONCLUSION

Taking into account the finiteness of natural resources, to solve the problems of future generations, the Congolese State has put in place several mechanisms to capture and manage the mining rent. From the perspective of sustainable development, despite the importance of the mining sector in the national economy, the counterpart in the management of the environment remains opaque and weak.

Keywords : Company, Mining rent, Responsibility, Society

INTRODUCTION

The role of business in promoting sustainable environmental protection is one of the central themes that led to the revision of mining and environmental legislation in the DRC in the previous decade; it is expressed in various community actions dealing with the multiple dimensions of corporate environmental responsibility. Considered as a voluntary action by the company, the CSR commitment has however been encouraged and/or regulated in different ways by the government of the Democratic Republic of Congo and the Platform of Civil Society Organizations intervening in the mining sector. (POM) to respond in particular to obligations of transparency, ethics and community development engine. When the company identifies with employment, human capital and its environment, its interest merges with that of society.

Studying the synallagmatic relationship between the State and the Company is the mission that this article strives to achieve. Nowadays, in the DRC, corporate social responsibility tends to impose itself as an autonomous objective carried by political speeches, rules, and references most often from the public, private and associative sectors, supported by the development of theories organizational, it becomes one of the rules of the game within which companies operate (Uzunidis , 2011). And the State makes it a constraint in the mining legislation by the law n°18/001 modifying and supplementing the Law n° 007/2002 of July 11, 2002 bearing the Mining Code. The State intends to introduce the concept of eco-efficiency both in business management and in public economic and environmental policies. For Salima Benhamou and Marc-Arthur Diaye (Diaye, 2016) CSR is defined as the way in which companies integrate, on a voluntary basis, social, environmental and ethical concerns in their economic activities as well as in their interactions with all stakeholders. , whether internal (managers, employees, shareholders, etc.) or external (suppliers, customers, etc.).

In 2010, ISO 26000 enabled global recognition of the concept of social responsibility of organizations, and more specifically of companies. This standard defines CSR as the consideration by organizations of the three economic, social and environmental dimensions of sustainable development (ISO, 2010): "responsibility of an organization vis-à-vis the impacts of its decisions and activities on society and the environment, resulting in ethical and transparent behavior that contributes to sustainable development, including the health and well-being of society; takes into account the expectations of stakeholders; respects the laws in force while being consistent with international standards; is integrated throughout the organization and implemented in its relationships".

CSR is a participatory process involving consideration of the values, goals and motivations of the people involved in the formulation of corporate strategy and decision-making. Also, it presupposes further broadening the sphere of actors to whom the company must be accountable. It is for the company to report internally and externally in a process of sustainable development. (Noel-Lemaître, 2006). With regard to mining rent; the word annuity has several meanings depending on the sector it is used.

Alain Beitone et al, 2016 say that the term annuity has two different meanings: in the common sense, it means income from property that is assured for a long period. By extension, this term is used to designate certain government loans. In the sense of economic theory, the term rent designates the income from a natural factor (most often land) which results from the technical characteristics of this factor. Thus, land rent is for Ricardo D., linked to the unequal fertility of different units of land. Mining rent and oil rent are also differential rents: the owners of the most easily exploitable mines or oil wells have a rent equal to the difference between the market price and their production costs. Understood in this way, the mining rent can be understood within the framework of this communication as: “all the income received by the State in relation to the mining activity carried out by third parties on its territory. As for the DRC , it is made up of taxes, duties, fees and other levies from mining”.

METHODOLOGICAL APPROACH

While being part of a functionalist methodological vision, through the four basic functions, namely: the extractive capacity, the distributive capacity, the regulatory capacity and the responsive or reactive capacity. The information collected was analyzed by adopting a contextualist approach, which constitutes a methodology for analyzing the emergence of an organizational or managerial phenomenon. This approach fits, according to Brouwers et al. (1997), as one of the most promising and richest approaches to understanding organizations in their human and process dimensions. It consists in accounting for the interactions, in a longitudinal perspective, which occur between a management content which constitutes the "what", the internal and external contexts in which it is implemented the "why", and the process of its deployment that constitutes the “how” (Pettigrew , 1987).

RESULTS

For two decades, the Government of the DRC has retained the Mining sector as one of the pillars of the revival of economic growth. However, there is no truly reliable quantitative and financial assessment of the country's mineral resources. With a large mineral potential, the country displays more than 1,100 different mineral substances and significant world-class deposits of cobalt, industrial diamonds and copper. It also has significant deposits of niobium (also called columbium), tantalum, tungsten, tin, and gold, as well as secondary deposits of zinc, lead, nickel, uranium, manganese, and silver.

With the liberalization of the mining sector in 2002, the evolution of the main macroeconomic indicators shows the Government's effort to maintain the dynamism of the national economy and the stability of the macroeconomic framework following the favorable effects of world prices of raw materials. The Mining Code provides for the marketing of commercial products that come from the mining perimeters. From this marketing a tax commonly called royalty is collected. The mining royalty is the only tax which is directly proportional to the activity, since it is calculated on the basis of the quantities and the quality of the exported products, and which would be oriented towards the management of the externalities of the mining companies. Also, the management of future generations. It therefore involves the various stakeholders who constitute the interface of the mining companies.

Below we present some indicators of the mining sector that can help to understand the importance of this sector in national life.

➤ Contribution of the extractive sector to GDP According to the 2017 BCC report ⁴¹, the contribution of the extractive sector as a percentage of GDP at current prices is presented as follows (2016-2020).

Table n°1 : Evolution of GDP (Values at current prices in millions of CDF and as a percentage of total GDP)

Year	Sector income – extractive	GDP at current market price	% GDP at current prices
2016	7,254,337.80	37,517,392.40	19.30%
2017	9 567 747,20	55 124 325,30	17,40%
2018	15 282 529	ND	ND
2019	11 300 533,4	ND	ND
2020	ND	ND	ND
TOTAL	108 691 147,4	-	-

Source : rapport ITIE 2019

It emerges from this table and from the various published reports that the GDP at current market price is not determined, and the indicators of this GDP are yet to be determined. As the Congolese system is declarative, we believe that with the subsequent publication of EITI reports, this data will be available.

➤ **Contribution of the extractive sector to State revenue**

The contribution of revenues from the extractive sector (mines and hydrocarbons) allocated to the State budget as a percentage of current revenues is presented in the following table:

Table n°02: Contribution of revenues from the extractive sector to the State budget in billions of CDF

Year	Extractive sector revenues (EITI)	Common recipes	% contribution au budget
2016	1 134,0	4 045,9	18,26
2017	2 511,24	4 552, 4	55,16
2018	3 159,67	7 086,60	45
2019	3 281,47	7 174,40	46
2020	ND	ND	ND
Total	10 086,38	22 853,3	

Source : rapport ITIE 2019

In 2017, total revenue reached CDF 5,336.2 billion, representing an achievement rate of 52.2% compared to budget forecasts. This weak mobilization is explained in particular by the late promulgation

⁴¹2017 Annual Report of the Central Bank of Congo (BCC) this report can be found on the following link: http://www.bcc.cd/downloads/pub/rapann/rapport_annuel_2017.pdf

of the Finance Law in June of the year under review. However, there was an increase in nominal revenue compared to 2016 when the Treasury mobilized CDF 3,656.6 billion.

➤ **Table n°03: Contribution of the extractive sector in job creation**

According to data received from the National Employment Office (ONEM), the contribution of the extractive sector to employment in the Democratic Republic of Congo is as shown in the table below:

Exercices	Nationals			foreigners			Grand Total	
	Men	Women	Total	Men	Women	Total	Number	%
2016	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2017	110,430	14,497	124,927	6,972	112	7,084	132 011	25.40
2018	119,534	18,272	137,806	9,925	145	10 070	147 876	25,21
2019	132 464	20 652	153 116	9 976	145	10 121	163 237	24,79
2020	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL	362 428	53 421	415 849	26 873	402	27 275	443 124	

Source: ONEM, declaration to the EITI.

ND = Not declared

According to data received from the National Employment Office (ONEM), the contribution of the extractive sector to the employment rate in the Democratic Republic of Congo represents respectively 25.40% in 2017; 25.21% in 2018 and 2019: 24.79. It should be noted that with regard to population density or demographic evolution, for a population estimated respectively between eighty and ninety million for their years of study, the ONEM data should be taken with great reservations. Nevertheless, Law No. 18/001 amending and supplementing Law No. 007/2002 of July 11, 2002 on the Mining Code, some provisions reinforce the labor code by making the declaration of the workforce in each mining company binding.

Table n° 04: Rate and mode of distribution of the mining royalty

Royalty Type	Rate	Accountable	quota	Collecting public entity
Mining royalty (<i>calculated on the basis of the gross commercial value</i>)	<ul style="list-style-type: none"> . 0% (for commonly used building materials); . 1% (for industrial minerals, solid hydrocarbons and other substances not mentioned); . 1% (for iron and ferrous metals); . 3.5% (for non-ferrous and/or base metals); . 3.5% (for precious metals); . 6% (for precious and colored stones); . 10% (for strategic substances). 	<ol style="list-style-type: none"> 1. The holder of the operating permit, 2. The holder of the tailings exploitation permit, 3. The holder of the Small-Scale Mining License, 4. The holder of the Authorization for permanent quarry exploitation, 5. The approved processing and/or processing entity 	50%	vested in the Central Government;
			25%	The Province where the project is located
			15%	City or Territory in whose jurisdiction the exploitation takes place.
			10%	Central Bank of Congo (Mining fund for future generations)

Source: 2018 EITI Report

The amount of the mining royalty paid to the Public Treasury is distributed at the rate of 60% to the government of the Republic, 25% to the account of the administration of the province where the project is located and 15% to an account designated by the city or the territory in whose jurisdiction the exploitation takes place. The mining royalty is the only tax that is directly proportional to the activity, since it is calculated on the basis of the quantities and quality of the products exported. It is collected by the DGRAD.

To acquire all the means to enable it to achieve its vision, the DRC places particular emphasis on improving the business climate with the aim of attracting investments that create wealth and jobs. 20. The diagnosis of the business climate in the DRC had made it possible to identify, among other obstacles to its improvement: (i) the obsolescence of the legal texts, (ii) a complex, high tax system with little incentive for direct investment, (iii) the insufficient and defective basic infrastructure, (iv) legal and judicial insecurity, (v) difficulty in accessing financing, etc.

Notwithstanding the return to growth and the improvement in the fundamentals of the economy during the decades 2000-2020, the DRC remains marked by mass poverty and great disparities in income levels between social classes on the one hand and between urban and rural areas on the other hand. This poverty can be explained, among other things, by unemployment, which affects young people in particular, and by the atrophy of all sources of income.

Government action in the area of CSR comes under the United Nations Guiding Principles which clearly define the fundamental role of the State in accordance with the referential framework of: “protect, respect and repair” (koffi-Sysvain, 2016). Under these principles, the obligation to protect falls on the state in several forms. In the meantime, the company can in no way replace the State. It should be noted that two types of CSR apply in the DRC, namely mandatory CSR and voluntary CSR.

CONCLUSION

Taking into account the finiteness of natural resources, to solve the problems of future generations, the Congolese State has put in place several mechanisms to capture and manage mining rent. From the perspective of sustainable development, despite the importance of the mining sector in the national economy, the counterpart in the management of the environment remains opaque and weak.

Inserted into a broader social system by the systemic approach to sustainable development, the company becomes a societal organization in the sense that its interactions with stakeholders deepen and intensify (Metrot, 2005). This embeddedness of the organization within social dynamics leads it to have to formulate its strategy according to new performance criteria, with the aim of formalizing new compromises between economic sustainability and social acceptability. In the Congolese context, the strategic decisions of companies are, therefore, most often taken in a financial logic which aims to reduce costs and increase profitability, thus coming up against powerful economic interests. In addition, we think with Jérôme Kangoy that (Mwanavita, 2020) sustainable development requires an almost permanent reflexivity of the actions of the stakeholders, namely, the State, companies and the population at some levels: on their degree of sustainability over time and in space and at the level of their equity. In perspective, an evaluation of the liberalization of the mining sector twenty years later is plausible.

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COST AND WASTE MANAGEMENT IN THE CITY OF LUBUMBASHI

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ABSTRACT

In national accounting, cost analysis consists of providing additional information on the resources actually mobilized by a program in order to achieve the objectives of a public policy. That is to say, to provide greater clarity on the actual destination of these expenses. It is in this perspective, the management of waste and/or garbage in the city of Lubumbashi drew our attention. This study aims to show the determinants of the cost of waste management at the Town Hall of Lubumbashi; indicate in particular the cost of equipment and the cost of materials

To collect, process and interpret the various data available to us, we used methodological triangulation as a research approach while relying on the analysis of SWOT and PESTEL matrices.

In addition to the calculated Pearson coefficient r of 0.68, there is a positive and significant relationship between the cost of waste management and the budget of the City of Lubumbashi. For the period of our research, the cost of equipment represented an average of 22,500 dollars and the cost of materials represented an average of 66,175 dollars. These costs were fixed at an average of \$74,233 and variable at an average of \$66,175.

To make this cost more rational, we proposed to the Lubumbashi Town Hall to strengthen control at the level of the allocation of funds in order to ensure the traceability of the funds allocated. To improve the quality of services; the Town Hall should outsource the sanitation sector in order to make it more competitive.

Keywords : Cost, Management, waste, sanitation, Budget

COUT DES ETUDES SUR LE BUDGET DES MENAGES LUSHOIS

Par AMSINI NGOY Vincent

Résumé

L'investissement en capital humain sur les étudiants à l'UNILU dépend du niveau de revenu et des revenus extra-salariaux des parents lushois. Pour l'objectif de cette étude est de relever les déterminants de cout de revient des études à l'Université de Lubumbashi/Faculté des Sciences Économiques et de Gestion dans un premier temps et en suite de montrer l'impact de ce cout sur le budget des ménages lushois.

Pour récolter, traiter, interpréter les données mises à notre portée, nous avons fait recours à l'approche quantitative en passant par la méthode d'enquête ; la méthode statistique ; tout en nous appuyant sur l'analyse de moindre carrée ordinaire, la technique d'échantillonnage, l'analyse de la matrice SWOT ainsi que Pestel

L'enquête menée sur un échantillon aléatoire de 96 étudiants à la Faculté des Sciences Economique et de Gestion montre qu'il existe deux catégories de coûts : le coût variable qui représente 2660\$ et le coût fixe qui représente 2945\$ en moyenne. Le revenu moyen des parents lushois ayant un enfant à l'UNILU est de 713,546\$ par an et le revenu moyen extra salarial est de 4953,89\$. Donc au total 5667,44\$. A ce revenu, les parents consacrent en moyenne 1531,6\$ par an, pour les études universitaires de leurs enfants soit environs 1/4 de leur revenu global (moyenne entre l'étudiant interne et externe).

En plus du coefficient de Pearson r calculer de $\cong 0.00226$. L'étude montre que l'évolution du budget des ménages ne suit pas celle de cout des études et vice versa, et que le cout des études a un impact important sur ce dernier.

Pour optimiser la charge due au coût des études, l'Etat doit revoir à la hausse le Smig et veiller à l'application de cette mesure par les Entreprises, de payer régulièrement ces travailleurs, de veiller à ce que toutes les entreprises payent régulièrement leurs travailleurs, de créer de l'emploi pour diminuer le chômage et assuré un emploi descend pour les nouveaux licenciés, ainsi que de mettre en application la politique d'octroi de bourses signifiant aux étudiant, enfin de promouvoir l'éducation en RDC et accroître la capacité productive future de la population car l'éducation influe la productivité qui est le moteur de la croissance économique et un chemin vers un développement durable d'un pays.

Mots clés : Investissement en capital humain, Revenu, Revenu extra salarial, Coût, Budget, Ménage

I. INTRODUCTION

La présente étude, se donne l'objet d'évaluer le cout des investissements en capital humain c'est-à-dire des études universitaires à l'UNILU, cas des étudiants de la FSEG. L'université de Lubumbashi, depuis sa création en 1955, a le monopole de l'enseignement supérieur et universitaire. Mais, ce à partir de 1990 qu'il a perdu cette position et aujourd'hui elle se trouve dans un environnement concurrentiel, ce qui fait que son environnement interne et externe est affecté par la présence des autres institutions supérieurs.

Depuis plusieurs décennies, nous avons observé qu'à la faculté des sciences économiques et de gestion avec une moyenne de 2800 étudiants par an, environs 80 étudiants en moyenne soit 3% abandonnent leurs études. En effet sur environs 900 étudiants nouveaux recrutés en moyenne chaque année à la faculté, seulement 70% en moyenne terminent les cinq ans de études prévues pour le premier et le deuxième cycle. Parmi les raisons d'abandon, il y a le paiement de frais académiques (UNILU, 2013).

Poirier (2012) les études universitaires est sont un investissement en capital humain, pourtant, pour investir, il faut avoir un financement à la hauteur de ce dernier, enfin de le couvrir sans ambiguïté. Si certains étudiants de la FSEG abandonnent, il sied de s'interroger sur le coût des études, ceci nous amène à savoir : Quels sont les déterminants de cout des études à l'UNILU à la FSEG pour le premier et le deuxième cycle et quel est l'impact ce coût des études sur le budget des ménages lushois ?

A priori, les déterminants de cout des études universitaires seraient le frais de minerval, le frais d'achat des syllabus, les frais connexes, les frais des sessions, le frais de stage, les frais d'élaboration et de dépôt de mémoire et TFC, le frais de transport, frais de fournitures, le frais de loyer et l'alimentation (pour les étudiants internes) et ce coût aurait un impact positif et significatif sur le budget des ménages lushois.

II. METHODE ET MATERIELS

Nous avons fait recours à l'approche quantitative pour recueillir les données. Cette approche nous a permis de récolter les données observables et quantifiables reposant sur le principe qui consiste à décrire, expliquer, contrôler et prédire en se focalisant sur l'observation des faits et événement positive (Coutelle, 2005). L'enquête nous a faciliter à mener une quête d'information réalisée par l'interrogation systématique des sujets d'une population déterminée par l'utilisation du questionnaire (Quivy et van campnould, 1995). L'échantillonnage a consisté à tirer au sort dans la population étudiée donnant à chaque élément de celle-ci une probabilité connue, non nulle, d'être sélectionné (Chirouze, 2010).

La matrice SWOT et PESTEL nous a permis à confronter les forces et faiblesses aux opportunités et menaces de l'environnement. Les forces correspondent aux facteurs qui permettent à l'entreprise de mieux réussir que ces concurrents, les faiblesses désignent les domaines ou l'entreprise est susceptible d'afficher des difficultés par rapport à ces concurrents, les opportunités correspondent à des tendances favorables qui ouvrent de nouvelles perspectives de développement dont l'entreprise pourrait tirer profit et en fin les menaces désignent des problèmes posés par une transformation de l'environnement (Learned et al ;1965).

Ainsi, nous présentons ci-dessous la matrice SWOT de la FSEG sous forme d'un tableau

Tableau N°1 : Matrice SWOT de la FSEG

Environnement Interne (microenvironnement)	Environnement Externe (macroenvironnement)
Forces	Opportunités
<ul style="list-style-type: none"> • Ancienneté • Notoriété • Qualité des enseignements • Qualité des professeurs 	<ul style="list-style-type: none"> • Possibilité des partenariats avec des universités étrangères • Possibilités d'informatiser ses enseignements
Faiblesses	Menaces
<ul style="list-style-type: none"> • Manque d'auditoire approprié • Faible quantité des professeurs • Manque d'innovation 	<ul style="list-style-type: none"> • Multiplicité des instituts supérieurs • Autonomisation des extensions

Source : nous-mêmes

La détermination de l'échantillon

Population ciblée

➤ Étudiants de la faculté des sciences économiques et de gestion de l'UNILU.

Base de sondage

Effectif des étudiants de deuxième licence de la faculté des sciences économiques et de gestion, soit de ±600 étudiants.

Technique d'échantillonnage

Nous avons utilisé la technique d'échantillonnage probabiliste de sondage aléatoire non exhaustif. Elle consiste à tirer au sort l'échantillon dans la population à étudier donnant à chaque élément de celle-ci une probabilité connue, non nulle, d'être sélectionné (Chirouze, 2010).

Taille de l'échantillon

Nous nous placerons dans la situation où $p=1/2(0.5)$ et $q=1/2(0.5)$, car ne connaissant pas le degré d'homogénéité de la population mère, faute d'avoir réalisé un sondage préalable (Chirouze, 2010).

Alors nous avons utilisé la formule suivante avec un seuil de confiance de 95% et une marge d'erreur de 5% $= \frac{t^2 \cdot p \cdot q}{e^2}$

$n = \frac{t^2 \times 0.5 \times 0.5}{e^2} = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 96,04 \cong 96$, ce qui signifie que nous allons interroger au moins 96 étudiants.

Soit : p = est la fréquence observée dans l'échantillon, $q = 1-p$

n = taille de l'échantillon, t = est un coefficient dont la valeur dépend du seuil ou niveau de confiance, e = est la marge d'erreur que l'on peut tolérer dans l'estimation.

Pré-enquête

Pour nous permettre de comprendre la pertinence de notre questionnaire, nous avons eu à effectuer une pré-enquête auprès de 10 étudiants de la faculté des sciences économiques et de gestion qui constitue notre champ d'investigation.

Administration du questionnaire

Pour éviter des incohérences, nous avons soumis le questionnaire aux enquêtés en les assistant dans leur manière de compléter.

Tableau 2. Genre

N°	Question	Désignations	Effectifs	Fréquences
1	Sexe	Homme	59	61,5
		Femme	37	38,5

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Dans l'objectif de récolter les déterminants de cout de revient de l'investissement en capital humain à l'Université de Lubumbashi/faculté des sciences économiques et de gestion, enfin de mesurer son poids sur le budget des ménages lushois, nous avons eu a questionné les étudiants de ladite faculté dont, 61,5% été des hommes et 38,5% été des femmes

Tableau 3. Age

N°	Questions	Désignations	Effectifs	Fréquences
2	Age	18-25 ans	25	26,04
		25-35 ans	57	59,375
		Plus de 35 ans	14	14,6

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Parmi les étudiants enquêtés ; 26,04% est constitué de personnes de l'âge variant entre 18 et 25 ans, 59,375% ayant l'âge se trouvant dans l'intervalle de 25 à 35 ans et 14,6% d'eux ont plus de 35 ans

Tableau 4. Les catégories des étudiants

N°	Questions	Désignations	Effectifs	Fréquences
18	Catégorie de l'étudiant	Interne	21	21,875
		Externe	27	28,125
		Chez les parents	48	50

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Notre échantillon été composé de 78,125% d'étudiants qui sont externes c'est-à-dire qui ne sont pas sur le cité Universitaire et de 21,875% qui sont des étudiants interne c'est-à-dire qui sont sur le cité Universitaire.

Tableau 5. État civil

N°	Questions	Désignations	Effectifs	Fréquences
3	Etat civil	Marié	1	1,04
		Célibataire	95	98,96
		Divorcé	0	0

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Signalons ici que 98,96% des personnes enquêtés sont des célibataires, contre 1,04% seulement de mariés. Les résultats de notre enquête montrent que presque tous les étudiants sont des célibataires, ce qui veut dire que plusieurs d'entre eux sont encore sur la charge des parents

Tableau 6. Autres professions

N°	Questions	Désignations	Effectifs	Fréquences
4	Autre profession appart celle d'étudiant	Oui	52	54,17
		Non	44	45,83

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Nous avons eu a enquêté sur 45,83% d'étudiants n'ayant que celle-ci comme profession seulement et de 54,17% qui ont d'autre professions appart celle d'étudiant

Tableau 7. Profession

N°	Questions	Désignations	Effectifs	Fréquences
5	Profession	Agriculteur en exploitant	0	0
		Artisan	7	7,29
		Cadre	0	0
		Employé	3	3,125
		Profession libérale	12	12,5
		Journalier	0	0
		Profession intermédiaire	0	0
		Ouvrier	0	0
		Commerçant (e)	13	13,54
		Autres	17	17,71

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Concernant les autres professions que les étudiants pourront avoir appart celui d'étudiant ; 7,29% sont des artisans, 3,1254% d'employé de société, 12,5% qui effectuent une profession libérale, 13,54% font leur petit commerce et 17,71% qui effectuent d'autres professions appart celle cité. Signalons que dans notre échantillon, il n'y avait aucun cadre ni encore moins un ouvrier.

III. RESULTATS

Dépouillement

Dans ce point nous faisons la préparation, le nettoyage, la mise en ordre et le regroupement en tableau des données recueilli auprès de nos enquêtés par le billet d'un questionnaire dont son administration a enregistré 96 cas favorables sur 105 distribués c'est – à – dire ce qui donne le taux de réponse de 91%.

Tableau 8. L'intensité de dépenses

N°	Questions	Désignations	Effectifs	Fréquences
8	Avis sur les dépenses des études	Tout à fait normal	0	0
		Plutôt normal	3	3,125
		Légèrement normal	7	7,29
		Neutre	2	2,08
		Légèrement exagérée	12	12,5
		Plutôt exagérée	47	48,96
		Tout à fait exagérée	25	26,04

Source : nous même sur base des réponses de nos enquêtés

Commentaire : En cherchant à savoir comment les étudiants arrivent à couvrir leur frais d'étude, 32,29% disent qu'ils arrivent à le faire grâce aux salaires des parents, alors qu'une grande partie de ces derniers confirment que le salaire des parents ne suffit pas pour couvrir leurs frais d'études, ce qui fait qu'ils sont obligés à chaque fois de faire recours aux membres de famille et aux petits travaux particulière pour couvrir ces couts du début à la fin de l'année voir du cursus.

Eu égard à ce qui précède, plusieurs étudiants ne connaissent pas le salaire des personnes qui les supportent, mais tout ce qu'ils savent ce que ce salaire ne suffit pas pour couvrir leurs dépenses et même aussi ne savent pas ce qu'ils gagnent tout au long de l'année, parce qu'ils trouvent cet argent d'une manière aléatoire et désordonnées.

Tableau 9. Le minerval

N°	Questions	Désignation	Effectifs	Fréquences
12	Minerval	G1	96	100
		G2	96	100
		G3	96	100
		L1	96	100
		L2	96	100

Source : nous même sur base des réponses de nos enquêtés

Commentaire : D'après les réponses de nos enquêtés, le minerval est un frais commun, obligatoire et commune pour tous les étudiants, quelques soit la faculté, mais qui est différent selon les promotions et nous avons constaté que celui-ci varie d'année en année soit ils sont sortis de 170\$ en 2009 à 250\$ en 2014, ce qui fait que le cout total augmente au fur et à mesure qu'un étudiant monte de promotion.

Tableau 10. Les frais des notes de cours

N°	Questions	Désignations	Effectifs	Fréquences
13	Syllabus (notes des cours)	-50\$	7	7,29
		50-100\$	32	33,33
		100-150\$	46	47,92
		+150\$	11	11,46

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Pour les questions concernant ces frais, nous avons eu les réponses suivantes : pour le frais de syllabus (les notes de cours) ; 7,29% des enquêtés dépensent moins de 50\$ par an, 33,33% dépensent entre 50 et 100\$, 47,92% déboursent 100 à 150\$ et 11,46% mettent plus de 150\$ dans ces derniers. Cette différenciation des montants engagé pour les notes de cours, se justifie par le fait que ce ne pas les étudiants qui achètent tous les syllabus, la plupart d'eux choisissent ce qu'ils doivent acheter et ceux qu'ils n'achèteront pas, c'est ainsi qu'il y a ceux qui achètent 5 syllabus ou même, d'autre achètent plus voir le tout.

Tableau 11. Les frais des travaux pratiques

N°	Questions	Désignations	Effectifs	Fréquences
14	Travaux pratiques	-50 \$	27	28,125
		50-70\$	48	50
		70-100\$	21	21,875
		100-150\$	0	0
		+150\$	0	0

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Pour le frais des travaux pratiques ; 28,125% dépensent moins de 50\$ par an, 50% déboursent 50 à 70\$ et les 21,875% autres effectuent des dépenses variant entre 70 et 100\$.

Tableau 12. Les frais des fiches

N°	Questions	Désignations	Effectifs	Fréquences
15	Frais de fiches	10 \$	0	0
		20\$	13	13,54
		30\$	43	44,79
		40\$	38	39,58
		50\$	2	2,08
		+50\$	0	0

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Ce qui est de même pour le frais de différentes fiches dont ; 13,54% ne dépensent que 20\$, 44,79% déboursent 30\$, 59,58% mettent au moins 40\$ et 2,08% seulement dépensent 510\$ et plus.

En ce qui concerne les frais de session ; 3,125% seulement dépensent 15\$, c'est-à-dire pour une session et les 96,875% restant payent pour les deux sessions, soit 30\$ par an

Tableau 13. Les frais de sessions

N°	Questions	Désignations	Effectif	Fréquences
16		15\$	3	3,125
		20\$	0	0
		25\$	0	0
		30\$	93	96,875
		+30\$	0	0

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Les réponses concernant le paiement de ces frais, sont plus penché du côté de ceux qui payent tous les deux sessions, soit 96,875% d'eux et seulement 3,125% confirme qu'ils ne paient que pour une session seulement.

Tableau 14. Les montants de transport

N°	Questions	Désignation	Effectifs	Fréquences
17	Transport	100\$	0	0
		100-150\$	14	29,17
		150-200\$	0	0
		200-250\$	0	0
		250-300\$	27	56,35
		300-350\$	0	0
		+350\$	7	14,58

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Les frais de transport quant à eux sont différents compte tenu de distance, selon que l'étudiant habitent au centre-ville et ne paye qu'une fois aller-retours ou que ce dernier est obligé de payer deux à trois tronçons pour atteindre le campus, c'est par exemple ce qui sont à la Kenya, katuba, ruashi et même dans la commune annexe; la plus part des enquêtés affirment qu'ils payent toujours l'une ou l'autre de tronçons pour atteindre le cité universitaire, dont 29,17% dépensent entre 100 et 150\$ par an, 56,25% déboursent un montant allant de 250 à 300\$ et 14,58% dépensent plus de 300\$ par an.

Tableau 15. Les frais de loyer

N°	Questions	Désignations	Effectifs	Fréquences
19	Loyer mensuel et annuel	25\$	3	3,125
		25-50\$	20	20,83
		50-75\$	63	65,625
		75-100\$	8	8,33
		+100\$	2	2,08

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Le loyer pour ceux qui sont interne et ceux qui louent quelque part, sont de moins de 25\$ pour 3,125%, de 25 à 50\$ pour 20,83%, de 50 à 75\$ pour 2,08% seulement d'entre eux. Les étudiants internes payent annuellement alors que les autres payent mensuellement ces frais.

Tableau 16. Les frais d'élaborations de travaux de fin de cycle.

N ^o	Questions	Type	Désignations	Effectifs	Fréquences
20	Frais de l'élaboration de TFC et Mémoires	TFC	-130\$	39	40,625
			130-160\$	48	50
			160-190\$	6	6,25
			190-220\$	3	3,125
			220-250\$	0	0
			+250\$	0	0
		Mémoire	-130\$	0	0
			130-160\$	27	8,125
			160-190\$	52	54,17
			190-220\$	17	17,71
			220-250\$	0	0
			+250\$	0	0

Source : nous même sur base des réponses de nos enquêtés

Commentaire : L'élaboration des travaux de fin de cycles vaut un cout aussi important que pour l'élaboration du TFC ; 40,625% des enquêtés dépensent au moins 130\$, 50% déboursent entre 130 et 160\$, 6,25% payent environs 160 à 190\$ et le 3,125% restant dépensent 190 à 220\$. Pour l'élaboration du mémoire ; 28,125% des enquêtés déboursent environs 130 à 160\$, 54,17% vont jusqu'à 160 à 190\$ et 17,71% dépensent au maximum 190 à 220\$ par an.

Tableau 17. Les frais de dépôt de travaux de fin de cycle.

N ^o	Questions	Type	Désignations	Effectifs	Fréquences
21	Frais de dépôt de TFC et mémoires	TFC	30	0	0
			45	0	0
			50	96	100
			+50	0	0
		Mémoires	30	0	0
			45	0	0
			50	0	0
			+50	96	100

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Comme les frais de minerval, les frais de dépôt de travaux de fin de cycle sont aussi commun, obligatoire et unique, mais la seule différence se situe au niveau de cycle, car le frais de dépôt de travaux de premier cycle est différent de celui du second cycle.

Tableau 18. Le montant de frais de recours

N°	Questions	Désignations	Effectifs	Fréquences
22	Frais de recours	10 \$	16	16.67
		20 \$	77	80.21
		30 \$	0	0
		40 \$	0	0
		50 \$	0	0
		+50 \$	0	0
		Jamais	3	3,125

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Pour les frais de recours quant à eux ; 16,67% des enquêtés déboursent en moyenne chaque année 10\$, ce qui signifie qu'ils introduisent le recours au moins une fois chaque année, 80,21% introduisent deux fois par an, soit pour un montant de 20\$ et les 3,125% restant n'introduisent jamais le recours, c'est qui signifie que ces derniers passent soit en premier session, soit en deuxième session seulement et pas au recours.

Tableau 19. Le montant de frais de stage.

N°	Questions	Promotion	Désignations	Effectifs	Fréquences
23	Frais de stage	G3	32\$	96	100
			45\$	0	0
			50\$	0	0
		L2	32\$	0	0
			45\$	96	100
			50\$	0	0

Source : nous même sur base des réponses de nos enquêtés

Commentaire : Ces frais sont obligatoires pour les étudiants finalistes du premier ou deuxième cycle pour leur passer le stage dans une entreprise, ce qui fait tous sont obligé de payer, faute de quoi ils sont disqualifiés pour toute l'année.

Tableau 20. Montant de frais de relevés de côtes.

N°	Questions	Promotions	Désignations	Effectifs	Fréquences
24	Frais de relevé des côtes	G1	15\$	96	100
		G2	15\$	96	100
		G3	15\$	96	100
		L1	15\$	96	100
		L2	15\$	96	100

Source : nous même sur base des réponses de nos enquêtés.

Commentaire : Le montant de frais de relevé de côtes, constitue un cout fixe pour les étudiants, car ils ne changent pas au fil du temps et il est unique pour tous les étudiants, quel que soit la promotion. Au cours de notre enquête, nous nous sommes trouvé face à plusieurs étudiants qui nous ont suggéré plusieurs informations supplémentaires, à titre illustratif ; les frais de vacances pour les étudiants interne, les frais des assiettes, de mousse, le frais de provision alimentaire, le frais de cotisation pour entretien du home ou des auditoires, les frais de fourniture, les frais illicites comme la corruption communément appelé "circuit", le frais de festivités pour la dernière année, etc. Nous présentons dans les trois tableaux ci-

dessous sur base des réponses de nos enquêtés et différentes preuves de paiement mis à notre disposition par ces derniers ; le cout de revient pour chaque catégorie, différencié en cout variable et cout fixe, et le moyen de cout pour les deux catégories.

Tableau 21. La détermination du coût des études pour la catégorie d'étudiants externes

N°	Désignation	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	Cout variable					
1	Minerval et bibliothèque	170	185	195	230	250
2	Fiche de recherche			8,5		10
3	Frais de stage			32		45
4	Dépôt TFC et Mémoire			50		70
5	Fiche signalétique			10	5	5
6	Frais d'élaboration TFC et Mémoire			158		238
7	Fiche de suivi			8		10
8	Notes de cours (syllabus)	150	80	70	110	80
9	Frais de fourniture	80	80	110	80	130
10	Fiche d'option				10,5	
	Total cv	400	345	641,5	435,5	838
	Cout fixe					
11	Frais de session	30	30	30	30	30
12	Frais de recours	20	20	20	20	20
13	Relevé de cotes	15	15	15	15	15
14	Fiche de proposition de sujet			10		10
15	Transport	296	296	296	296	296
16	Frais des travaux pratiques	82	82	82	82	82
17	Fiche d'examen	11	11	11	11	11
18	Restauration pendant la pose	127	127	127	127	127
19	Frais d'inscription	20				
	Total cf.	601	581	591	581	591
	Totaux	1401	1271	1874	1452	2267

Source : nous même sur base des réponses des enquêtés et les documents justificatifs de paiement

Tableau 22. La détermination du cout des études de la catégorie d'étudiants interne

N°	Désignation	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Cout variable						
1	Minerval et bibliothèque	170	185	195	230	250
2	Fiche de recherche			8,5		10
3	Frais de stage			32		45
4	Dépôt TFC et Mémoire			50		70
5	Fiche signalétique			10	5	5
6	Frais d'élaboration TFC et Mémoire			158		238
7	Fiche de suivi			8		10
8	Notes de cours (syllabus)	150	80	70	110	80
9	Frais de fourniture	80	80	110	80	130
10	Fiche d'option				10,5	
Total cv		400	345	641,5	435,5	838
Cout fixe						
11	Frais de session	30	30	30	30	30
12	Frais de recours	20	20	20	20	20
13	Relevé de cotes	15	15	15	15	15
14	Fiche de proposition de sujet			10		10
15	Loyer	473	473	473	473	473
16	Frais des travaux pratiques	82	82	82	82	82
17	Fiche d'examen	11	11	11	11	11
18	Restauration pendant la pose	127	127	127	127	127
19	Frais d'inscription	20				
20	Frais alimentaires	633	633	633	633	633
Total cf		1411	1391	1401	1391	1401
Totaux		2211	2081	2684	2262	3077

Source : nous même sur base des réponses des enquêtés et les documents justificatifs de paiement

Tableau 23. Le cout des études pour les deux catégories des étudiants

N°	Désignation	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Cout variable						
1	Minerval et bibliothèque	170	185	195	230	250
2	Fiche de recherche			8,5		10
3	Frais de stage			32		45
4	Dépôt TFC et Mémoire			50		70
5	Fiche signalétique			10	5	5
6	Frais d'élaboration TFC et Mémoire			158		238
7	Fiche de suivi			8		10
8	Notes de cours (syllabus)	150	80	70	110	80
9	Frais de fourniture	80	80	110	80	130
10	Fiche d'option				10,5	
Total cv		400	345	641,5	435,5	838
Cout fixe						
11	Frais de session	30	30	30	30	30
12	Frais de recours	20	20	20	20	20
13	Relevé de cotes	15	15	15	15	15
14	Fiche de proposition de sujet			10		10
15	Loyer	473	473	473	473	473
16	Frais des travaux pratiques	82	82	82	82	82
17	Fiche d'examen	11	11	11	11	11
18	Restauration pendant la pose	127	127	127	127	127
19	Frais d'inscription	20				
20	Frais alimentaires	633	633	633	633	633
21	Transport	296	296	296	296	296
Total cf		1707	1687	1697	1687	1697
Totaux		2107	2032	2338,5	2122,5	2363
Moyenne		1406	1331	1637,5	1421,5	1862

Source : nous même sur base des réponses des enquêtés et les documents justificatifs de paiement

Commentaire : Comme le montre les tableaux ci-haut, le cout supporté par les étudiants internes dépasse celui supporté par les étudiants externes, par le fait qu'il y a des frais que les étudiants internes prennent en compte et que les étudiants externes ne comptabilisent pas, c'est par exemple les frais d'aliments, des assiettes, de mousses et autres. Le cout total évolue à la hausse au fur et à mesure que l'étudiant monte des promotions.

D'après les calculs, pour qu'un étudiant commence et termine le cursus académique, son responsable doit dépenser au moins 7 658 dollars us qui constitue le cout de revient.

Tableau N°24. Calcul du revenu extra-salarial

ANNEE	SALAIRE	REVENU EXTRA SALARIALE	REVENU TOTAL
2010	672	4375,17	5047,17
2011	692,16	4442,08	5134,27
2012	712,92	4778,67	5491,59
2013	734,31	5149,45	5883,76
2014	756,34	6024,08	6780,42
Total	3567,73	24769,45	28337,18
Moyenne	713,546	4953,89	5667,436
Mensuellement	59,38	412,82	472,2

Source : nous-mêmes sur base des données recueillies à la mairie

Commentaire : Après calcul, nous avons constaté que le salaire que perçoivent les parents ne leur permet pas de nouer les deux bouts du mois, ce qui entraîne ces derniers dans d'autres occupations pour palier à cette insuffisance du salaire, dont le plus souvent sont des activités informelles. Il faut aussi noter que le budget des ménages lushois est presque à base zéro, dans ce sens ou les parents ne sont pas sur des recettes pour couvrir toutes les dépenses et cela à cause des impayements et de la situation socio-économique critique.

Plus ou moins 98% des abandons est due à la baisse de revenu extra-salariale, car c'est avec celui-ci que les parents arrivent à couvrir les différentes dépenses des études de leurs enfants, et aussi de nouer les deux bouts du mois.

4.2.2 Analyse statistique

Dans cette partie nous faisons le traitement des données par la méthode de moindre carré ordinaire en passant par la corrélation, mettant en exergue le cout des études a la faculté des sciences économiques et de gestion de l'UNILU et le budget des ménages lushois pour mesurer la dépendance entre les deux.

Tableau N°27 : Calcul de la corrélation de corrélation

N °	Xi	Yi	Xi- \bar{X}	Yi- \bar{Y}	(Xi- \bar{X}) ²	(Yi- \bar{Y}) ²	(Xi- \bar{X}) (Yi- \bar{Y})	XiYi
1	4442,08	1406	-511,81	-125,6	261949,4761	15775,36	642883,336	6245564,48
2	4375,17	1331	-578,72	-200,6	334916,8384	40240,36	116091,232	5823351,27
3	4778,67	1637,5	-175,22	105,9	30702,0484	11214,81	19291,722	6792879,405
4	5149,45	1421,5	195,56	-110,1	38243,713	12122,01	20709,804	8432224,375
5	6024,08	1862	1070,19	330,4	1145306,636	109164,16	353590,776	11216836,96
Σ	24769,45	7658	0	0	1811118,713	188516,7	1152566,87	38510856,49
M	4953,89	1531,6						

Source : nous-mêmes

X : Budget des ménages et Y : Cout des études

$$r = \frac{\sum XiYi - n\bar{X}\bar{Y}}{\sqrt{\sum (Xi - \bar{X})^2 \sum (Yi - \bar{Y})^2}} = \frac{38510856,49 - 5(4953,89)(1531,6)}{\sqrt{1811118,713 \cdot 188516,7}} = 0,00226236950 \cong 0.00226.$$

Commentaire : Les deux variables : budget de ménage (x) et cout des études (y) ; sont dépendant, donc la variation du budget de ménage entraine celle de cout des études universitaire et vice versa

La corrélation entre le cout des études et le budget de ménage lushois est positif mais faible, ce qui nous amène à calculer un test de linéarité pour confirmer la faible linéarité de ces deux variables.

th=2

$$x = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} = \frac{0,00226\sqrt{5-2}}{\sqrt{1-0,0000051076}} = 0,0039144$$

0,0039144 < 2 c'est-à-dire $t_c < t_h$

Commentaire : t_c est inférieur à t_h , donc la corrélation entre ces deux variables est faible, c'est-à-dire qu'il ne suit pas trop linéairement ou encore l'évolution de cout des études ne suit pas trop celui du budget des ménages et vice versa. Comme le coefficient est faible et ne pas proche de 1, il est impossible de procéder à un ajustement linéaire, même de faire des projections, car ils ont plus de chance d'être erroné.

IV. DISCUSSION

Après analyse des données, cette étude a montré que l'investissement en capital humain sur les étudiants à l'UNILU dépend du niveau de revenu et des revenus extra-salariaux des parents lushois. Montre aussi que l'évolution du budget des ménages ne suit pas trop celle de cout des études et vice versa, et que le cout des études à un impact important sur ce dernier. Les résultats de l'étude indiquent que le revenu moyen des parents lushois ayant un enfant à l'UNILU est de 713,546\$ par an et le revenu moyen extra salarial est de 4953,89\$. Donc au total 5667,436\$. A ce revenu, les parents consacrent en moyenne 1531,6\$ par an, pour les études universitaires de leurs enfants soit environs 27,02% de leur revenu total, et le reste pour d'autres dépenses concernant ; la santé, le logement, la nourriture, l'habillement, le transport et autres.

La corrélation entre le cout des études et le budget de ménage lushois est positif mais faible, c'est-à-dire qu'il n'est pas trop linéairement ou encore l'évolution de cout des études ne suit pas trop celui du budget des ménages et vice versa.

Se référant à d'autres auteurs, nous allons faire un parcours des recherches théoriques qui porte sur les études pour enfin élaborer un modèle théorique qui soutiendra notre façon de raisonner dans notre recherche.

L'étude de Griliches et Mason (1972), montre que les individus, pour décider de poursuivre ou non leurs études, arbitrent entre la perte de revenu, qu'ils subissent en poursuivant leurs études pendant une année supplémentaire et le surcroît de salaire qu'ils pourront retirer une fois rentrés sur le marché du travail.

Pour Mankiw et al (1992), l'éducation joue le même rôle dans la production que le capital physique. Accumuler des années d'études revient à multiplier la force du travail, autrement dit à augmenter l'efficacité productive à technologie constante, ce qui permet de soutenir la croissance.

Quant à Becker (1964), le capital humain est un ensemble des capacités productives qu'un individu acquiert par l'accumulation d'un stock de connaissances générales ou spécifiques, il est constitué à partir des activités qui prennent la forme d'investissement, mais ce capital humain est particulier, il est différent des autres formes de capitaux. D'une part puisqu'il influe sur la richesse et le bien être des individus et d'autre part puisque c'est l'homme qui est le support potentiel du capital humain.

Hayfa (2006) a abordé dans le même sens, pour lui l'individu investi donc de façon à augmenter sa productivité future et ses revenus. Se pose alors la question de la motivation parce qu'elle détermine l'efficacité des efforts consentis. L'investisseur doit consacrer une

grande partie de son temps, comptant pour l'essentiel du cout, à l'accroissement de son capital. Cependant l'effet que le capital humain soit incorporé à l'individu l'incite à investir d'avantage puisqu'il s'approprie lui-même ; connaissant le droit de propriété dans les pays en voie de développement, l'appropriation représente en quelque sorte une protection naturelle contre les risques de spoliation. En revanche, ce caractère incessible contraint l'accès au crédit puisque le prêteur ne dispose d'aucun gage.

Blinder et Weiss (1976), disent que la théorie du capital humain propose ainsi une justification des écarts de revenus individuels. Ainsi, les plus aisés auront accès à des conditions de financement moins couteuses, demanderont de ce fait plus de scolarisation et percevront donc des revenus plus élevés. Dans cette perspective, le système éducatif apparait comme un lieu de reproduction des inégalités sociales. Une implication forte en termes de politique économique est que, pour réduire les inégalités dans la répartition des revenus, il faudra commencer prédire celles dans l'accès à l'éducation. L'exploration nous a permis d'identifier les différentes études sur la question de l'investissement en capital humain. Ces études épinglent également l'impact de cet investissement sur le budget des ménages.

L'originalité de cette étude se situe sur le plan théorique et méthodologique. Sur le plan théorique, nous avons emprunté l'approche de demande d'éducation de Blinder et Weiss (1976) qui analysent conjointement l'évolution des revenus et des investissements humains en relation avec l'âge. Sur le plan méthodologique, nous avons utilisé un questionnaire d'enquête pour collecter les données auprès des étudiants de la FSEG.

V. CONCLUSION GÉNÉRALE

Montre aussi que l'évolution du budget des ménages ne suit pas trop celle de cout des études et vice versa, et que le cout des études a un impact important sur ce dernier. Les résultats de l'étude indiquent que le revenu moyen des parents lushois ayant un enfant à l'UNILU est de 713,546\$ par an et le revenu moyen extra salarial est de 4953, 89\$.Donc au total 5667,436\$. A ce revenu, les parents consacrent en moyenne 1531,6\$ par an, pour les études universitaires de leurs enfants soit environs 27,02% de leur revenu total, et le reste pour d'autres dépenses concernant ; la santé, le logement, la nourriture, l'habillement, le transport et autres.

Cette étude regorge des limites que nous relevons pour ouvrir des perspectives à d'autres recherches dans l'avenir

→ Et à court, terme nous demandons au ministère de l'enseignement par le biais de l'Université de Lubumbashi, d'accompagner l'Etat dans ces objectifs de promouvoir l'éducation, en tenant compte de la capacité financière de la population, dans la fixation de différents frais d'études, afin de permettre à tous d'avoir accès à l'éducation, en attendant que celui-ci remédie les différents problèmes y affaillent.

→ A long terme, nous demanderons à l'Etat de revoir à la hausse le Smig et de veiller à son application par les Entreprises, de payer régulièrement ces travailleurs, de veiller à ce que toutes les entreprises payent régulièrement leurs travailleurs, de créer de l'emploi pour diminuer le chômage et assuré un emploi descend pour les nouveaux licenciés, ainsi que de mettre en application la politique d'octroi de bourses signifiant aux étudiant, enfin de promouvoir l'éducation en RDC et accroître la capacité productive future de la population car l'éducation influe la productivité qui est le moteur de la croissance économique et un chemin vers un développement durable d'un pays;

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DOES IT MATTER FISCAL OR MONETARY POLICY ON ENVIRONMENTAL ISSUE? EVIDENCE FROM KERNEL-BASED REGULARIZED LEAST SQUARES (KRLS) FOR USA

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ABSTRACT

The carbon dioxide emission, which plays a major role in climate change, is an important indicator of the climate crisis. The United States (USA), which is a leader in terms of the global economic system, also has important roles in global climate change. USA has been reducing CO₂e per capita since 2006. What policy options can be effective for the USA in tackling climate change? We explore the effectiveness of monetary and fiscal policies on CO₂e based on the USA's 1990-2019 annual data in order to answer this question. KRLS results indicate that fiscal policy is more effective for reducing CO₂e in the USA than monetary policy. Our findings can encourage policymakers for fiscal policy in the struggle with climate change.

Keywords : Climate crisis, Fiscal policy, Monetary policy, Kernel-Based Regularized Least Squares

INTRODUCTION

In this day and age, climate change and urgent climate actions that can produce solutions are among the most important issues (Öztürk and Acaravci, 2010; IPCC, 2022). Reducing carbon dioxide emissions (after here CO₂e) can be the first line of visible actions in the struggle with climate change (Halıcıoğlu, 2009). Because one of the main sources of climate change, is greenhouse gas emissions(36-72 % water vapor, 9-27 % carbon dioxide, nitrous oxide, 4-9 % methane and 3-7 % ozone) (Wikipedia, 2022), and the most famous of which is CO₂.

The current global carbon emission level has reached 1.5 times the 1950 level. According to the researchers, the extent and rate of decline in Arctic Sea ice levels in 2017 have been unprecedented in at least the last 1,500 years. The global mean sea level in 2020 has 91.3 millimeters above the 1993 average (GML, 2022). Apart from these, among the topics directly affected by climate change, dozens of others such as water, health, food and agriculture, energy, governance, finance, and urbanization can

be said (Balsalobre-Lorente et. al., 2018; IPCC, 2022).

The relationship between greenhouse gas emissions and the economy has been discussed in the literature for a long time and empirically tested. Such studies examples Halıcıoğlu (2009), Apergis and Payne (2010), Öztürk and Acaravci (2010), Apergis and Öztürk (2015), Zafar et. al. (2021), Wang et. al. (2022), Xue et. al. (2022) can be shown. On the other hand, these empirical studies continue accompanied by different models in which many variables are added. Foremost among these are energy consumption (Soytaş and Sarı, 2009), trade openness (Sadorsky, (2011; 2012) and Shahbaz et. al.(2014), Özmen et. al. (2019) can be shown as instances.

Among the recent studies, a subject that we have placed at the center of our examination draws attention. While market mechanisms and monetary policies have been preferred by policymakers until recently in the tackling of climate change, the possibility that fiscal policies can be used effectively is shown soon. Muhafidin (2020), Ullah et. al. (2020), Adua et. al. (2020), Yılcı and Pata (2021) and Özmen et. al. (2022) can be cited as examples of studies that model and analyze fiscal policy tools in the strive for climate change.

We focused on the USA's carbon policies, drawing attention to the role of the USA, which is a significant actor in the global system, in the struggle with climate crisis in the global and regional sense.

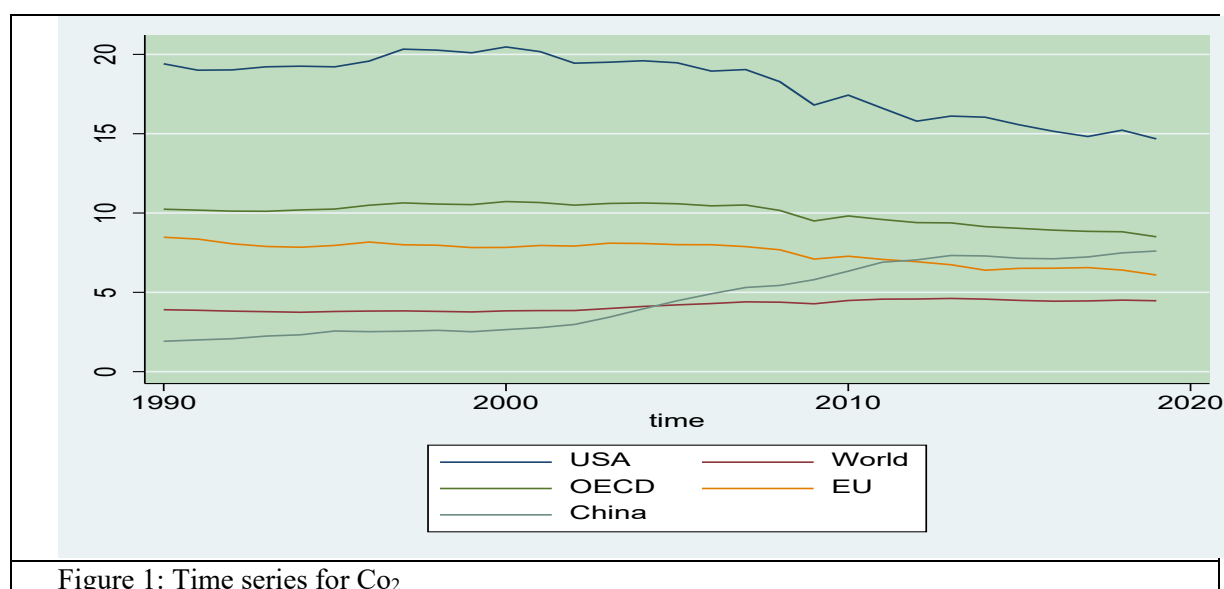


Figure 1: Time series for CO₂

Let us see why we focus on the USA in Figure 1. Accordingly, the USA is above the world, OECD, and EU averages in terms of CO₂e. Since 2006, the amount of carbon dioxide per capita in the USA has been decreasing. On another hand China, the situation is the opposite.

In this paper, we explore the effects of monetary and fiscal policies on per capita CO₂e, based on the 1990-2019 annual data of the USA. We search for an answer which policy of the USA is effective in struggle CO₂e and which one will be effective. For this aim, we employ the KRLS method, adapted to econometric models by Ferwerda et. al. (2017).

This study is as follows; literature in Section 1, data and methods in Section 2. Section 3 presents empirical findings, and finally conclusion and discussion.

1. Literature

Studies dealing with the effects of fiscal and monetary policies on CO₂e differ due to different samples and different methods. It is difficult to say that these studies reached a common conclusion.

However, some of the studies here show that fiscal policies can be effective in decreasing carbon emissions. Below we list some information about the studies that we can reach. We present some key findings about the studies that we can reach.

Muhafidin (2019) aims to explore the role of monetary and fiscal policy in environmental degradation of Indonesia over the time span of 1973-2018. They found that there is a strong relationship between the Gdp, interest rate and exchange rate in the context of the Indonesia. Ullah et. al. (2020) explored the effects of government expenditures, government revenue and Gdp on the CO₂e using the data for 10 Asian economies. They used ARDL and NARDL approaches. Their findings can differ four columns a) an increase tax revenue uniquely increases government expenditure, a situation that increases CO₂e in China, India, Indonesia, Iran, Malaysia, Thailand, Turkey and the UAE and decreases in Japan, b) a positive public spending shock improve environmental quality in Japan; it worsens the situation in China, India, Indonesia, Iran, Malaysia, Thailand, Turkey and the UAE, c) reducing government expenditure only worsen environmental quality in Japan and improve these economies, d) at the end, there is no explainable result about Saudi Arabia.

Adua et. al. (2021) explored the effect of state policy on energy consumption using a sample for all 50 U.S. states. They found that a) the relationship between energy efficiency policies implemented by state governments and energy consumption is either positive or statistically insignificant; b) savings from improved efficiency are often channeled into increased production and consumption, which have significant impacts on energy consumption. Chisti et. al. (2021) investigated the influence of fiscal and monetary policies on CO₂e employing a panel data set of BRICS economies from 1985 to 2014. Their results imply that fiscal policy can be effective reducing CO₂e. They also estimated while expansionary monetary policies deteriorate environmental quality, contractionary monetary policies improve that quality. Authors indicate that when fossil fuels are considered together with local consumer expenditures, their increase also increases pollution, and the use of renewable energy leads to a decrease in CO₂e and improves the quality of the atmosphere.

Ahmed et. al. (2021) assessed whether there is an asymmetric link between renewable energy technology budgets, environmental sustainability and economic policy uncertainty for US in the context of the study over the time span 1985-2017. They found that renewable energy research and development budgets have no significant effect on CO₂e reductions.

Ullah et. al. (2021) explored the asymmetric effects of fiscal and monetary policy instruments for environmental pollution for Pakistan over the period 1985-2019. They used ARDL and NARDL methods. They found that a) a positive or negative shock in fiscal policy significantly increases CO₂e in the short-term, b) positive and negative monetary policy shocks have an increasing effect on short-term carbon emissions, c) a positive or negative shock in fiscal policy significantly reduces long-term environmental pollution, d) a positive monetary policy shock has a reducing effect on long-term carbon emissions.

In another study, Mughal et. al. (2021) explored the dynamic effects of fiscal and monetary policy on environmental pollution for 5 AESAN countries over the period 1990-2019. They employed panel and time series NARDL. The long-run coefficient found by using the panel ARDL reveals that if monetary policy is contractionary, CO₂e decrease, while expansionary monetary policy increases CO₂e. In addition, in the long run, when monetary and fiscal policies are used together, expansionary fiscal policy increases CO₂e, while contractionary fiscal policy reduces CO₂e in the long run. In the short run, contractionary monetary policy increases CO₂e, while expansionary fiscal policy increases CO₂e in the short run. Finally, the increase in GDP is driving CO₂e higher in the ASEAN region in general.

Recently, Chien et. al. (2021) explored carbon impartiality goal in the USA over the time span of 1970-2015. They used the QARDL methodology. They found that a) it has been confirmed that there is a significant negative correlation between the past and lagged values of CO₂e in the short term and the current and lag values of CO₂e b) green growth and its square, ecological innovation and environmental taxes have a significant negative impact on determining CO₂e in the USA in the long run, c) green growth and its square, ecological innovation, environmental taxes and renewable energy play a vital role in reducing haze pollution such as air pollution (etc. PM2.5). Kamal et. al. (2021) discussed the issue of fiscal policy, financial development and foreign direct investment in the era of globalization at the point of reducing environmental pollution, and a panel data set was used for the period 1990-2016 in 105 countries. They used panel long-run coefficient estimations approaches and panel threshold regression. They clearly stated that a) both the expansionary fiscal policy and globalization seriously increase environmental pollution, b) the applied results demonstrate the validity of the pollution haven hypothesis (PHV),c) in the context of the countries covered in the study, it has been revealed by panel threshold regression that a certain fiscal policy is maintained even if it is at a minimum level. Finally, Özmen et. al. (2022) tackled the developed countries that applied carbon tax for the first time as a sample to investigate the effect of fiscal policies on carbon emissions. The findings of the empirical case, in which they applied a panel approach to the annual data from 1972 to 2017, showed that fiscal policy in the sample does not provide any evidence of the expected mitigating effects on environmental pollution in any country. Their principal findings show that revenue policy only funds government expenditure in these countries.

2. Data and methods

We investigated the effects of monetary and fiscal policies on per capita CO₂e with the help of 1990-2019 annual data from the USA, through the model developed by Ullah et. al (2021). The functional definition of this model is as follows;

$$CO_2=f(Gpp, Gex, Tr, Dr) \quad (1)$$

With this functional definition, CO₂e represents metric tons of carbon dioxide emissions per capita, Gpp represents US dollars per capita, Gex represents the ratio of total government expenditures to Gdp, Tr represents the ratio of total tax revenues to Gdp, and finally, the Dr is discount rates of the USA. Table 1 shows the definition, abbreviations, and sources of our data.

Table 1: Series, abbreviations and resource

Series	Definitions	Abbr.	Sources
Carbon dioxide emissions	CO ₂ emissions (metric tons per capita)	CO ₂	World Bank
Gross domestic product	Gross Domestic Product (Gdp)Total, US dollars/capita	Gpp	OECD data
General government spending	Total, %Gdp	Gex	OECD data
General government revenue	Total, %Gdp	Tr	OECD data
Discount rate	Interest Rate, Discount Rate for USA, Percent per Annum	Dr	Federal Reserve Economic Data

Based on the functional definition above, we adapt the model in which our variables are as follows:

$$\ln CO_{2,t} = \partial_0 + \beta_1 \ln Gpp_t + \beta_2 \ln Gex_t + \beta_3 \ln Tr_t + \beta_4 \ln Dr_t + \varepsilon_t \quad (2)$$

Where, *ln* represents the natural logarithm of all variables, $\beta_1, \beta_2, \beta_3, \beta_4$ are estimation parameters and ε_t is error term. We estimated the equation in Equation 2 using the KRLS method developed by Hainmuller and Hazlett (2014).

We focused on the variables of both single and interaction effect. Therefore, we preferred the KRLS method to estimate the long and short-run coefficients. This method is based on a machine learning algorithm and can be adapted to econometric models. The KRLS method can make unbiased and consistent estimations with tools such as marginal effects and point distribution (Sarkodie and Owusu, 2020). This method developed by Hainmueller and Hazlett (2014) and later adapted to econometric models by Ferwerdaet. al. (2017), is a nonlinear estimator (Choi and Lee, 2020).

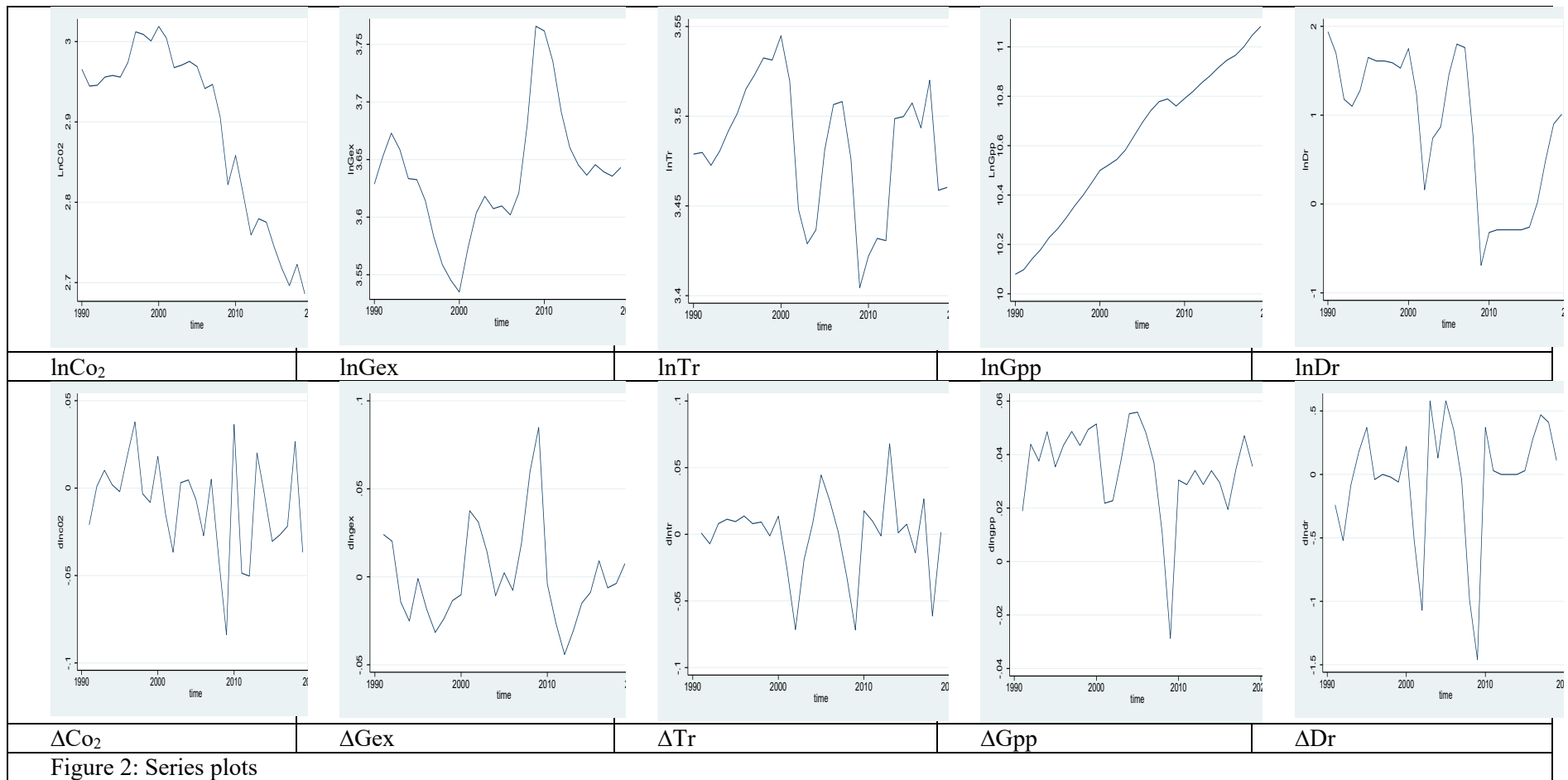
3. Empirical Findings

Table 2 shows descriptive statistics of the series. $\ln\text{CO}_2$, $\ln\text{gpp}$, $\ln\text{tr}$ and $\ln\text{dr}$ are left skewed while $\ln\text{gex}$ is right skewed. This provides information about the possible long-run relationships of the series. $\ln\text{dr}$ and $\ln\text{gpp}$ have relatively high volatility. The volatility of other variables is relatively close to each other.

Table 2: Descriptive Statistics

Series	Obs	Mean	Std. Dev.	Min.	Max.	Skewness	Kurtosis
$\ln\text{CO}_2$	30	2.89	0.10	1.68	3.01	-0.65	1.88
$\ln\text{Gpp}$	30	10.61	0.30	10.07	11.08	-0.26	1.85
$\ln\text{Gex}$	30	3.63	0.05	3.53	3.76	0.56	3.51
$\ln\text{Tr}$	30	3.48	0.03	3.40	3.54	-0.36	2.21
$\ln\text{Dr}$	30	0.85	0.82	-0.69	1.94	-0.44	1.75

The graphical representation of the variables is as in Figure 2. In Figure 2, Δ indicate the first difference and \ln indicate the natural logarithm of the series. There is a remarkable point in this chart; different trends between CO_2 e per capita and per capita income. The graphs showing the logarithmic values of the $\ln\text{CO}_2$ and $\ln\text{gpp}$ indicate asymmetric relationships. Government expenditures increased in the Global Financial Crisis (GFC) and tax revenues decreased. Crisis periods left their mark on fiscal policies. Finally, the discount rate abandoned its downward trend with the GFC in 2010 and reflects the footsteps of the increasing interest rate process in the USA.



Before proceeding to the estimation with KRLS, it is necessary to investigate whether there is a potential structural break in the research period after the simple regression estimation of the model belonging to equation 2. It is substantial to understand whether the cumulative sum is stable over time. CUSUM Square results are reported in Figure 2. Accordingly, the coefficient estimates are stable. These results are statistically significant at the 95% confidence interval.

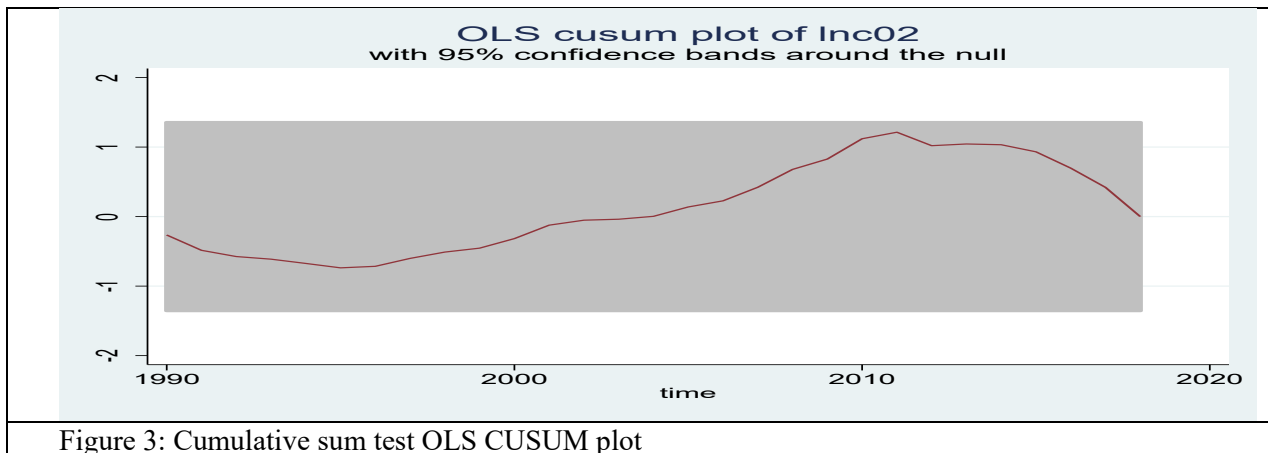


Figure 3: Cumulative sum test OLS CUSUM plot

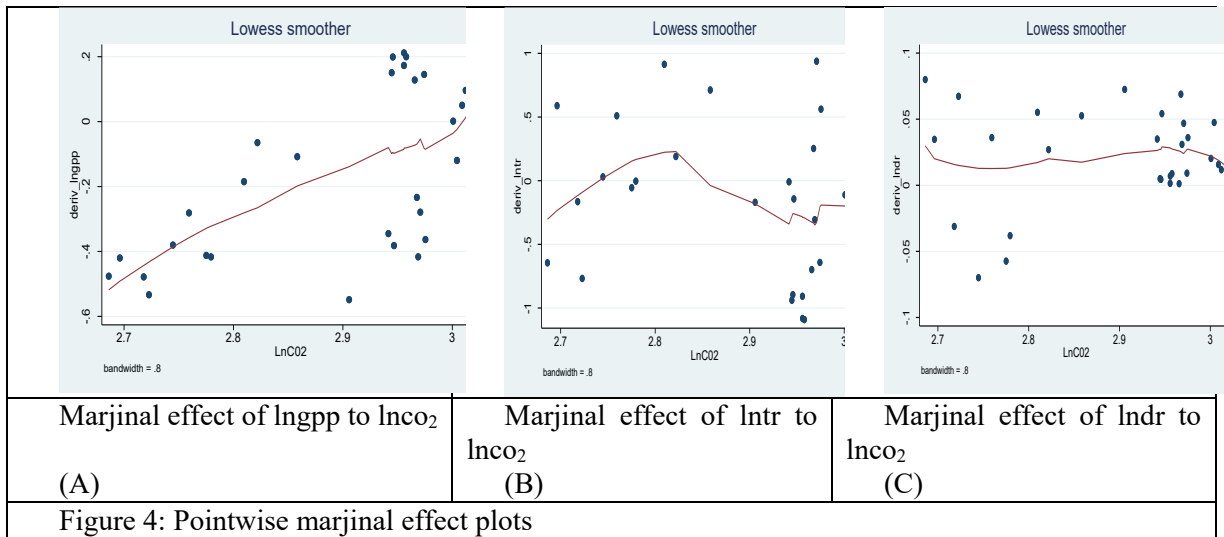
Table 2 below shows the estimations of the KRLS method, which is an advanced version of the OLS method and based on the machine learning procedure, showing the effects of the independent variables on the dependent variable. These estimates can also be presented in the form of results divided into three periods. Where, P25 = marginal effects in quartile 1, P50 = median marginal effects, P75 = marginal effects in quartile 3.

Table 2: Result of KRLS estimations coefficient

Variables	Marj	Std. Er.	T	P>t	P25	P50	P75
	Eff.						
Ingpp	-0.170 ^a	0.008	-19.46	0.000	-0.412	-0.209	0.096
Ingex	-0.46	0.072	-0.063	0.531	-0.471	-0.195	0.254
Intr	-0.171 ^c	0.091	-1.869	0.073	-6.451	-0.167	0.190
Indr	0.034 ^a	0.004	4.662	0.000	0.005	0.023	0.047
Lambda	0.054	Tolerance	0.03	Sigma	4	Eff.	16.94
R ²	0.992	Loolloss	0.2928	Obs	30	Def.	

Note: a and c indicate the statistical level of significance at 1% and 10%.

According to the KRLS estimation findings of the model shown in Equation 2, the model is statistically significant at the 1% significance level. The significance of this regression in explaining CO₂e per capita for the USA is 99.2%. The heterogeneous marginal effects in the table can be characterized as short, medium and long term. Accordingly, the average marginal effects of Ingpp, Intr and Indr on CO₂e per capita are 0.17%, 0.17% and 0.04%, respectively. Of these effects, the coefficient of Intr and the coefficient of Ingpp have negative signs. On the other hand, there are no significant statistical findings regarding the average marginal effects of Ingex on CO₂e per capita for the USA. These findings imply that the effect of Ingpp on CO₂e is significant in the long-run, while Indr is significant in all three periods. We can explain the long-term effects of Ingpp, Intr and Indr, which have statistically significant effects, with Figure 4 below.



According to Figure 4 (A), the effect of high-level increases in lngpp on lnco₂ continues up to a certain point, after this point (the first threshold point), the effect of lngpp on lnco₂ disappears, but after this second threshold, it enters an increasing trend in both series. According to Figure 4 (B), increases in lntr are accompanied by asymmetric lnco₂. The same cannot be said for lnldr (C).

Conclusion and Discussion

We work out the effectiveness of fiscal and monetary policies in reducing per capita CO₂e based on annual data from the USA. For this, we preferred the discount rate, which is preferred in the literature, to represent monetary policies. We used the Gdp ratio of total public expenditures and the ratio of Total Tax revenues to Gdp to represent fiscal policies. We added to our model per capita Gdp as a control variable.

From this point of view, are fiscal or monetary policies effective in reducing CO₂e in the USA? We sought an answer to his question. To answer the question, we employed the KRLS method, which has a novel non-linear and machine learning algorithm.

Our findings show that as per capita income increases, per capita CO₂e decrease. Another important finding for us answered the main question of this paper: Tax policies, one of the leading fiscal policies, reveal carbon emission reduction effects for the USA. On the other hand, monetary policies (discount rate) increase carbon emissions. Finally, we do not have statistically significant evidence for the impact of government expenditure on CO₂e per capita. So, we answer that fiscal policy is more effective for reducing CO₂e in the USA than monetary policy. Our findings are in agreement with the findings of Chien et. al. (2021) and Ullah (2020) for developed countries. But it is not in agreement with the findings of Chisti et. al. (2021) and Özmen et. al. (2022). It may be that the sample investigated in these studies is not similar to the USA. Our methodological approach and period differ from theirs.

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ENTREPRENEURSHIP IN THE DEMOCRATIC REPUBLIC OF CONGO: A STUDY WITH YOUNG ENTREPRENEURS: CASE OF LUBUMBASHI'S CITY

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ABSTRACT

The African continent has one of the youngest populations in the world. With over 60% of Africa's population under the age of 30, we need to learn how to tap into this pool that these young people can offer. Africa's development is therefore closely linked to the well-being of its young people. In 2010, 33% of the 66 million inhabitants of the Democratic Republic of Congo (DRC) were in the 10 to 24 age bracket. The number of young people will increase to 31.6 million by 2025 and 42.9 million in 2050. This growing youth population has enormous potential to strengthen or undermine national goals in the areas of governance and economic development. and social. Long years of conflict have hampered the ability of the DRC government to deliver social services. Many children have died, become combatants and/or been displaced due to this instability. On Wednesday , February 19, 2020, the official launch ceremony of the micro, small and medium-sized enterprise development support project (PADMPME) financed by the World Bank to the tune of USD 100 million took place in Lubumbashi. The development objective of this project is to support the growth of SMEs and increase employment and entrepreneurship opportunities for young people and women.

This research aims to study the obstacles encountered by young Congolese graduates in the creation of their businesses. Identifying these obstacles provides useful knowledge to help young people succeed in their entrepreneurial activities and projects. To this end, we examine a sample of 115 young Haut-Katanga graduates of higher and university education located in the city of Lubumbashi, in the Democratic Republic of Congo (DRC). A research approach composed of quantitative techniques, specifically the questionnaire survey, made it possible to collect the data needed to understand the obstacles to business creation by young Congolese graduates. We opted for an exploratory research. Three groups of major obstacles are mentioned in this research: individual obstacles to business creation among young people, obstacles related to the economic, institutional and regulatory, cultural, social and educational environment of business creation companies and finally, the obstacles related to the business creation project. The results of the study reveal that young people perceive difficult access to financing, difficult access to credit, lack of professional experience, absence or insufficiency of support and guidance, lack of personal funds, insufficient education and training programs, difficulties in preparing the business plan, lack of entrepreneurial culture, guidance and information policy, and skills and knowledge in entrepreneurship as the main obstacles to starting a business. This study concludes with recommendations on how to improve youth entrepreneurship in the DRC.

Keywords : Entrepreneurship, Young graduates, Lubumbashi

INTRODUCTION

The young Congolese show a lot of determination to meet their challenges but they have also shown their frustration because of the multiple obstacles. The majority are young people who have the idea of starting their own business⁴². However, it is clear that very few of them actually manage to take the plunge and that their failure rate exceeds that observed in the older population⁴³. This demonstrates the existence of obstacles hindering youth entrepreneurship. Similarly, the work carried out by the researchers confirms the presence of many obstacles that young people face in their entrepreneurial drive.

Obstacles are elements that represent barriers to the development or progress of something.

In the context of this study, we define “barriers to business creation” as any element that represents a blockage, a barrier or an obstacle to the development or progress of the business creation process. Indeed, the obstacles or obstacles to business creation are elements that act negatively and can constrain, hinder or inhibit the entrepreneurial process upstream in its various phases. Barriers are factors that hinder the development and emergence of youth entrepreneurship.

The study seeks to answer the question: What are the obstacles that hinder the entrepreneurship of young people in the Democratic Republic of Congo and young graduates from Haut-Katanga in particular, and how to overcome them? Our objective is to study the factors which constitute a handicap to the passage of young Congolese and particularly young graduates from Haut-Katanga, to the entrepreneurial act, by emphasizing the preparation and the implementation of the project, the profile of the entrepreneur and the entrepreneurial environment and finally, to present some means of action. This research is part of the desire to improve the business creation process and further promote the entrepreneurial culture among young graduates in the DRC. It is for us, as future graduates, a way to contribute to increasing knowledge in the field of entrepreneurship and to promote the entrepreneurial culture among young people in the country.

1. LITERATURE PAPER

There is little literature and data on the situation of young Congolese, although this demographic group represents the majority of the underemployed or unemployed population. The near-permanent state of conflict in the DRC since independence in 1960 and widespread poverty (despite abundant natural resources) partially contribute to this lack of information.

The DRC is a young country: about half of its population is under 35 years old. With an annual population growth estimate ranging from 2.6 to 3.1%, the population is expected to reach 85 million in 2020.⁴⁴The 2013 UN Human Development Report projects a population of 106 million in 2030.⁴⁵The dependency ratio of young people by 86.4% (those likely to be economically dependent on the support of others) clearly underlines the need to invest more in education, employment, health and other social services for young people.⁴⁶

Young people in the DRC aspire to become agents of change for their country. However, the current education and training system is failing young Congolese who are poorly educated, largely unemployed and ill-equipped for the world of work. According to the Ministry of Planning, youth unemployment in the formal

⁴²FJ Akpa, African youth facing entrepreneurship: issues and challenges. Research Gate, 2019. [Online] Available : <https://www.researchgate.net/publication/335146553>, (January 20, 2020).

⁴³Brahmi Halima and Jellali Majida , Brakes and motivations of young Tunisian entrepreneurs: an exploratory study. International Journal of Economics & Strategic Management of Business Process (ESMB), Vol.6, pp.1-5, 2016.

⁴⁴Johannes Herderschee , and Daniel Mukoko Samba, *Resilience of an African Giant* (Washington, DC: World Bank, 2012), 13.

⁴⁵UNDP, *Human Development Report* (2013).

⁴⁶*Defining Dependency Ratios* , *CIA World Factbook*, accessed November 2013 <https://www.cia.gov/library/publications/the-world-factbook/docs/notesanddefs.html?fieldkey=2261&alphaletter=D&term=Dependency%20ratios>

economy is 32.2%, almost twice the national average of 17.8%.⁴⁷The 2012 edition of *the African Economic Outlook* claims that more than 70% of young people between the ages of 15 and 24 are unemployed and those in urban and peri-urban areas are the hardest hit.

Underemployed or unemployed youth cannot wait for economic growth to reach them. In the DRC, recent studies and surveys show that although there is growing momentum, job creation is modest.⁴⁸The International Monetary Fund (IMF) analysis of the previous poverty reduction strategy shows that only two of the 25 actions planned for job creation have been carried out — the drafting of a national employment policy, the vocational training and capacity building of government agencies responsible for labor management.⁴⁹Although the GRDC has created the Observatory for Employment and Vocational Training and Better Management of the Labor Market through the Effective Data Processing Program (PIEGMA), the IMF's interim report remains silent on actual jobs created.⁵⁰

The DRC will need to create between 2 and 4 million jobs each year to absorb those entering the labor market and reduce poverty.⁵¹This work requires a strong commitment from both donor partners and the GRDC to foster youth employment. In the DSCR 2, the GRDC committed to creating 900,000 jobs for young people between 2012 and 2016.⁵²

Authors A. Ayadi and J. Arlotto confirm that the list of possible obstacles to youth entrepreneurship is long, we can cite: - lack of funding, skills or infrastructure, gender discrimination, fear failure, financial risk, lack of mentorship or support, poor economic climate, ongoing military conflicts, lack of entrepreneurial culture, corruption, lack of entrepreneurial education, funding issues affordable, high crime rate or poor administration.⁵³

In their study on the brakes and motivations of young Tunisians, Brahmi Halima and Jellali Majida,⁵⁴ note that the brakes or the obstacles to entrepreneurship by young graduates are manifested above all in the insufficient education and training programs, the poor societal perception of entrepreneurship, the lack of previous professional and entrepreneurial experience of young graduates, the lack of initial financial resources, the usual availability of limited social capital and a limited network of professional contacts and the confrontation with various barriers inherent in the especially financial markets.

FJ Akpa, in his article: African youth faced with entrepreneurship: issues and challenges⁵⁵, shows that despite the progress that entrepreneurship has made in Africa, young people who want to undertake or who are already entrepreneurs encounter still many difficulties. These include societal attitudes towards entrepreneurship, lack of skills, insufficient training in entrepreneurship, lack of work experience, lack of funds own, the absence of contacts and barriers inherent in the market, the formalities are heavier and longer,

⁴⁷DRC Ministry of Planning, *Growth and Poverty Reduction Strategy Paper - 2nd generation* (2011).

⁴⁸Johannes Herderschee, Kai-Alexander Kaiser, and Daniel Mukoko Samba, *Resilience of an African Giant*, (Washington DC: World Bank, 2012), 96.

⁴⁹According to the International Monetary Fund (IMF), DRC's National Bureau of Employment is implementing a registration system for the unemployed and issues biometric cards to holders.

⁵⁰The IMF describes the PEIGMA as responsible for producing indicators on job opportunities and job seekers; publication of key market indicators; conduct periodic surveys to determine work needs; and preparation of job description to inform job seekers about opportunities.

⁵¹African Development Bank, *2012 Africa Economic Outlook* (2012), 15

⁵²Ibid.

⁵³A. Ayadi and J. Arlotto, Assessing the scope of educational competitions for business creation: the case of a VSE resulting from the Challenge Projets d'Entreprendre®. Proceedings of the 7th International Francophone Conference on SMEs (CIFPME), October 27-28 and 29, 2004, Montpellier, France.

⁵⁴OpCit . _

⁵⁵OpCit _

the cost of start-up, the compulsory minimum capital and the lack of access to information particularly relevant for entrepreneurial activities.

Under these conditions, it is urgent that African governments put in place policies to further strengthen the entrepreneurial activities of young people in order to reduce unemployment.

For us, we propose to talk about the obstacles to the entrepreneurship of young Congolese by analyzing three aspects: the creative individual, the environment of business creation and the business creation project. Therefore, three groups of barriers to business creation by young people will be discussed. The first are those specific to the individual who wants to create a business, the second come from the environment (economic, institutional and regulatory, cultural, social, educational, etc.) in which business creation projects emerge and evolve. companies of young graduates, and the third are those who stand up during the preparation and realization of their business creation projects.

PERSONAL BARRIERS TO STARTING A BUSINESS

These are obstacles that are associated with the individual who wants to set up a business. Certainly, any business creator often encounters constraints related to his personal situation during the realization of his project.

Speaking of individual obstacles, we see that: the age of the project leader can constitute a major obstacle to his entrepreneurial approach, discrimination between the sexes (man and woman), the fear of not succeeding in his project, the complex inferiority, lack of knowledge and/or knowledge related to entrepreneurship, lack of professional experience, lack of financial and social capital, lack of business relationships, etc.

OBSTACLES RELATED TO THE BUSINESS CREATION ENVIRONMENT

Apart from the profile of the business creator, the environment that represents the conditions under which one interacts plays a very crucial role in the process of entrepreneurship.

For S. Jabraoui and A. Boulahoual , the business creation environment plays a fundamental role as a facilitator or blocker in business creation ⁵⁶.

The business creation project is always part of an environment, which should therefore be taken into account. This environment can be favorable or unfavorable for the entrepreneur, but it does not constitute a factor of success or an obstacle in itself ⁵⁷.

Given that the future entrepreneur lives in a given society, at a well-determined time, his activities and his representations with a view to action are not only influenced by environmental factors, including the economic, political, social, cultural, family and educational.

Among the various obstacles related to the environment of the creator and the business creation project, we can retain: the absence or weak entrepreneurial culture, the negative attitude of society towards the entrepreneurship of young people, the lack of entrepreneurship, lack of family or community support or low family involvement, witchcraft and magical practices, insufficient education and training programs, lack of

⁵⁶S. Jabraoui and A. Boulahoual , "The determining factors of the success of entrepreneurship in Morocco: case of the Casablanca region", International Conference on Prospective under the theme "Entrepreneurship: towards an Entrepreneurial Morocco", Casablanca, 25 Nov 2016.

⁵⁷UNCTAD (United Nations Conference on Trade and Development), *Entrepreneurship and Building Productive Capacity: Creating Jobs through Enterprise Development*. Note by the UNCTAD secretariat. TD/B/C.II/24, Geneva, 2014.

entrepreneurship education, absence of an information and guidance policy, high taxation, government instability, complex formalities and high costs for setting up a business, corruption, insufficient institutional and legal framework, military conflicts ongoing, the slow and cumbersome administrative procedures, intense competition, the unfavorable economic context, the difficulties linked to the economic situation, the high crime rate etc, etc.

OBSTACLES RELATED TO THE BUSINESS CREATION PROJECT

This third category of obstacles takes all the barriers related to the preparation and realization of the business creation project.

The difficulties encountered during the preparation and implementation of the business creation project are numerous, among others: difficult access to financing, difficult access to credit, lack of personal funds, difficulties in recruiting qualified/competent and reliable personnel, the little or lack of equipment, the lack of energy and water, the mediocrity of physical infrastructure, the difficulties in the development of the product/service, the difficulties of access to technologies and Internet services, the absence or insufficiency of support and guidance services, difficulties in preparing the business plan, the inadequacy between the project and the individual, the difficulties related to access to information particularly relevant for entrepreneurial activities, etc.

Note, in addition to some of these barriers, such as access to financing, access to credit, the absence or inadequacy of support and guidance services, low financial and social capital, etc. are transversal, i.e. they belong to more than one group of factors mentioned above. Similarly, many of these factors are interdependent and mutually reinforcing. Finally, the nature and extent of these obstacles vary according to the local environmental context.

2. METHODOLOGY

For this study, our main concern is entrepreneurship and we analyze the obstacles or barriers to entrepreneurship of young graduates from Haut-Katanga in the Democratic Republic of Congo. To achieve this, we opted for an exploratory research.

We proceeded by the quantitative technique, specifically, thanks to a questionnaire of investigation we collected the important data to facilitate the comprehension of the obstacles to the entrepreneurship of the Young Haut-Katanga.

The sample of the study focused on young graduates of higher education and university found in the city of Lubumbashi, of all options, public and private institutions, men and women, having studied in the city of Lubumbashi as in the different territories and towns of Haut-Katanga. We worked with 115 young graduates for the survey. Note that we used accidental sampling.

The data analysis is carried out from the entry and compilation of the answers to the questionnaire and the processing is quantitative descriptive.

3. RESULTS AND DISCUSSIONS

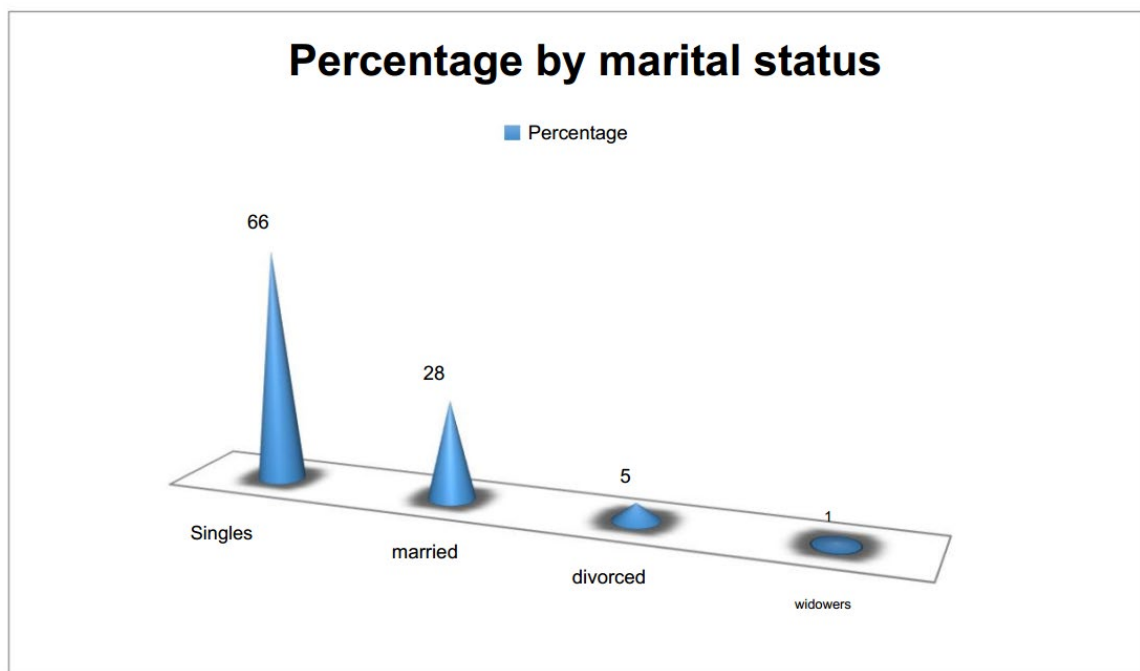
3.1. PARTICIPANTS AND RESPONSE RATES

Of the 150 questionnaires administered, we received 115 properly completed and therefore a response rate of 76.66%. The rest (ie 10 questionnaires of which 23.34%) were the subject of non-response or incorrectly completed, something which forced us to eliminate them from our study, given the lack of their credibility (not exploitable).

Let us keep as a sample 115 young graduates from higher and university institutions combined and residing in Lubumbashi during the period of our study.

3.2. PERSONAL CHARACTERISTICS AND PROFILES OF YOUNG GRADUATES INTERVIEWED

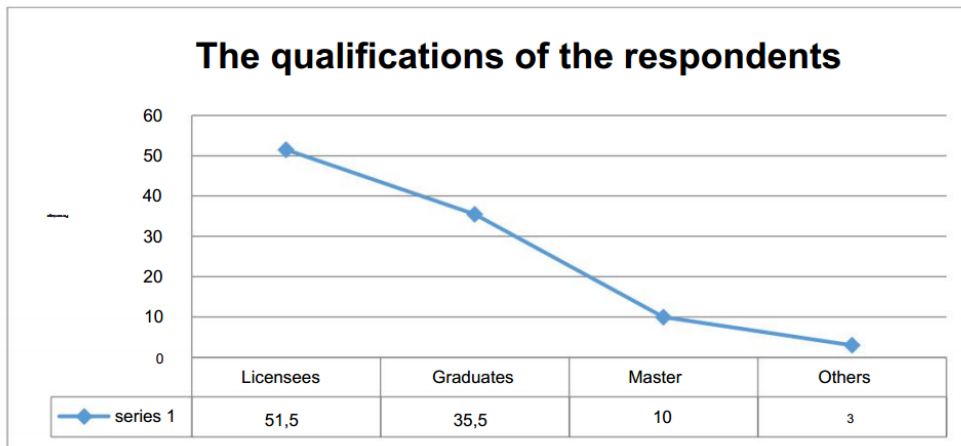
Of the 115 young graduates interviewed, 59% are boys and 41% are girls. Regarding age groups. Young people aged 20 to 35 represent 62% of respondents compared to 38% of young people aged 36 to 45. Young single graduates are in the majority with a rate of 66% of respondents, married people come in second place with 28% of respondents, divorced or separated people with 5%, and finally, widowers with 1%.



Source: Ourselves using survey results.

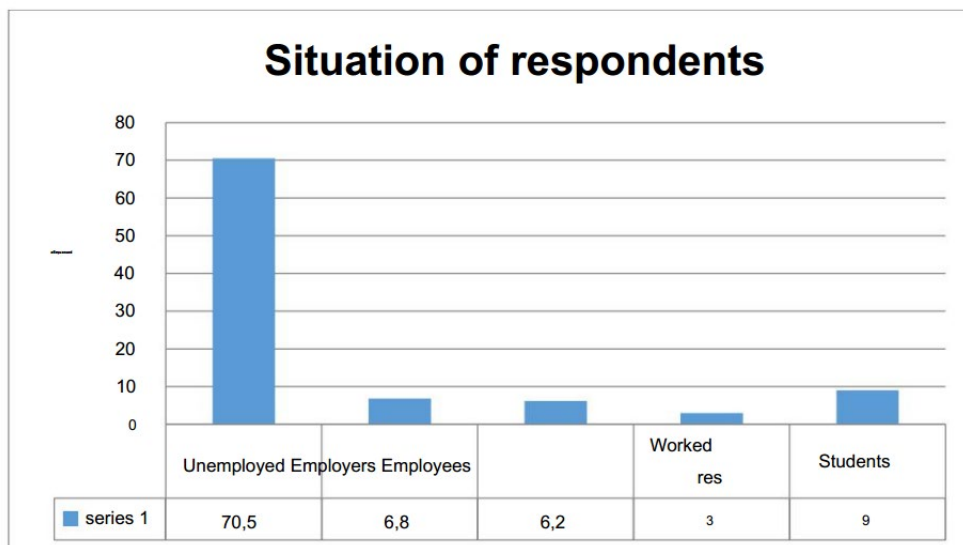
The analysis of the entrepreneurial experiences of young graduates reveals that 87.9% of the whole group declared that they had not started a business before compared to 12.1% who had already created a business.

It appears from the results of the level of education of the respondents that almost half of them have at least a bachelor's degree with 51.5%, while 35.5% have a graduate degree (undergraduate university). . Other types of university degrees represent 10%. Holders of master's degrees are poorly represented, with 3% respectively.



Source: Ourselves using survey results.

The majority of young graduates surveyed are unemployed, ie 70.5%. Some of them are sole proprietors of a business (6.8%). Others are employees either in an SME with less than 500 employees (6.2%), or a civil servant in the service of the State (3.2%), or in a large public company (2%), or even in a large private company (1%). Those who are still studying are less numerous, at 9%. By the way, these students have a first degree that they deem incompetent or of a lower level, and set out to obtain another at a higher level or in the field that they envy.



Source: Ourselves using survey results.

3.2.1. OBSTACLES OR BLOCKAGES RELATED TO THE PERSON OF THE CONTRACTOR

Table 1. Individual obstacles to business creation by young Haut-Katanga graduates (N=115)

Obstacles	Frequency	Percentage
Lack of work experience	91	79.13
Lack of entrepreneurial skills and knowledge	87	75.65
Lack of business connections	75	65.22
Young age of the creator (discrimination)	36	31.30
Low social capital	19	16.52
fear of failure	9	7.83
Lack of self-confidence	7	6.09

Source: Field survey

Comments:

Almost all of the young graduates surveyed lack previous professional experience (79.13%). This is due to the fact that they do not have the facility to find a job. Moreover, the majority of the young graduates surveyed have been unemployed (70.5%) since the end of their studies, and have never started a business before. This is why they have no previous professional or entrepreneurial experience.

Young Congolese graduates do not have the skills necessary for entrepreneurship (75.65). Although their training is superior, it does not contribute to an initiation to entrepreneurship, so these young people are not able to understand all the aspects of business creation because after their studies, these young entrepreneurs find themselves after their studies oriented towards theoretical and practical skills and also receive erroneous information from previous entrepreneurs who confuse them. Economic activity is therefore not transparent. This distrust means that these young entrepreneurs most often act alone, carry their problems alone, and do not have many opportunities to learn from others. Thus, the lack of skills and good information is an obstacle to the success of business creation. Indeed, the project leader or business creator should have knowledge and skills in entrepreneurship.

In addition, young Congolese graduates are often discriminated against because of their age by institutions or public authorities and by their suppliers or their customers, and sometimes they are not taken seriously by their colleagues or business contacts, etc.

Furthermore, young Congolese graduates have low social capital and lack business connections, which is a very important element in entrepreneurship. These young people do not belong to any professional or business network. Moreover, with the arrival of social networks, young people favor more friendly, romantic and local networks rather than more effective networks in terms of economic benefits, such as national and international professional networks, to which young people adhere more easily. men.

OBSTACLES OR BLOCKAGES RELATING TO THE ENVIRONMENT OF BUSINESS CREATION BY YOUNG GRADUATES IN HAUT-KATANGAIS

Table 2. Obstacles relating to the business creation environment for young graduates from Haut-Katangais (N=115)

Obstacles	Frequency	Percentage
Insufficient education and training programs	101	87.8
Lack/Absence of entrepreneurship in the education system	99	86.0
Absence of an information and guidance policy	90	78.2
Lack of recognition of entrepreneurship in the community	89	77.3
Absence or weak entrepreneurial culture	85	73.9
High taxation	74	64.3
Government instability	61	53.0
Difficulties related to the economic situation	58	50.4
Witchcraft and magical practices	55	47.8
intense competition	34	29.5
Lack of support from family or friends	8	6.9
Negative societal attitude towards youth entrepreneurship	7	6.0
Corruption	3	2.6
Complex formalities and high costs when setting up a business	2	1.7
Slow and cumbersome administrative procedures	1	0.8

Source: Field survey

Comments:

The majority of the young graduates surveyed (87.8) declare that the education and training programs are insufficient, this is explained by the fact that the training is expensive, many of the young people do not participate not only for lack of means but also the fact that young Congolese do not have the culture to pay for their self-training. It is also necessary to underline that the trainers are often private.

In the school and academic path, there are not many subjects that prepare future graduates to create their own businesses, which justifies the reactions of 86.0% of young people surveyed, this creates an obstacle to the creation of business because the national program prepares future graduates for the management of businesses that have already been created.

The absence or weak entrepreneurial culture is a major cultural obstacle in the DRC, or 73.9 according to our surveys. This justifies an entrepreneurial culture that is still underdeveloped in the DRC.

The young graduates interviewed testify that entrepreneurship is not valued in the DRC (77.3%). This is explained by the absence of measures taken by the competent authorities to encourage the development of entrepreneurship, particularly in the business creation phase, also by the absence of prizes to be awarded to the best young entrepreneurs in the year, to finally motivate the rest of the young people for example and finally, by the absence of promotion of entrepreneurship in schools and universities. This result reveals the origin of the weaknesses of young graduates. This leads us to think that the lack of valuation of entrepreneurship in

Congolese culture means that there is no entrepreneurial culture among young graduates. Therefore, there is no creativity or entrepreneurship among young people.

In the DRC, salaried employment is more preferred, and more particularly a lifelong career in the public service or a large company. Entrepreneurship is seen as a secondary activity to a main job. Another cultural barrier is society's negative attitude towards youth entrepreneurship. Society considers it less important to start your own business or to be self-employed, and therefore discourages young people from doing so. And the successful creation of a business by a young person is considered an initiation into magical and fetishistic practices. Thus, the absence of an entrepreneurial culture, the lack of valuation of entrepreneurship and the negative societal attitude to youth entrepreneurship do not promote the development of entrepreneurship among young graduates.

Some respondents emphasize the lack of support from family or those around them. Indeed, some families of young graduates are not very committed to supporting and accompanying young people in their entrepreneurial process, they rather prefer to see them find salaried employment, and more particularly a career for life in a large company or in multinational companies, rather than creating a personal business with a lot of risk.

Among the obstacles linked to the institutional and regulatory environment which can handicap business creation, according to the respondents, we have high taxation (64.3%), government instability (53.0%) and difficulties linked to the economic situation (50.4%). On the other hand, corruption (2.6%), complex formalities and high start-up costs (1.7%) and administrative slowness and cumbersomeness (0.8%) were rarely cited by our respondents because of the establishment of a one-stop shop for business creation.

High taxation is a major obstacle for young graduates who want to set up their own businesses. It manifests itself in the multitude of taxes and levies. This discourages the entrepreneurial spirit of young Congolese graduates and develops the informal sector. It manifests itself at the start of the business. Government instability among the obstacles to starting a business (53.0%). Indeed, the DRC has experienced a period of strong political turbulence since 1994 characterized by wars (1996 and 1998) and rebellions in different provinces of the country (2004, 2009, 2012). Indeed, the conflicts that this country has experienced have had a huge impact on government stability and this keeps young people from being able to engage in entrepreneurial activities.

The Congolese business creation environment is characterized by competition (39.6%) and an unfavorable local economic context which manifests itself in difficulties related to the economic situation (50.3%). an unhealthy economic environment in the DRC, which does not encourage youth entrepreneurship.

3.2.2. OBSTACLES OR BLOCKAGES RELATED TO THE BUSINESS CREATION PROJECT

Table 3. Obstacles related to the business creation project (N=115)

Obstacles	Frequency	Percentage
Difficult access to financing	102	88.6
Difficult access to credit	100	86.9
Lack of personal funds	98	85.2
Absence/insufficiency of support and support services	92	80.0
Difficulties in preparing the business plan	86	74.7
Difficult access to relevant information	69	60.0
Little or lack of equipment	58	50.4
Difficulties in accessing Internet technologies and services	16	13.9
Poor physical infrastructure	12	10.4
Energy and water deficit	10	8.6
Difficulties in the development of the product/service	8	6.9
Difficulties in recruiting competent and reliable staff	7	6.0

Source: Field survey

Comment

The difficulty of access to financing remains the biggest obstacle to starting a business, as mentioned by 88.6% of young Congolese graduates surveyed and a concern that comes up all the time, even if sometimes they do not have a clear project. , they all dream of having access to the capital that will optimize their business. Indeed, many young graduates are unable to carry out their project due to a lack of financial means. They are generally stuck with sometimes well-developed projects on paper. Young entrepreneurs or future entrepreneurs find it difficult to access financing from the banking system because of restrictive guarantee procedures and to save following the emergencies they face in daily newspapers. To discipline themselves, these young people often save as a group via the tontine system where each person gives a set amount to the fund daily, and each day one of the group members pockets the savings of all the others.

This system allows them to discipline themselves through group pressure, although sometimes, in large groups, those who have already pocketed their capital leave prematurely, not paying what they owe to others. Sometimes some young graduates combine their financial means to set up a business, but very often conflicts arise concerning the management of money. This observation agrees with that of A. Ayadi and J. Arlotto , who indicate that financial resources remain the major obstacle to the creation of a youth enterprise.

The vast majority of our respondents (86.9%) say they have difficulty accessing credit during business creation. This is due to the lack of financing structures and the complications of banks, mainly the restrictive guarantee procedures put in place by them.

Most of the young graduates interviewed say that they do not often call on financial institutions to capitalize their business out of fear because of guarantees, interest rates which seem high to them and also out of fear that financial institutions will require the formalization of their business, with all the annoyances they imagine.

However, as we can see, young graduates do not yet have any possessions to give to the banker to have a personal guarantee, hence the blockage. From the perspective of banks, young people are known to be unreliable.

Lack of start-up funds is one of the problems most frequently cited by young people looking to start their own business (85.2%). This is mainly due to the fact that most young graduates were unemployed, and are poor. These results demonstrate that a large percentage of the failure of entrepreneurial ventures is attributed to insufficient capital or poor resources.

Most young graduates suffer from equipment or materials to start an activity, i.e. 50.4%. the cost of their investment to be able to start as soon as possible. This makes it difficult to start their projects. Especially, when the projects are of a professional or industrial nature. Other respondents underline the mediocrity of the physical infrastructures (10.4%), the difficulties of access to technologies and internet services due to their high costs (13.9%) and finally, the difficulties in the development of the product or service. (3.6%).

The lack of support and support structures for entrepreneurs with entrepreneurial projects is a major handicap for young graduates in the DRC. However, skills in methods and project management are therefore consolidated by support from the various support structures. This is due to the fact that the DRC has not yet developed such structures, but it has already planned to do so soon in its business creation assistance policy.

The majority of young graduates surveyed find it difficult to plan their entrepreneurial projects by writing a business plan (74.7%). This can be explained by three things: first, the quality of the training they received, second, the neglect of writing a business plan, and third, the absence of support and guidance services.

A significant proportion of young Congolese graduates surveyed say they have difficulty accessing relevant information for the creation of their businesses. This can be explained by the absence of a support and accompaniment structure for the promoters of entrepreneurial projects and by the lack of websites dedicated to young people for information of an entrepreneurial nature. In addition, the channels used to disseminate relevant information on entrepreneurial activities are not suitable with this category of people.

CONCLUSION

The study was conducted to determine the specific factors that hinder the creation of businesses by young Congolese graduates, and which militate against the development of their entrepreneurship in our country.

The results of our study revealed that there are various barriers that prevent young graduates in the DRC from engaging in entrepreneurship. The most important are: difficult access to financing, difficult access to credit, lack of professional experience, absence or insufficiency of support and accompaniment, lack of personal funds, insufficient education and training, difficulties in preparing the business plan, the absence or weak entrepreneurial culture, the absence of an orientation and information policy, the lack of skills and knowledge in entrepreneurship, the limited network of contacts, high taxation, government instability, lack or inadequacy of equipment, intense competition, difficulties in accessing relevant information on entrepreneurial activities, the unfavorable economic context, the mismatch between individual and project, discrimination due to young age.

The fight against these obstacles can help encourage the realization of entrepreneurial projects through the creation of businesses by young graduates through: entrepreneurial education (by inserting entrepreneurship in the education system and in the training center), support technical assistance and support for project leaders, information relevant to business creation for young graduates, reduction of financial barriers, promotion of entrepreneurship in Congolese culture, establishment of support networks related to the entrepreneurial project, the creation of educational spaces, a strengthening of activities aimed at raising entrepreneurial awareness among young Congolese, a strengthening of the capacities of Congolese universities that can offer training programs adapted to local social contexts, etc.

Additionally, government, non-governmental organizations and private financial institutions such as banks should provide ongoing support to motivate young entrepreneurs at all stages of their business development.

Support should not be limited to making financial resources available to them, but should also include mentoring to enable them to develop new entrepreneurial skills. In addition, governments need to remove barriers to formal sector enterprises, while improving conditions for the informal sector. Also, they must promote entrepreneurship, including agriculture, which can be a stable source of employment in economies heavily dependent on agriculture in the short and medium term. Finally, we say that young graduates encounter many difficulties when setting up a business. Our research focused only on difficulties related to business creation.

SUGGESTION

The decrease in the unemployment rate is one of the elements showing the development of a country; thus to achieve this, entrepreneurship is one of the mechanisms that can contribute to this reduction.

To facilitate the initiative person in our country we suggest:

In the state :

- ✓ to support young people by granting funds, subsidies and measures that will be a stimulus for young people in the entrepreneurial perception
- ✓ to reduce taxation in the process of creating a business because it is said that too much tax kills tax so that young people cannot evolve in the informal sector
- ✓ to make available to young people in their educational program relevant information that will push them to have a vision to initiate their own activities than to train young people in the hope of being hired somewhere

And in the end, the person of the entrepreneur must understand that in all areas of life zero risk is almost impossible, hence he must not be afraid of failure, or the discouragement of his loved ones, or the competition on the market, Congolese culture, or discrimination, but he must be confident, sure of himself whatever his professional relations, the words of his relatives...

The first step has always been hard and even difficult, you must first start, try to dare, not give up, as those who have undertaken and succeeded have made us understand, and have affirmed that skills come with time.

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AUDIOVISUAL MEDIA IN LODJA: STATE OF PLAY, CHALLENGES AND PROSPECTS

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ABSTRACT

This research on the media landscape of Lodja , takes stock of the strengthening of citizenship and the capacity of the population to intervene in the public debate as well as in the effective control of the action of their political representatives and the public administration. , but also on the positive and/or negative effects generated by these media on the population of Lodja . The study also presents challenges and opportunities for developing effective media management strategies for the benefit of communities. Moreover, after having surfed on the various digital platforms, the author draws the conclusion that the media landscape of Lodja remains almost unknown in the international media sphere and that its impact therefore remains limited to the population of Lodja.

Keywords : Media, Audiovisuel, Perspectives, Lodja.

1. INTRODUCTION

The 21st century has seen the rise of an unprecedented overdose of New Information and Communication Technologies, which have come to the aid of the traditional media which have always served as mass communication channels and the dissemination of messages. ; also considered as the tools of propaganda on the world chessboard for a long time until today.

It is therefore obvious that the whole of humanity becomes aware of the role, how eminent would play within the community of the media in the formation, information, education and entertainment of the public. To this is added the exchange of political and cultural debates but also the formation of public opinion. As can be seen, the media intervenes in the socio-economic development of the community and can even consolidate

peace, unity national level, social cohesion and this, thanks to the program offered by each media, of whatever nature, to its target and potential audience.

Thus, with regard to this paradigmatic analogy of the role of the media within the community, we were motivated to retrace in a succinct way, through this research article, the evolution of the audiovisual media of Lodja , Territory located in the Province of Sankuru by proceeding with an inventory, meeting the challenges related to their operations and finally projecting some perspectives, this with a view to helping the owners of these media channels to improve the management of information. and the smooth operation of their media enterprises. Lodja being an urban -rural agglomeration characterized for a long time by the multifaceted crisis more often orchestrated by opinion leaders, requires ipso facto to have media considered as "the church in the middle of the village", which will play in neutrality and complete independence. Marie-Soleil Frère, recognizes the great power of the media to enjoy an unparalleled influence on the community, through research conducted on the Congolese media since 2008, the author affirms that *"the strengthening of citizenship and the capacity Congolese to intervene in the public debate, as well as in the effective control of the action of their political representatives and the public administration, requires the existence of professional, pluralist, rigorous, reliable and balanced media . »*⁵⁸

This is the crux of this research which focuses on: the media landscape of Lodja : inventory, challenges and prospects.

2. METHODOLOGY

a. Problem

After having surfed on the various digital platforms, the observation was as such, the media landscape of Lodja remains almost unknown in the international media sphere, due to the various research carried out by international organizations in the matter, to this is added the research proven researchers like the case with Marie-Soleil Frère who has conducted a study since 2008 on "The Congolese media landscape. State of play, stakes and challenges" during which she drew up a synoptic table, province by province of the Congolese media with studies of audience, functioning and consorts.

Surprisingly, no Lodja media was studied in this meticulous research, yet some had already emerged even before this research was developed. Very touched by this observation, it was one of our motivations for carrying out this research on the one hand.

On the other hand, it has been observed for some time, a very negative progress of the plural evolution of sound broadcasting stations in the media space of Lodja , to describe this pitiful evolution and to propose possible solutions to the owners and facilitators is a necessary step given that the media are considered by their public as forums for civic expression and not as spaces for settling scores and political relentlessness.

To arrive at the expected result, we ask ourselves the following series of questions:

- What is the state of the audiovisual media in Lodja ?
- What are the challenges?

⁵⁸Marie- Soleil Frère., *The Congolese Media Landscape. State of play, issues and challenges* , Se, Brussels, 2008, p.14

b. Research hypothesis

In order to respond to our major concern in terms of the hypothesis considered to be, a proposal for an answer to the question posed and which both forms a relationship between the observed facts and these collected, it allows them to be interpreted, to give them a meaning which, verified, will constitute a possible element⁵⁹

To the question of knowing the inventory of the audiovisual media of Lodja , the observation is more than bitter to describe what is of this audiovisual space, the radios work in sometimes inadmissible conditions but they do work all the same, the Throughout this study we will be able to make a general and detailed description of these media.

As for the challenges, they are technical or material, legal, human, economic and so many others. We will return to this in great detail in the following lines.

We will give some perspectives on this study at the end of this work.

c. Methods

In this research, we will use two methods.

Analytical method : It consists in breaking down the object of study by going from the most complex to the simplest. This method seeks the smallest possible component, the basic unit of phenomena. ⁶⁰It will allow us to analyze the content broadcast by the Lodja media .

Historical method: It consists according to Makabu Kayembe , to trace the evolution of facts to social phenomena from the origin to the current situation.⁶¹

It will help us to retrace the history of Lodja 's media in a succinct way from their evolution to the present day. In addition to these two methods, we will use the interview technique and the observation technique to be able to explore this research and make it scientific. To be circumscribed in the collection of data, this study will take into account the media space of Lodja , one of the six Territories that make up the current Province of Sankuru, ranging from the creation of the first radio station in 2004 until our days.

FIRST PART: STATE OF AUDIOVISUAL MEDIA IN LODJA

From the outset, it should be noted that the Territory of Lodja has so far only had radio as a media medium, the only means of transmitting information despite the suffixes "televisions" which are attached to certain names of these local media. .

Lodja currently has 12 sound broadcasting stations without adding those that are in the making. They are distributed as follows: 1 Congolese national radio and television substation, 1 confessional channel and 10 community channels by statute and commercial by practice. All these radio stations broadcast in frequency modulation (FM), some of which cover only part of the Territory and others, on the other hand, go beyond even the other neighboring Territories.

Due to the lack of electric current throughout the province, these radios operate half-days according to the organization of each station; more generally between 6:30 a.m.-11:00 a.m. in the morning then 6:00 p.m.-9:00 p.m. in the afternoon. Other radios, on the other hand, operate in load shedding, that is to say that they can go 1, 2 or 3 days or even weeks or months without opening for lack of fuel, except radio RNS, a

⁵⁹MADELEINE, G. , *Research methods in social sciences*, DALLOZ Ed. Campus

⁶⁰AKTOUF., *Social Science Method and Quantitative Approach to Organizations* , Quebec, Quebec University Press

⁶¹ MAKABU KAYEMBE., *Notes by multidisciplinary project course I* , Bac II geology, UNILU, 2016-2017

confessional channel for the message of the Graal which broadcasts all day but stops at 6 p.m. because it operates on the solar system.

It should be noted that all these radio stations have no support (material, financial or logistical) from either national or international organizations in the sector; the owners take responsibility for the proper functioning of these media, which provide a public service. Not even the Congolese State takes care of it, apart from the substation of the national chain (RTNC) where a handful of money receives the remuneration which emanates from the central government, the other private chains on the other hand are neglected at their sad fate. They function with the aid of insignificant and insufficient means on board. But despite everything, they provide a public service to the Congolese State, yet Article 17 of Law 96/02 of June 22, 1996 translates as follows: "the State may grant indirect aid to private press companies under preferential tariffs in the field of imports of the materials necessary for the production and distribution of information, in particular paper, equipment and films"⁶², this for the simple reason that the private media also render a service to the State by dissemination of information that constitutes a public good.

Apart from the national channel substation (RTNC), all these radios are struggling to produce a local newspaper, that is to say, to broadcast the facts of proximity, news that occurred during the day within the local environment because of the lack of appropriate material for the production of the newspaper and also the lack of professionalism and competence on the part of the journalists.

Lodja radio stations prefer to relay the products of national channels which provide general information on the extent of the national territory. The channels most in demand for the relay of their programs are, among others, radio OKAPI, radio TOP CONGO and RTNC, yet the law of proximity to the listener seems very essential, as François Pascal Mbumba MPANZU points out here that the "law of proximity" with the listener makes it possible to situate the importance of a news item according to the interests of the target audience.⁶³ The geographical proximity in question here can be summed up in: the "dead kilometer" rule, the consequence of which is the way of processing "distant" information. Jean François BEGE adds to this by saying that "To deal with what is happening 100 km away, if it seems important to us, we must seek local anchorage".

Now, we want to briefly and synthetically highlight some facts or salient elements relating to the creation and operation of these local radio stations. However, we have the ambition here to retrace this chronologically, that is to say from the oldest radio to the most recent. This is to give an idea to readers and researchers who want to carry out investigations in the same paradigm as us, to be able to easily find their way around.

Indeed, it is judicious to specify at the beginning that, almost all these radiophonic stations of Lodja are of the prerogative of the politicians, also created in a purely political context for such a political positioning, which would imply late the presence of the political stakes in these media along our research.

1. SANKURU FREEDOM RADIO (RSL)

Emitting under the modulation frequency of 102.0 MHz, Radio Sankuru Liberté is a private commercial channel in practice, created in 2005, it emanates from the initiative of Joseph OLENGANKHOY who at that time was a candidate for the 2006 presidential election, currently President of the National Council for monitoring New Year's Eve agreements in CNSA acronym.

It is the first news channel to have been established in Lodja since 2005. It is a channel that positively marked the spirit of Lodjaciennes and Lodjaciens due to its sense of professionalism. At the outset, it took into account the 4 main functions of a serious media: Inform, train, educate and entertain. This radio has given

⁶²LAW N° 96-002 OF JUNE 22, 1996 FIXING THE MODALITIES FOR THE EXERCISE OF FREEDOM OF THE PRESS, p.11

⁶³Mbumba Mpanzu F., *Radio journalism, Advice for practice in Sub-Saharan Africa*, Edition du GRET, Paris, 2015, p.107.

young people a taste for journalism, of which I am a part, although it was born in a political context where its initiator had the omen of facing the first presidential elections post Mobutism which was already announced for 2006. From there, one can easily deduce that it was the principal reason by which this chain was dispatched to prepare the ground to position itself well vis-a-vis the fact previously indicated. This is explained by the fact that the radio was much more in propaganda than in its media contribution, which is to train, inform and educate. Well that, she played a very decisive role during the transitional period in Lodja . personality cult to its initiator and its political ideology.

She had a specific program even though she didn't allude much more to the differences between politics here and elsewhere.

Radio Sankuru Liberté, made the population of Lodja understand the role of a local radio within the community, its contribution was great in the holding of the general elections of 2006, thanks to the technicality and the professionalism of its first Director of the radio, Mr. Timothée SHUTSHA, first Sankurois journalist who agreed to go down to Lodja to exercise this function.

The RSL was a model and inspiring medium, today it has remained only in name, being bogged down in the practice of the medium. It no longer has professionals in the media field, most of the agents who work are sometimes state graduates from different academic fields and who do not have a mastery of information and communication sciences, press releases and entertainment are the only predominant programs on the radio

2. LOSANGANYA RADIO TELEVISION (RTL)

Transmitting under the frequency of 90.5 MHz, radio and television LOSANGANYA (RTL) is a private commercial channel in practice, belonging to the Honorable Lambert MENDE OMALANGA, Honorary Minister of Communication and Media, Government Spokesperson, currently National Deputy elected from the electoral district of Lodja and Chairman of the Board of Directors of Lignes Maritimes Congolaises.

Radio and television LOSANGANYA was born in 2005, it only broadcasts in radio format despite the attachment of the acronym Télé.

It is the second news channel to gain ground in the audiovisual space of Lodja and covers almost the entire extent of the Province of Sankuru. Like the first, LOSANGANYA also contributed effectively to raising public awareness of the various electoral deadlines during the 2006 general elections. It will stand out from its predecessor by organizing educational programs and entertainment but not too unifying like Radio Sankuru Freedom.

Born in a context of political positioning, it is essential to point out that: if this radio had also succeeded in gaining ground to be followed by a large number of listeners and reach a large evening audience, it is thanks to the organization of theatrical plays in the local language which is Otetela by the team called “ **Esaka supu** ” and it is almost all the Lodjacienn population who liked to follow this radio program. As soon as it was evening, it is almost all the parents who cling to their radio sets with their children to follow the theaters of ESKA SUPU. In the end, the organizers always gave a lesson to be learned from it. It was among the best programs of the contents of this channel insofar as people learned too many lessons from it especially for couples households.

Since the arrival of the substation of the national channel (RTNC) in Lodja around 2010, it was difficult to distinguish it from LOSANGANYA due to the organization of the program schedule of these two channels which operated in similarity, of which many agents criss-crossed the two news outlets with the same broadcasts without any distinction, simply because it was under the tutelage of the initiator of radio and television LOSANGANYA as Minister of Communication and the Media that the deputy Rtn station was installed in Lodja , this would explain the rapprochement between these two radio stations which shared the same editorial

line with the same programs, even worse they broadcast in the same apartments with the same equipment (pounder, generator...).

It should be noted that this identical functioning between these two press organs has become obsolete since the initiator of Radio LOSANGA was injected into his chair at the Ministry of Communication and Media, today each of these two channels has its program and its own agents although they have previously shared the same facilities.

Today this radio is treated of all the sins of Israel by its listeners. For some, it is a chain of a thousand hills (a radio station that existed in Rwanda and was the basis of the Rwandan genocide of 1994) in view of the political and partisan militancy of the person in charge, but also for the insults and the incitement to violence on the part of its presenters who are at the root of several social abuses, for the others on the other hand, it is a radio which makes it possible to dissect all current political subjects, especially with its famous program “ **Que demande le Fulani** ” led by its Director Mr. François LENDO.

3. SANKURU GRAND TAM-TAM RADIO TELEVISION (RTGTS)

Emitting under the modulation frequency of 96.8 MHz, the Tam-tam radio was created in 2005, it is the third channel to set up in the audiovisual space of Lodja .

It comes under the initiative of the Honorable Jean Charles OKOTO LOLAKOMBE, Honorary Director of MIBA (Mining of Bakwanga) in Mbuji Mayi, former Governor of Kasai Oriental, Minister of Foreign Affairs under Kabila the father, DRC Ambassador to the Republic of China, currently elected national deputy for the electoral district of Lodja .

Tam-tam remains today (according to the estimates of some listeners interviewed for this question), the most watched channel in Lodja and having gained the confidence of the population almost in 65%. It should also be noted that it is the best equipped channel of all and has a powerful transmitter which allows it to reach a large target to expand its audience through the nooks and crannies of the villages. It covers the entire extent of the territory of Lodja . Like the two previous ones, the Tam-tam radio also played an important role in the organization of the electoral process for all the elections that took place in our country, particularly in the territory of Lodja .

Today, this radio helps the local administration a lot by relaying the various official communications of the Territorial Administration, perhaps it is because the Administrator of the Territory was former Director of the same radio and also shares the same political obedience than its initiator.

Despite its many work materials for which it is renowned, this channel is not able to produce a local newspaper, press releases and entertainment constitute the main section of its program schedule. Today this channel is reputed to be the basis for a proportional exchange of insults with other press organs. It has no media professionals, the majority of agents are state graduates or students from various school and university courses.

However, it should also be noted that the channel gained listeners with a large listening audience from the election of MUKUMADI as governor of Sankuru Province, Saturday July 20, 2019 and the fall of his challenger MENDE OMALANGA. Since the public had disgusted the old regime and the governor presented himself as a liberator; and that in tam-tam that we quoted his name and his various activities, that's what made everyone start to listen to him.

To the previous reason can be added that linked to the involuntary humorous character of its Radio Director because of the lack of correct mastery of the linguistic issues, and this becomes an object of pleasure for some.

4. STANDING RADIO SANKURU (RDS)

Emitting under the modulation frequency of 94.4 MHz, Debut Sankuru radio is a private commercial channel in practice, it is the emancipation of the honorary national deputy, Adolphe ONOSUMBA YEMBA . It was established in 2006.

Due to its program schedule, this radio has strongly contributed to the relaxation of the audiovisual space of Lodja with a maximum level of professionalism. It distinguishes itself from the other aforementioned media by the evangelical aspect where a large part of the radio program was devoted to evangelization with Pastor Martin KASONGO. Added to this is the entertainment aspect with the folk songs called “ **Toshaka** ” where the young girls went to the station, generally on Sunday evening, in turn according to the neighborhoods they belonged to go and animate with songs in the local language, at the end of the animation everyone will say their name and greet some 3 or 4 people of their choice, generally their parents, brothers and sisters. It was one of the much-followed installments of the era .

The RDS was a space for citizen debate and facilitated expression for almost all social strata, although it often encountered clashes with the other channels because of their leader, especially during the electoral phases. Today, this channel has fallen into disuse.

5. CONGOLESE NATIONAL RADIO TELEVISION (RTNC)

The Congolese National Radio and Television is a substation of the national chain which broadcasts its signals from the Territory of Lodja in the Province of Sankuru under the frequency of 98.0 Mhz. It was established in 2010 following the efforts of the Honorable Lambert MENDE OMALANGA when he was still in charge of the Ministry of Communication and Media.

It is a radio which, since its establishment until today, plays a considerable role in the retransmission of official information from the national institutions of the government of the Republic from the city of Kinshasa in good time, it relays the program of the national channel (presidential ordinances, proposals for laws by national elected officials, speeches by the Head of State, etc.), in short, the RTNC is the only public press organ that promotes the actions of the Government in the Provinces.

Like the previous ones, the RTNC station of Lodja had played a decisive role in the organization of the electoral process of 2011 and that of 2018, it was a tool par excellence which had served effectively in the information and communication deficit in Lodja , it organized the production of the newspaper in national languages (Lingala, Tshiluba, Swahili and Kikongo), and also in the local language (Otetela). It had an efficient editorial staff and a large number of people who had learned the notion of journalism either at university, as was the case with its Director of Radio, Mr. OSOMBA LOFUDU, or even through training centers approved by the State is what made it the first media power in Lodja at the time.

From its creation, this chain had distinguished itself from the others by technicality and professionalism, which is no longer the case today. She is accused of recruiting activists from the political family of the former head of Communication and Media to whom they obey his dictates, these have no mastery of the notions of Information and Communication Sciences, she is at the service of an individual than to support the power in place, yet it is the only radio in Lodja where the majority of the staff receives the remuneration of the central government but with a mitigated work, the other media only do voluntary work.

In 2020, this channel had experienced a problem with the provincial executive as indicated here by the dispatch from radio OKAPI: "The Congolese National Radio and Television (RTNC) Lodja station in the Sankuru Province was closed Thursday August 20 by the governor of this province, Joseph Stéphane MUKUMADI. The governor, who returned to his province after a year of absence following the conflict between him and certain provincial deputies, announced the closure of this public channel during his meeting

at the Lodja stadium . Reason given: the refusal of this media to cover his arrival and the activities of the provincial governor”⁶⁴

Today, this media is ranked in the bottom ranks of other radios. Previously it operated the television only on the arrival of the PCA of the LMC or a high national authority or even exceptionally for major events, this television broke down. It is still the only radio station that produces the local newspaper daily.

6. RADIO TELEVISION THE VOICE OF SANKURU (RTVSA)

Transmitting under the frequency of 92.6 MHz, the radio television the voice of Sankuru is a private commercial channel in practice, it is the initiative of the Honorable Emmanuel OMPETA SHONDA, national deputy elected from the electoral district of Lodja in the legislative of 2018. This channel was born in 2019 assigned as a double mission:

1) Make radio an object of proximity with listeners;

Sankurois media space through the organization of interactive broadcasts.

Today the objectives pursued by this radio are mitigated because being confronted with several challenges of a material, human and financial order but also environmental which we will evoke before the end of this study. Nevertheless, it can be pointed out in passing that the agents do voluntary work like the other chains in the place and this is the basis of the demotivation for a better performance. Added to this is the low power of its transmitter which only covers a short distance.

It should be noted that the RTVSA remains today one of the unifying chains of the Sankuru and which does not make the cult of personality to its initiator. It stands out due to its neutrality and its legendary hospitality, but also a minimum level of professionalism because it is one of the rare chains in Lodja to host a fairly esteemed staff of people in the journalistic field, starting with its Director, although lacking infrastructure because its premises are under construction.

7. OTHER MEDIA

Except the radios described above and considered as old audiovisual media of the Territory of Lodja , there are still six (6) others recently established (Radio WOOLADI, Radio UNITE DU SANKURU, Radio du PEUPLE, Radio RNS, Radio OTEMAMBOLANGA, Radio NEW WIND) so some have only been for a year or less, which we will present in the table in the appendix at the end of this article.

However, it should be noted that apart from 2 radio stations (WOOLADI and RNS) which are denominational out of the 6 not described, the remaining 4 are the emanation of political actors created with the objective of promoting their political visibility, they do not derogate from the rule of those previously cited.

It should still be noted that there are still several other radios that are in the making to compete with existing ones.

PART TWO: THE CHALLENGES OF LODJA MEDIA

By continuing our research on the audiovisual media of Lodja , a good number of challenges deserve to be taken up, with a view to tracing a margin in the existing border between the real and the ideal of the practice of journalism in order to then propose a remedy in the face of the advanced deterioration of this practice in Lodja .

⁶⁴www.radiokapi.net

These challenges being plural, they will have to be grouped together in several orders:

5. TECHNICAL OR MATERIAL CHALLENGES

Lodja 's radio stations are all struck by the glaring lack of technical means: without a vehicle, without appropriate reporting equipment, it is Android phones that are sometimes used to record sound for an interview or a report, with the consequent absence almost total production of the local newspaper.

It should be noted that apart from the RTNC sub-station which manages with the dissemination of local events, all the other radios are only used for the reading of press releases and messages, production of some programs in certain radios, entertainment as well as the relay of national channels.

Apart from the technical problem, no radio station in Lodja has an Internet connection, nor a research library, nor an editing room, nor a website for the continuous broadcasting of their programmes. Some channels do not even have their own premises, like radio LOSANGANYA which operates in the facilities of the RTNC; the RTVSA which works in a private house until then, in short there is a real problem of infrastructure on almost all these local radios.

To these challenges, it should be added that the supply of all these radios poses a serious problem because, not having electrical power throughout the province of Sankuru, all these radios operate under the generator system. Since fuel is expensive on the spot, many radio stations work in load shedding, that is to say spend several days without transmitting until the day when they will be refueled with fuel by an X or Y person outside their owner ; they also operate half-day, i.e. they open in the morning around 6:30 a.m. until 11 a.m. then resume in the evening around 6 p.m. 6 p.m. because using the solar system.

6. LEGAL CHALLENGES

The legal framework of the media sector applicable in the Democratic Republic of Congo escapes the Territory of Lodja in the province of Sankuru, this assertion is explained by the inapplicability of the laws in force governing this sector in almost all the extent of the Province. "The press offence" has always been doing well through the radio stations of the city of Lodja .

What about press offences? Article 74 of Law No. 96-002 of June 22, 1996 establishing the modalities for the exercise of freedom of the press in the DRC stipulates: "By press offense is meant any offense committed by means of the written press or audiovisual. In Congolese law, the term "offence" is an essentially civil concept, which sanctions any prejudicial act committed intentionally. It is found in article 258 of the Civil Code, Book III.

This offense is becoming commonplace among media professionals in Lodja , the majority of whom do not have a good understanding of the notion of ethics and journalistic ethics, because they do not even have the basics of the profession: public insult, incitement to violence and tribal hatred, non-respect of the right to privacy...are anti-values that clutter the programs of Lodja radios , except for a few that derogate from the rule.

When the President of the Republic arrived in Lodja , the director of radio TAM-TAM had worn the effigies of the political party of the initiator of his channel to go to the reception of the Head of State and that is seen and known by everyone, that's how it goes with all the other journalists hired by politicians within their channels. Ethically speaking this is inadmissible, the journalist cannot be a member of a political body. He must remain independent vis-à-vis those of whom he speaks.

Article 69 of Law 96-02 of June 22, 1996 establishing the procedures for exercising freedom of the press stipulates that "Private operators who operate a sound or television broadcasting service are required to broadcast at least 50% (fifty percent) of local programs". This present article ridicules through the radiophonic

space of Lodja insofar as these radios do not even have the grids of the programs to estimate the percentage which they grant to the local programs; as Tonton WEMBONYAMA points out here: "All the Lodja channels broadcast without any elaborate program schedule, it is difficult to specify that at such a time there will be such and such a program in X or Y channel, each manager broadcasts any program to any sequence of the airtime"⁶⁵

By program schedule, we mean the table indicating the day and time of the broadcast of all the programs offered by a radio station or a television channel.

In addition, article 62 of the law of 96 indicates that: "Any company of sound broadcasting and television must have a program director. He must be a professional in audiovisual communication . It should be noted here that like the RTNC sub-station, no other channel in Lodja has a director of programs specializing in communication as required by the text. This has serious repercussions on all the programs which have to go on the air because the Program Director considered as the conductor is not in a better position to carry out his tasks in good and due form.

7. HUMAN CHALLENGES

It is indeed at this level that the big problem arises. Knowing that the Human resource is at the forefront of all the resources within a company insofar as it is she who coordinates the other resources supposed to be in interaction in a given organization.

It is then up to us to ask ourselves what quality of journalist, for a landlocked environment like the territory of Lodja ? The answer to this question would be that it will take professional, neutral, biased journalism to deal with the multifaceted challenges of Lodja , the most recurrent of which remain insecurity and tribal conflict.

Given that the economic context is not favorable to the development of the media sector in Lodja , specialists in the field find it better to work elsewhere than to go to work in Lodja . This is what leaves room for anyone to call themselves a journalist just because they read press releases and messages on the air very well.

Since the staff of these local radios is not up to scratch, we are witnessing a form of amateurism and tinkering with the profession through the newsrooms, which is germinating very considerable negative fallout through the radiophonic sphere of Lodja as underlined here Mr. Médard ELONGE: "these radios are today at the base of several abuses related to ethics and journalistic deontology, there are many amateurs who do not have the notion of media. Our radios today resemble the chain of a thousand hills, more than even the latter"⁶⁶

From this previous idea, a form of explanatory analogy follows which supports the above-mentioned arguments for the correlation of statements. It is in particular the fact of detecting a form of amateurism in our field of study.

For François LENDO: "There is amateurism in the media of Lodja because the managers of the channels recruit the militants, the atalaku journalists and these are today at the base of the conflicts, division and unprecedented crisis. »⁶⁷

⁶⁵Interview of September 10, 2022 with Tonton WEMBONYAMA, Director of La Voix du Sankuru radio and television.

⁶⁶ Interview of December 10, 2021 with Médard ELONGE, Administrator of the Territory of Lodja and Honorary President of the Sankuru Media Forum (FOMESA) 2006-2014, a corporation of journalists existing in Sankuru.

⁶⁷Interview of February 15, 2022 with François LENDO, Director of Radio and Television LOSANGANYA and President of Journalist in Danger (JED) Sankuru.

From there, one would understand that the question related to the operation of the radios of Lodja faces several controversies of which the majority of the local population calls into question the work that "the journalists" are doing within these radiophonic structures.

In order to situate the level of professionalism of these local channels, several researchers try to make an objective reading of what these media are; the case with Valéry OLAMBA who castigates the following: "There is nothing professional about these media. This is explained by the fact that each radio station and all the presenters are subject to the sometimes blind will of the promoters of the media. Here is the glaring index of the gaping and characteristic amateurism of our so-called journalists who populate the universe of local radio stations. We must deplore in this same vein, the commitment of non-specialists in journalism by the promoters, a determining factor of stupidity. Few journalists deviate from the stride, like Tonton WEMBONYAMA and Chrispin OSOMBA, respectively DG of RTVSA and RTNC"⁶⁸

All in all, the human challenge poses a serious problem in the practice of journalism in Lodja . as John DJOWA WEMAMBOLO points out here "The level of professionalism is falling in our Lodja media . In the sense that responsibilities are given to people who don't even have the notion of radio. What they don't know they make. The attributions within these radios are not attributed on the basis of competence. »⁶⁹

8. ECONOMIC CHALLENGE

The economic context of Lodja is unfavorable for the development of the media, especially knowing well that these are "advertising revenues" that will live the private channels. In Lodja unfortunately, there are no large companies or companies, both public and private, from which the media could seek partnership agreements for their survival by marketing their spaces but also by promoting their products and services.

Only press releases and messages constitute the main income of our local radio stations. This does not cover the real needs of the radio even at 30%, especially since it is in this same money that the radios charge for their fuel to supply the generator, of which 1 liter is sometimes negotiated between 3500Fc and 4000Fc to be able to operate half-day system. Some groups consume around 6 liters or more.

To send a private press release, the price is 5000Fc, and that of an institution, establishment or company is 10,000Fc. In terms of contract, only air aviation agencies which sometimes grant this privilege to the media, the most expensive of which come back to 50,000Fc or 60,000F per month, other contracts sometimes can be negotiated around 20,000F, 30,000Fc... at the above 60,000Fc per month.

In such an environment, it is difficult to speak of staff motivation in the truest sense of the word, it is a real waste and a distortion of the exercise of the profession of journalism.

THIRD PART: SOME PERSPECTIVES FOR THE FUTURE

Far be it from us to claim to have approached in a global way, all the aspects related to the functioning of the audiovisual media of Lodja , especially since the field is quite enormous. This research is only the beginning of such an investigation. We dare to believe that in future research, we will take our time to be able to develop this theme further.

We have drawn up here a short retrospective by sorting out some salient elements in relation to the current evolution of these radios, which we envisage in the few lines which follow, to make the proposal of some future prospects in order to save the image of this noble profession long tarnished by the amateurs who clutter the media space of Lodja ..

⁶⁸Interview of December 09, 2022 with Valéry OLAMBA, Head of Works in Educational Sciences at the University of Lodja.

⁶⁹Interview of December 13, 2021 with John DJOWA WEMAMBOLO, Program Director of the Rtn station of Lodja.

As a researcher in Information and Communication Sciences, we believe that the following tips can help overcome some challenges related to the functioning of media diversity in Lodja :

❖ FROM A LEGAL POINT OF VIEW

To dislodge the "crime of press" which becomes commonplace through the radios of Lodja , it is necessary to apply the Constitution of the Democratic Republic of Congo to its article 212 which stipulates that: "A Superior council of the audio-visual and communication endowed with legal personality. Its mission is to guarantee and ensure the freedom and protection of the press, as well as all means of mass communication in compliance with the law. It ensures compliance with ethics in matters of information and equitable access of political parties, associations and citizens to official means of information and communication".⁷⁰

It will therefore be necessary to send a provincial coordination of the CSAC to Sankuru as recognized in article 49 of the organic law n°11/01 of January 10, 2011 on the composition, attribution and functioning of the CSAC ⁷¹. This provincial coordination is responsible for carrying out the Council's missions in the provinces, in which we will find **the Congolese media monitoring center** which is responsible for observing, listening to, viewing and analyzing the content published. by the media as indicated in article 45 of the aforementioned organic law. It should be noted that the problem of provincial coordination of the CSAC arises through all the new dismembered provinces in the Democratic Republic of Congo.

It is also necessary to enforce Article 62 of Law No. 96-002 of June 22, 1996 establishing the terms and conditions for the exercise of freedom of the press, which stipulates that: "any sound broadcasting and television company must have a director programs. This one must be a professional of the audio-visual communication" ⁷²but also to fill the required conditions appearing in article 57 of the aforementioned organic law.

However, compliance with article 57 is very essential insofar as it will make it possible to ensure compliance with the specifications and the schedule of programs subscribed to by each radio station when the frequency is granted, because it is almost the majority of the media of Lodja which claim today to be "community" while not having this statute, that causes prejudice for the harvest of the royalty of the State. In short, to check if all these radios have all the documents fixed by the law on the matter being able to allow them to emit.

❖ FROM A HUMAN PERSPECTIVE

3. Lodja radio managers campaign for the "retraining" of their personnel through accelerated and appropriate training through training centers approved by the Congolese State, or let the trainers move to the local level.

4. That the owners of the radio stations seek to establish partnerships with both national and international organizations in the sector, which will allow their money to often benefit from the training organized by these organizations through this partnership;

5. That the owners of the media of Lodja depoliticize this sector of vital interest for the society, even if they are initiators but they must leave a certain editorial independence; by dismissing all those who practice amateurism while hiring professionals on the basis of contract as required by law;

6. That the persons in charge of these radios always make a serious competition in the recruitment of their personnel and that they allot the stations of responsibilities to people of the field especially of the competent people.

⁷⁰Constitution of the Democratic Republic of Congo of February 18, 2006.

⁷¹Organic law n°11/01 of January 10, 2011 on the composition, attribution and functioning of the High Council for Audiovisual and Communication.

⁷² Law No. 96-002 of June 22, 1996 establishing the modalities for the exercise of freedom of the press

❖ FROM A MATERIAL POINT OF VIEW

7. That the owners of the Lodja media fight to develop their media infrastructure by providing them with appropriate premises and working equipment;

8. Since generator power is expensive and problematic, media managers can advocate for solar-powered radios;

9. That the owners of Lodja radio stations ask the Congolese State to come to their aid, through subsidies, since their media provide a public service as required by law.

❖ FROM THE ECONOMIC POINT OF VIEW

Although the environment is unfavorable for the emergence of the media, the managers of the radios can create money within them, through their creativity.

They can design a schedule of programs by offering spaces to economic operators, public and private companies, telecommunications companies, civil aviation companies, religious denominations, political parties, women, athletes, local musicians...to show these different categories of individuals the role that these radios can play in the development of their business.

Organize Magazines, cultural and interactive programs that can capture the attention of listeners well and have a large audience in order to market the space at a high price to advertisers. Produce the local newspaper in order to market the sound elements.

May local radios be inspired by channels such as Radio OKAPI, Top Congo, RFI and so many other professional channels in the way they organize the program of their media.

In short, it is the technicality, creativity and professionalism of the radio managers that will generate revenue for the company.

CONCLUSION

Describing the situation, identifying the challenges while proposing future prospects for the audiovisual media of the Territory of Lodja in the Province of Sankuru, such was the main approach undertaken in this scientific research. After several investigations, we can therefore conclude by saying that the economic context of Lodja is unfavorable for the emergence of the media sector; There is also a problem of ethics and deontology by local presenters, the blatant absence of program schedules and editorial lines. Lack of innovation, lack of appropriate materials, demotivation of agent staff, incompetence of facilitators.

We can still emphasize that the typology of media in Lodja is porous (community media do commercial advertising, denominational media support politicians, etc.)

To remedy this disastrous situation, it will be necessary to provide these media with professional, creative, ambitious and passionate journalists with independent, neutral, pluralistic, rigorous, reliable and balanced media to meet a large number of challenges posed from the point of technical, legal, human, material, economic view and so many others.

Finally, install a provincial station of the Superior Council for Audiovisual and Communication in acronym CSAC, media regulatory body, which will ensure respect for ethics and journalistic deontology through the media space of Sankuru, such as recognized by the legal framework governing this sector, would be a priority aspect.

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PROBLEMS OF THE ORGANIZATION OF MIX-MARKETING MANAGEMENT IN AN INDUSTRIAL COMPANY : CASE OF THE SIMBA BREWERY

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ABSTRACT

The performance of a company is not only defined by its production capacity or the quality of its products , but also by the pictorial representation transmitted by its sales team to the general public, and more particularly to its customers and moreover its ability to meet their requirements at all times. Through an organization, and an effective management of the marketing mix, the study carried out on the ground relating to the problem of the organization, the management of the marketing mix in an industrial company has mainly enabled us to detect the key elements that can help the company better maintain its financial health.

The induction also enabled us to raise the incidence of the Mix – marketing on the realization of the turnover during a period of study of 3 years of which we chose the BRASIMBA like field of investigation . The ranges of the products of the company under study revealed a positive impact of the strategies on the improvement of the receipts because making a comparison of the sales of the three years, we find a positivity of the sales of different products, although some present negative signs.

Our concern in this research is to reflect on the paradox of the thorny problem of adaptation of industrial companies to their multidimensional environment, especially in its social demographic volume with regard to the marketing mix.

Keywords : Problem, Organization, Management, Mix –Marketing

INTRODUCTION

During the life of any public or private company, its leaders are called upon to make a number of decisions ensuring the smooth running and continuity of its activities. One of the major causes of the difficulties encountered by Congolese companies in adapting to the ever faster system of economic evolution lies in the fact that most of its companies, even very large ones, are not directed but admired.

This study will undoubtedly solve the thorny problem of adaptation of industrial companies to their multidimensional environment, especially in its social demographic volume for the marketing mix. Thus two questions will be the subject of our problematic, namely:

- How does BRASIMBA apply the marketing mix to maximize its revenue?
- What statistical analyzes could be done on the strategies applied?

To answer it, the inductive method will allow us to interpret the data collected going from the particular to the general while analyzing certain strategies of the marketing mix applied by the BRASIMBA under a period of 3 years in order to guide the vision of the development of this company. commercial.

Apart from the introduction and the conclusion, our study is structured as follows:

- First, we will talk about methods and materials;
- Secondly, we will discuss the results of the search;
- Finally, we will end with the discussion of the results.

1. METHOD AND MATERIALS

To carry out this scientific work, we used the inductive method which will be supported by documentary techniques and content analysis. To induce is to mount observations of facts to a general proposition ⁷³. Otherwise, it consists of starting from an observed and particular case to generalize the entire situation.

This method will help us:

- Interpret the data collected;
- Go from specific to general.

1.1. DOCUMENTARY TECHNIQUE

This technique consists of making a selection of relevant information and/or a list of appropriate documents ⁷⁴.

Thus, as part of our research we had to consult various books with the relevant information at our disposal, in order to analyze and extract information on the organization and management of the marketing mix in an industrial company.

1.2. CONTENT ANALYSIS

It is a technique which consists in describing in detail a real problem, a concrete and realistic problematic situation, a significant incident, a critical situation whose study must lead to a diagnosis or a decision ⁷⁵.

⁷³Albert BRUNO, social science methods, Paris, ed. Mouton Christian, 1971, p.68-75

⁷⁴Jacky MPUNGU, scientific research methods, G2 SCOFI, ISS, 2012-2013

⁷⁵Martin A. and Perret C., documentary research methods center for educational innovation and evaluation, Bourgoigne, 2009.

The procedure generally includes the transformation of an oral speech into text, then the construction of an instrument of analysis to study the meaning of the words, in order to arrive at an objective analysis.

2. RESULTS

To better understand the results inherent in our theme, it is imperative to dissect the key elements of the marketing mix essential for the BRASIMBA company in order to overcome the problems of competition for a good maximization of revenue.

A company's strategy development must be based on an already obtained or potential competitive advantage, just to be one step ahead of its competitors.⁷⁶

And all the strategies applied by BRASIMBA are based on the marketing mix, the different policies of which are as follows:

- PRODUCT
- PRICE
- DISTRIBUTION
- COMMUNICATION

a. *Product Policy*

Here consumers are presented with a variety of products so that they can make a rational choice.

And the main causes of this extension are the migratory movement and competition.

The products that are extended by BRASIMBA are:

- Simba
- Tembo
- Castle
- Skol
- Doppel
- Guines
- 33 Export
- Beaufort

The widening of the range does not affect the nature of the product, but is based on the format and packaging in order to overcome the problem of purchasing power as well as competition⁶.

This is how the range of the BRASIMBA is extended:

- Regarding the format, BRASIMBA has:
 - SIMBA 73 cl and 33 cl;
 - TEMBO 60 cl and 33 cl;
 - SKOL 72 cl, 50 cl and 33 cl;
 - CASTEL 65 cl and 33 cl;
 - 33 EXPORT 65 cl and 33 cl;
 - DOPPEL 72 cl and 50 cl.
- Regarding packaging, BRASIMBA has:
 - Glass bottles (recoverable);

⁷⁶LAMBIN JJ, Strategic Marketing, Paris, Ed. International Sciences, 3rd Ed. 1996.

- Plastic bottles (non-recoverable);
- Lightweight aluminum cans (non-recoverable).

b. Pricing policy

Several factors come into play for the fixing of the selling price of BRASIMBA products among others;

- The cost of the raw material (consumable and consumption);
- The competition (compared to the price of the competitor's similar product);
- The objectives of the company;
- Requirement ;
- The life cycle of a product; etc

It should be noted that in terms of price, BRASIMBA has three different types of products:

- Top-of-the-range products: these are very expensive products, intended for the noble class. (BEAUFORT, CASTEL, TEMBO and GUINNESS);
- Mid-range products: these are products that have affordable prices, intended for the middle class (SIMBA and SKOL);
- Entry-level products: these are products that have a very low price, intended for the lower class (33 EXPORT and DOPPEL).

c. Distribution policy

Two distribution channels are used by BRASIMBA:

- The distribution channel has direct sales (DCV) where the product leaves the store to the retail outlet. It should be noted that this channel is rarely used by BRASIMBA for reasons of cost and time, but it intervenes in demonstrations such as:
 - Kermesse;
 - Party ;
 - Sponsored concert;
 - Horsemen's race, etc.
- The direct selling distribution channel where the product leaves the store to the commercial intermediaries (wholesalers and retailers).

It should be noted that BRASIMBA has adopted the exclusivity system by signing contracts with most of its distributors to sell only BRASIMBA products.

d. Communications policy

This strategy seems effective, then each time when BRASIMBA implements a communication strategy, there has always been favorable feedback (response from consumers), this will be verified through the analysis of statistical data. as well as the calculation and analysis of the various returns.

It should be noted that BRASIMBA applies almost several communication strategies, but the most frequent are:

- The advertisement ;
- Sales promotion;
- Public relations;
- Direct marketing, here BRASIMBA applies it to its intermediaries due to the fact that they take more than 95% %of the sale of the company, since it requires the creation of a database and the application of individual communication .

3. DISCUSSION

Our analysis will begin with the comparison of sales of BRASIMBA beers by year and will end with the calculation of turnover in order to better detect the maximization of revenue.

TABLE I: SALE OF BRASIMBA PRODUCTS FROM 2015-2017 IN HELECTOLITRE.

PRODUCT	FORMAT	COND.	2015	2016	2017
Simba	73	12	411.018	438.659	680.167
Sultani Simba	33	24	68.430	18.544	72.977
Simba can	33	24	3,520	1981	739
wall	60	12	7.698	9.698	14,605
wall	33	24	611.46	519	1.095
Castel	65	12	1.888	3.136	15,955
castle	33	24	524	3,773	622
school	72	12	123,184	123,589	234,278
double	72	12	4,562	2,917	13,421
Guinness	33	24	6.127	8,857	10,933
33 exports	65	12	2,665	1,677	1.309
33 exports	33	24	125.1	198.5	408
Beaufort	33	24	1.121	1,162.5	2.137

Source: Sales and Marketing Department/BRASIMBA

NB: the selection of these products constitutes the sense of familiarization and the routine marketing of Lushois customers.

The table above shows the sales of BRASIMBA beers in hectoliters during all three years under study, from 2015-2017, and determines how SIMBA is the best-selling beer, followed by SKOL ,...

TABLE II. SALE OF BRASIMBA PRODUCTS FROM 2015-2017 IN LOCKERS IN CDF

PRODUCT	FORMAT	COND.	2015	2016	2017
Simba	73	12	342,515,000	365,549,167	566,805,833
Hold the Sultan	33	24	28,512,500	7,726,667	30,407,083
Hold the can	33	24	1,466,667	825,417	307,917
Tembo	60	24	6,415,000	8,081,667	12,170,833
Tembo	33	24	254,775	216,250	456,250
Castel	65	12	1,573,333	2,613,333	13,295,833
Castel	33	24	218,333	1,572,083	259,167
scol	72	12	102.653.333	102.990.833	195.231.667
double	72	12	3,801,667	2,430,833	11.184.167
Guinness	33	24	2,552,917	3,690,417	4,555,417
33 Export	65	12	2,220,833	1,397,500	1,090,833
33 Export	33	24	52.083	82.917	170,000
33 Export	33	24	476.083	484.375	890.417

Source: Ourselves from Table I.

The table above shows us the sales of BRASIMBA beers in racks. We obtained them from table I which presented the sales in hectolitres, the formats as well as the number of bottles in a rack or in a folder.

It was necessary to convert from hectolitre to centilitre then calculate the number of bottles and folders or racks depending on whether they contain 24 or 12 bottles because BRASIMBA is not a retailer.

TABLE III. PRICES OF BRASIMBA PRODUCTS IN RACKS 2015-2017

PRODUCT	FORMAT	COND.	2015	2016	2017
Simba	73	12	13,800	13,800	13,800
Hold the Sultan	33	24	20,000	20,000	14,8
Hold the can	33	24	10,800	11,0	14,8
Tembo	60	12	14,8	14,8	15,000
Tembo	33	24	10,800	10,800	24,800
Castel	65	12	14,8	14,8	13,0
Castel	33	24	15,300	15,300	20,000
scol	72	12	15,000	15,000	10,800
double	72	12	13,000	12,800	12,800
Guinness	33	24	19,800	19,800	19,800
33 exports	65	12	10,800	10,800	10,800
33 exports	33	24	10,800	10,800	10,800
Beaufort	33	24	20,000	20,000	20,000

Source: Sales and Marketing Department/BRASIMBA

TABLE IV. CALCULATION OF TURNOVER BY PRODUCT FOR 2015-2017 IN CDF

PRODUCT	FORMAT	COND.	2015	2016	2017
Simba	73	12	4,726,707,000,000	5,044,578,500,000	7,821,920,500,000
Sultani Simba	33	24	307,935,000,000	84,993,333,333	450,024,833,333
Hold the can	33	24	29,333,333,333	16,508,333,333	4,557,166,667
Tembo	60	12	94,942,000,000	119,608,666,667	182,562,500,000
Tembo	33	24	2,751,570,000	2,335,500,000	11,315,000,000
Castel	65	12	23,285,333,333	38,677,333,333	172.845.833.333
Castel	33	24	3,340,500,000	24,052,875,000	5.183.333.333
scol	72	12	1,539,800,000,000	1,544,862,500,000	2,108,502,000,000
double	72	12	49.421.666.667	31.114.666.667	143.157.333.333
Guinness	33	24	50,547,750,000	73.070.250.000	90.197.250.000
33 exports	65	12	23,985,000,000	15,093,000,000	11,781,000,000
33 Export	33	24	562,500,000	895,500,000	1,836,000,000
Beaufort	33	24	9,341,666,667	9,687,500,000	17.808.333.333
TOTAL			6,861,953,320,000	7.005.477.958.333	11.021.691.083.333

Source: Ourselves from Tables II and III.

The table above represents the sales of BRASIMBA beer/rack in Congolese Franc from 2015-2017. We obtained them by taking the annual sales multiplied by their annual prices.

IMPACT OF MARKETING STRATEGIES ON THE REALIZATION OF TURNOVER.

At the end of this study, which was carried out over a period of 3 years, we noted a positive impact of marketing strategies that improved the company's revenue.

By comparing the sales of the three years under study, we find positive sales of the different beers selected from BRASIMBA.

This explains why the policy of product, price, communication as well as that of distribution which moreover constitutes the marketing mix has been very well applied for an improvement in revenue for 2015-2017 as presented in the table of differences below. Underneath

TABLE V. REVENUE DIFFERENCE

PRODUCTS	Deviation1 (2016-2015)	Deviation2 (2017-2016)	Gap2-Gap1
SIMBA	317,871,500,000	277,342,000,000	2,459,470,500,000
SIMBA SULTANI	-222.941.666.667	365,031,500,000	587.973.166.667
SIMBA CAN	-12,825,000,000	-11.951.166.667	873.833.333
TEMPO	24.666.666.667	62.953.833.333	38.287.166.667
TEMPO	-416,070,000	8,979,500,000	9,395,570,000
CASTEL	15,392,000,000	134.168.500.000	118,776,500,000
CASTEL	20,712,375,000	-18.869.541.667	-39.581.916.667
SKOL	5,062,500,000	563,639,500,000	558,577,000,000
DOUBLE	-18,307,000,000	112.042.666.666	130.349.666.667
GUINNESS	22,522,500,000	17,127,000,000	-5,395,500,000
33 EXPORT	-8,892,000,000	-3,312,000,000	5,580,000,000
33 EXPORT	333,000,000	940,500,000	607,500,000
BEAUFORT	345.833.333	8.120.833.333	7,775,000,000
TOTAL	143.524.638.333	4,016,213,125,000	3,872,688,486,667

Source: Ourselves from Table IV.

This table shows the sales differences for the different years under study and indicates that the sales of the aforementioned beers in 2015 were higher than in 2016, apart from 33 export 33 cl, Doppel and Simba can, which are lower; in 2016, only the Simba can, the small Castel and the 33 export 65 cl were lower than the sales of 2015, but the other beers showed a positive difference.

And the difference between these two differences allows us to determine the impact of marketing strategies on the improvement of Brasimba beer recipes .

4. CONCLUSION

As analysis made, we will say that the company BRASIMBA uses a good strategy related to the product, price, distribution and communication to consumers and competitors, but this must necessarily be improved, given the important position that it occupy in the market. In order to maintain its clientele, BRASIMBA strictly adhered to the application of the marketing mix with a view to maximizing its revenue, because a company that does not maximize revenue is destined to disappear on the market.

The marketing function being the key to adaptability and profits in the company, if it is correctly interpreted and practiced, having regard to the condition of the modern market. capital, but also essential in the commercial process, but also to send all the information on the market to the hierarchy in order to take appropriate measures.

Ultimately, this study allowed us to demonstrate the need for a Congolese company to scrupulously apply the marketing mix to face the competition, and bring about a strong improvement in revenue.

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COMPUTERIZATION OF THE CLOCKING OF AGENTS AT THE LUALABA REVENUE DEPARTMENT BY RFID ELECTRONIC BADGE

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ABSTRACT

Currently, the clocking of agents in public companies in the DRC and in particular in the province of Lualaba remains one of the areas that require a lot of attention from managers because the manual clocking that is done to date in Lualaba revenue department, does not allow to maximize the productivity of the company given that the agents who constitute the main workforce, come to the service always in delays sometimes exaggerated for lack of a mechanism of control of the time of arrival of the agents at the service following a clocking in which is done on a sheet where all the agents personally complete the time of arrival at the service and the time of departure, sometimes by filling in the wrong information. Then, exits from the company's facilities are not controlled, an agent can leave the workplace as many times without a valid reason and for an unacceptable period, which causes several agents to abandon their posts during working hours. because the existing system cannot accurately determine when an agent comes into the office and when an agent leaves the office. The existing system does not know how to manage the cases of absence of agents either, because certain agents can sign the presence on behalf of the other absent agents, which leads the company to pay even the absent ones, which causes a problem of payroll management which takes into account the number of days worked, handicapping the productivity of the organization given that human resources constitute the basic workforce of this department. The use of RFID electronic badge clocking nevertheless remains an effective solution for solving the problems of agent clocking management.

Keywords : Clocking, attendance, payroll management, delay, absence

1. INTRODUCTION

Most public companies in the Democratic Republic of Congo are faced with several difficulties in personnel management, given the high number of agents and the management system which is still manual.

Indeed, in any company or organization, managers always seek to achieve the objectives they have set themselves. To do this, they use different means to overcome the difficulties deemed harmful to the smooth running of activities in the company. Among the means that managers can use, we can mention computers. This shields any business or organization from the difficulties associated with performing repetitive and tedious tasks.

The use of technology by which the DRLU can effectively manage the presence of agents in the workplace by determining the exact time of arrival and departure, which will allow managers to apply positive sanctions and negative to each agent, would be an effective way to increase the latter's productivity.

The purpose of this study is to present electronic clocking by RFID badge, as a reliable tool for personnel management, capable of solving the problems of clocking in agents, the preparation of individual and collective reports of the presence of agents from manual documents which is a headache for the personnel department who must check the manual documents so many times, thus causing a loss of time.

This is why our problem revolves around the following questions: ***"How to reorganize the clocking management?" What resources should be made available to the Lualaba revenue department in order to resolve the problems mentioned above? »***

In view of the concerns raised, we believe that the use of electronic clocking by RFID badge is an effective way to solve the problems related to personnel management.

In the lines that follow, we will look at the presentation of the Lualaba revenue department, the electronic clocking system by RFID badge, the means of implementing such a system as well as the contribution of the latter in personnel management.

2 METHODOLOGY

The adoption of a methodological approach is fundamental. Inductive and analytical methods are at the center of our thinking. This allows the methodical orientation of research through data collection, analysis and presentation of results.

3 PRESENTATION OF THE LUALABA REVENUE DIRECTORATE (DRLU)

The Lualaba Revenue Department was created by Provincial Decree No. 20/15002/CS/LBA of December 04, 2015, creating the Lualaba Revenue Department DRLU in acronym, with the mission and prerogative of maximizing revenue for the benefit of the province.

Currently the services of the Lualaba Revenue Department use a manual pointing system for all the agents of its administration using a manual directory listing the names of employees according to whether they are in the management, in the urban division or at branches. As a result, each agent on arrival must sign next to his name, specifying the time of his arrival at the service, the time of the resumption after and the time of his exit from the service.

This manual attendance system has many weaknesses since some agents sign attendance for other absent or late agents by falsifying their signatures, some others falsify the arrival time, which causes several cases of

unjustified absences , delays, job abandonment, resulting in the lack of productivity of agents in their departments.

It should be noted that the score is an important step in a company because the latter makes it possible to calculate the salary of the agents at the end of each month, while providing decision-makers with the possibility of applying positive or negative sanctions according to the individual report. of each agent.

4 ELECTRONIC SCORING SYSTEM

The purpose of the electronic clocking system is to increase the productivity of agents by providing the precision and accuracy of clocking-related information in real time, in order to reduce the rate of falsification and inconsistency of clocking-related information. punctuality of agents.

4.1 RFID TECHNOLOGY AND RFID BADGE

The abbreviation RFID stands for “Radio Frequency Identification”, in French, “Identification par Radiofréquence”. This technology makes it possible to identify an object, to follow its routing and to know its position in an internal environment in real time thanks to a tag emitting radio waves, attached or incorporated into the object (RFID tag). RFID technology allows tags to be read even without a direct line of sight and can pass through thin layers of material (paint, packaging, snow, etc.).

RFID is a relatively modern identification technology that has been developed recently. However, the first RFID application was used during the Second World War when Watson and Watt developed a military application to verify the "friend" or "enemy" membership of aircraft arriving in British airspace and that in 1935. This system called IFF (Identify: Friend or Foe) remains the basic principle used today for air traffic control.

RFID technology is used to track, identify and locate an object using a medium such as an RFID badge, which consists of a chip and an antenna. The RFID badge uses radio-identification technology compatible with harsh environments. The main application of RFID badges is to implement access controls for professional use.

Today's RFID readers consist of smart antenna systems, dedicated digital signal processing units, and embedded systems alongside middleware and network components. These components allow easy integration of RFID readers into data networks that comply with standardized data transfer protocols.

RFID readers are devices that interrogate RFID tags. In an RFID system, the reader detects the tag using signal processing, demodulation techniques to extract data from the tag signal. A passive RFID tag cannot generate a signal without the reader first sending an interrogation signal to the tag. Therefore, the reader and the tags are in a master-slave relationship in which the reader acts as a master while the tags operate as slaves. However, the RFID readers themselves are also in a slave position with the software which manages the application called middleware and which processes the data from the RFID.

4.2 OPERATION OF THE RFID SYSTEM

In addition, RFID technology makes it possible to identify an object or a person and to know its characteristics remotely according to the capacity of the micro antenna integrated in the tag emitting radio waves. The system components are:

4.2.1. The label (tag):

It is a receiving device, which is placed on elements (metal object, plastic, etc.). They are equipped with a chip containing the information and an antenna to allow the exchange of information. The figure below shows a radio frequency tag which consists of a chip and an antenna.



Figure 1 – Radio Frequency Tag

4.2.2. The reader :

The reader/writer consists of a circuit that emits electromagnetic energy through an antenna, which receives and decodes the information sent by the tag and sends it to the data collection device. The RFID reader is the element responsible for reading the radio frequency tags and transmitting the information they contain.

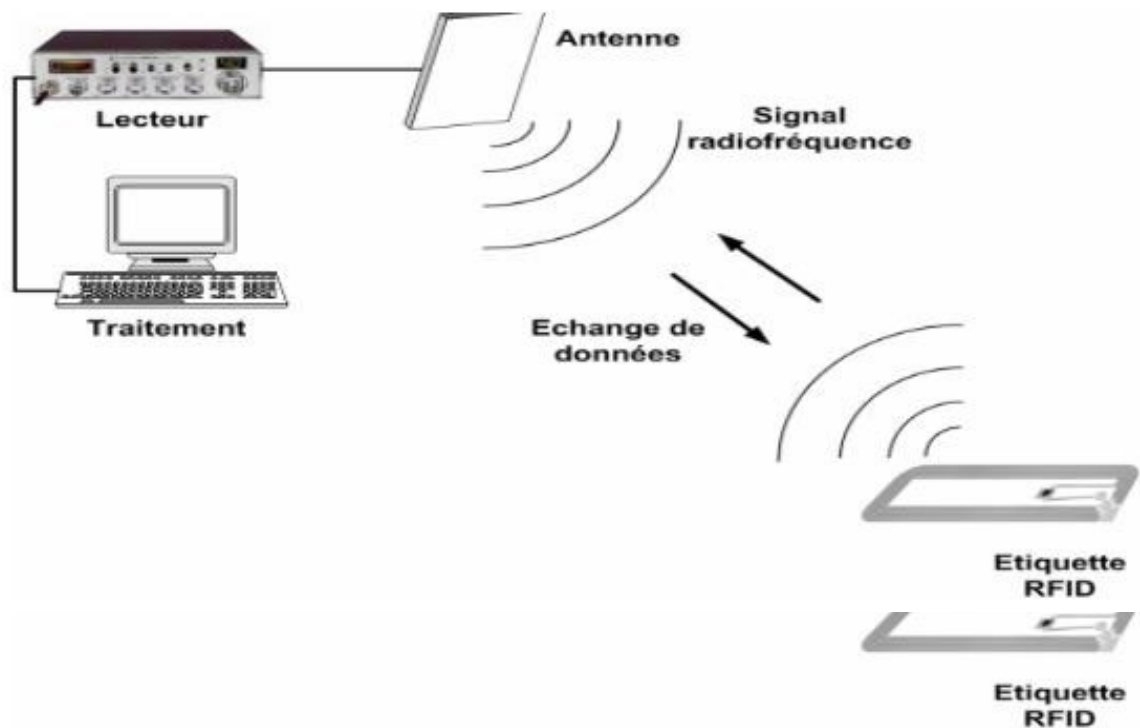


Figure 2 – RFID Operating Principle

It should be noted that the communication between the reader and the tag takes place via the antennas which equip one and the other, these elements being responsible for the radio frequency radiation. This is why the choice of characteristics of the reader/tag (type of frequency, type of tag, type of coupling) must absolutely be compatible with each other and also with the choice of use in order to have a good result.

The design of the antennas requires first of all to determine the properties of the antenna of the Tag according to the intended application. The family of RFID systems includes LF, HF and UHF systems. Our interest relating to HF, we know that their transponders use magnetic antennas, they are made up of an inductive coil (of inductance L) which plays the role of antenna, of an electronic chip carrying out the operations of communication and a capacitor C to cause the LC circuit to resonate at the working frequency.

5 IMPLEMENTATION OF THE ELECTRONIC SCORING SYSTEM

Our system will work as follows:

When the agent goes to the entrance of the workplace, he points his entrance with his RFID card via the RFID reader, the latter checks in the system if the agent really exists. If so, the system saves the information found on the card, specifying the "Entry" movement and the time at which the agent showed up at the place of work; otherwise, the system asks the agent to contact the administrator to be added to the database in order to register his presence. At the end of the day, the agent must punch his exit and the system will take care of specifying the "Exit" movement and the time at which the agent punched his exit. At the end of the day, the system automatically updates the agents' clockings.

At the end of each month, the system displays the individual clocking report for each agent in order to allow the personnel department and the finance department to establish the payment list of the agents, in accordance with the monthly performance report. The system is also able to produce the list of all the agents available in the database and to display the overall monthly score report in order to avoid omissions of names on the payroll list and in order to allow decision makers to apply certain positive or negative sanctions on the punctuality of agents.

5.1 IDENTIFICATION OF SYSTEM ACTORS

An actor represents the abstraction of a role played by an external entity (users, hardware device or other system) which interacts directly with the studied system.

The same concrete external entity can successively play different roles in relation to the system studied, and therefore be modeled by several actors. Conversely, the same role can be played simultaneously by several concrete external entities, which will then be modeled by the same actor.

The actors that interact with the system are:

- ✓ Agent: This is a person who clocks in and out using their RFID card
- ✓ RFID reader: It is a device that allows to read data from an RFID card
- ✓ Admin: This is the person responsible for assigning a badge to an agent, adding an agent in the system, modifying agent information and deleting the agent from the system

5.2 USE CASE DIAGRAM

Use cases are a means of collecting and describing the needs of system actors. They can also be used later as a means of organizing the development of the software, in particular for the structuring and the running of the software tests.

A use case describes the interaction between the actors (users of the case) and the system. The description of the interaction is made from the user's point of view.

The representation of a use case involves three concepts: the actor, the use case and the interaction between the actor and the use case.

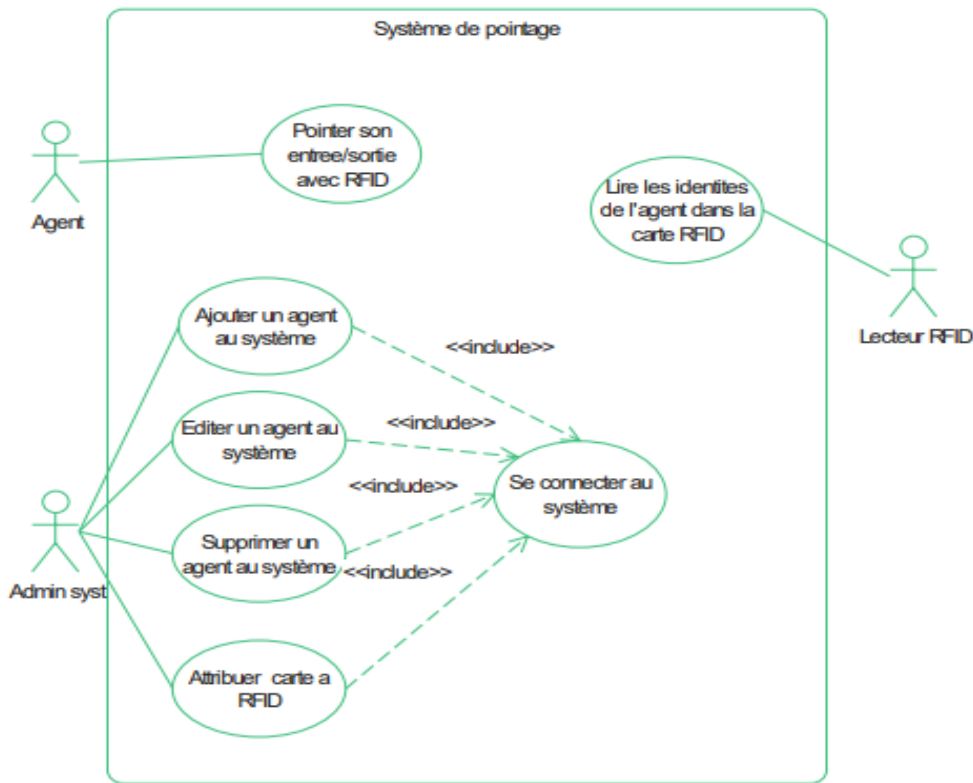


Figure 3 – Use case diagram

5.3 SYSTEM OPERATION

This electronic clocking system operates autonomously once the agent's badge is placed in front of the RFID reader, the latter detects the unique ID of the agent, it transmits it directly to the database and the system. records the movement (Entry or Exit) as well as the time of the movement, then automatically takes the presence of the agent and the system automatically updates the information in the database.

This agent management system is developed according to the client-server architecture. The client being the terminal that accesses the system via a computer, a tablet, a smartphone and the server represents the central computer on which the system is housed. Thus, to access the agent management system, the user connects using a web browser installed on his terminal.

To achieve our agent management system, we used the tools below except the RFID technology developed above with the RFID reader which will allow the reading of RFID cards.

For the implementation of the application, we opted for PHP for the server-side development and HTML, CSS and JavaScript for the client-side development. PHP, for Hypertext Preprocessor, designates a computer language, or a scripting language, used mainly for the design of dynamic websites. It is a programming language under a free license which can therefore be used by any programmer completely free of charge.

Created in the early 1990s by Canadian Rasmus Lerdorf, the PHP language is often associated with the MySQL database server and the Apache server. With the Linux or Windows operating system, it is an integral part of the free software suite LAMP and WAMP...

WAMP is an acronym standing for "Windows", "Apache", "MySQL" and "PHP". In order to be able to execute PHP scripts locally, we use the WAMP Server Software.



Figure 4 – Type of systems in a company

As far as data management is concerned, we have opted for MySQL, which is a Database Management System (SGBD) operating under Linux and Windows. Database Management Systems such as MySQL make it easy and flexible to handle a very large volume of data. However, as robust as MySQL is, it may be interesting to recover all the data contained in our database, to make a backup (backup) or quite simply to switch to another database (export). MySQL offers a number of tools for exporting its databases to other DBMSs or importing them.

The purpose of the use of the DBMS is to offer the user an interaction with the database in the form of a dialogue in order to search and select the data, this interaction is carried out thanks to the manipulation language (LMD).

In terms of data integrity, the greater the mass of information recorded in a database, the greater the risk that the recorded data is erroneous compared to reality. To reduce this risk, the DBMS must offer the user the possibility of defining rules which make it possible to maintain the integrity of the database.

These rules are called Integrity Constraints. They correspond to properties that must always be verified in the database regardless of the values recorded. Regarding data security, if a database is shared between several users, only the really authorized people will have access to it. For this, the DBMS must offer mechanisms to verify the access rights of users. There are different levels of description of these data depending on whether one is interested in the perception of the database by the user on the physical media. This tool allowing the description of data is called the data description language (LDD).

We made the choice of MySQL seen, its speed and its easy integration with the PHP language by its many functions and procedures are relevant qualities, it derives directly from SQL (Structured Query Language) which is a language of structured queries towards the bases data using the relational model. It uses its syntax but does not retain all its power since certain SQL functionalities do not appear in MySQL.

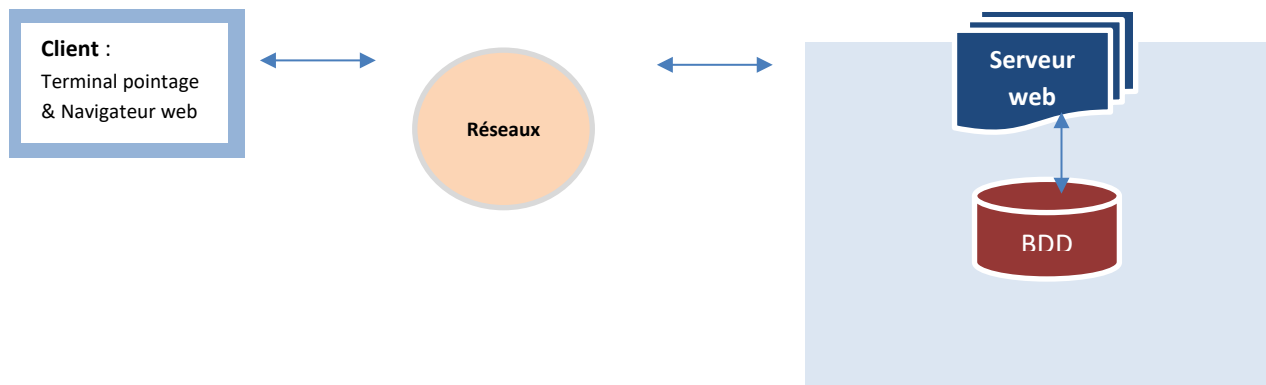


Figure 5 – Client Server Model Data Flow

5.4 PRESENTATION OF THE APPLICATION AND DISCUSSIONS

1. Main clocking screen

This interface makes it possible to clock in the agents when the RFID reader is connected to the application in order to read the card and compare the information contained on the latter with that of the database; unlike the old system which used paper support to collect the presence of agents, by not guaranteeing the security of the data because the paper support can easily get wet, torn or lost.



Figure 6 – Main pointing interface

2. Entry movement clocking screen

When the agent arrives at the place of service, before accessing his workstation, he points his card to the RFID reader, the latter checks if the agent is registered in the database then, the system records the movement of entry and specifies the date and time at which the agent clocked in.

At this level, any access by agents to the company is automatically recorded in the database, specifying the time of arrival at the service without the possibility of falsifying this information; however, in the old system, it was the agent himself who filled in the arrival time with the possibility of making errors or giving false information with falsification.

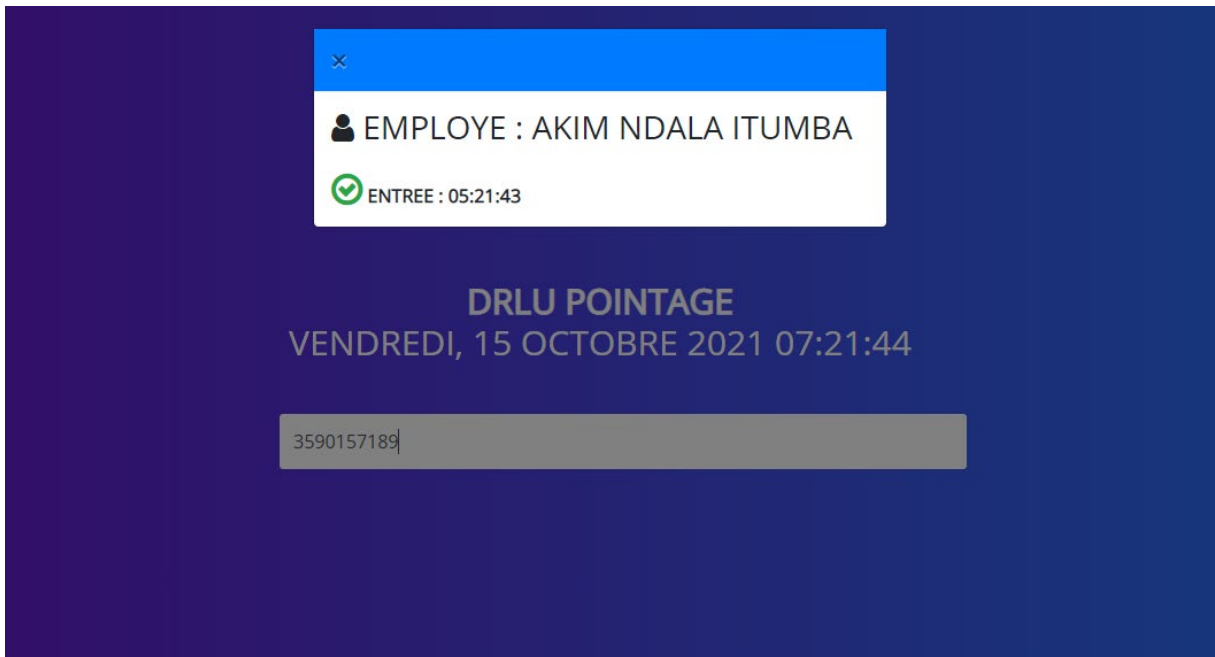


Figure 7 – Entry motion clocking interface

3. Exit movement clocking screen

At the end of the day, the agent must mark his exit, in this case the system records the time of the agent exit in the database and automatically updates the individual agent report.

This makes it possible to solve the problem of job abandonment because any exit is signaled in the system; which was not the case with the old system where an agent could go out when he wants and how he wants because the exits were not controlled.

Similarly , some agents could leave before the set time, but fill in the wrong information on the form. As for this new system, the time is recorded automatically as soon as the agent punches his exit without the possibility of modifying or falsifying this information.

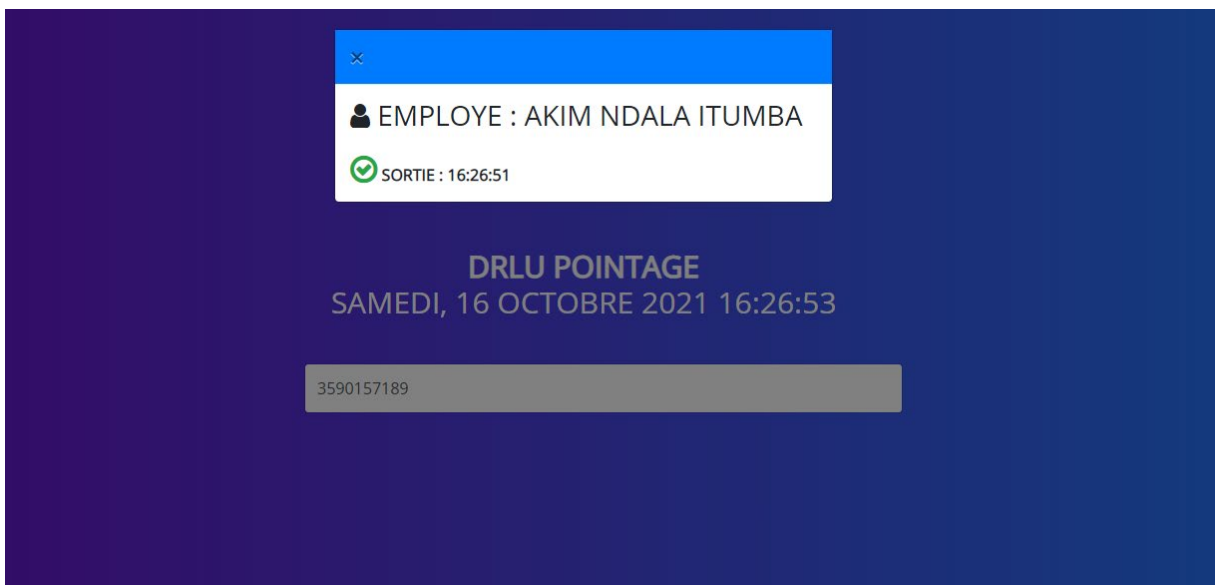


Figure 8 – Exit movement clocking interface

4. Individual score report screen

This interface is used to display the individual clocking report of each agent, specifying the date, the movement (Entry/Exit) and the time of each movement.

This makes it possible to have in real time the individual clocking status of the agents and will allow the payroll service to have the exact number of days worked by the agent; unlike the old system where all the lists had to be collected to verify the clocking status of each agent at the end of the month, which created material errors with the possibility of falsifying certain information related to the clocking of an agent.

This system also makes it possible to clearly see the punctuality of each agent after a determined period in order to apply a positive or negative sanction according to the regularity of the latter.

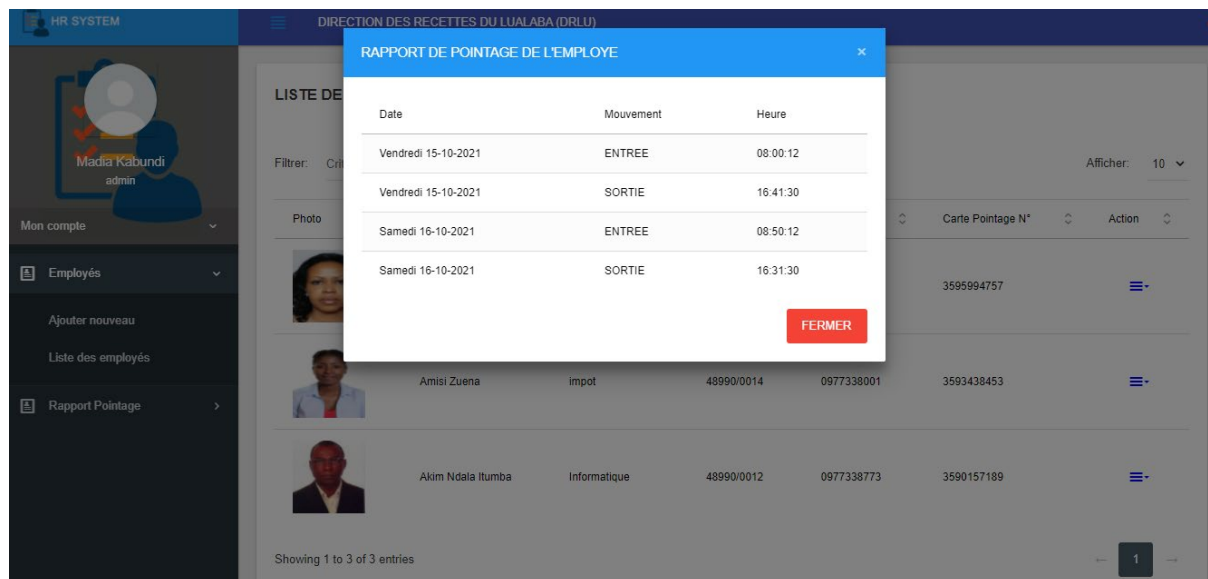


Figure 9 – Individual time report interface

5. Global Employee Directory Screen

This interface displays the detailed information of all the agents available in the database with the possibility of exporting this file in Excel or PDF to apply certain specific treatments.

This new system will allow the company to have an updated database of all agents in real time and will make it easy to find specific information by sorting or filtering operations; which was impossible to achieve with the old system.

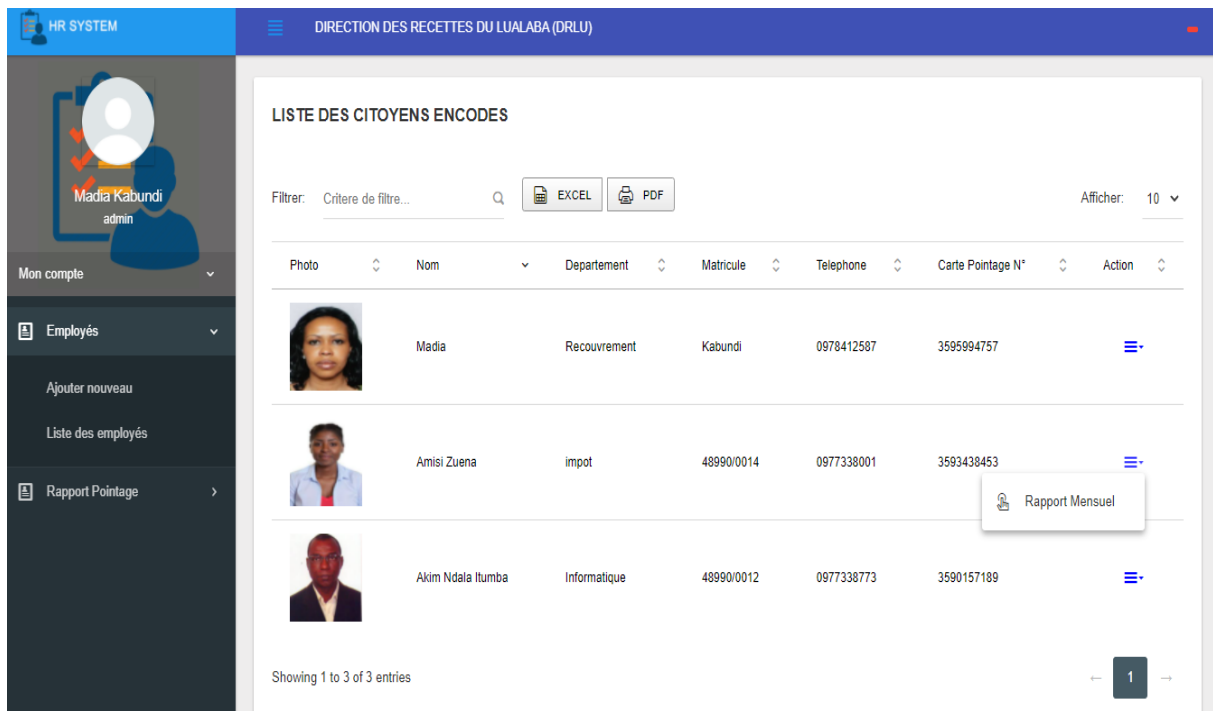


Figure 10 – Global employee directory interface

6. Screen for adding an employee and assigning the RFID card

If an agent is not registered in the new system, he will not have an RFID card either, because the latter is only granted after registration. Thus, these interfaces will allow us to swap a card in order to grant it to a new agent who will be registered in the system. The addition of an agent in the new system is the responsibility of the personnel department, which must provide all the necessary information included in an agent's file.

This new system will make it possible to carry out a physical control of the agents insofar as obtaining an electronic badge will be done face-to-face; which will allow to detect the fictitious agents. This system will also provide us with an updated database of all agents in the company.

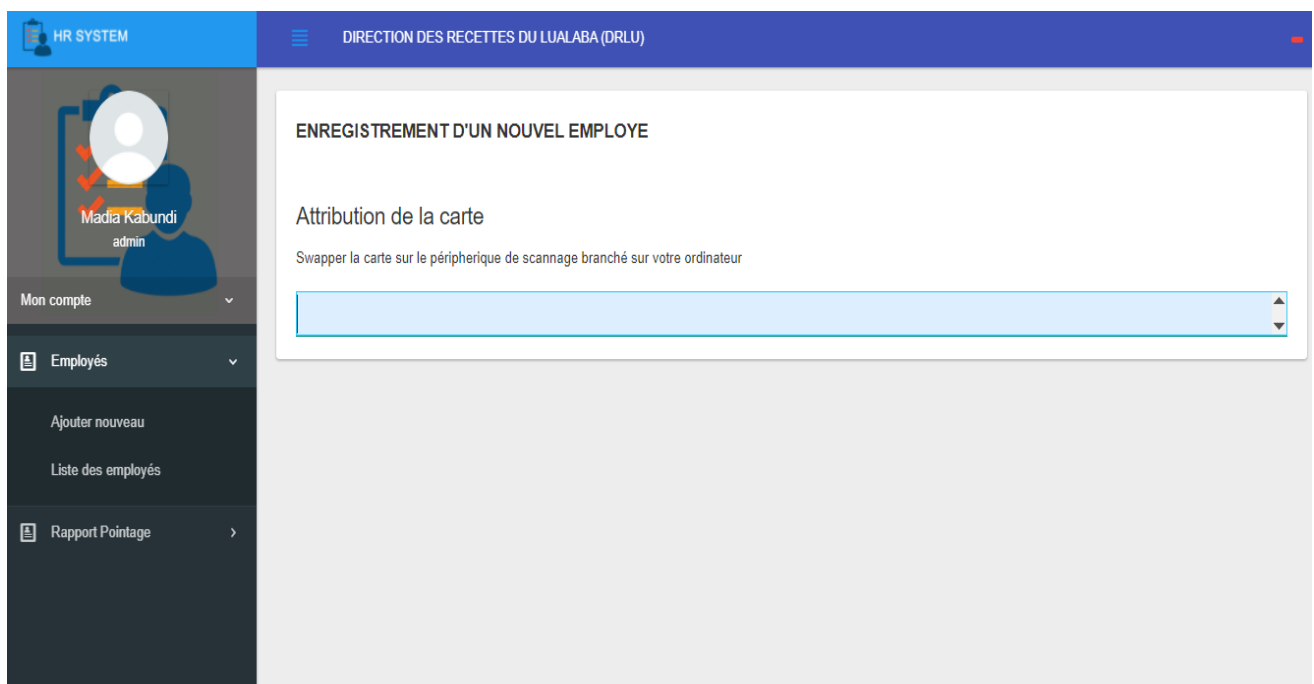


Figure 11 – RFID card allocation interface

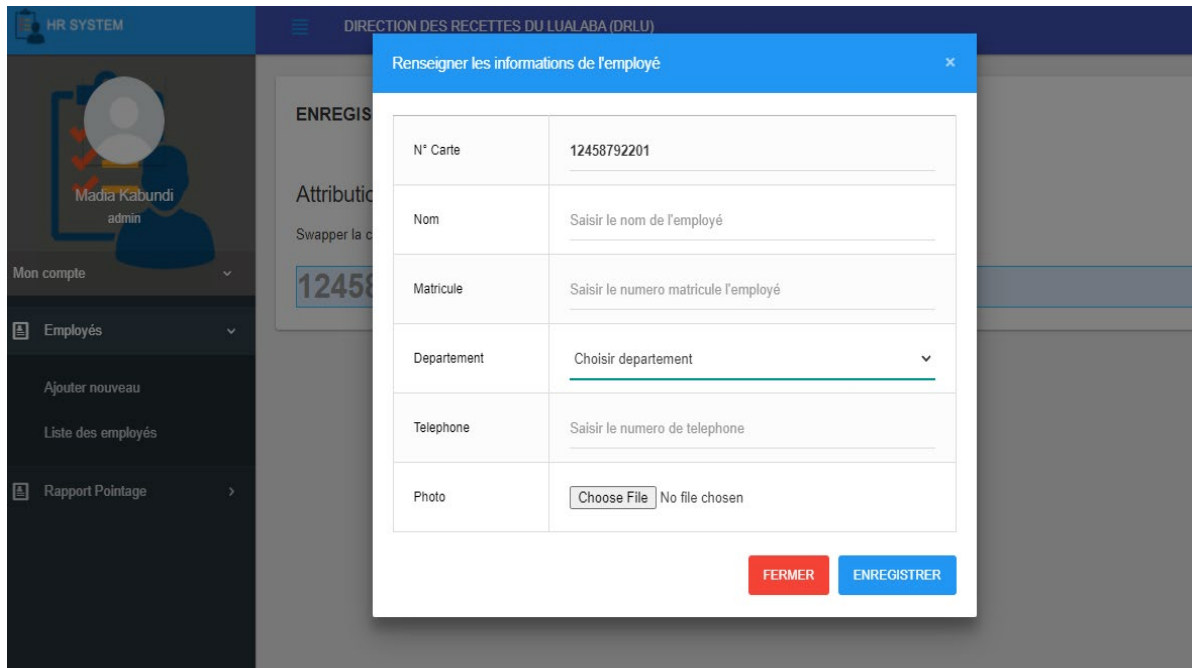


Figure 12 – Add employee interface

7. Screen showing the overall monthly tally report

This interface displays the overall monthly tally report for all agents, specifying the date, movement and time of each movement.

The old system was not able to produce the monthly tally report for all agents in real time; which made it difficult for the agents to manage their time.

Photo	Nom	Date	Mouvement	Heure
	Amisi Zuena	Vendredi 15-10-2021	ENTREE	08:00:12
	Akim Ndala Itumba	Vendredi 15-10-2021	ENTREE	08:31:10
	Amisi Zuena	Vendredi 15-10-2021	SORTIE	16:41:30
	Akim Ndala Itumba	Vendredi 15-10-2021	SORTIE	16:41:43
	Amisi Zuena	Samedi 16-10-2021	ENTREE	08:50:12
	Akim Ndala Itumba	Samedi 16-10-2021	ENTREE	08:35:10

Figure 13 – Global monthly score report interface

6. CONCLUSION

At the end of this study, which focused on the electronic clocking of agents of the Lualaba revenue department using RFID technology, as a reliable tool for personnel management, capable of solving the clocking problems of agents, from the development of individual and collective reports of the presence of agents, we can now say that we have found answers to all our research questions raised above.

Starting from the observation that new information and communication technologies are growing rapidly and that they have considerable impacts in the economic sector of public companies, including in particular the DRLU and many other financial authorities most affected. We were interested in the process of integrating digital technology into the management of human resources at the DRLU, from where our problem revolved around two concerns, one of which was the reorganization of the pointing system at the DRLU and the another on the means to be implemented to reorganize the existing system in order to solve the related problems.

In addition, this research object is relevant because of the constantly changing reality of NICTs: the more public companies do not have digital management systems, the more complex the integration process becomes. These companies therefore want to know how to use them effectively to achieve their objectives: better manage human resources, know the performance of agents and take positive actions relating thereto, increase the province's revenues, among others.

After a rigorous analysis of the existing clocking system, we implemented a new system using RFID technology associated with a web application designed to facilitate the manipulation of the information contained on the RFID cards and to allow the personnel manager to have in real time the daily and monthly information of the score of all the agents in order to make the decision-making optimal, rigorous, concise and fast thanks to the advent of new technologies of information and communication.

Hence, the purpose of this research was to come up with a computer solution, which is the proposed system, in order to solve the problems related to the process of pointing of the agents raised at the direction of the receipts of Lualaba and, to have a system which can be generalized in all the public companies of the province of Lualaba in particular and of all the Democratic Republic of Congo in general, which know the similar problems.

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WHAT IS A BLOCKCHAIN? WHAT IS NOT?

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ABSTRACT

Blockchain is a concept that has been talked about since 2017 and has applications in many fields of social sciences such as retail, supply chain, finance, auditing and accounting. Blockchain is basically a technology that can be used to improve data transparency, security and privacy in any business, regardless of scale. Although it is a new concept, blockchain has also developed rapidly in the field of social sciences. As in all fast-developing fields, academic interest in blockchain has increased rapidly. While there were 178 studies on blockchain in the field of social sciences in Scopus in 2017, it is seen that the number of these studies reached 1950 in 2021. The aim of this study is to define the concept of blockchain, which is still considered as an innovation in the field of social sciences, to reveal its advantages and disadvantages and to understand the business processes. For this purpose, in the study, blockchain retail applications were examined within the framework of the marketing mix, and subheadings such as loyalty programs, payment and contracts were also mentioned. In addition, the concept of blockchain and related topics were evaluated with the innovation team of Arçelik, one of Turkey's leading brands in terms of technology. In the findings of the research, topics such as the importance of digital literacy related to blockchain, hybrid platforms and solutions, security, neutrality of computer algorithms, and digital borders stand out. In addition, it has emerged that it is important to work on user experience and scenarios, since the blockchain has a producer-based structure. The results once again reveal the importance of businesses that need to take an active role in increasing the digital literacy of individuals. As long as these individuals to be invested actively consist of both business employees and consumers, it will be possible to create a meaningful contribution. In this context, it will be beneficial for businesses to receive blockchain training and present them to their customers in the form of mini-introductory briefings and trainings. Blockchain-based applications that protect the customer, such as increasing data security, ensuring the impartiality of computer algorithms and drawing digital borders, will contribute to the preference of businesses and the element of trust. The results of the study were evaluated in terms of theory, practice and future studies.

Keywords : Block chain ,marketing, Business Processes

GİRİŞ

Tarih boyunca kıymetli evrakların doğrulanması ve saklanması önemli bir konu olmuştur. Günümüzün kıymetli evrakları olan verilerin bir zincir şeklinde aktarıldığı ve saklandığı yer ise blok zinciri teknolojisidir. Giderek daha popüler hale gelen blok zinciri teknolojisi sadece finans sektörünün değil, perakendecilik ve tedarik zinciri gibi alanlardaki sınırlılıklara da çözüm getirmesiyle işletme süreçlerine katkı sağlamaktadır (Tan, Yan, Chen, ve Liu, 2018). İşletme içindeki süreçler birbirine bağlı bir sistemin dişli çarkları gibidir. Bu çarkın pazarlama ayağında özellikle iletişim teknolojileri, ödeme yöntemlerinde meydana gelen gelişmeler ve değişen tüketici davranışları perakendecilikte dünya çapında bir yükselişi beraberinde getirmiştir. Blok zinciri küresel çapta perakende pazarında, 2018 yılında 83 milyon dolar değerindeyken, 2026 yılıyla birlikte 11.18 milyar dolara ulaşması beklenmektedir (Jagtrop & Baul, 2019). Statista (2022), blok zinciri çözümlerine yapılan harcamaların önümüzdeki yıllarda artmaya devam edeceğini ve 2024 yılına kadar 19 milyar dolara ulaşacağını belirtmiştir. Deloitte 2020 yılı Küresel Blok Zincir araştırmasında, katılımcıların yüzde 83'ü şirketleri eğer blok zincirini kullanmazsa rekabet avantajını kaybedeceklerini düşündüklerini belirtmiştir.

Yeni teknolojilere adaptasyonda tüketicilerin güvenini kazanabilmek çok önemlidir ve perakendecilikte bu güven kolayca kırılabilir yapıdadır. Blok zinciri teknolojisi perakendeciler, müşteriler ve ödeme ağı arasında güven oluşturmanın yenilikçi bir yolunu sunarak bir dizi iş sürecinde şeffaflığı, güveni sağlarken, denetlenebilirliği artırmaya imkân vermesi yönüyle öne çıkmaktadır (Getsmarter, 2022). Bu bağlamda literatürdeki çalışmalarda blok zincirin en önemli özellikleri şeffaflık, değişmezlik, programlanabilirlik, merkeziyetsizlik, fikir birliği ve dağıtılmış güven olarak belirtilmiştir (Stallone ve diğ., 2021). Blok zincirinin sağladığı faydalar ile pazarlama stratejilerine yeni bir boyut kazandırabileceği görülmektedir. Özellikle pazarlamacıları tüketici tabanlarını iyileştirebilmek ve tüketiciye yönelik çözümleri artırmak amacıyla kişiselleştirilmiş uygulamalara yönelik daha fazla hedef belirlemeye yönlendirmektedir. Ayrıca, mağazaların ekonomik olarak amaçlarına ulaşabilmelerini kolaylaştıracağı öngörülmektedir (Bouachir ve diğ., 2020). Literatürdeki çalışmalar blok zinciri teknolojisinin pazarlama üzerindeki potansiyel etkileri üzerinde durmuştur (Antoniadis ve diğ., 2019; Saurabh ve diğ., 2021), ancak yürütülen araştırmaların çoğu kavramsal niteliktedir (Ertemel, 2018). Bu bağlamda, çalışmanın amacı Türkiye’de yenilikle özdeşleşmiş markalardan biri olan Arçelik’in inovasyon ekibiyle blok zincirine dair teknik bir görüşme gerçekleştirerek blok zinciri süreçlerini incelemektir.

1.Kavramsal Çerçeve

1.1.Blok Zinciri

Günümüzde birçok kişi Bitcoin ile blok zincirini aynı şey olarak görmektedir. Bu nedenle öncelikle Bitcoin ve blok zinciri ayrımını ifade etmek yerinde olur. Blok zinciri teknolojisi, ilk olarak 2008 yılında Satoshi Nakamoto'nun Bitcoin teknik incelemesini yayınlamasıyla duyulmuştur. Bitcoin madenciliği yapılabilen ilk blok ise 2009 yılında Nakamoto tarafından yaratılmıştır. Blok zinciri özünde, çeşitli kayıtların sıralı bir listesini içeren ve özel olarak şifrelenen veri bloklarının kronolojik olarak sıralanmasıyla oluşan merkeziyetsiz ve dağıtık bir veri tabanıdır (Xia, ve diğerleri, 2017; Zhang ve Chen, 2020). Geleneksel olan merkezi sistemde, veriler tek bir yerde toplanmakta ve saklanmaktayken Blok zinciri verileri tek bir yerde tutmamaktadır. Böylece daha hızlı ve daha kısa süre içerisinde farklı merkezleri kopyalama ve depolama imkânına erişilmektedir. İki düğüm arasındaki işlemlerin üçüncü bir taraftan kimlik doğrulaması olmadan kalıcı bir şekilde kaydedildiği, merkezi olmayan bu sistemde süreç, son derece verimlidir ve işlemlerin maliyetini yüzde1'in altına düşürmektedir (Litvinenko ve Aboltins, 2017; Fernández-Caramés ve Fraga-Lamas, 2018). Ayrıca bu sistem, mevcut sistemlere kıyasla çok daha fazla veriyi depolamaya olanak vermektedir. Blok zinciri teknolojisinde veriler bloklarda tutulmaktadır ve bir blok kapasitesi dolarsa yeni blok bir önceki bloka bağlanarak bir zincir yapısı oluşur. Zincirdeki blok sayısı arttıkça, blok zinciri daha güvenilir ve güvenli hale gelir (Litvinenko ve Aboltins, 2017). Sistem, bu yolla, verilerin birçok bilgisayara yayılmasını mümkün kılar. Böylece bilgiler çeşitli sistemler içinde saklanabilir ve kopyalanabilme imkânı verir. Buna da “dağıtık kayıt defteri” adı verilmiştir. Bitcoin ise, blok zincirinde yer alan sanal para birimlerinden yalnızca biridir (Wanga

ve diğ., 2020). İlk dönemlerde, Bitcoin'in yüksek volatilitesi ve ülkelerin bu belirsizlik haline yönelik tutumları, Bitcoin'in gelişimini bir şekilde kısıtlamıştır, ancak Bitcoin'in altında yatan teknoloji olan blok zincirinin avantajları konuya olan ilgiyi arttırmıştır (Xu, Chen, ve Kou, 2019).

Genel olarak, blok zinciri üç ana bölümden oluşmaktadır: blok, zincir ve ağ (Wanga ve diğ., 2020); Blok, değiştirilemeyecek bir fatura listesi gibidir. Bir veri bloklara kaydedildiğinde, her düğüm bu bloktaki her şeyi sorgulayabilecektir. Blokların periyodu ve boyutu blok zincirinin türüne bağlı olarak değişecektir. Zincir, bir blok listesini bağlama işlevine sahiptir. Blok zinciri, tüm blokları birbirine bağlamak üzerine kurulmuştur. Ağ ise bir dizi bloktan meydana gelmektedir.

İzin mekanizmalarına göre üç çeşit blok zinciri bulunmaktadır. Bunlar; açık, özel ve konsorsiyum blok zincirleri olarak adlandırılır. Açık blok zincirinde herkesin ağa erişimi bulunur ve veri girişi yapabilir. Merkezi otorite gerektirmez, tamamen bağımsızdır. Bitcoin ve Ethereum gibi bilinen araçlar bu ağa örnek olarak verilebilir. Özel blok zincirinde ise bir ağa veri girebilmek veya erişebilmek için izin almak gerekmektedir. Özel blok zinciri verimliliği arttırmak ve maliyetlerin düşürülmesi için kullanılmaktadır. Konsorsiyum blok zinciri ise, açık ve özel blok zincirinin bir karışımı gibidir. Burada herkes ağa girebilir ancak verilere erişim ve mutabakata katılım izne tabidir. IBM firmasının muhasebe defterleri ile ilgili hyperledger projesi bu türe en yaygın örneklerdendir (OECD, 2021).

Blok zinciri teknolojisinde verilerin tüm kayıt defterlerinde senkronize bir biçimde bulunması gerekmektedir. Bunun için çeşitli algoritmalar kullanılır ve en yaygın iki algoritma emeğin ispatı mutabakatı (proof of work-POW) ve sahipliğin ispatı mutabakatıdır (proof of stake-POS). Emeğin ispatı mutabakatında blokla ilgili belirli kıstaslar bulunmaktadır. Örneğin, belirlenen bir aralık içerisinde olma, ve ya belirli bir diziyle başlama gibi. Sahipliğin ispatı mutabakatında ise kullanıcıların zincir içerisindeki sahip oldukları pay doğrultusunda veri geçerliliği onay yetkisine sahip olurlar (Reaume, 2022).

1.2. Blok zincir ve Genişletilmiş Pazarlama Karması

Genişletilmiş pazarlama karması bileşenleri ürün, dağıtım, tutundurma, fiyat, fiziksel kanıt, süreç ve insan kavramlarından meydana gelmektedir (Booms ve Bitner, 1981). Bu bölümde pazarlama karması elemanları blok zincir açısından incelenmektedir.

Ürün

Ürün, müşteriye sağlanan değer ve faydalardır (Dennis ve diğ., 2005). Kalite kavramı pazarlamacılar açısından önemlidir. Özellikle mal ve hizmetlerin müşteriler tarafından algılanan şeklinin mevcut ürün ve hizmet sunumuyla örtüşmesi kalitenin odağını oluşturmaktadır. Bu bağlamda belirtilen niteliklerin ve özelliklerin karşılanıyor olması gerekmektedir (Bakan ve diğ., 2009). Blok zincirinin dağınık doğası nedeniyle uçtan uca izlenebilir olması ve şeffaf bir kontrol mekanizması sunması, tüketicilerin ürünlerin kökenine, kalitesine ve özgünlüğüne dair güven veren bir denetim sağlamaktadır (Deliotte, 2018). Bir ürünün üretim sürecinde kullanılan girdiler, süreç veya iş gücü gibi tüm unsurlar bu sistem aracılığıyla öğrenilebilir olduğundan süreç şeffaflıkla yürütülebilmektedir. Örneğin, organik ürünleri tüketmeyi tercih eden bir tüketici, bir ürünün üretim sürecinde kullanılan materyalleri görebilir ve kendine en uygun ürünü seçebilir. Böylece tüketicilerin ürünün kalitesi veya üretim şartlarına dair soru işaretlerini blok zincirinin şeffaf ve güvenilir doğası sayesinde giderebilir. Carrefour blok zinciri teknolojisini süt, et ve meyve üretimini çiftlikten mağazaya kadar takip edebilmek amacıyla kullanan, bu sayede müşterilerini bilgilendirerek ürünlere karşı güvende net bir artış yakalayan bir örnektir (Brown, 2021). Migros ise ürünlerin (meyve ve sebze) tedarik süreçlerini blok zinciri teknolojisi ile izlenebilmesini sağlamaktadır (Tort, 2020).

Blok zincirindeki bilgilerin değiştirilemez olma özelliği üründe sahteciliğin önüne geçebilmede de kullanılabilir. Tüketiciler için perakendeciler bu imkânı bir uygulama ile sağlayabilirler. Louis Vuitton, Marc Jacobs ve Cristian Dior gibi lüks giyim markaların sahibi LVMH grup Microsoft ile birlikte Aura adlı bir platform geliştirmiştir. Bu platform aracılığıyla müşteriler ürünlerinin menşeyini ve orijinallik sertifikasını öğrenebilmektedir (LVMH, 2021). Arçelik ise blok zincirini geri dönüştürülmüş malzemelerin dijital ikizlerini

oluşturmak için kullanılmaktadır (Sakmar, 2022). Benzer şekilde ürünlerle ilgili bir problem oluştuğunda çok daha hızlı aksiyon alabilecek olan perakendeciler, gıdaların tazeliğini ve raf ömrünü daha iyi tahmin edebilirler. Böylece ürünlerin raf ömürlerini, teslim sürelerini ve sağlıklı ömürlerini daha iyi değerlendirebilme yetisine sahip olacaklardır (Creydt ve Fischer, 2019). Günümüzde her ne kadar yapay zeka gibi teknolojilerle perakende süreçleri dijitalleşse de blok zincirinin barındırdığı yenilikçi özellikler sebebiyle rekabet avantajı yaratacağı anlaşılmaktadır (Gerdan ve diğ., 2020).

Dağıtım

Blok zincirinin en önemli üç özelliği merkezi olmama, değişmezlik ve doğrulanabilirliktir (Nofer ve diğ., 2017). Blok zincirinin tedarik zincirine kattığı en önemli özellik ise, yarattığı şeffaf ortam sayesinde ağı tüm üyelerinin verilere aynı şekilde ulaşabilmelerine olanak sağlamasıdır (Abeyratne ve Monfared, 2016). Sevkiyat izlemenin, dağıtım süreci içinde önemli bir işleve sahip olduğu bilinmektedir. Blok zinciri yer, saat, tarih, sevkiyat işleme bilgileri, ürünün durumu gibi süreç içerisindeki her noktanın sevkiyatıyla ilgili verilerin saklamasında kullanılabilir (Xu ve diğ., 2017). Bu durumda gönderimin tam anlamıyla değerlendirilmesini gerektiren bir olayla karşılaşıldığında gerçek zamanlı bir değerlendirme yapmaya olanak tanır (Xu ve diğ., 2017). Benzer şekilde hasar gören veya kaybolan ürünlerin hızlı bir şekilde bulunmasına yardımcı olur (Aloqaily ve diğ., 2020). Geleneksel bilgi mekanizmalarının aksine, blok zinciri firmalar ve tüketiciler arasındaki bilgi asimetrisi sorununu görünürlük ve doğrulama özellikleri sayesinde çözebilen bir teknolojiye sahiptir. Bu şekilde bilgilerin bütünlüğü, şeffaflığı ve güvenliği sağlanabilmektedir. Yeni bir teknoloji olmasına rağmen birçok firma tarafından blok zinciri teknolojisi kullanılmaktadır. Örneğin, gıda kalitesini ve güvenliğini sağlamak amacıyla 2016 yılında Walmart, Çin'de satılan domuz etlerinin ve ABD'de satılan mangoların kaynağını izleyebilmek için blok zincirini kullanmaya başlamıştır (Pixelplex, 2020). FedEx ise, değeri yüksek kabul edilen kargoları izlemek için blok zincirini kullanmaya başlamıştır (Liu, Wu, ve Xu, 2019). 2020 yılında ise Mercedes-Benz, tedarik zincirinin izlenebilirliğini arttırmak amacıyla Circulor ile bir işbirliği gerçekleştirmiştir. Şirketlerin amacı karbondioksit emisyonuna ait verilerin zincir boyunca daha şeffaf bir hale getirilmesidir (Inshakova ve diğ., 2019). Literatürde ise dağıtım ve tedarik zincirine yönelik gıda (Bechtsis ve diğ., 2019), elmas gibi kıymetli taşlar (Churchill, 2018), kobalt madenciliği ve ilaç (Hastig ve Sodhi, 2019), kiralama hizmetleri (Choi ve diğ., 2019) gibi farklı sektör ve alanlara yönelik çalışmalar bulunmaktadır.

Fiyat

Pazarlama süreçleri içinde fiyat, ürünün kendi maliyetlerine ek olarak nakliye vb. faktörleri de içinde barındırmaktadır. Dijital para birimlerinin yaygınlaşması ve talebin bu yönde artması ise zaman içerisinde çok sayıda kuruluşun ödeme olarak kripto paraları kabul etmesine sebep olacaktır. Dünya çapında 46 binden fazla tüccarın, Coinbase üzerinden bitcoin kabul etmekte olduğu bilinmektedir. Airbnb CEO'su Brian Chesky yaptığı bir açıklamada, Bitcoin'i aslında bir sadakat programı olarak düşünseler de, şirketin gelişiminde üstlendiği role şaşırdıklarını belirtmiştir. Overstock.com 40 farklı şifrelemeyi kabul etmesi sebebiyle müşteri sayısını önemli ölçüde arttırmıştır ve bu sayede maliyeti etkin şekilde kullanabilme becerisi göstermiştir (Epstein, 2017)

Tutundurma ve Fiziksel Kanıt

Fiziksel kanıt kavramı tutundurma ile yakından ilişkilidir. Fiziksel kanıtlar müşteride bırakılan izlenimleri temsil etmektedir (Koçoğlu ve Demir, 2020). Blok zinciri, tutundurma süreçlerinde özellikle çevrimiçi reklamcılıkta karşılaşılan sahte reklam, gizlilik ve şeffaflık eksikliği gibi problemlere çözüm getirme vaadi vermektedir. Dünya Reklamcılar federasyonu başkanının yaptığı bir açıklamada pazarda öncü olabilecek bir reformun gelecekteki çevrimiçi reklamcılıkla sağlanabileceğini ve bunun da güvenli ve şeffaf bir şekilde olması gerektiğinin altını çizmiştir (Parssinen ve diğ., 2018).

Çevrimiçi reklamcılıkta blok zinciri uygulaması gereksinimlerini iki kategoriye ayırmak mümkündür, bunlar çevrimiçi reklamcılığa özel olan ve genel gereksinimler şeklindedir. Genel gereksinimler, blokların

değiştirilememesi, enerji verimliliği ve ölçeklendirilebilir olmasıyken, çevrimiçi reklamcılığa özel olan gereksinimler ise şeffaflık eksikliği, reklam sahtekârlığı ve gizlilik şeklindedir. Blok zincirinde, dijital içerik üreticilerinden önde gelen medya kuruluşlarına kadar geniş bir yelpazede herkes, reklam gelirleri elde edebilmektedir. İçerik üreticileri doğrudan müşteriyle mikro ödemeli bir biçimde iletişime geçebilmektedir. Örneğin, sanatçılar kendi videolarını veya şarkılarını blok zincirinde herhangi bir aracı plak şirketi olmadan satabilecektir (Blockchain Research Institute, 2017). Şirketler de iletişim ve tutundurma çabalarını blok zinciri üzerinden gerçekleştirebilir böylece maliyetleri düşürüp, performansı da ölçeklendirebilirler.

Süreç ve İnsan

Blok zinciri ile ürünün müşteriler açısından beklentileri karşılaması ve özellikle müşterilerin üründen beklentilerinin daha özellikli olduğu durumlarda örneğin organik, glutensiz vb. niş pazarlara hitap eden ürünlerde müşteri memnuniyetini ve güvenini artırıcı bir rol oynayacaktır. Bunlara ek olarak tüketicilerin ürün sunumunda, ürünün yaşam hikâyesini görebilmesi markayla olan etkileşimini ve sadakatini arttıracaktır. İnsan unsurunun çok önemli olduğu bu sistemde şirketlerin çalışanlarına eğitim verirken, müşterilerine de bilgilendirme yapmaları stratejik avantaja sahip olmaları için gerekli görünmektedir. E-ticaret'in devlerinden Amazon, şirketlere blok zinciri çözümleri sağlayabilmek amacıyla Amazon Web hizmetleri platformunu kullanmaktadır. Amazon blok zinciri hizmeti ile perakendeciler ile üçüncü taraflar arasında aracı görevi gören merkezi otoriteye ihtiyaç duymadan gerekli bilgileri şeffaf ve hızlı bir şekilde doğrulamayı ve paylaşmayı sağlayan bir sistemi sunmaktadır (Amazon, 2022).

Blok zinciri ile merkezi olmayan pazaryerleri kavramı oluşmuştur. Ürün ve hizmet alışverişini düzenlemek adına güvenilir çözümler oluşturmaya büyük yatırımlar yapan Openbazaar bunun bir örneğidir. Openbazaar para birimi olarak Bitcoin kullanılmaktadır. Openbazaar'da süreç satıcıdan alıcıya doğrudan gerçekleşmektedir ve arada ülkemizde faaliyet gösteren en bilinen örneklerden biri olan hepsiburada gibi bir aracı firma yoktur. Blok zincirinin merkezi olmayan bir veri tabanına sahip olması bilgisayar korsanlarının saldırılar düzenleyebileceği merkezi bir sunucu olasılığını ortadan kaldırmaktadır. Bu sistem P2P (peer to peer) olması sebebiyle satıcılar ve alıcılar aracılara ihtiyaç duymadan doğrudan işlem yapabilmektedir. Akıllı sözleşmelerle sağlanan şartlar ve koşullar değişmeden, her verinin tam kaydı tutulur ve bütünüyle şeffaf bir süreç yürütülmektedir.

1.3. Blok Zinciri ve Sadakat Programları

Sadakat programları, pazarlamacıların müşterilerine değer yaratmalarının ve onlarla verimli ilişki kurarak süreçlerine dâhil etmelerinin çok önemli bir yoludur (Medida, 2020). Sadakat programlarında temel itici güç, güvenlik risklerini meydana getiren müşteri verilerinin toplanmasıdır (Getsmarter, 2022). Bu programlar market puanları, havayolu milleri gibi faydaları içeren rekabet avantajı yaratan önemli programlardır. Ancak, mevcut sistemler genellikle kötüye veya yanlış kullanıma açık durumdadır. Sadakat programları uygun şekilde uygulanmadığında perakendeciler için bazı problemler doğurabilir. Müşteriler açısından, birçok tüketici (%57) ya puan almalarının çok uzun sürmesinden ya da kayıt sürecinin uzunluğundan memnun olmadıklarını belirtmektedir (Medida, 2020). Blok zinciri teknolojisi sadakat programlarıyla elde edilen verileri işlemek ve korumak için yeni yollar sunmaktadır ve mevcut sistemin sahip olduğu endişelerin bir kısmına çözüm getirmektedir. Blok zinciri teknolojisi, ödül puanlarının güvenli ve otomatik olarak kullanılmasına izin vermekle kalmaz, aynı zamanda sadakat programı işlemlerini kolayca ve şeffaf bir şekilde koruyabilir ve izleyebilirler. Bu durum ise, karmaşık sadakat sistemlerinin maliyetlerini azaltacaktır, aynı zamanda hataları ve sahtekarlığı da ortadan kaldıracaktır (Medida, 2020). Sadakat programları, bir blok zincirine programlanabilir ve belirli koşullar sağlandığında otomatik olarak tetiklenen akıllı sözleşmelerle dijital tokenları değiş tokuş ederek müşteri verilerinin korunmasını sağlayabilir. Akıllı sözleşmeler, güvenliği ve verimliliği artırmaya, süreç otomasyonu ile maliyetleri düşürür ve ödeme süreçlerinin merkezi yönetim ihtiyacını azaltmasına yardımcı olur (Getsmarter, 2022).

Blok zincir teknolojisi, perakendecilere alışveriş kuponları veya fiyat indirimleri nasıl sunacakları konusunda daha fazla olanak sağlar (Medida, 2020). MasterCard, kuponları doğrulamak için blok zinciri

teknolojisini kullanan bir sistem için patent başvurusunda bulunmuştur. Bu programla MasterCard, perakendecilere, kuponların kötüye kullanımını azaltacak, daha verimli ve yüksek oranda ama yönelik indirimler sunabilmenin bir yolunu göstermektedir. American Express sadakat ödülleri sistemini yenilerken yine blok zinciri teknolojisi ile çalışmaktadır.

1.4. Ödeme ve Sözleşmeler

Pazarlamada ödeme ve sözleşmeler işleyiş açısından büyük önem taşımaktadır. Blok zinciri teknolojisine yönelik tüm potansiyel uygulamalardan en önemlileri perakendecilerin çevrimiçi ödemeleri düzene koymalarına ve dolandırıcılığı ortadan kaldırmalarına yardımcı olma potansiyeline sahip olanlardır (Medida, 2020).

Blok zinciri ile tüketiciler kripto para birimleri kullanabilir ya da mevcut kredi ödemelerinin daha ucuz, daha hızlı onaylanmasını sağlayabilirler. B2B ödemelerde geleneksel akreditiflerin yerine blok zinciri ile, işletmeler arası ödemeler kolaylaşır, finansal kurumlar arasındaki işlem süreci basitleşip hızlandırabilirken aracılık maliyetleri ve risk azaltılabilir. Dijital reklam alanında ise tam bir veri denetim izi sağlanır. Dijital reklam alanı için gerçek zamanlı teklif verme konusunda şeffaflığı artırarak programatik reklamcılığa geçişi hızlandırır. Tüketicinin korunmasına yönelik ise, blok zinciri tüketicinin satın alımlarının dijital kayıtlarını oluşturarak, ürün garantilerini blok zinciri aracılığıyla kağıttan buluta taşır. Böylece güncel ve kolayca aktarım ve saklama sağlanır (Deloitte, 2018).

2. Arçelik İnovasyon Ekibiyle Görüşme

Çalışmada blok zinciri kavramı, teknoloji açısından öncü markalardan biri olan Arçelik'in inovasyon ekibi ile değerlendirilmiştir. Bu süreçte öne çıkan temalar ve bulguların özeti Tablo 1'de belirtilmiştir.

Tablo 1. Çalışma temaları ve bulgular

Temalar	Bulgular
Kuralları Kim Koyacak	Dijital okuryazarlık, hükümet regülasyonları, hibrit platformlar, manipülasyonlar
Uygulanabilirlik	Hibrit platformlar
Uyumluluk	Dağıtımın tek bir ağ üzerinden yapılması
Karmaşıklık	Hükümet regülasyonları, global ölçekten ziyade alt kümeler
Güven	Bilgisayar algoritmalarının tarafsızlığı
Potansiyeli ve Sınırlılıkları	Yeni iş modelleri, aracısız sistem, dijital sınırlar, hükümet regülasyonları, kullanıcı senaryoları ve deneyimi

Kuralları Kim Koyacak

Blok zinciri yapısı gereği günümüzdeki merkezi sistemden farklıdır. Merkezi sistemde kural koyucular bellidir. Ancak merkeziyetsiz sistemde kural ve denetim mekanizmasının nasıl işleyeceği henüz belirlenmemiştir. Blok zincirinin bu yönü teorik ve pratik olmak üzere iki açıdan değerlendirilmiştir. Teorik açıdan değerlendirildiğinde blok zincirindeki düğümlerin %51'ine sahip olan kişi veya kuruluş kendi kurallarını koyabilirken, pratik açıdan düğümlerin %51'e sahip olmanın maliyetinin oldukça yüksek olduğu belirtilmiştir. Hibrit platformlarda ise kontrolün kısmen platformun elinde bulunduğunu ve "... burada listelenen varlıkların telif hakları, kazançların dağıtımı, kiralama ve akıllı kontratlardaki anlaşmazlıkların çözülmesi için hangi otoritelere başvurulacağı ve yetki alanları her yeni günle beraber tekrar şekillenmekte ..." olduğu açıklanmıştır. Ayrıca, sistem içerisinde manipülasyonların etkisini gözlemlediklerini ve dijital okuryazarlığın artmasıyla birlikte yapılacak olan manipülatif hareketlerin etkisinin azalabileceğine dikkat çekmişlerdir. Hükümet regülasyonlarının blok zinciri platformlarının şekillenmesindeki öneminden bahseden Arçelik inovasyon ekibi, her ülkenin kendi kurallarını koymak istemesinin global ölçekte işlem yapılmasını sağlayan merkeziyetsiz yapıyla çelişen bir durumu ortaya çıkarttığını ifade etmiştir.

Uygulanabilirlik

Uygulanabilirlik teması, iş süreçleri içerisinde blok zincirinin nasıl uygulanabileceğini ifade etmektedir. Görüşmede uygulanabilirlik açısından yetkilendirme düzeylerine göre bir değerlendirme yapılmıştır. Açık, özel ve hibrit olmak üzere üç çeşit yetkilendirme düzeyi bulunmaktadır. Açık blok zinciri herkesin erişimine açıkken, özel blok zinciri merkeziyetsiz yapıyla tezat oluşturabilecek özelliğindedir. Özel ağlarda herkes aynı yetkiye sahip değildir ve kimlikler de anonim değildir. Hibrit çözümlerin ise hem açık hem de özel ağların özelliklerinden yararlanmaya çalıştığını belirtilirken, daha az düğüm içermesi sebebiyle açık ağlara göre daha rahat ölçeklendirilebilir olduğunu ve “... hassas veriler içeren kayıtların izinli ya da hibrit yöntemler kullanılarak iletilmesinin, güvenlik riskini minimumda tutarken, farklı kuruluşlar için kayıtların birlikte işlerliğini arttırabilir...” olduğunu ifade etmişlerdir. İnovasyon ekibi son kullanıcılar ve işletmeler için hibrit yaklaşımın uygulanabilirlik açısından daha avantajlı olduğunu belirtmiştir.

Uyumluluk

Uyumluluk teması, akıllı sözleşmeler ve sağladıkları hizmetlerin birden fazla blok zincirinde nasıl uyumlu bir şekilde çalışabileceğini ifade etmektedir. Blok zincirinde akıllı sözleşmeler ve sağladıkları hizmetlerin uyumlu çalışabilmesi için dağıtımın tek bir ağdan yapılmalıdır. Arçelik inovasyon ekibi, uyumluluk açısından dağıtımın tek bir ağdan yapılmasının önemine dikkat çekmekle birlikte işlenebilirlik açısından çıkabilecek muhtemel sorunların altını çizmiştir. Farklı ağlardaki sözleşmelerin takip edilebilirliğinin zor olduğunu ifade ederken, “...Kaynak olarak tek doğru gerektiren yapıları çoklu-zincirde kopyalamak, aynı hizmetleri referans eden farklı sahipler yaratabileceğinden kullanılabilirlik açısından zordur...” şeklinde açıklamışlardır.

Karmaşıklık

Karmaşık ticari işlemler için birden fazla genel ve özel blok zinciri platformunun teknik güçlerinin nasıl birleştirilebileceği karmaşıklık temasıyla açıklanmıştır. Karmaşık ticari işlemlerde birlikte çalışılabilirliği etkileyen en önemli faktörlerden birinin hükümet regülasyonları olduğu ifade edilmiştir. Ağların bölgelere göre kurulması yerel regülasyonları geçerli kılarken, verilerin bütünlüğü ve güvenliği de sağlanmış olduğu düşünülmektedir. “...Bu tür çözümlerin yaygınlaşması sonucu fiziksel sınırların yanında, aynı dijital bölgeleri kullanan dijital sınırlardan bahsedebiliriz. Aynı dijital sınırlarda olan düğümler ve gelecekte eklenecek düğümler için konsorsiyumun mutabık olması şartı aranır...”

Güven

Bir algoritmaya duyulan güvenin, üçüncü taraf bir hizmet sağlayıcıya duyulan güvenden ne ölçüde farklılık göstereceği güven teması altında incelenmiştir. Günümüzde merkezi otoritelerin geçerli olduğu sistemler hükümetler tarafından kabul görmektedir. Bu sistemlerde taraflar ve otoriteler bellidir. Saklanan verilerin ise kontrolü merkezi otoriteye aittir. “...Sonuç olarak saklanan veriler yine aynı otoriteler tarafından değiştirilebilir ya da silinebilir. Nihai kararın bireylerin inisiyatifine bırakıldığı sistemlerde, insan-hatası faktörü daha yüksek olacağından bilgisayar algoritmalarının tarafsızlığından faydalanabilir...” diyerek bilgisayar algoritmalarının güvenilirliğine dikkat çekmişlerdir.

Potansiyeli ve Sınırlılıkları

Blok zincirinin kimlik yönetimi ve bankacılık alanlarında kalıcı değişiklikler yaratabileceğini belirten katılımcılar, özellikle 3. Parti hizmetlerinin aradan çıkmasının yeni iş modelleri oluşturma potansiyelini belirtmişlerdir. Ancak yeni bir kavram olması ve çok hızlı popüler hale gelmesinin, bazı kullanıcıların yanlış yönlendirilmesine yol açtığını ve bu bağlamda yanlış yönlendirmelerin birçok kişinin çekimser davranmasına sebep olduğunu belirtmişlerdir. “... Bir diğer endişe uyandıran konu da fiziksel sınırların ve içinde tabii olduğumuz kanunların bu dijital dönüşüme ayak uyduramıyor olması. Devletlerin teorik olarak bu teknolojiyi tamamen engellemesinin mümkün olmaması, gelecekte bir arada var olmayı öğretecektir fakat süreç içerisinde çokça problem çözümü yapmamız gereken noktalar olacaktır...” Günümüz teknolojilerindeki gelişmelerin kullanıcı deneyimi ve tasarımında değişiklikler meydana getirdiğini belirten katılımcılar bu değişimin geliştirme süresinin uzamasına sebep olduğunu belirtmişlerdir. Gündemi düzenli olarak takip ettiklerini

belirten inovasyon ekibi “... Kripto borsasının bu denli volatil (değişken) olması, iş modeli için oluşturduğumuz hipotezlerde etkili oldu. Doğası gereği üretici merkezli bir yapıya dahil olduğumuz için kullanıcı senaryoları ve deneyimi de tasarım aşamasında fazlasıyla kafa yordığımız konulardan biriydi...” diyerek hem kullanıcıların hem de rakipleri iyi çözümleyebilmenin stratejik açıdan önemini vurgulamıştır.

Blok zincirini köklü değişiklikler getiren buharlı motorların icadı ve internet gibi teknolojilere benzeten inovasyon ekibi “...Yarattığı etki açısından ekonomiyi ve süregelen iş modellerini değiştirebilecek gücü barındırmakta. Aracılık eden hizmet sağlayıcıları olmadan, değer üreticisi ve alıcılar arasında direkt alışverişi sağlaması, maddi kaynakların aracılardan çok üreticiye kalmasına olanak verir...” diyerek yeni aracısız iş modellerinin altını çizmiştir.

SONUÇ

Blok zinciri, birçok endüstrinin işleyiş biçimini dönüştürme potansiyeline sahip bir alandır. Sahip olduğu özellikleri, verilerin, malların ve finansal varlıkların izlenebilirliğini ve şeffaflığını artırabilir, piyasaya erişimlerini kolaylaştırabilir ve işlemlerin verimliliğini artırabilir. Blok zincirinin lojistik, finans gibi pek çok sektörde olduğu gibi pazarlama alanında da önemli bir değişim yaratacağı öngörülmektedir. Türkiye’de 1950’li yıllardan günümüze kadar oldukça hızlı gelişim gösteren perakendecilik sektörü, pandeminin de etkisiyle e-perakende alanına yönelmesine ve sektörün gelişimine katkıda bulunmuştur. E-perakendenin yaygınlaşması internet tabanlı fiyatlandırma, analiz ve veri toplama yöntemlerinden daha etkili çözümler sunabilecek blok zincir gibi bir veri defterine ihtiyaç doğurmuştur. Günümüzde kullanılan e-perakende sisteminde merkeziyetçi yapısı, blok zincirin merkeziyetsiz, şeffaf ve izlenebilir olması sebebiyle pazarlamacılara hızlı hareket kabiliyeti verir. Blok zincirinde verilerin daha etkin değerlendirilebilmesi pazarlama açısından gelecek vadettirmektedir.

Araştırma bulgularında, dijital okuryazarlığın önemi, hibrit platformlar ve çözümler, güvenlik, bilgisayar algoritmalarının tarafsızlığı, aracısız yeni iş modelleri, hükümet regülasyonları ve manipülasyonlar, dijital sınırlar gibi konu başlıkları öne çıkmıştır. Ayrıca, Blok zincirinin üretici tabanlı bir yapıya sahip olması kullanıcı deneyimi ve senaryoları üzerinde çalışılmasının önemini ortaya çıkartmıştır. Ekonomiyi ve süregelen iş modellerini değiştirebilme gücünü barındırması işletmelerin bu dinamikleri düzenli olarak izlemesini gerekli kılmaktadır. Blok zincirinin en büyük sınırlılıklarından sayılabilecek hükümet düzenlemeleri, merkeziyetçi bir sistemde çalışmaktadır ancak teorik olarak blok zinciri teknolojisinin tamamen engellenmesi mümkün gözükmemektedir. Sonuçlar, işletmelerin, bireylerin dijital okuryazarlıklarının artırılmasında, aktif rol üstlenmesi gerektiğinin önemini ortaya koymaktadır. Bu bağlamda işletmelerin blok zinciri eğitimleri almaları ve müşterilerine de tanıtıcı bilgilendirmeler sunmaları yararlı olacaktır. Ayrıca, veri güvenliğinin artırılması, bilgisayar algoritmalarının tarafsızlığından faydalanılması güven unsuruna katkı sağlayacak böylece işletmelerin tercih edilmesine olanak sağlayacaktır.

Blok zinciri teknolojisinin hala gelişme aşamasında olduğunu belirtmek gerekir. Gelişmekte olan tüm yenilikler gibi farklı toplumlarda farklı gelişim hızlarıyla kabul görecektir. Blok zinciri teknolojisi, dünyanın dört bir yanındaki tüketicilerin, perakendecilerin, yasa yapıcıların güvenini kazanmaya devam ederken, teori açısından da ilgi göreceği ve önümüzdeki yıllarda blok zinciri uygulamalarına olan talebin artacağı öngörülmektedir.

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THE PROBLEM OF ENTREPRENEURSHIP OF WOMEN SELLERS OF VARIOUS PRODUCTS AT THE MZÉE MARKET AND ACCESS TO MICRO- CREDITS: CASE OF THE TUJENGE MICRO-FINANCE INSTITUTION

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ABSTRACT

The birth of an entrepreneurial approach in the developing country finds its explanation in the problem of the crisis of salaried employment and a context of great poverty; crisis in the DRC; women assume the function of head of household to meet the needs of the household in the face of an unpaid or unemployed husband; this situation motivates the idea of entrepreneurship despite the difficulties of access to financing from conventional banking institutions; lack of support services; inadequate regulations; social prejudices; heavy family responsibilities and a low level of education; they stand out to give the best of themselves; especially for this study which is interested in these women job creators who benefit from the financial support of the micro-finance institution TUJENGE

Keywords : Entrepreneurship, women, Micro-credit, Micro-finance, Tujenge

INTRODUCTION

The 21st century opened with a declaration of solidarity known as the millennium declaration; adopted in 2000 at the United Nations by heads of state and government of both developed and developing countries; this declaration led to the Millennium Development Goals (MDGs) which commit the countries of the world to redouble their efforts to tackle the lack of income; the omnipresence of hunger; sociological inequalities between men and women; to the degradation of the environment and the lack of education of health services and drinking water among the objectives pursued by this declaration; poverty reduction comes first; eradicate extreme poverty and hunger; the first target of this goal is to halve between 1990-2015; the proportion of the population whose income is less than a dollar a day; while the second seeks to halve this gender disparity in lives

With regard to inequality; the vulnerability and precariousness of the study population of the 1.3 million people living in conditions of poverty 70% are women in urban areas; 40% of the poorest households have a female head of household; while the women who evolve in the sale of various products in the city of Lubumbashi at the Mzée market affiliated with the TUJENGE microfinance institution have distinguished themselves by a spirit of business creation or self-employment for the survival of their homes; the schooling of children sometimes with unemployed or underpaid husbands; even unpaid this entrepreneurial spirit participates as development strategies for the populations who have to face the difficult economic and social situation

Entrepreneurship according to; Louis JACQUES FLION is a process by which people realize that owning their own business is a viable option or situation; these people are thinking about businesses they could start; learn about the process to follow to become an entrepreneur and embark on the creation and start-up of a business⁷⁷

But these entrepreneurial practices cover very diverse realities; beyond the status truth; the size and scope of the companies created; notable differences between male and female entrepreneurship; the women surveyed have a smaller capital base to start their business and are significantly less likely to benefit from private equity or venture capital.

During the last years ; several researchers have taken an interest in female entrepreneurship; making distinctions between men and women in terms of management motivation; business performance; training needs; access to finance; work-family balance and finally participation in business networks This research will effectively analyze the creation of businesses and their findings; reasons for differences in entrepreneurial success by gender

The particularity in this study is to assess the potential explanatory factors of the success or non-realization by women of their entrepreneurial projects and the behavior of these women affiliated to the micro-finance institution TUJENGE with regard to economic fluctuations; their degree of adaptation and compliance with the repayment cycle and see what are the positive effects of loans received in light of the current economic situation. Some tools will be offered to women to support them in creation; the needs and expectations adapted to local realities allowing women engaged in the process of creating businesses to see their project succeed and hold the cost in the face of the economic effects due to monetary fluctuations in a market economy at shower speed⁷⁸

⁷⁷ Louis Jacques FLION; Becoming an entrepreneur : from challenges to tools;

The success of women's entrepreneurial activity would maintain balance in their home and could even have a positive impact on the employability of the spouse.

Given that the non-adaptation to the economic situation and the non-respect of the repayment cycle weakens female entrepreneurship; this situation is a real problem that does not allow women business creators to conduct their business well and requires support in business creation and bank agents upstream and downstream thanks to tools that meet the needs and expectations of women entrepreneurs adapted to the local realities allowing to release a reflection on the possibilities of effective accompaniment of the women creators of companies recipients of the financial support of the institution of micro finance TUJENGE ; upstream and downstream thanks to tools answering the needs and expectations of women business creators in relation to local realities to reflect on the possibilities of effective support the problems related to women's entrepreneurship are becoming widespread in both developed and developing countries insofar as obstacles to women's self-employment have multiplied in recent years; many women suffer long periods of unemployment or have to content themselves with begging or accept mediocre and badly paid jobs and socially disadvantaged women are particularly affected; and this perpetuates the vicious circle of poverty and their social exclusion

The interest in this study is threefold; firstly, it makes it possible to identify the long-neglected and avoided issue of female entrepreneurship and their access to credit; to then propose solutions on the basis of the diagnosis made and finally to lay the foundations of a national employment policy which highlights the self-employment of women through the creation of micro-enterprises.

THE OBJECTIVE

The general objective of this study is to take stock of the complete inventory of the issue of entrepreneurship and business creation among women beneficiaries of financial support from the TUJENGE microfinance institution. Since the creation of wealth goes hand in hand with the existence of capital; access to financing and credit whose conditions meet the social and economic profile of the beneficiaries or the banking system most accessible to the category of the vulnerable population in the DRC remains microfinance; which is the provision of financial services to customers excluded by banks because they do not have sufficient guarantees to access traditional financial abuse *

Specifically, this study aims to refocus the debate on the possible advantages of women's self-employment as a valid career path on the obstacles that arise along the way on the measures and strategies on which they can rely to hold

2. MATERIALS AND METHODS

To achieve the objectives that we set ourselves within the framework of this exploratory study, we used an integrated methodology based on a qualitative approach; indicative based on the following operational steps:

Level	Operational steps	Comments
1 st	Documentary survey	Literature review related to entrepreneurship and women's microfinance; international documentation; African ; Congolese women selected for this
2nd Stage	Investigation on ground	Interview with managers politico- administrative; the area private ; multilateral partners ; organizations and associations working in this sector -visits to the MFI TUJENGE -view of the Congolese civil society on the overproblem of women 's entrepreneurship lushoise - setting up workshops Bringing together different categories of women
3 rd Stage	Analysis of data from research _	
4 th	Formulation and validation of working hypotheses	
5th	Development of scenarios Possible solutions	

The data needed to carry out this study was collected through a qualitative and indicative survey carried out between January and March 2022 among 122 women entrepreneurs affiliated with the micro-financing institution TUJENGE

After the phase of collecting female contacts on the directory with name; and other contact details; nature of entrepreneurial projects; follow-up method with the microfinance institution; the interviews were carried out with the sellers of various products at the Mzée market ; beneficiaries of financial support from TUJENGE; when reimbursing either at their place of business or at their home; these interviews could last between 30 minutes to 1 hour; according to their availability by subjecting us to their whims; among the 60 women subjected to the study; 22 have a single or widowed status and automatically act as head of household; some of them are either widowed or never had the chance to live with a potential partner; they benefit from an amount ranging from 2000 to 2500 USD with a reimbursement rate of 30%.....; 18, being married, sometimes benefit from marital assistance; benefit from an amount ranging from 1000...USD... to .1500USD..... With a reimbursement rate...30% Because meet the conditions required to be eligible for this section ; 12 or 21% of the sampled population are still young people who have decided to create their own businesses after their university secondary studies with the financial support of the micro-fiance institution TUJENGE benefit from a loan equivalent to and 13% of the survey population being at the first level only benefit from And will be able to extend their lot once they have demonstrated unfailing reimbursement; because some of those who had behaved badly with regard to reimbursement due to external factors such as: illness; the pregnancy ; loss of employment of a spouse or outright death; natural disaster ; flight ; fraud and even a fire led to the temporary suspension of the entrepreneurial project

The first part of this survey carried out was based on the concern to apprehend in a qualitative way possible the personal and family path of women business creators; we therefore centered the approach around forty

individual interviews of a semi-directive type; these interviews took place from January to March 2022 with 60 beneficiary women entrepreneurs; of the micro-financing institution TUJENGE this type of interview allowed us to have information on a series of guided questions and to offer our respondents a framework where they can express themselves freely and it is in this perspective qualitative that we can identify the communication actions carried out on the different people subjected to the study thanks to their analyzes which allowed us to better understand the different elements to be reconstituted the survey guide

40 interviews were carried out and the exploitation of data collected by the content analysis method and more specifically by thematic analysis which allows the highlighting of the social representations or judgments of the respondents; however, particular attention was paid to the diversity of the women surveyed in terms of age; the family situation (single; in a couple; widow separated from the body; with or without children) and also the nature of the entrepreneurial project or sector of activity

It is appropriate to describe the socio-demographic characteristics of the people met with regard to the population of women business creators before presenting the results.

- From a demographic point of view, we have mainly targeted women aged between 45 and 60 in a couple or single-parent situation with an average of 4 to 6 children of school age or adults.
- The women surveyed are between 25 and 65 years old if their average age of 40 is close to that of women creating production units in 2021. 2020. 2019 those under 25 are poorly represented in our study population

As far as family situation is concerned, three categories are included

RESULTS

This section aims primarily to report the results obtained in a clear manner; concise and objective in order to answer the hypothesis or research questions; this presentation was made in the most objective way possible

2 profiles of candidates for entrepreneurship

The socio-demographic situation of the respondents

No.	situation	effective	percentage
1	single	12	10%
2	married	35	29%
3	Single parent household	25	20%
4	Widowed or separated from body	50	41%
	TOTAL	122	100%

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In terms of family situation, three categories are included in our sample:

Tables on the size of women's businesses affiliated with TUJENGE bank

size of the company	effective	percentage
Small	80	65.5%
Mean	42	34.5%
Total	122	100%

Couples with children 45 WOMEN out of 60 are in a couple with children and the others are those in a single-parent situation 10 out of 60 and those who are not yet married, i.e. 8.3% of the sampled population The first part of this survey carried out was based on the concern to apprehend in a qualitative way possible the personal and family path of women business creators; we therefore centered the approach around forty individual interviews of a semi-directive type; these interviews took place from January to March 2022 with 60 beneficiary women entrepreneurs; of the micro-financing institution TUJENGE this type of interview allowed us to have information on a series of guided questions and to offer our respondents a framework where they can express themselves freely and it is in this perspective qualitative that we can identify the communication actions carried out on the different people subjected to the study thanks to their analyzes which allowed us to better understand the different elements to be reconstituted the survey guide

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Legal forms of companies

Legal forms	Workforce	Percentage
Sole proprietorships (SMEs)	62	51
Public limited companies (SA)	11	10
Limited liability company (SARL)	34	27
Economic interest group (GIE)	10	8
Other legal forms	5	4
TOTAL	122	100

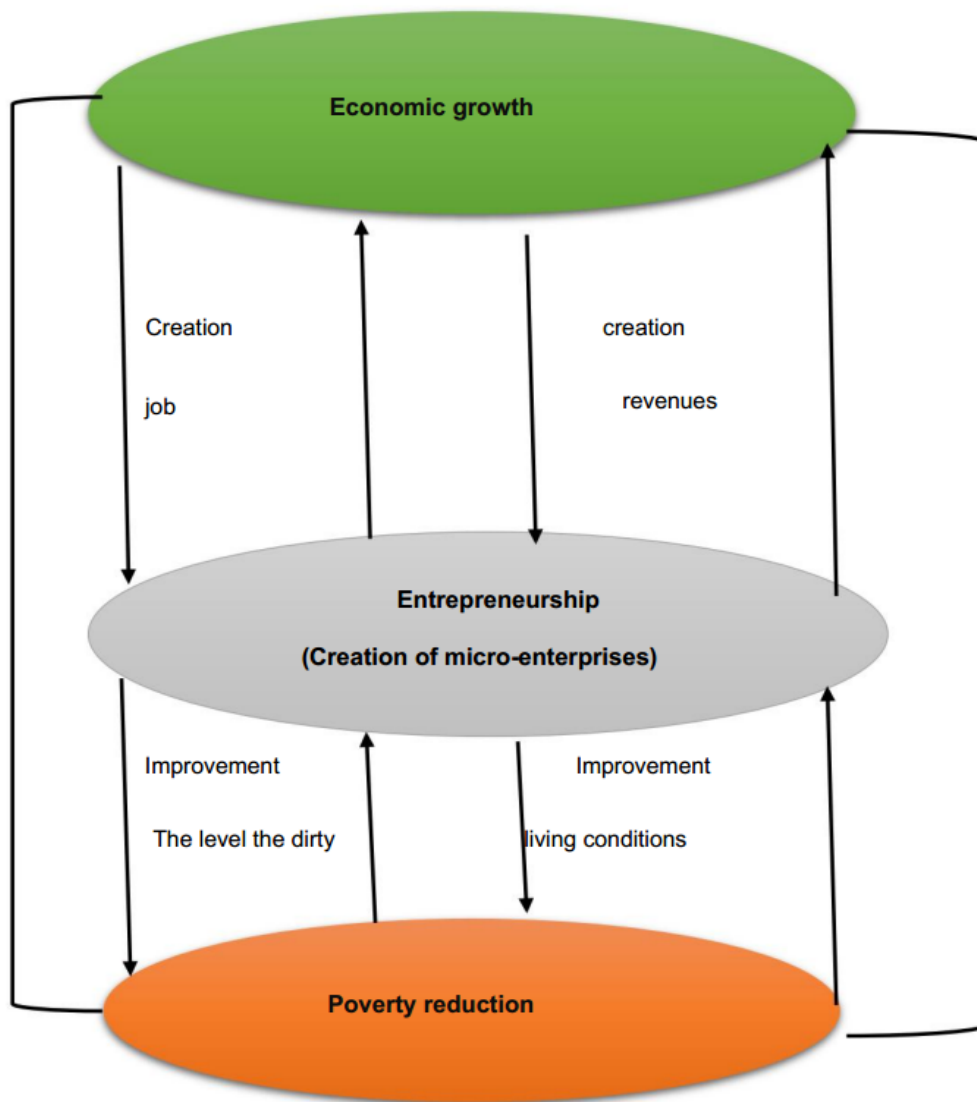
Tables presenting the socio-demographic situation of the women business creators met

Age	Number of children	Family situation	Total	Percentage
18-25	6	Single	40	33
25-32	5	Married	18	15
32-39	8	Married	8	6.5
39-46	6	widows	7	6
46-53	7	Separated from body	8	6.5
53-60	6	Divorced	11	9
60-67	6	Married	30	24
TOTAL			122	100

With regard to this table in relation to the socio-demographic situation of women creators of production units;

From the socio-professional point of view, university and state -certified women in precarious employment, the situation of women encountered with regard to employment. The reimbursement rate is 30 % for the blocked account interest on the current account amount none Link between entrepreneurship and economic growth and poverty reduction To explain the reversal of performance between developed countries and situate the role of finance requires an adequate theoretical framework. This framework is provided by endogenous growth theory (Pagano, 1993). This theory makes technical progress a special factor which is the engine of growth. The particularity of technical progress comes from the activity that produces it: scientific and technical knowledge (Aghion and Howitt, 2000).

It fosters innovation according to a Schumpeterian model: creation of new product lines through capacity investments; destruction of previous production processes by process investments that improve product quality and replace existing techniques (Villemeur , 2003). The differentiations between the developed countries within the growth regime stimulated by ICT come mainly from three characteristics: the intensity of the innovation effort, the composition of the investment between the two categories, the regulation of savings/investment balance and corporate governance. Finance acts on innovation by encouraging the search for high profitability, on the composition of investments by the level of the cost of capital, on regulation and governance by the development of financial markets.



Economic growth through private entrepreneurship promotes poverty reduction among the Congolese population; by extension, the new living conditions acquired from the fact that the population has taken charge of itself by creating its own income, in turn, make it possible to increase economic growth; the creation of new businesses and the reduction in the number or the exit of less productive businesses are fundamental to the dynamism of modern economies; new businesses attract resources to new activities and generate many new jobs when they experience prosperity and rapid growth.

PRESENTATION OF THE MIOCROFINANCE INSTITUTION TUJENGE

MFI TUJENGE; upper Katanga; Lubumbashi; Govt/ D.0333/ N° 000488 OF 04 September 2013. 64 Avenue Kasai (0995733085); created on November 23, 1983. With the encouragement of the Catholic Church; then central credit union TUJENGE had as the first field headquarters of the social center of the Kenya Zone; thus offering the surrounding population the opportunity to become a member; in January 1988. The fund grew and took the name “caisse populaire de credit TUJENGE”. CPCT In abbreviation

Its mission is to contribute to the strengthening of the economic fabric and the revitalization of the popular economy of KATANGA; by facilitating the access of disadvantaged populations excluded from the traditional banking system to financial services and setting up a professional and sustainable financial instrument

Opening an account at the TUJENGE DE Lubumbashi cooperative is within the reach of low earners; according to the testimonies with 3500 FC; the subscriber can have his notebook for each; their savings account and see the rest of the money paid into their account; reports our respondents. From then on, the new member can begin to fund his account and benefit from a credit. The way in which the cooperative works wins the confidence of several Lushois ; testifies the interviewees who are members of the IMF Tujenge ; “the guarantee is there; if you need money today; you are not delayed; you fill out the forms and the money is given; this deserves our confidence according to the people submitted to the study; For some who are still skeptical, savings cooperatives like TUJENGE do not respond favorably to their expectations and the conditions they impose go beyond their financial means; in some structures, deductions are made as withdrawal rights, apart from other required fees; it drives away customers

TUJENGE has more than 10,000 Clients of all categories; especially those who do not have access to the traditional banking system.

DISCUSSION

After having presented the data in a very clear manner; it is appropriate to interpret them in this work; the objective of this study was the issue of entrepreneurship among women sellers of various products at the Mzee market and their access to TUJENGE microfinance. It is necessary to compare the results of previous research presented . Even if we must be careful not to consider entrepreneurship or business creation by women as mass solutions capable of curing all the ills of society; it nevertheless remains for the DRC and particularly the city of Lubumbashi one of the effective short-term strategies for survival and the fight against poverty, the resulting jobs will of course be precarious; not very durable; and of inferior quality, but the multitudes of individual initiatives developed within the framework of the various sectors (sales of thrift stores; various sales, etc.) are no longer peripheral phenomena but realities that must be integrated into a new vision. of the national and local Congolese economy to create wealth and income

For LUBUNA, women's initiatives should therefore abandon social logic to adopt economic behavior that guarantees) both authorizes it in charge; the sustainability and sustainability of activities being created (2). ILO/MINTRA; Report of consultation of the employment and income creation program in the DRC.

The objective of this research is to initiate a reflection on the possibilities of effective support for women entrepreneurs who benefit from the financial support of the micro-finance institution TUJENGE. Starting from what motivated this scientific exercise related to self-employment, women in the context which is ours that of is not given the chance to women to flourish due to the multiple socio-cultural constraints and stereotypes this category of people despite their commitment to self-employment deserves to be accompanied by effective measures; because some are excluded on the basis of the conditions of ineligibility for the granting of a loan; Some are excluded from the conventional banking circuit and decide to affiliate with MFIs.

Which category of women is eligible for MFIs? Those excluded from the traditional banking circuit and not meeting the conditions required by the firms; banks and that some of them encounter many difficulties with regard to their socio-professional status; socio-demographic; and non-diversified financing services.

By improving support for women entrepreneurs benefiting from MF TUJENGE products; would consist according to our research in a financial education well because having companies the need for an equipment in term of reinforcement of capacity is essential as for the change of the statute or legal form of its company having taken dimensions more and more considerable in terms of growth for some respecting the repayment deadline and for some the broadening of their entrepreneurial skills so that these women business creators are ready to face daily realities and competitive policy (management; profit ;performance and return) the taking into account of risks and economic effects to keep the cost in an economy as unstable as that of the Democratic Republic of Congo and the laws which have been promulgated which have never improved the daily life of

the population such as the decree on youth entrepreneurship (decree N° 20/032 of October 31, 2020 on youth entrepreneurship (FOGE C: entrepreneurship guarantee fund in the Congo) without adding anything to it.

CONCLUSION

It is likely that the factors underlying female entrepreneurship in the city of Lubumbashi are the insufficient income of the spouses; self-employment or the fight against unemployment and poverty; and that these companies do not remain only for the self-sufficiency of households but take on increasingly considerable dimensions although these companies created and managed by women in Lubumbashi remain still poorly understood and my available data make it difficult to describe them more precisely and to generalize the results both on the number and on the profile of business creations or even their typology and the loan received from the bank or MFI TUJENGE which is their main source of financing provides a balance in terms of the functionality and growth of these production units. The scientific world being evolving and dynamic; we are happy to have started a study related to the creation of employment among women affiliated with microfinance without the slightest intention of having exhausted the material and leave the latitude to subsequent research to find and fill in the gaps and shortcomings observed.

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RECYCLING FOUNDRY WASTE INTO MASONRY BRICKS

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ABSTRACT

Recycling foundry waste into masonry bricks is a project that aimed to produce high mechanical compressive properties and to reduce the cost of the production of the building bricks. Nowadays, foundry waste of CO₂ sand is abundant because after used the foundry waste CO₂ sand, the factory or the others party will just throw away them into the disposal site. In addition, the use of foundry waste CO₂ sand can help to reduce the cost of production of building bricks and utilize residual waste aware garbage, most of is highly regard by some. With the success of this project, foundry waste CO₂ sand can be used to produce a composition of a new brick ornaments.

Keywords : Recycling; Foundry Waste, Sand, Bricks

INTRODUCTION

Solid waste management has become one of the global environmental issues, as there is continuous increase in industrial by-products and waste materials (Collins & Ciesielski, 1994). Utilizing trash and by-products has emerged as a desirable disposal option due to a scarcity of land filling space and its rising cost. One such industrial by-product that can be used in a variety of purposes, including the production of building materials, is waste foundry sand. The advantageous use of these by-products in building materials lowers the cost of the raw materials and aids in solving the disposal issue. Foundry waste consists of many products such as used-foundry sand, slag, ash, refractory, coagulant, baghouse dust, pattern shop waste, and debris (Basar & Aksoy, 2012). The leachate obtained from the CO₂ foundry waste sand contains hazardous compound that effects the environment. So, it is important to know the characteristics of leachate obtained from waste foundry sand.

Foundry sand is the one of foundry waste. Malaysia is using foundry to manufacturing sector because it very simple to use and cheaper than the others way in making product. The foundry sand was disposed by

incineration process and directly contributing to the environmental pollution. In this research, the purpose is to change the waste foundry sand with the original sand to make a cement brick. From that, it can help Malaysia to decrease the discharge of the waste. Current use of cement brick in the growing economic situation got more request from many companies in development. The production of cement brick by industry also increased based on increasing the usage of cement brick. Addition in waste of foundry sand can reduce the absorption and porosity in structure.

The purpose we make this research on brick is to reduce environment foundry waste pollution on CO₂ sand, and to investigate the mechanical performance of bending compressive strength and water absorption towards foundry waste green masonry bricks. The first step in this project is to prepare the waste sand. Next, the moulding process will be used. Bricks should have standard characteristics if they are to be used in construction. The standard imperial size for brick is 210 mm long x 100 mm wide x 65 mm height with a mass of 2.8 kg per piece according to ISO 9001:2008 of SIRIM. The last process is drying and firing. The project can be completed using these 4 processes. Once the masonry bricks are produced, the project will study on the mechanical performance of foundry waste green masonry bricks reinforced composite.

This project was completed according to the process flow under Section Methodology. Among the objectives of this project are:

- (i) To produce composite from foundry waste with Portland cement;
- (ii) To determine the mechanical performance of foundry waste green masonry bricks reinforced composite;
- (iii) To study the optimum compression of foundry waste through differences compositions between silica sand, foundry waste and Portland cement; and
- (iv) To study the compressive, flexure strength and water absorption of difference composition of foundry waste green masonry bricks.

LITERATURE REVIEW

Foundry waste green masonry bricks industry is one of the sectors that can be developed commercially in several tropical countries located especially in Malaysia. Both of our neighbouring countries, such as Thailand and Indonesia, has been producing the foundry waste for quite a long time with Indonesia has the dominant world share. Clay brick is frequently utilised in Malaysia's construction sector. Small, rectangular clay blocks that have been baked are known as bricks. The composition of the clay used to make bricks varies from place to place. Bricks are used for a variety of purposes, including construction, paving, floor construction, and aesthetic purposes (Borchelt, Danforth, & Hunsicker, 2006).

Classification Specification of Bricks

Based on their characteristics after manufacture, bricks fall into a specific classification. Although most bricks can be produced to have all the needed properties, some properties may be constrained by the production process, durability rating, or appearance classification chosen by the user (ASTM C185-15a, 2021). There are several classifications used in each standard. Grade, class, kind, application, and use are a few examples of classifications. These categories can be made based on a variety of factors, such as exposure or use conditions, appearance-related items, performance-related physical qualities, dimension, and distortion tolerances, chippage, and void area.

Table 1: Classifications Specification of Brick

	Classification			
	Durability	Appearance	Void Area	Use
ASTM Specification				
C 62 Building Brick	Grade	None	None	None
C 216 Facing Brick	Grade	Type	None	None
C 652 Hollow Brick	Grade	Type	None	None
C 1088 Thin Veneer Brick	Grade	Type	None	None
C 902 Pedestrian and Light Traffic Paving Brick	Class and Type	Application	None	Type
C 1272 Heavy Vehicular Paving Brick	Type	Application	None	Type
C 126 Ceramic Glazed Facing Brick	None	Grade and Type	None	None
C 1405 Single Fired Glazed Brick	Class	Grade and Type	Division	None
CSA (Canadian Standards Association) Specification				
A82 Fired Masonry Brick Made from Clay or Shale	Grade	Type	None1	None

Foundry Waste

In order to create moulds for ferrous (iron and steel) and nonferrous (copper, aluminium, and brass) metal castings, foundry sand is largely composed of clean, consistently sized, high-quality silica sand or lake sand. Despite being clean before usage, some sands may contain contaminants after casting. Approximately 95% of the foundry sand used for castings comes from the ferrous (iron and steel) industries. The main producers of foundry sand are the automotive sector and the companies that supply its components.

The sand-casting technology is the most widely utilised casting method in the foundry sector. Majority of sand cast moulds used for ferrous castings are made of green sand. Green sand consists of high-quality silica sand, about 10 percent bentonite clay (as the binder), 2 to 5 percent water and about 5 percent sea coal (a carbonaceous mould additive to improve casting finish). What additives and sand grade are used depends on the type of metal being cast. Upwards of 90% of the moulding materials utilised in the process are made of green sand (American Foundrymen's Society, 1991).

METHODOLOGY

The process of making foundry waste green masonry bricks is by using silica sand, foundry waste (CO2 sand), Portland cement and water by mixing the material and letting it dry for a few days according to the test age. The average grain size for silica sand and foundry waste (CO2 sand) was calculated (ISO R565). Foundry waste green masonry bricks are specified for building brick. So, the mechanical testing equivalent to the ASTM C 62 is the compressive and flexural tests. In addition, the sample will undergo rate absorption of water for the mixing procedures field.



Figure 1: Sieve analysis of sand



(a) (b) (c) (d)

Figure 2: Testing process (a) Compression test, (b) Flexural test, (c) Water absorption test, and (d) Density test

This project was completed according to the design process flow shown in Figure 1.

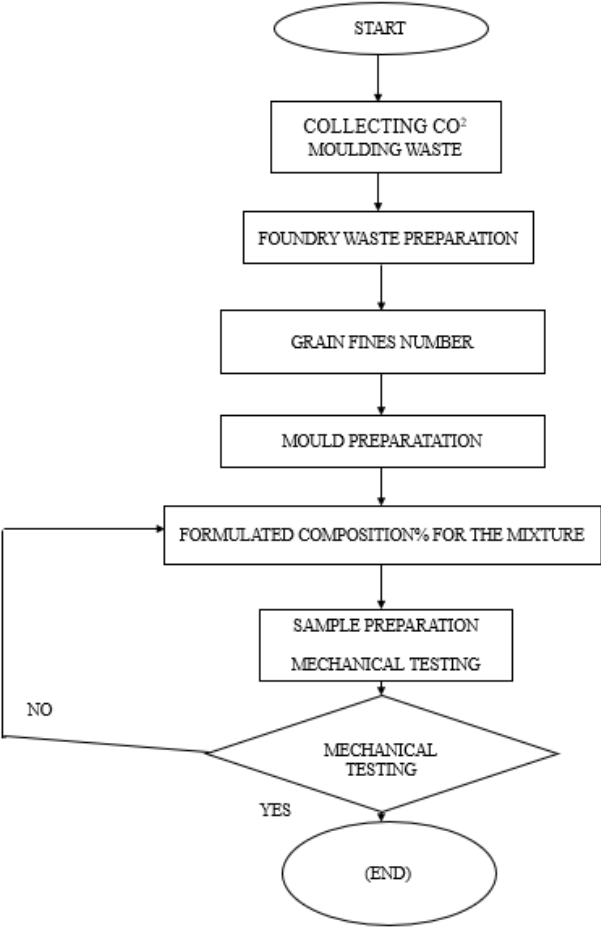


Figure 3: Design process flow

This finalized prototype was completed according to the different views as shown in Figure 2:-



Figure 4: Sample of Masonry bricks

Mechanical testing consists of: -

Table 2: Mechanical Testing

Test	Purpose
Compressive	The static compressive strength characteristics of materials, goods, and components are evaluated using compression tests, which are widely used for this purpose. The ultimate compression strength, yield strength, deflection, and modulus are all properties that our compression test equipment measures.
Flexure	A flexure test is most frequently used to assess flexural strength and modulus. The highest stress at the outermost fibre on either the compression side or the tension side of the specimen is what is referred to as flexural strength. The slope of the stress vs. strain deflection curve serves as the basis for calculating the flexural modulus. These two numbers can be used to assess the sample material's resistance to bending or flexure forces.
Water Absorption	The cold-water absorption test is used to determine how much water a brick can hold. Water absorption and the watertightness of walls do not directly correlate. The brick producer uses the results of water absorption testing to ensure quality. To ascertain its weight, the specimen is cooled to room temperature. Immerse the fully dry specimen in clean water for 24 hours at a temperature of 27+2°C. After removing the specimen from the water and wiping off any remaining water with a wet cloth, weigh the specimen.
Density	A fundamental characteristic of matter known as density is the mass of an object per unit volume. The object with higher density will weigh more than the similarly shaped object with lower density if two objects have the same volume but different densities. Knowing an object's density can be a useful tool for figuring out the composition of a sample of unknown material.

FINDINGS AND DISCUSSIONS

Result of Average Grain Size

From the ISO metric sieving analysis of sand silica sand and foundry waste (CO₂ sand), the average grain size were obtained from the Sieve Shaker (OCTAGON 2000 DIGITAL). The average grain size for foundry waste grain was 176.76 µm while the average saiz number for silica sand grain was 410.67 µm.

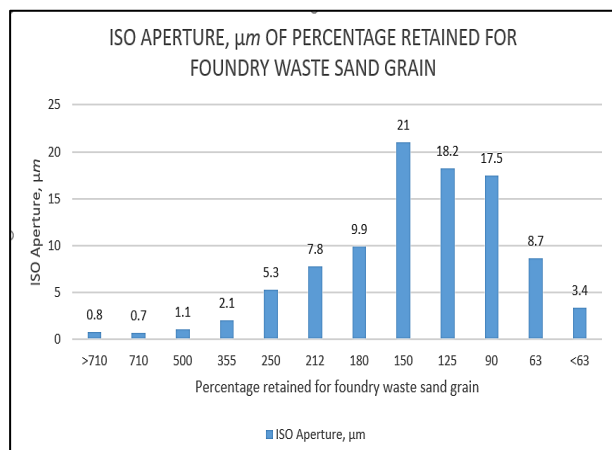


Figure 5: Percentage retained for foundry waste sand grain

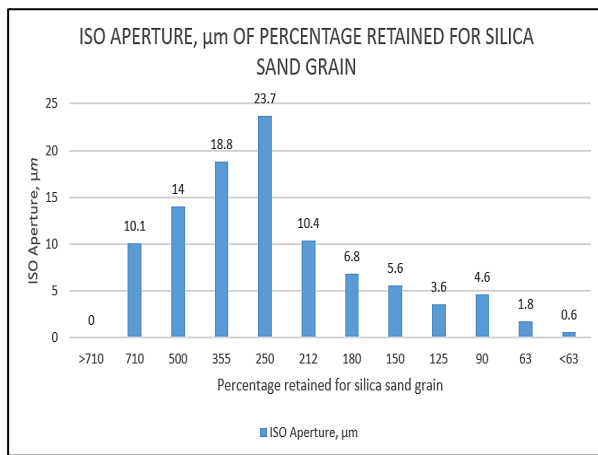


Figure 6: Percentage retained for silica sand grain

Result of Compression Test

From the compression testing, several data were achieved from the Computer Control Electronic Universal Testing Machine (UE34100).

Table 3: Max Load and Max Stress of the Samples

No	Samples Percentage	Max. Load, KN	Max. Stress, MPa
1	10% foundry waste, 30% silica sand	5.635	3
		22.81	12
		22.75	12
2	20% foundry waste, 20% silica sand	19.33	10
		21.17	11
		17.46	9
3	30% foundry waste, 10% silica sand	18.04	9
		14.88	8
		15.51	8
4	40% foundry waste, 0% silica sand	1.350	1
		10.53	5
		10.52	4
5	0% foundry waste, 40% silica sand	24.07	12
		16.41	8
		22.31	11

Table 4: Average Max Load and Average Max Stress

No	Samples Percentage	Average Max. Load, KN	Average Stress, MPa	Max.
1	10% foundry waste, 30% silica sand	17.065	9	
2	20% foundry waste, 20% silica sand	19.32	10	
3	30% foundry waste, 10% silica sand	16.14	8.33	
4	40% foundry waste, 0% silica sand	7.47	3.33	
5	0% foundry waste, 40% silica sand	20.93	10.33	

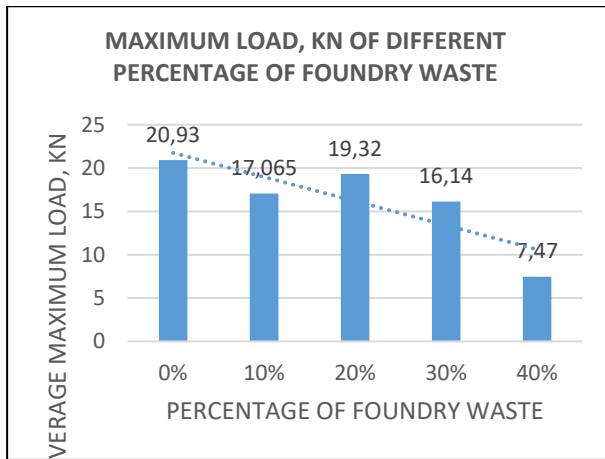


Figure 7: Max load versus different percentage of foundry waste

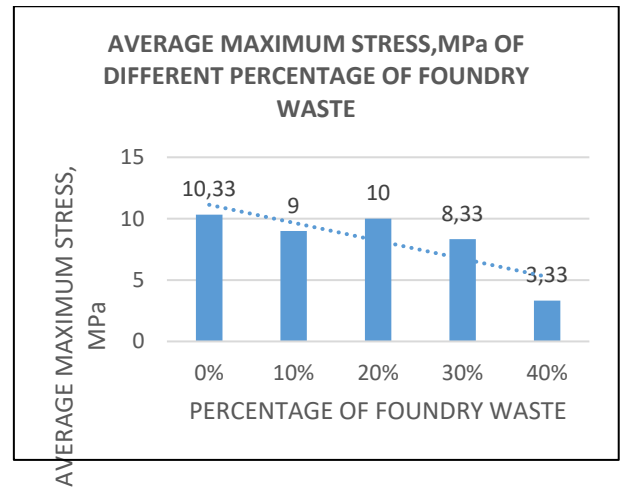


Figure 8: Average Max Stress versus different percentage of foundry waste

Result Rate of Absorption Water

Table 5: Rate of Absorption Water

No	Samples percentage	Weight before, g	Weight after, g	% Water absorbed	Average % water absorbed
1	10% foundry waste, 30% silica sand	220	233	5.91	6.58
		205	219	6.83	
		214	229	7.01	
2	20% foundry waste, 20% silica sand	198	213	7.58	7.66
		197	212	7.61	
		205	221	7.80	
3	30% foundry waste, 10% silica sand	193	206	6.74	7.03
		191	205	7.33	
		185	198	7.03	
4	40% foundry waste, 0% silica sand	175	187	6.86	7.52
		166	179	7.83	
		165	178	7.88	
5	0% foundry waste, 40% silica sand	230	236	2.61	3.64
		230	237	3.04	
		228	240	5.26	

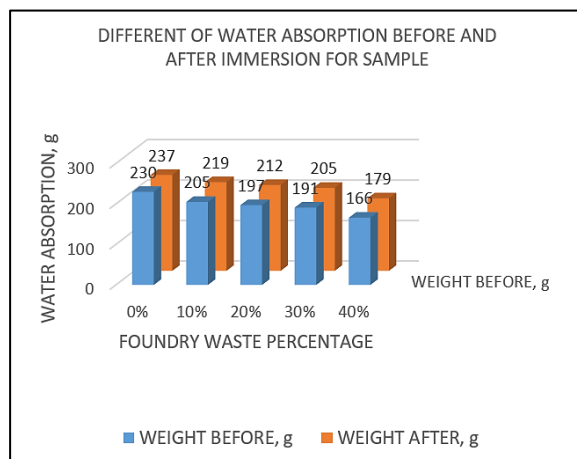


Figure 9: Different of water absorption before and after immersion for sample

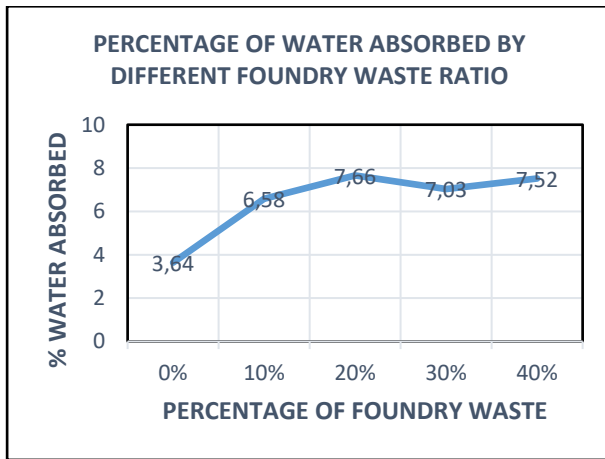


Figure 10: Percentage of water absorbed by different foundry waste ratio

Result of Flexural Bend Test

Table 6: Result of flexural bend test

No	Samples percentage	Maximum Load, KN	Maximum Stress, MPa
1	10% foundry waste, 30% silica sand	9.310	1.099
2	20% foundry waste, 20% silica sand	7.850	0.926
3	30% foundry waste, 10% silica sand	7.325	0.864
4	40% foundry waste, 0% silica sand	1.035	0.554
5	0% foundry waste, 40% silica sand	11.23	1.326

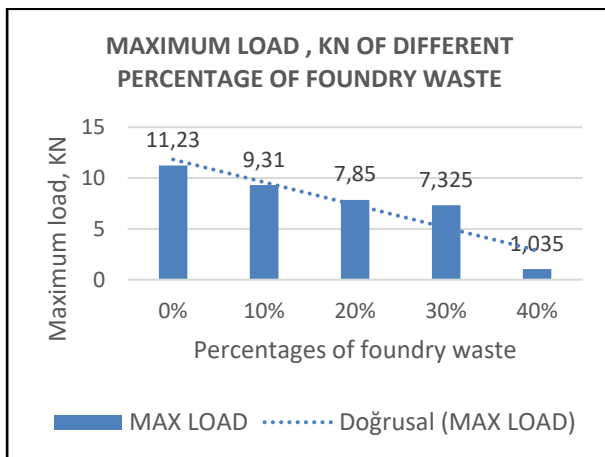


Figure 11: Data maximum load

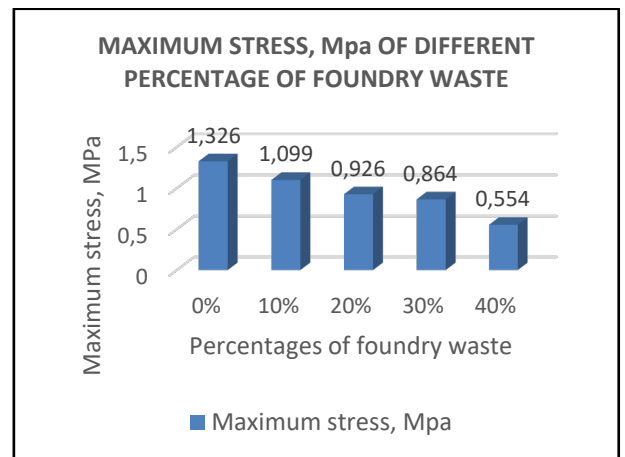


Figure 12: Data Maximum Stress

Result of Density Test

Table 7: Result density test

No	Samples percentage	Mass of samples, g	Volume of samples, ml	Density of sample, g/ml
1	10% foundry waste, 30% silica sand	4561	2200	2.0732
2	20% foundry waste, 20% silica sand	4671	2000	2.3355
3	30% foundry waste, 10% silica sand	4620	2080	2.2212
4	40% foundry waste, 0% silica sand	4548	2200	2.0673
5	0% foundry waste, 40% silica sand	4637	2100	2.2081

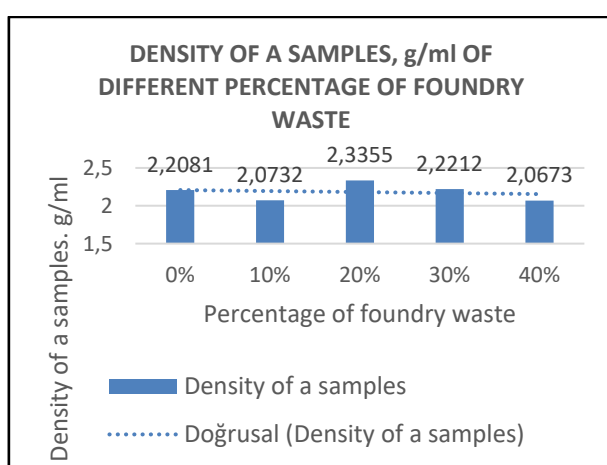


Figure 13: Data density test

From the test that was being undergo that is compressive test and water absorption test, the highest average max load and highest average max stress is the percentage 20% foundry waste and 20% silica sand that is 19.32 KN for the average max load and 10 MPa for the average max stress. 0% foundry waste and 40% silica sand were the actual specimen for the ordinary cement brick, so we can conclude that 20% foundry waste and 20% silica sand has slightly same max load and max stress, but the 'Foundry Waste Green Masonry Brick' was cheaper and have longer elastic range compared to ordinary cement. For the water absorption rate, all the specimens of our project can be considered good quality brick because all the percentage of the specimens was below 20% for the weight of the specimens after being immersed in the fresh water. From the flexural bend test, the result for the maximum load for foundry waste was highest at 10% foundry waste that is 9.310 KN while the maximum stress for the specimens was kept the same that is 1 MPa except for 40% foundry waste that has 0.553 MPa maximum stress. For the density test, the denser sample among all is 20% foundry waste that is 2.3355 g/ml while the minimum dense is 40% foundry waste that is 2.0673. Next, the average finess for foundry waste grain was 176.76 μm while for the highest grain number for foundry waste was 150 μm and for the average fineness number for silica sand grain was 410.67 μm and the highest grain number for silica sand was 250 μm . Lastly, chemical presence test indicated that foundry waste green masonry brick appeared to have chemical presence in it compared to ordinary cement brick.

CONCLUSION

The success of this project is to make sure that all objective and scope that required that had been plan and had been stated at the past chapter was successfully achieved. After undergoing several stage and problem to produce or to make new type building brick, at last the best optimum ratio or percentage was achieved that is 20% foundry waste and 20% silica sand will give result of 19.32 KN of average max load and 10 MPa average max stress. 'Foundry Waste Green Masonry Brick' cover the theme that had been chosen that is green technology, where the product use CO₂ casting sand process waste to make the building brick.

The material that been use is use CO₂ casting sand process waste, cement, silica sand and water that had been separated into several ratio or percentage to build optimum grade of building brick, but the ordinary cement brick has slightly more max load and max stress compared to the 'Foundry Waste Green Masonry Brick'. The deficiency of 'Foundry Waste Green Masonry Brick' is it absorbed more water that is 7.66% of water compared to the ordinary cement brick that is 3.64% of water but still the grade product or the new type of the building brick still can be accepted and still can be considered as good quality building brick because the percentage of 'Foundry Waste Green Masonry Brick' still below 20% that is the marking level of the rate water absorption test.

The flexural strength for composition 20% foundry waste and 20% silica sand was moderately differ from the ordinary cement brick that is from 11.23 KN to 7.85 KN but still it can be used for small to medium size building or architecture construction because it moderates mechanical strength and its maximum stress that same level as the ordinary cement brick. To be used inside house or other building the Foundry Waste Green Masonry Brick must not be in coating condition with another coating material such as plaster coating to prevent the user being affected by the chemical substance inside the brick itself.

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EVALUATION OF THE SUCCESS OF PLANTING TREES IN THE ROWS OF TREES INSTALLED IN THE KATAPULA TAILING

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ABSTRACT

Assisted phytostabilization using trees and organic amendments has been installed on soil polluted with heavy metals in the Katapula sedimentation basin in Kipushi there at 16 years old. The objective of this work was to evaluate the success of tree planting in the corridors of trees installed in the tailing of Katapula 16 years after installation. The method of Braun Blanquet was used to assess the recovery (expressed in relative abundance). Floristic identification was carried out using 12m² quadrats delimited by the strings in which all the species present have been listed, after identification a determination of the relative abundances of the species with Excel was made. the result obtained shows a total of 31 species identified in the corridors of the entire device. *C. trygina*, *I. cylindrica*, *M. altera*, *B. pseudoperennis*, *L. leucocephala*, *T. diversifolia*, have been the most abundant with respectively 33.2%; 26.1%; 9.5%; 6.1%; 5.9%. The least species abundant was *O. semiloba* with 0.03%. Depending on the biological forms of the species, 3 groups stood out: woody species, perennial species and annuals.

Keywords : Phytostabilization, Braun blanquet, relative abundance, floristic identification.

INTRODUCTION

Metallic trace elements (TMEs) and the dangers they present constitute a considerable concern that they are released into the environment, they are considered as contaminants and the most frequent are: cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), zinc (Zn). Their accumulations of ETM in the different compartments in the environment and in the organism cause disturbances following to their toxicity (Prasad, 2008). Each source of contamination has its own adverse effects on plants, animals and ultimately on human health, but those that add metals heavy soils and waters are of great concern because of their persistence in the environment and their disturbance on human health. (Garbisu and Alkorta , 2001; Gisbert et al., 2003).

The former Katanga was one of the provinces that contributed a lot to the economic sector of the Democratic Republic of Congo because of its areas rich in mineral deposits such as : copper, cobalt, zinc, manganese which were the main metals exploited in the province, whose capital was Lubumbashi, also called "copper capital". (Kampunzu and Cailteux , 1999; Okitaudji , 2001). Mining activities are the basis of many harmful impacts on the region where they are located. If no remedial measures are put in place, these impacts can be the basis for the disappearance of vegetation due to the high concentration of heavy metals in the soil and acid rain (Shutcha , 2010).

Indeed, given that the pollution of these different sites is a danger for the population living in the vicinity of the latter and that the accumulation of metallic trace elements in the soil can have an impact on plant production and the risk of severe contamination that heavy metals can cause on the health of the population (Mpundu et al. , 2013), different soil remediation strategies have been developed (Zhejiang, 2008), the most recent of which is phytoremediation which is a method put in place to develop techniques that are less costly and compatible with environmental standards by using higher plants, algae or fungi to contain or extract metallic trace elements, radioelements or organic pollutants present in the ground or in the water resulting from human activities (Isabelle, 2010; Marchand, 2012).

Phytostabilization seems appropriate for the management of large surfaces contaminated by ETM. Indeed, it is based on the use of plants capable of limiting the transfer of pollutants to the aerial parts of plants, thereby limiting transfers to the food chains. (Robinson et al., 2006). Therefore , this work aims to assess the success of planting trees in the rows of trees installed in the tailing of Katapula 16 years after installation, through:

- the natural colonization of herbaceous and woody species (the richness and abundance species) in the rows of trees;
- regeneration of established tree species;
- and identify herbaceous and woody species with high potential for phytostabilization .

1. Medium, materials and methods

1.1 Middle

Located 30 km west of the city of Lubumbashi, the city of Kipushi ($11^{\circ} 46' 27.1''$ N and $27^{\circ} 16' 21.6''$ E with an altitude of 1351 m) (Kaniki , 2008) Treatment by flotation, carried out by the former Kipushi concentrator (ACK), gave enormous quantities of rejects which reached from the 1980s, 3,000 to 3,400 t/d for 4,000 t /d of supplied ores. The surface storage of these flotation rejects dates back to the 1960s, long after the commissioning of the concentrator. These rejects therefore led to the creation of artificial basins by the construction of earthen dykes in the valley of the Kipushi River for the retention of solid particles after decantation. Thus, two basins were completely filled with discharges (tailings) (Kitobo et al ., 2007; Kaniki , 2008; Kitobo , 2009). residential places, its size and the danger it represents for public health, one of these two tailings parks (Katapul tailing a or Changalae , photo 1) was targeted in the tree planting programme. This tailing covers about 146 hectares, but the area covered with trees is only 1.4 hectares. The plantation of trees composed of different species was installed in 2005 in planting holes 2 m in diameter and 1 m deep filled with organic amendments from urban waste.

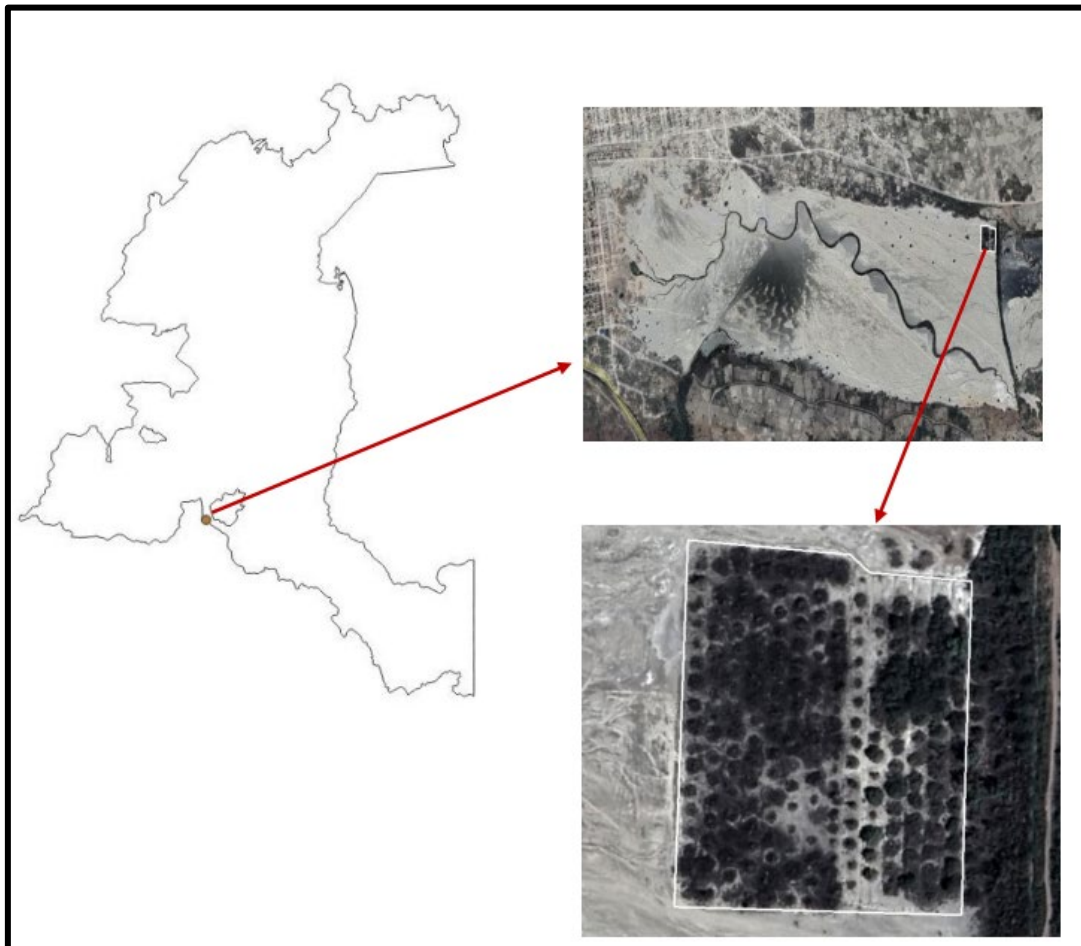


Figure 1. Tailing of Katapula or Changalae

1.2 Materials and Methods

Floristic identification was carried out using 4m quadrats x 3 m delimited by the strings in which all the species present are listed (photo 2)



Figure 2. Floristic identification was carried out using 4m x 3m quadrats

The floristic survey must take into account all the species present in the quadrat, which can pose some difficulties with regard to their identification in terms of systematic. This is particularly the case when not all species are in flower at the time of the survey. It is also important to note that the identification is only representative of the period in which it is carried out, the timing of flowering being different for many species. The method used is based on the use of the Braun Blanquet scale, which plans to assign an index from 1 to 5 (Table 1). These surveys represent the basis of the statistical definition of plant associations, which is based on the estimation, for each of the taxa in the survey, of various parameters such as abundance and dominance. Although the surveys should in principle concern the entire plant kingdom, most of them concern only higher seed-producing plants (Spermaphytes) (Gillet et al., 1991; Lahondère, 1997).

Table 1. Recovery of plant species according to the Braun-Blanquet method

Cash recovery	Abundance coefficient
<i>Over 75%</i>	<i>5</i>
<i>Between 50% and 75%</i>	<i>4</i>
<i>Between 25% and 50%</i>	<i>3</i>
<i>Between 5% and 25%</i>	<i>2</i>
<i>Less than 5%</i>	<i>1</i>
<i>rare species</i>	<i>r</i>

All the floristic survey data were entered in the Excel spreadsheet where the relative abundance calculation by the formula, the specific richness and the regeneration of woody plants were taken.

$$A_r(\%) = \frac{\text{la somme des especes } X}{\sum \text{de toutes les sommes des especes}} \times 100$$

With: A_r the relative abundance.

3 Results

3.1. Relative abundance of species in the tree planting corridor

It was listed more than 32 spontaneous species during our study whose most predominant relative abundance is those of *Celosia trigyna* with 33.24%, *Imperata cylindrical* with 26.14%, *Microchloa change* with 9.47%, *Bulbostylis pseudoperennis* with 6.86%, *Leucaena leucocephala* with 6.07%, *Tithonia diversifolia* with 5.91%, *arthraxon hispidus* with 2.86% and the rest of the species had a relative abundance of less than 2%. Table 2 gives the list of spontaneous species and their relative abundances.

tree corridor (29 quadrats, quadrat area: 12m²)

No.	Spontaneous species	Recovery amount	Relative abundance (%)
1	<i>Celosia trigyna</i>	1221	33.24
2	<i>Imperata cylindrical</i>	960	26.14
3	<i>Microchloa change</i>	348	9.47
4	<i>Bulbostyles pseudoperennial</i>	252	6.86
5	<i>Leucaena leucocephala</i>	223	6.07
6	<i>Tithonia diversifolia</i>	217	5.91
7	<i>Arthraxon ugly</i>	105	2.86
8	<i>The greatest panic</i>	64	1.74
9	<i>Bidens oligoflora</i>	61	1.66
10	<i>Myrtifolia oak</i>	38	1.03
11	<i>Cynodon typist</i>	24	0.65
12	<i>Ipomea cairica</i>	21	0.57
13	<i>Albizia Lebbeck</i>	18	0.49
14	<i>Glycine wightii</i>	18	0.49
15	<i>Hyparrhenia red</i>	16	0.44
16	<i>Commeline zigzag</i>	15	0.41
17	<i>Phragmites australis</i>	15	0.41
18	<i>Cypress sp</i>	13	0.35
19	<i>Lantana chamber</i>	10	0.27
20	<i>Amazing jalapa</i>	4	0.11
21	<i>Triumfetta sp</i>	4	0.11
22	<i>The highlight urticifolia</i>	3	0.08
23	<i>Crotalaria sp</i>	3	0.08
24	<i>Digital sp</i>	3	0.08
25	<i>Phyllantus muellerianus</i>	3	0.08
26	<i>Psidium guava</i>	3	0.08
27	<i>Unknown 2</i>	3	0.08
28	<i>Anona senegalensis</i>	1	0.03
29	<i>Oxalis semiloba</i>	1	0.03
30	<i>Poaceae 1</i>	1	0.03
31	<i>Unknown 1</i>	1	0.03

3.2. Relative abundance of species according to their category or biological form

According to their category (or biological form) we found 3 types of species namely:

- Woody species

- Perennial species
- Annual species

3.2.1. Woody species in corridors

The woody species found in the corridors during the inventories were 6 in total, including *L. leucocephala* with an abundance of 77.9%, *Q. myrtifolia* with 13.3%, *A. lebbeck* with 6.3% and the rest had a relative abundance of less than 1.5%. Among the six woody species found, *A. senegalensis* was the least abundant (0.35%). The pie chart (Figure 3) summarizes the abundance of each woody species in the corridors or rows of trees.

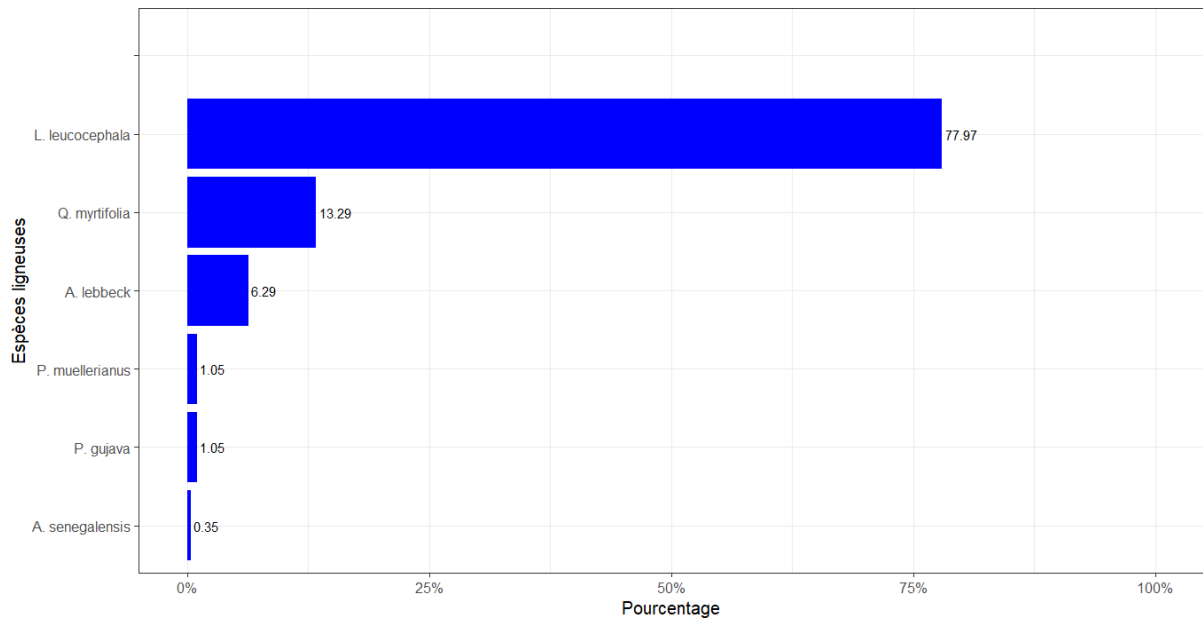


Figure 3. Distributions of woody species (29 quadrats and the total area of a quadrat: 12 m²)

3.2.2. Perennials in hallways

Eleven perennial species were found during the inventories *I. cylindrica* was the most abundant with 57.1% followed by *M. altera* (20.7%) and *T. diversifolia* (12.9%). *Digitaria sp* and *C. urticifolia* were the least abundant with a relative abundance of 0.18%. Figure 4 summarizes the abundance of each species.

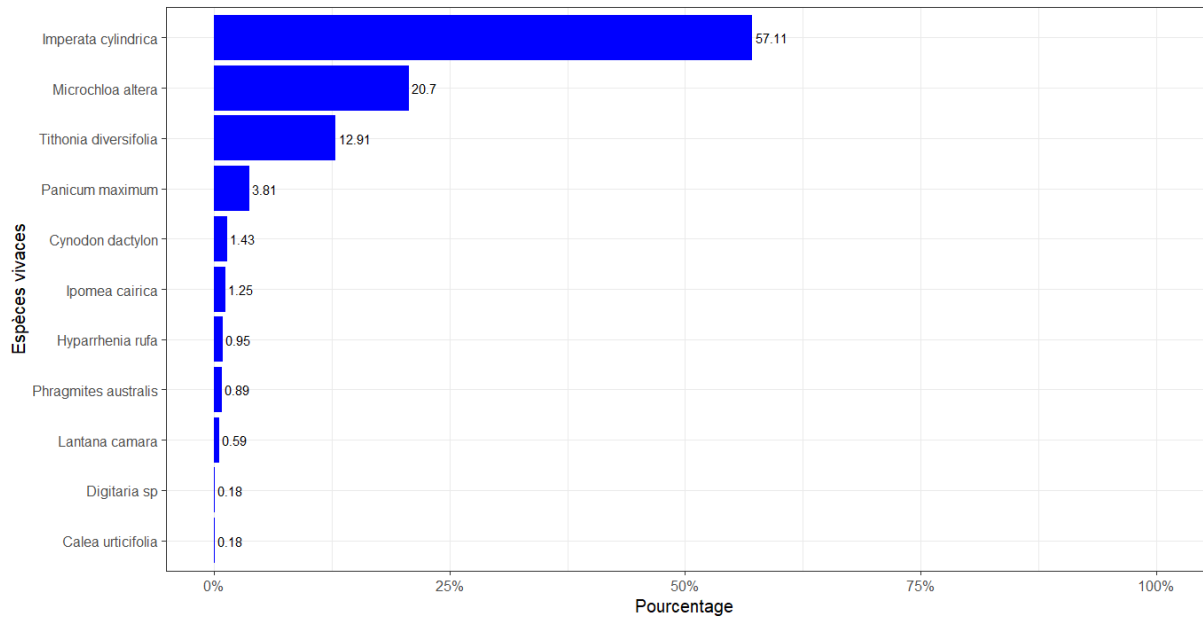


Figure 4. Distribution of perennial species (29 quadrats and the total area of a quadrat: 12 m²)

3.2.3. Annual species in corridors

Eleven annual species were recorded including *C. trigyna* which was the most abundant with 71.9% followed by *B. pseudoperennis* (14.8%) and *A. hispidus* (6.1%); and *O. semiloba* was the least abundant species at 0.06%. The pie chart (Figure 5) summarizes the abundance of each species.

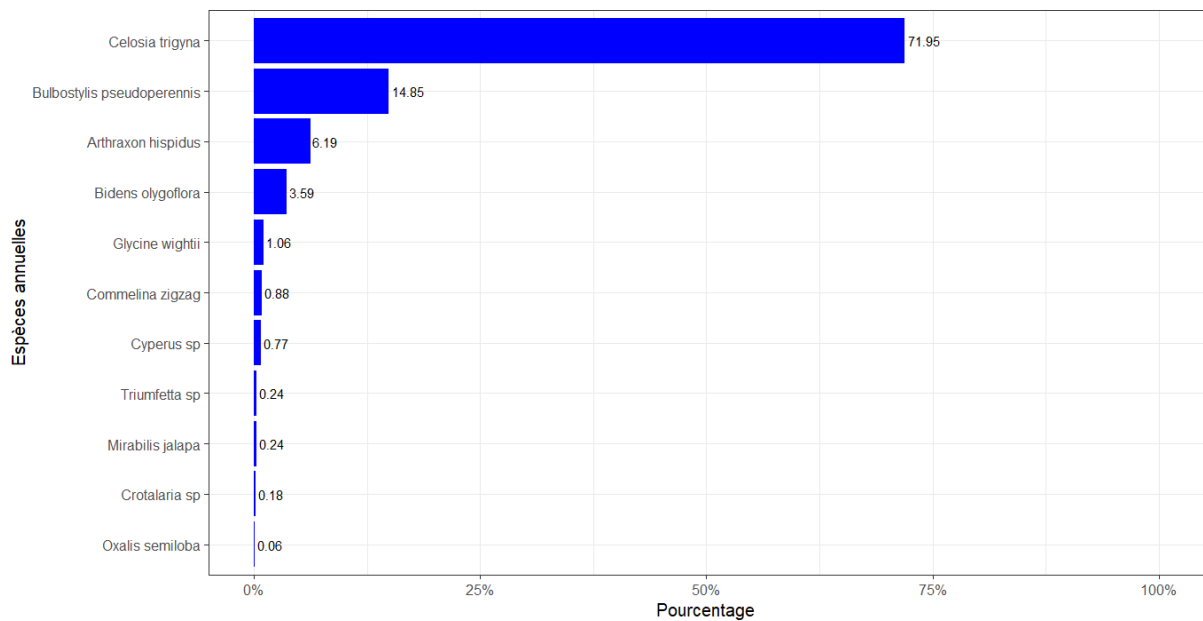


Figure 5. Distribution of annual species (29 quadrats and the total area of a quadrat: 12 m²)

3.3. Regeneration of woody species in the corridor

Three species managed to regenerate in the tree corridors of the device, this regeneration was largely dominated by *L. leucocephala* with a relative abundance of 6.1% and less than 1%. Table 3 gives the track of regenerated woody species and their relative abundances.

Table 3. Regeneration of woody species in the corridor

Woody species	Relative abundance (%)
<i>A. auriculiformis</i>	0.00
<i>A. polyacantha</i>	0.00
<i>A. lebbeck</i>	0.49
<i>C. lusitanica</i>	0.00
<i>L. leucocephala</i>	6.07
<i>P.sylvestris</i> _	0.00
<i>P. guajava</i>	0.08
<i>S. siamea</i>	0.00
<i>S. spectabilis</i>	0.00
<i>S.guineense</i> _	0.00

4. Discussion of results

4.1. Relative abundance of species in the corridor

Thirty-one species have been listed, including *C. trygina* , *I. cylindrica* , *M. altera* , *B. pseudoperennis* , *L. leucocephala* and *T. diversifolia* were the most abundant with respectively 33.2%; 26.1%; 9.5%; 6.1%; 5.9%; and the rest of the species were present with an abundance of less than 3%.

The results of this study also show that *C. trygina* , *I. cylindrica* , *M. altera* , *B. pseudoperennis* , *L. leucocephala* e *T. diversifolia* are the species that ensure good ground cover with overlap (varying from 6 to 34%) compared to other species whose abundance varies from 0 to 3% on average.

This result supports those of previous studies that *C. trygina* , *I. cylindrica* , *M. altera* , *B. pseudoperennis* , *L. leucocephala* and *T. diversifolia* are good candidates for phytostabilization of contaminated soils because it is able to colonize soils that are strongly contaminated heavy metals mainly copper (Shutcha *et al.* , 2010). And that *C. trigyna* and *M. altera* are cuprophyte species which are in the list of the cupricultural flora of Katanga, and *I. cylindrica* , *Cyperus sp* and *H. rufa* are in the cuproresistant group , demonstrate by Leteinturier *et al.* . (1999) and Leteinturier (2002). In addition most of these species are part of 600 species of flora from the metalliferous ecosystems of the Haut-Katanga region and a fifty grasses that live in plant communities distributed over the natural contamination gradient (Leteinturier *et al.* 1999; Séleck *et al.* 2013).

4.2. Relative abundance of species according to their category

4.2.1. Annual species

The result obtained in this work shows that the annual plants that colonize the phytostabilization device the most are 11, led by *Celosia trygina* who occupies a wide distribution in terms of abundance. Indeed, Shutcha *et al.* (2010) had found that *Celosia trygina* was among the species that spontaneously colonized copper-contaminated soils in the Gécamines penga district penga after the incorporation of organic and limestone amendments in phytostabilization trials . Outside of *Celosia trygina* , other species like *B. pseudoperennis* and *A. _ hispidus* , *Bidens olygoflora* , *Arthraxon hispidus* , *Glycine wightii* , *Triumfetta sp* were the most abundant annual species. This can be explained by the fact the contribution of the organic amendments on a soil richly contaminated favors the colonization of several ruderal species.

4.2.2 Perennial species

The result obtained in this work shows that the proportion of species according to the biological type is low for perennials, it is 57.1% for all species according to their category (woody, perennial and annual). These results are similar to those found by Ilunga (2010) who showed that on the metalliferous hills of Kinserve because of the geographical isolation on the one hand and the fact that the environmental factors which influence the plant communities differ from one hill to another : ETM levels in the soil, topography, bush fire regime, anthropogenic action , on the other hand. Regarding the high abundance of the *Imperata cylindrical* in the ground heavily contaminated can be explained by the fact that this species is a ubiquitous plant perennial with rhizomes. It can thrive on a wide variety of habitats, soil types, and under various climates (Kouassi et al, 2016).

In the result set for species annuals the result shows us that the species *I. cylindrical* was the most abundant followed by *Mr altera* and *T. diversifolia* whose abundances vary between 13 and 57% and the remains of perennial species of the device are presented with low distribution compared to the species to quote. *Tithonia diversifolia* being an invasive species (ruderal), which has the capacity to colonize more diverse anthropized environment (Assil , 2014).

4.2.3. Woody species

The result of the woody species that colonize the planting corridors of the phytostabilization , shows that of the five identified species, *L. leucocephala* is the species the most abundant with 77.9%, followed by *Q. myrtifolia* (13.3%) and *A. lebbeck* with 6.3% and the rest had a relative abundance of less than 1.5%. Indeed, Mpundu et al., (2008) to show that *A. lebbeck* and *L. leucocephala* woody species were better candidates for the phytostabilization of contaminated soils in the neighborhood Gécamines in Lubumbashi by their ability to colonize soils contaminated with trace elements metals in the Haut-Katanga region. Of these two species, *L. leucocephala* is a species that exhibits high seed production on uncontaminated soils. Stanton et al., (2000) confirms this result by stating that, unlike annual species, the lengthening of the vegetative cycle in the remains of the perennial plants of the device is usually a response to environmental stress (Stanton et al., 2000).

4.3. Regeneration of woody species in the corridor

The results obtained in the context of this work show that *L. leucocephala* had a higher rate of regeneration than other species. Its proportion was 6.07 %. In effect, *L. leucocephala* is a species that presents a strong production of seeds on the uncontaminated soils, this ability to produce and colonize soils contaminated with ETM makes it capable of growing. Other studies in China (Xia & Cai, 2002), showed that *L. leucocephala* may also been selected for the revegetation of degraded sites.

Conclusion

The objective of this study was to assess the success of tree planting in the corridors of trees installed in the Katapula tailing 15 years after installation; this observed through the natural colonization of species, the regeneration of tree species initially settled and identify species with high potential for phytostabilization . The Braun Blanquet method was used to assess the recovery (expressed in relative abundance). A total of 31 species were identified in the corridors of the entire device, *C. trygina* , *I. cylindrical* , *M. altera* , *B. pseudoperennis* , *L. leucocephala* , *T. diversifolia* , were the most abundant with respectively 33.2%; 26.1%; 9.5%; 6.1%; 5.9%. The least species abundant was **O. semiloba** with 0.03%. Depending on the biological forms of the species, 3 groups stood out: woody species, perennial species and annuals. In the woody group *L. leucocephala* was much more abundant with 77.97%

followed by *Q. myrtifolia* 13.2%; in the perennial species group: *I. Cylindrica* (57.1%), *M. altera* (20.7%) and *T. diversifolia* (12.9%); and in the annual species group *C. trygina* (71.9%) and *B. pseudoperennis* (14.8%) were the most abundant. Among the established woody species only 3 species have regenerated in the tailing corridors, these are: *L. leucocephala*, *A. Lebbeck*, *P. guajava*; however it was the *L. leucocephala* who had presented a greater number of juveniles. The various indices observed (regeneration of woody species, natural colonization in the corridors, the specific richness observed) show that the planting of woody installed in the tailing was a success.

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FABRICATION OF MOTOR-LESS BEACH-SAND CLEANING MACHINE FOR BEACH RESORT OWNERS

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ABSTRACT

Modern technologies related to beach cleaning activities remain a niche and unpopular industry even in the 21st Century. Until now, beach cleaning activity is an exhausting and time-consuming process. Most of the time, the rubbish collector will need to bend down or stretch their body to pick up rubbish which may cause injury. Furthermore, they may have to carry the rubbish bag or bin as they move from one location to another. The aim of this project is to fabricate a motor-less beach sand cleaning machine that reduces the time taken needed to collect rubbish by 50% and eliminates the need for the rubbish collector to bend their body in an unnatural way to pick up rubbish. This project also eliminates the need for the rubbish collector to carry the rubbish bin or bag as the machine has a built-in rubbish collection compartment. The motorless beach-sand cleaning machine works by a self-fabricated rake with protruding prongs that is lifted by a lever located above the pushing handle. When the lever is pushed forward, the rake is lifted into the mesh where the solid litter will be stored. The mechanism to actuate the lifting of the rake is connected by a pair of pulley systems on both sides of the machine. For the post-

testing, it was found that this machine reduced the rubbish collecting time by half as compared to conventional manual rubbish picking using hands. It was also noted that the rubbish collection compartment of the machine has a bigger capacity than the standard rubbish bin or bag. In the end, the objectives of fabricating a motorless beach-sand cleaning machine were achieved and can be utilized by the beach resort owners to clean beaches towards a more sustainable environment for marine life.

Keywords : Beach Cleaning, Fabrication, Resort Owners

INTRODUCTION

Beaches are recreational areas and attract many local and international visitors. Recreational activities such as swimming, walking, sunbathing, and surfing are some of the most common activities carried out by visitors. Furthermore, coastal tourism activities contribute to a large facet of our economy (Loomis & Santiago, 2013). As tourism is one of the main revenues in Malaysia, with over 57.1 million domestic tourists alone generated RM 37.4 billion in tourist receipts in 2014 (Tourism Malaysia, 2021). Therefore, a polluted beach or coastline may significantly impact Malaysia's tourism industry negatively. The polluted beach has always been an international dilemma since the age of industrialization (Bergmann et al., 2015, Wyles et al., 2016 & Shim & Thomposon, 2015). Lately, there is an increasing trend and abundance of beach littering that bring a negative impact on marine and land life.

The Sustainable Development Goals (SDG) is a collection of 17 global goals designed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) to be a blueprint to achieve a better and more sustainable future for humankind. Among the two of the 17 goals are life below water and life on land (United Nations, 2015). According to a UNESCO report (United Nation, 2015), approximately three billion people depend on marine and coastal biodiversity for their income and are estimated to generate up to 5 percent of global GDP. On the other hand, our earth's ecosystem for humanity such as oxygen, drinking water, weather, food, rainwater, and others are provided and regulated by the ocean itself. Due to its significant impacts on mother earth, careful management and preservation are imperative to ensure a sustainable future. Hence, it is the responsibility of everyone to keep the earth whether on land or underwater clear of any pollution.

Beach cleaning is among the activity to support and achieve the SDG. Most beach cleaning activities still use the conventional ways that have been used since the existence of civilizations. The most typical method is picking up rubbish using hands and discarding the rubbish into rubbish bins or throwing the rubbish into large bags temporarily and to be disposed of into the proper rubbish bins once the temporary rubbish bag is full. Therefore, the drawback of such a method is it requires a lot of manpower and time as can be seen in Figure 1 where volunteers carried out beach cleaning activities (Zielinski et al., 2019).



Figure 1: Beach cleaning manually

A better alternative to the hand collection method is using tools that can be found in the market such as rakes or customized hand tools similar to rakes (Figure 2) to escalate the sand cleaning process. These tools separate debris or rubbish from sand by having the user pull the tools across the sand surface. Despite it being relatively cheap products, the beach cleaning process still can be daunting and inefficient as only a short distance of single rake or hand tool pulling can be done. One must stop very frequently to dispose of the collected rubbish when using such tools as the user keeps moving from one place to another until the whole process is completed.

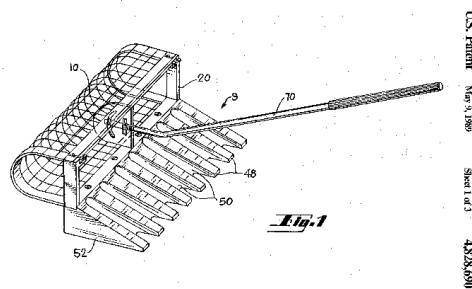


Figure 2: Hand tool (Montez, 1988)

The evolution of the beach cleaning process has been modernized with some semi-automated or fully automated machines available in the market. Among the popular ones is the motorized beach cleaning machine (Figure3). The machine uses a front spinning cylinder that has flaps to "sweep" the sand that is mixed with solid litter. The sand mixture is swept into a vibrating screen to sift solid debris from the sand. There is a 20-liter collector located at the end of the vibrating screen where only solid litter is kept, and sand has been sifted out in the vibrating screen. The machine can be operated from the back of the machine which is equipped with the throttle, brake, and steering capability. The machine is powered by a 5.5-horsepower air-cooled 4-stroke gasoline engine. With a travel speed between 1.8 to 5.5 km/h, the machine can clean an area between 1400 to 3200 square meters per hour (Barber, 2022).



Figure 3: Motorized beach cleaning machine

Meanwhile, mega machines for large-scale beach cleaning are also available and ready in the market such as hydraulic-operated beach cleaning machines in figure 4. The systems work by conveyor belt system that is mounted with individual stainless steel tine whose role is to rake towards the moldboard deflector plate, removing surface and submerged debris. The conveyor is spun by the hydraulic drive and solid litter that is picked up is then carried upwards on the inclined conveyor belt section which leads to the drop into the hopper which serves as the rubbish collector (Barber & Barber, 2009). The drawback to this method is it would require a 4-wheel drive agricultural-type tractor with 76cm wheels and a minimum of 60 PTO horsepower to tow the beach cleaning machines as shown in figure 4. Besides that, all modern machines require burning fuel to turn chemical energy into mechanical energy for the operation and processes. The effects of burning fuels, especially carbon dioxide, are having bad effects on the climate and ecosystems themselves.



Figure 4: Hydraulic-operated beach cleaning machine

Despite several machines available on the market that can clean the beach in more effective ways, most of the people in Kuching, Sarawak is still using the conventional method to collect solid litter. Though using the conventional method can be tiring and take very long, it is the only method that requires little to no budget to carry out such activity. Since the establishment of the business, workers of Dynawood Beach Stay at Trombol beach, Kuching still cleans the beach manually. Their activities involved manually picking up the rubbish piece by piece using either their hands. The types and sizes of rubbish commonly found on the beach range from the small plastic bottle cap to regular-sized rubbish like plastic bags and water bottles. Some of these rubbishes are buried under a thin layer of sand which may usually be overlooked by the worker causing some buried rubbish to stay on the beach after the cleaning process. Moreover, with a large area of beach that needs to be covered and rubbish located on feet height, the worker often complains of frequent lower back pains and sore muscles due to excessive bending down movement. Therefore, this project intends to solve the aforementioned problems for the beach cleaning process. The objectives of this applied research aim to fabricate a motorless beach-sand

beach cleaning machine for resort owners. A pre-testing of conventional methods used to collect rubbish will be conducted and post-testing to evaluate the performance in comparison to the duration taken will also be executed upon the completion of the machine.

1.1 Methodology

The development of the beach cleaning machine is based on the flow chart in Figure 5.

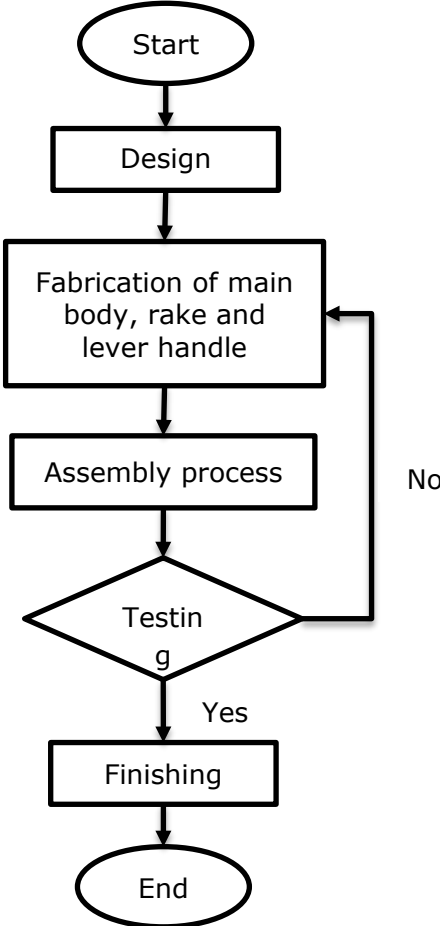


Figure 5. Flow chart of Beach Cleaning Machine

The first process is the design process using Autodesk Inventor. Figure 6 shows the final design of the machine. Various sketches have been developed during the design process referring to several designs available during the literature review conducted and selection of the final design is selected based on the morphology chart taking into consideration elements such as mobility, effectiveness, cost, and technical aspect.

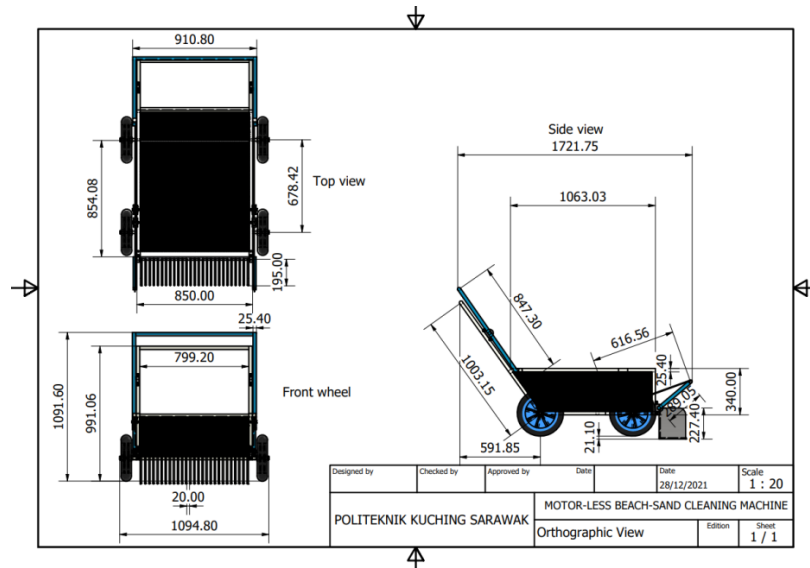


Figure 6: Orthographic view of Beach Cleaning Machine using Autodesk Inventor

Next, the fabrication process started with the cutting process of 1 x 1-inch square mild steel tubes using a miter saw, and all edges are deburred using a power grinder and angle grinder. Then, these tubes are attached as the main body using arc welding. The weldment of the main body is imperative as it will sustain the rubbish load and facilitate the smooth movement of the machine. The completed main body is shown in figure 7.



Figure 7: Main body of the machine

Subsequently, a threaded round bar with a diameter of 16mm is cut into four parts with a length of 6.5inch and welded to the edges of the main body. The four parts are the shaft to attach the wheel with the washers and nuts. Later, the wheels are fitted to the shaft on the main body as shown in figure 8.



Figure 8: Wheels attached to main body

Then, the fabrication of the rake part began and rods of 5mm diameter with a length of 40mm each are utilized to act as the "teeth" and a 1x1-inch square tube as the holder. The process involved MIG welding of the 5mm diameter mild steel rod to the square tube holder one at a time with a gap of 15mm between each rod (Figure 9).



Figure 9: Weldment process of rake

Once the steel rods are attached to the holder, the crucial step is to bend the steel rod to 90 degrees. This is achieved by heating the rods using an oxy-acetylene torch and slowly bending them using a brick edge as the guide. Later braces are added to the rake so that it can be properly aligned and act as the reinforcement.

Then, the shafts are attached on either end of the rake to prepare it for pillow block bearings insertion (Figure 10). Later, two steel plates are welded to both sides of the rake for a better rubbish collection process.



Figure 10: Rake

The final fabrication work of the parts involved a level handle (Figure 11) which this part acts to lift the rake for the rubbish collection process. The previous items of hollow mild steel tubes are used, cut, and assembled in accordance with the main body specification.



Figure 11: Level handle

Eventually, the rake and level handle parts are attached using the cables to work as the control mechanism for rubbish collection. A pair of pulley systems are welded to both sides of the machine to actuate the lifting mechanism of the rake. Additionally, the torsion springs are welded behind the rake to return the rake to the initial position after each cycle of the lifting process. The finishing process involved removing the rust using sand papers and applying an undercoat before spraying the machine. Finally, the 6mm PVC mesh is cut accordingly and fitted around the main body excluded the front side to act as the rubbish storage tank.

As for the pre-testing process, a person is assigned to collect rubbish manually using hand in an area of 8x2meter with rubbish randomly scattered within the test area. A digital stopwatch is used to record the duration of the rubbish-collecting process and the procedure is repeated three times before the average time is taken as the final result. Subsequently, for the post-testing, a similar site is chosen and the machine is operated by a single user only. The time needed to pick up the rubbish using the machine is recorded and considered as the final data for the post-testing. A simple post-testing survey

is also conducted using questionnaire distribution to six samples which consist of beach resort owners and Non-Governmental Organizations (NGOs) in Kuching, Sarawak.

2.1 Results and discussion

The completed beach cleaning machine is shown in figure 12. The machine is motor-less and therefore the machine is environmentally friendly as compared to modern and large-scale machines which are available in the market. On the other hand, the design is relatively simple for the replication by the community and industry to achieve clean beaches and life on land to support the SDG activities.



Figure 12. Completed beach cleaning machine

The operation of the beach cleaning machine is easy and simple. First, a single user is adequate to operate the machine and the user needs to push the machine forward toward the direction of the rubbish on the beach. Once the quantity of rubbish accumulated at the rake is sufficient, the user is required to push the lever handle to lift the rubbish to the storage compartment as shown in figure 13. The volume of rubbish that can be collected at the storage compartment is approximately 0.50m³ or 500 liters. The PVC mesh selection as the storage compartment wall then allows the sand to drop back to the beach and therefore able to filter the sand.



(a)



(b)

Figure 13: Operation of the machine ;(a) User pushes the machine (b) User pushes the lever to lift the rubbish to the storage compartment

Subsequently, the pre-testing and post-testing data are obtained and the comparison is recorded in table 1. Figure 14 shows the photo taken during pre and post-testing respectively. It is obvious from table 1 that the current machine can trim the duration of the rubbish collection process by almost half as the machine only recorded a mean time of one minute. Therefore, this machine is clearly the best method to clean up the beach and the impact can be significant when it involves a large beach area and the duration taken will be substantially reduced when using the machine as compared to traditionally manually picking by hand. During the post-testing also, it is found that the motor-less beach-sand cleaning machine performs smoothly on dry and flat sand surfaces. Meanwhile, the user felt a higher resistance in pushing the machine on moist and uneven sand surfaces and the condition led to difficulty in picking long and stiff rubbish such as long tree branches.

Table 1: Duration for pre and post testing

Method	Time taken
Manually by hands	2 minutes 17 seconds
Machine	1 minutes 0 seconds



(a)



(b)

Figure 14: Pre and post testing ;(a) Pre-testing using manually by hand (b) Post-testing using machine

As for the quantitative post-testing survey, it is found that samples which consist of beach resort owners and NGOs agreed the machine is a better method and offers a competitive alternative when compared to the machines that are available in the market. The main advantages of the current machine are it does not require any fuel or electric power to operate, has minimal maintenance, easy control system and has a small dimension that enables easy storage, and can be fitted nicely into a pick-up vehicle for transportation. Lastly, the cost of this machine is approximately RM 543.00 (Table 2) which is a relatively cheaper option when compared to the machines sold in the market and offers good durability and a single-user operating system. Hence this machine is very affordable and recommended for small and medium beach resort owners.

Table 2: Cost of the machine

No.	Material	Quantity	Price Per Unit (RM)	Total Cost (RM)
1	1 × 1-inch square mild steel	2	40	80
2	5mm diameter mild steel round bar	1	25	25
3	10mm diameter mild steel round bar	1	30	30
4	16mm diameter threaded round bar	1	40	40
5	6mm PVC mesh	1	28	28
6	Spray paint	3	11	33
7	Mild steel plate	1	25	25
8	Flat mount pulley block	4	15	60
9	Pillow block bearings	4	12	48
10	Rubber insulated steel cable	2	37	74
11	Wheelbarrow wheel	4	25	100
				543

CONCLUSION

The objective of this project is successfully achieved as the beach cleaning machine is produced. Then, post-testing also is conducted to ensure its operation. The control system using the level handle to lift the rubbish collected to the storage compartment functions well and the machine is able to move smoothly in a dry and flat beach. The post-testing results also produced positive outcomes when the duration of the rubbish collection is shorter by almost 50% when compared to the traditional way. A qualitative survey also obtained positive feedback from the beach resort owners and NGO. Lastly, the cost of this machine is RM543.00 and this makes it very affordable in the market when compared to modern motorized machines. In the end, the aforementioned features and benefits of this machine can be utilized in activities to achieve a better ocean and land life for the sustainability of the earth in long-term prospects. As for the suggestion or recommendations to improve the current design, the post-testing observation shows the specific sand type of wheel can enable the machine to maneuver better without getting stuck when it is under the full capacity of rubbish. In addition, a fabrication of a trap door mechanism can help user to discharge the rubbish from the machine effectively. Lastly, the replacement of the torsion spring with a more reliable and effective mechanism can aid the rake to return to its collecting position after it is lifted.

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BACTERIAL VAGINOSIS IN GESTANT IN LUBUMBASHI IN DR CONGO: EPIDEMIOLOGICAL ASPECT, RISK FACTORS AND SENSITIVITIES TO ANTIBIOTICS

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ABSTRACT

Introduction: Bacterial vaginosis and bacterial vaginitis are lower genital infections in women revealing an alteration of the vaginal ecosystem resulting in the replacement of the normal flora composed mainly of lactobacilli and other endogenous bacterial species such as Gardnerella vaginalis, Mobiluncus and Mycoplasma hominis or exogenous like candida and trichomonas vaginalis. Our study aims to establish the prevalence of bacterial vaginosis in pregnant women in Lubumbashi and what were the risk factors in our environment?

Methodology: This is a descriptive cross-sectional study with an analytical component over a period of 4 months, from June 1 to December 31, 2021, having included pregnant women who came for prenatal consultation in the 4 structures mentioned above during the study period and whose informed consent was given. The sociodemographic, clinical, bacteriological and therapeutic data based on the antibiogram of pregnant women included in the study are the independent variables of the study. The Nugent score and the Amsel criteria are used to describe the prevalence of vaginosis. Culture media for isolation are mainly: MacConkey , blood agar, Muller-Hinton, Cled , Sabouraud, as well as antibiogram and antifungigram discs.

Results: During the study period we took 152 samples and analyzed 104 for culture, antibiogram and antifungigram. The prevalence of vaginosis was 23% according to the Nugent score and 39.5% according to the Amsel criteria . Direct examination showed the absence of trichomonas vaginalis in the samples. Enterococci represented 47.6%, Escherichia coli 17.5% and Neisseria gonorrhoeae 9.5%. Of the 54 Candida cases, Candida Albicans accounted for 48.1%. Escherichia coli is 100% sensitive to fosfomycin, while E coli is 40% resistant to imipenem. Candida albicans is sensitive to Amphotericine B at 40% on the other hand it is resistant to Fluconazole at 90%.

Conclusion: Vaginoses are frequent and still constitute a major public health problem, especially the evolution that can lead to complications involving the upper genital tract. Several resistance factors specific to our environment are identified with an antibiogram coming out of our usual probabilistic

antibiotic prescriptions. Mass awareness, bacteriological equipment as well as continuous staff training could reduce its extent in our environment.

Keywords : Vaginosis, Obstetrics, DR Congo

INTRODUCTION

The vaginal cavity is particularly exposed to infections because of the structure which is closed, homeothermal and moist. Protection is ensured by the predominant, but not exclusive, presence of the Döderlein bacillus which digests the desquamated vaginal cells, transforms their lactic acid glycogen, which makes it possible to maintain the vaginal pH between 3.8 and 4.2 (1). In addition to the Döderlein bacillus, the normal vaginal flora contains an ecosystem whose balance is subject to physiological variations. Bacterial vaginosis (BV) results from the modification of the vaginal flora with the replacement of lactobacillus sp. By an association of *Gardnerella vaginalis* of various anaerobic species (*Bacteroides* sp, *Prevotella* sp, *Porphyromonas* sp, *Veillonella* sp, *Perptostreptococcus* sp, *Mobiluncus* sp, *Cubacteria* sp, *Fusobacterium* sp) and *Mycoplasma hominis*. The causes of the abnormal multiplication of these microorganisms of the endogenous flora are not all known. There are likely host-related factors, including hormonal, but also bacterial. BV, otherwise known as "non-specific" vaginitis, is contrasted with "specific" vaginitis due to *Candida albicans*, *Trichomonas vaginalis*, *Neisseria gonorrhoeae* and *Chlamydia trachomatis*.

BV is defined by the WHO as vaginal leucorrhoea characterized by the absence on microscopic examination of yeasts and trichomonads and by the presence of two or more of the following criteria (2), known as the AMSEL Criteria: Vaginal discharge adherent and homogeneous; Presence of indicator cells or "clues cells" on microscopic examination; pH of vaginal secretions greater than 4.5; demonstration of a "spoiled fish" amino odor when a drop of VS is mixed with a drop of 10% potassium hydroxide (2). In the laboratory, great importance is attached to the appearance of the vaginal smear fixed and stained by the Gram method. In practice, a score is assigned to each smear according to the morphotype and the number of bacteria observed (3). Isolation of germs associated with VS is not routinely recommended. The culture result of *Gardnerella vaginalis*, anaerobes and *Mycoplasma hominis* do not contribute to the diagnosis of these BV (3,4). The treatment of BV poses two problems: who to treat and how to avoid the recurrences that characterize this condition? Metronidazole is the reference antibiotic. Other antibiotics used are clindamycin, amoxicillin and amoxicillin combined with clavulanic acid. Not all BVs need to be processed; although BV is not, strictly speaking, an STI, the therapeutic management of the partner would, according to some authors, reduce the risk of recurrence (5,6). BV is the most common lower genital tract disorder in women of childbearing age (pregnant or not) and the most prevalent cause of vaginal discharge and bad odor (7,8). It has been associated with a significant number of obstetrical and gynecological complications, such as preterm labor and delivery, spontaneous abortion, premature rupture of membranes, chorioamnionitis, postpartum endometritis, infection of the caesarean section wound, post-surgical infections and subclinical pelvic inflammatory syndrome (9,10). BV is very common, with the exact prevalence varying widely depending on the patient population. In studies of patients in private practice, the prevalence ranged from 4% - 17%, while in patients attending gynecology clinics an increased proportion of women with low incomes and no insurance, it was

23% in Canada (11,12) . Among female college students, the prevalence ranged from 4% to 25%, while it was as high as 61% among women presenting to clinics focusing on sexually transmitted diseases (13–16) . In pregnant women, studies have documented prevalence rates similar to those found in populations of non-pregnant women, 6-32% (9,17–20) . A Canadian study of maternity patients reported an overall prevalence of BV of 14%. This has been associated with race, smoking, sexual activity and douching, young age and low level of education (21) . BV is more common in black women, smokers, sexually active women (compared to virgins) (11) and women who use vaginal douches (22) .

In the United States, it was diagnosed in 33–36% of patients presenting to STI services, 16–20% of pregnant women, and more than 25% of patients presenting to gynecological clinics (23–26) . In Cameroon, a study had shown that out of 93 women consulting at the family planning centre, 39 women or 42% had BV (27) . In Benin, a study carried out in 1994 revealed a prevalence of 20.74% among pregnant women (28) . In Burkina Faso, a study had shown that 21.7% had BV and more recently another study gave a prevalence of 17.3% (29) .

Several other studies had reported the potential role of BV in the occurrence of gynecological complications which include pelvic inflammation, cervicitis, salpingitis, as well as cancer of the cervix. The obstetrical risks associated with BV include premature rupture of membranes, premature labor threats, abortions, chorioamnionitis and postpartum endometritis (26,30–34). Bacterial vaginosis has thus been diagnosed in 20% to 30% of consulting patients in current practice, in France in particular (15,16,18) . In France, it is observed with an even higher frequency in the gynecology and venerology department (18,19) , in pregnant women, the frequency varies from 15% in outpatient clinics to 25–30% in the obstetrics department (18) . The VB could be carried in 12% of the cases, at the young girls without sexual experiment (29,30) . In South Africa,

The diagnostic criteria are the same regardless of the presence of pregnancy or not according to Amsel (19). Thus, the clinical diagnosis of bacterial vaginosis is established when three of the following four symptoms are present (19): an adherent and homogeneous vaginal discharge, a vaginal pH greater than 4.5, the detection of rods adhering to epithelial cells (vaginal epithelial cells being so heavily coated with bacteria that their peripheral edges are clogged from a wet saline preparation: 20% of clue cells), an amine odor following the addition of Potassium hydroxide (positive olfactory test) . The clinical diagnosis in the laboratory will be made by the Nugent score.

The management of infections increasingly takes account of certain principles, in particular the control of microbial ecology, associated factors, and even certain specific areas. The systematic search for these infections is not done in several environments, particularly in Lubumbashi, and yet several studies carried out in more affluent countries than the DR Congo have just shown significant prevalences of vaginosis in general and in pregnant women, immunocompetent or not. especially. This is a worrying situation for the practitioner who does not control the local microbial ecology of his patients. Consequently, it seemed very interesting to us to carry out this study in order not only to fill in the gaps in the literature on this subject, but also and above all to present a panoramic overview of bacterial vaginosis and its sensitivity to antibiotics in pregnant women in our country. environment.

Methodology

Type of study : This was a descriptive cross-sectional study with an analytical component.

Study sites and period : This study was carried out in four health structures in the city of Lubumbashi, namely: the University Clinics of Lubumbashi, the HPGR Sendwe , the Diamond Hospital Center of

Lubumbashi and the CHIARA LUBICH Hospital Center over a period of 4 months, i.e. from the 1st June to December 31, 2021.

Study population : It was made up of all the pregnant women who came for consultation in the CPN services of these different structures during the study period.

Sampling : It was of the exhaustive type targeting a minimum size of 125 pregnant women, i.e. 30 per structure.

Sample size : Our minimum sample size was 125, calculated from this formula: $n = t^2 \times p \times (1-p) / m^2$ ($n = 1.96^2 \times 0.15 \times 0.8 / 0.05^2 = 125$) *n*: Minimum sample size for obtaining significant results for an event and a fixed level of risk , *t*: Level of confidence (the typical value of the level of confidence of 95% will be 1.96) , *p*: Estimated proportion of the population that exhibits the characteristic and *m*: Margin of error (generally set at 5%)

Inclusion criteria : were included, pregnant women who came for prenatal consultation in the 4 structures mentioned above during the study period and whose informed consent will be given.

Exclusion criteria : all pregnant women seen outside the study period, whose consent was not obtained, who had not been on anti-infective treatment for at least 7 days, those who had had an intimate toilet the day before and the morning of the sample, or having had sexual intercourse 24 hours before the sample.

Study variables Independent or explanatory variables : sociodemographic, clinical, bacteriological and therapeutic data based on the antibiogram of pregnant women included in the study.

Dependent variable : Bacterial vaginosis in pregnant women with regard to the above considerations.

Materials : they consisted of *materials for vaginal samples, reagents for GRAM staining* as well as antibiogram and antifungigram discs with culture media for isolation, in particular: MacConkey , blood agar , Muller-Hinton , the Cled and the Sabouraud

Research techniques : To properly conduct our study, the following research techniques were chosen: interrogation (consultation); general physical examination of the pregnant woman; the complete gynecological examination (speculum); the physico-chemical screening test (pH, potash test); as well as the Sampling of vaginal secretions.

Data collection : it was done on the basis of a sheet drawn up and pre-tested beforehand grouping together socio-demographic, clinical and biological data relating to: the appearance of the VS (color, consistency); the relative abundance of VS (a quantity <2 ml is noted as not very abundant between 2 and 5 ml abundant and greater than 5 ml, very abundant). On the leucorrhoea was carried out the potash test; pH and classic bacteriological examination (sample from the posterior cul-de-sac); the smell of VS; the cells contained in the VS (leukocytes and epithelial cells); identified germs; the sensitivity of germs to antibiotics and antifungals , as well as physico-chemical data (pH of VS, potash test) and cytobacteriological data + Culture, Identification and Antibiogram

The diagnosis of BV was made on the basis of the Nugent score.

Data processing : The initial entry was made on the Excel 2015 software, for further processing using the Epi info version 7.2 software. Student 's t test was performed for comparison of means and Yates' corrected chi ² test or Fisher's exact test for comparison of proportions. Finally, the calculation of the adjusted odds ratios (adjusted OR) with 95% CIs was done to find the link between the risk factors and the variable to be explained with a significance level of $p < 0.05$.

Ethical considerations : In compliance with the ethical standards in force, we had obtained the authorizations of the heads of the establishments concerned and the informed consent of the patients;

respect for confidentiality; the submission of the protocol to the ethics committee of the University of Lubumbashi in DR Congo.

Results

Workforce: We had to work on 152 samples, each pregnant woman had to benefit from two samples; one for GRAM staining and physico-chemical tests and the other for culture and antibiogram. Of these 152 samples, 104 were analyzed (culture and antibiogram). **Socio-demographic characteristics:** The average age was 29.03 ± 6.07 , of which 88.2% lived as a couple, and only 34.2% had a higher education level. The majority 37.5% came from the commune of Lubumbashi and more than half were housewives. **Smoking history:** The smoking history showed that 10.5% were active smokers and 17.1% passive smokers.

Genital ulceration and dyspareunia: Genital ulcerations were only found in 2% of cases, of which 1.3% of pregnant women had a notion of dyspareunia. **Nature of leucorrhoea:** 11.2% of pregnant women had pathological leucorrhoea which was associated with pruritus in 15.8% and low back pain in 0.7% of cases. **Appearance of the vulva:** The majority of pregnant women (97.4%) had a normal vulva and 2% had warts.

Examination of the cervix: The examination of the cervix noted that 15.8% of the cases the cervix was inflammatory and 5.2% of the cases presented the eggs of Naboth .

Abundance of leucorrhoea: In 33.6% of cases the leucorrhoea was moderately abundant and in 56.6% of cases it was not very abundant.

Parity and gestality : 26.3% of cases pregnant were nulliparous and in 38.8% of cases they were pauciparous and 38.8 of cases they were pauci gestures, 24.3% of cases they were large multi gestures.

History of STIs and condom use: 16.4% of cases with a history of STIs and 15.1% used condoms.

Vaginal hygiene: it appears that: 99.3% had notions of douching, 1.3% used lemon for intimate bathing, 15.1% of cases used borehole water for intimate bathing, 66.4 % of cases for Regideso water for the intimate bath and 2.6% used a vaginal tampon.

Gestational Age and Prenatal Consultations Performed: This figure shows that 46.7% of pregnant women had pregnancies between 14 and 26 weeks old with an average of 24.06 ± 8.1 weeks and 62.5% of pregnant women had already started prenatal consultations

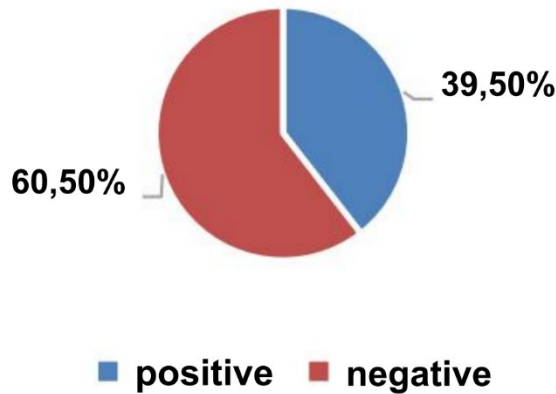


Figure 1: distribution of pregnant women according to the Amsel criteria .

This figure shows that 39.5% of pregnant women had a positive Amsel score.

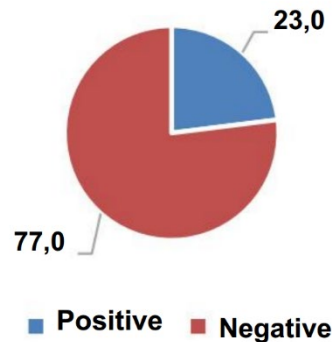


Figure 2: distribution of pregnant women according to the Nugent score

This figure shows that 23.0% of pregnant women had a positive Nugent score.

Medications taken previously: In view of this figure, 10.5% of pregnant women took amoxicillin and 6.6% clotrimazole

Association of Amsel criteria and sociodemographic and clinical parameters: It appears that the presence of leucorrhoea, the presence of odor, the yellowish coloring and the whitish coloring were statistically associated with the Amsel score . Association of Nugent score and socio-demographic and clinical parameters: It appears that the presence of pruritus and the positivity of the Amsel criteria were statistically associated with the positivity of the NUGENT score.

Table I: Determinants of Amsel criteria positivity

Settings	ORa	[95% CI]	P
Leucorrhoea (yes /no)	4,042	[1,140	14,330] 0.031
Odour nauseating (yes /no)	7,926	[2,101	29.893] 0.002
Whitish (yes /no)	2,604	[1,140	5.945] 0.023

After adjustment, the presence of foul-smelling and whitish leucorrhoea were the determinants associated with Amsel criteria positivity, increasing the rating by 4, respectively; by 8 and by 2.

Table II: Determinants of the positivity of the NUGENT score

Settings	ORa	[95% CI]	P
Vaginal tampon (yes/no)	0.588	[0.207 1.673]	0.320
Pruritus present (yes/no)	2,888	[1,080 7.718]	0.035
Using the vaginal tampon	0.228	[0.027 1,894]	0.171
Yellowish leucorrhoea (yes/no)	1,269	[0.177 9,082]	0.812
Whitish leucorrhoea (yes/no)	2,430	[0.374 15,780]	0.352

After adjustment, the presence of pruritus was the determinant associated with the positivity of the Nugent score, multiplying the odds by 3. In addition, yellowish leucorrhoea and whitish leucorrhoea were associated with the positivity of the Nugent score but the statistical difference does not is not significant.

pH of secretions: 5.868±0.9; Parity: 2(0-5); Gesture : 3(2-5); Gestational age (SA): 24.06±8.13.

Samples and Analysis

Table III: Distribution of Isolated Bacteria in Vaginal Secretions

BACTERIA	Frequency	Percentage	Percentage valid	Cumulative percentage
Strongly EC: Enterobacter Cloacae	2	3,2	3,2	3,2
ECOLI: Escherichia coli	11	17,5	17,5	20,6
EF: Enterococcus Faecalis	9	14,3	14,3	34,9
EFCIM : Enterococcus faecium	21	33,3	33,3	68,3
KP: Klebsiella Pneumonia	8	12,7	12,7	81.0
NG : Neisseria Gonorrhoeae	6	9.5	9.5	90.5
PA : Pseudomonas aeruginosa	1	1,6	1,6	92.1
PM : Proteus Mirabilis	3	4.8	4.8	96.8
SA : Streptococcus agalactiae	1	1,6	1,6	98.4
SCN: Coagulase Negative Staphylococcus	1	1,6	1,6	100.0
Total	63	100.0	100.0	

This table shows that 47.6 % were enterococci followed by E.coli with 17.5%.

Out of 104 samples analyzed we have 54 cases of candida which gives us a prevalence of 52%.

ISOLATED CANDIDATES

Table IV: Distribution of Candidas isolated from vaginal secretions

CANDIDATES		Frequency	Percentage	valid percentage	Cumulative percentage
Valid	THAT	26	48.1	48.1	48.1
	CF	8	14.8	14.8	63.0
	CG	10	18.5	18.5	81.5
	CK	10	18.5	18.5	100.0
	Total	54	100.0	100.0	

It appears from this table that 48.1% were composed of Candidas Albicans, followed by 18.5% made of Candidas Glabrata and Candidas Krusei.

Association Candida and Bacteria: On 24 samples with Co-infected candidiasis; in 41.67% of cases, Candida albicans was noted; in combination with Enterococcus **Faecium** or Klebsiella *Pneumoniae* in 12.5% of cases.

ANTIBIOTICS

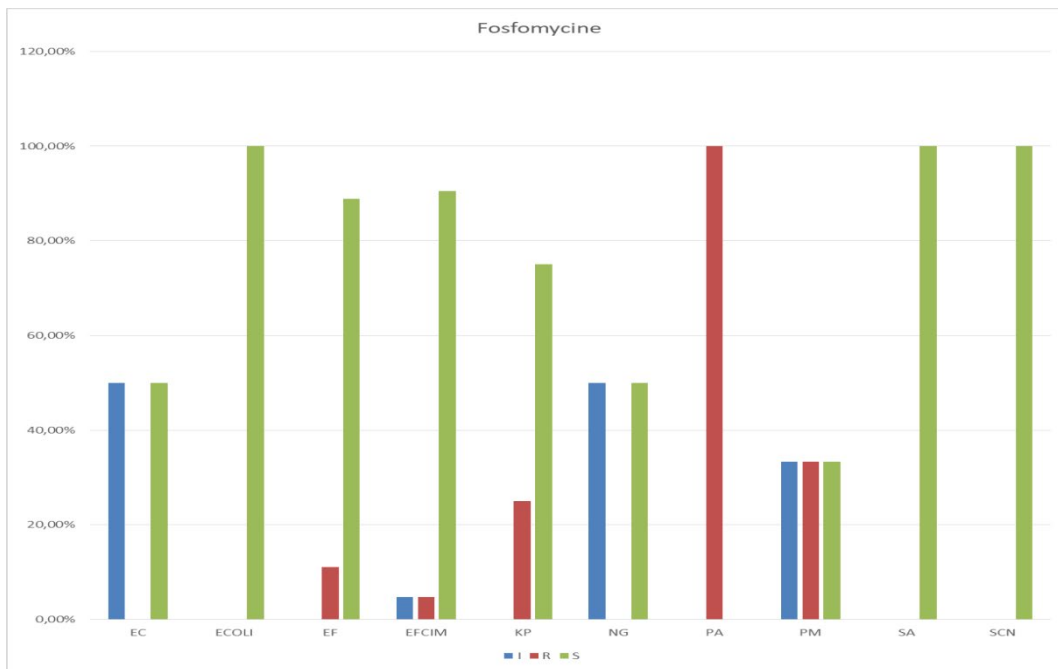


Figure 4.

THE. Coli, SCN and SA are 100% sensitive on the other hand NG is sensitive to fosfomycin at 50%

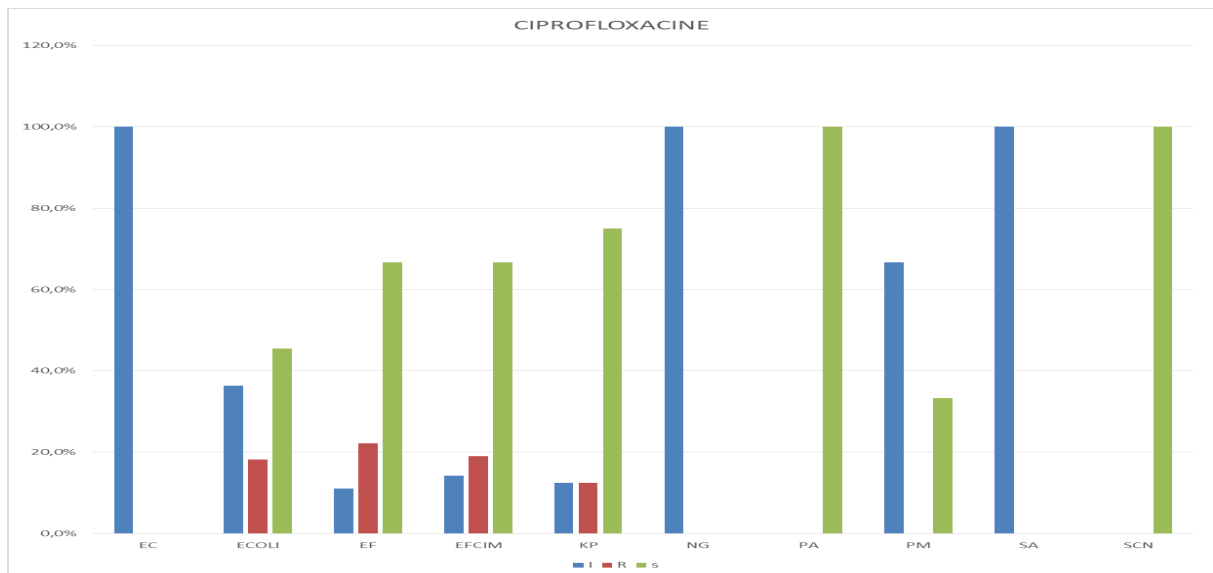


Figure 5.

THE. Coli is 45% sensitive, SCN is 100% sensitive to ciprofloxacin.

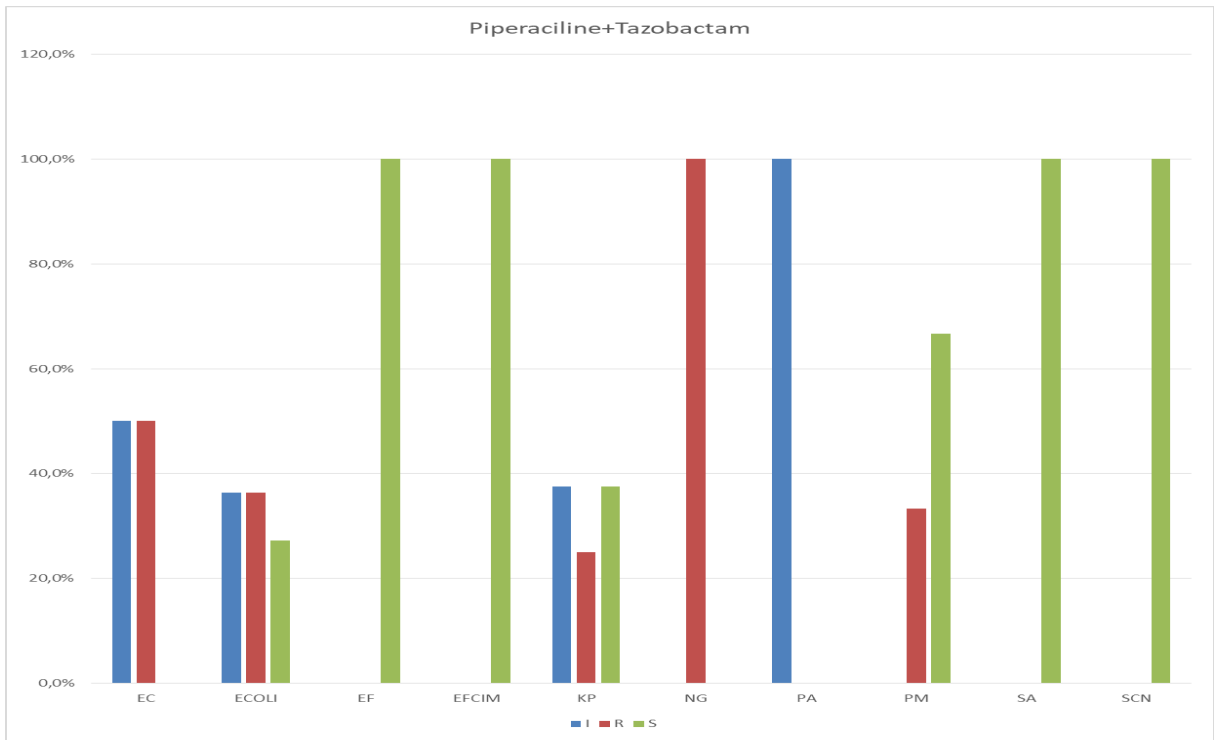
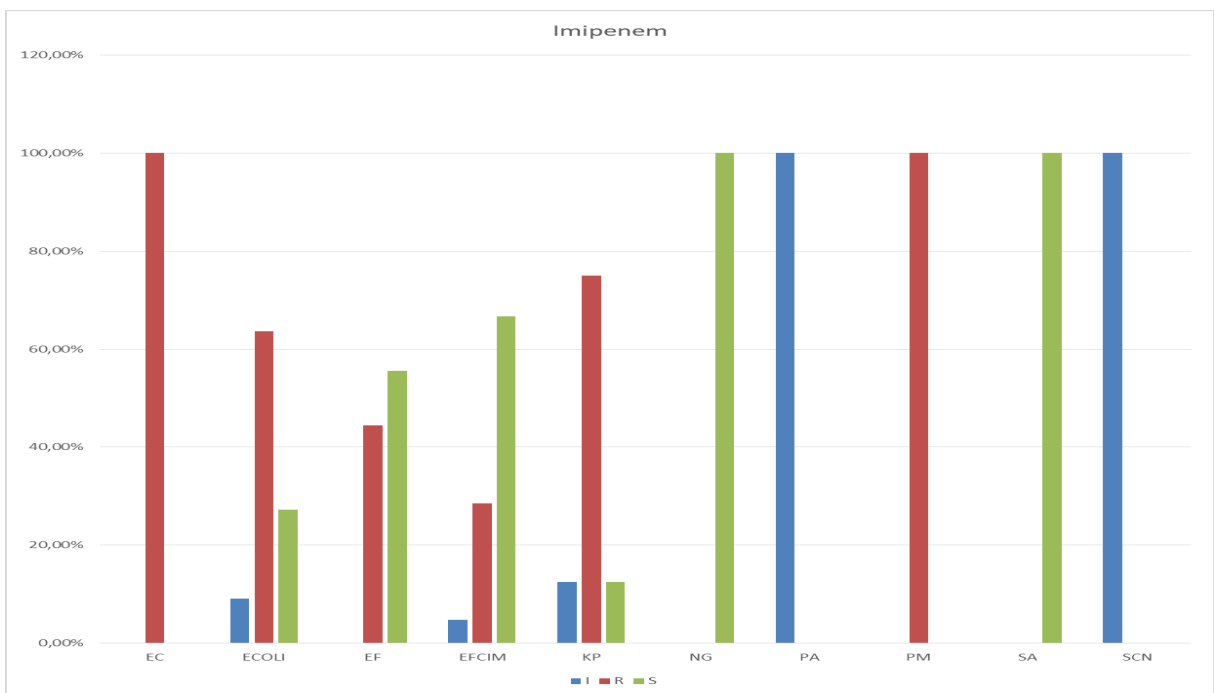


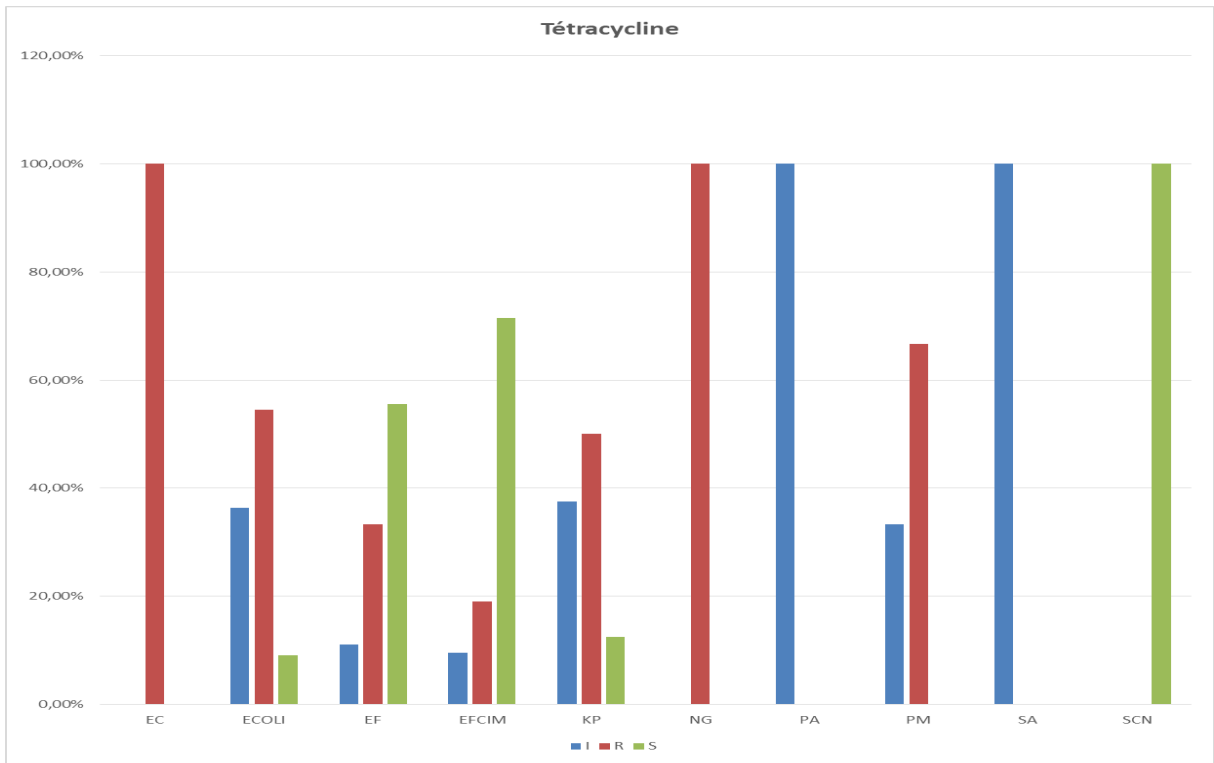
Figure 6.

THE. Coli is 40% resistant, NG is 100% resistant, SA is 100% susceptible, and SCN is 100% susceptible.



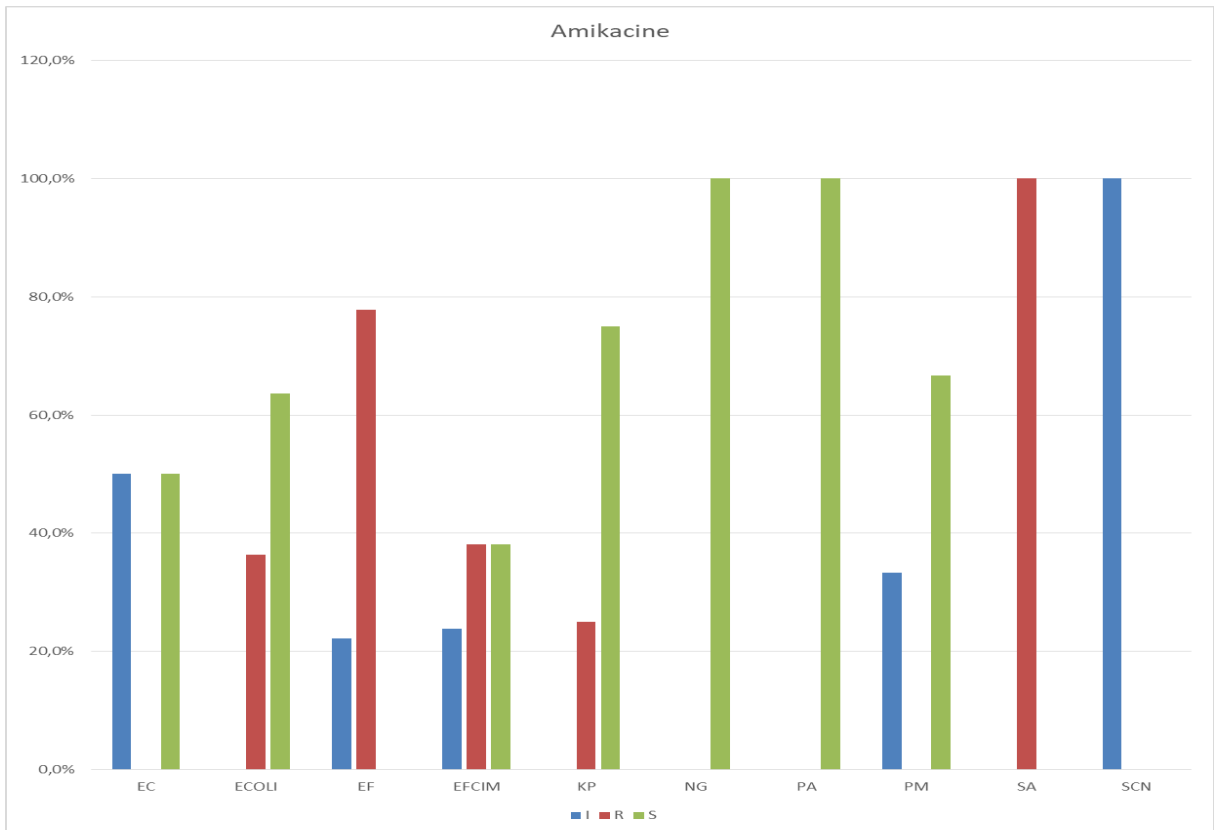
Picture 7.

THE. Coli is 60% resistant , NG and SA are 100 % sensitive .



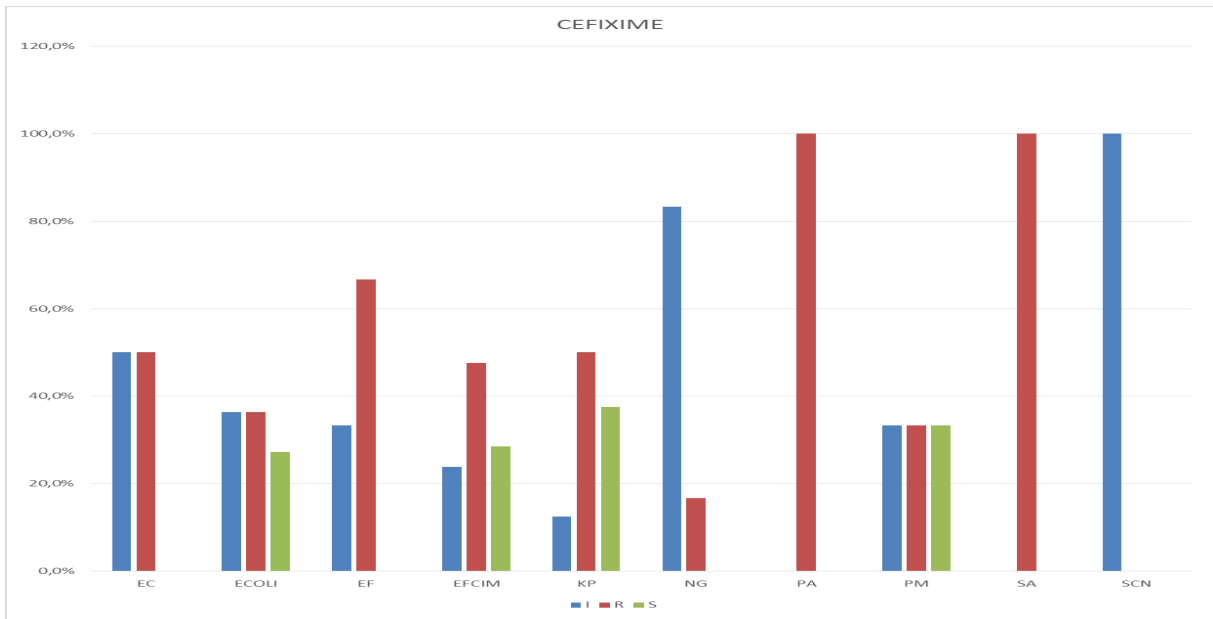
Picture 8.

THE. Coli is 55% resistant , NG is 100% resistant , SCN is 100% susceptible.



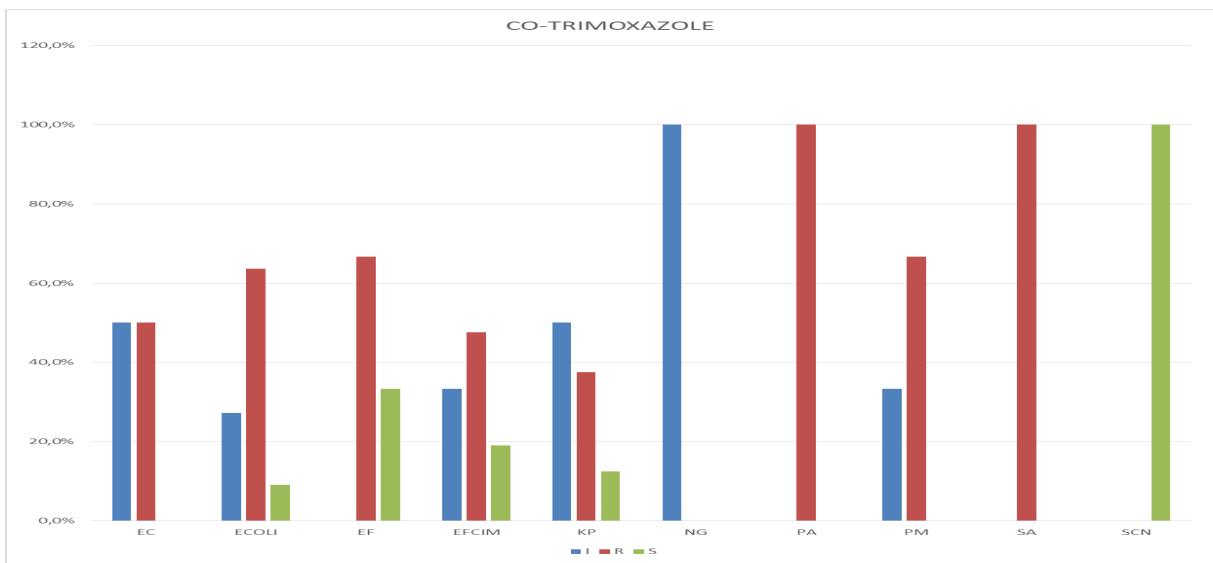
Picture 9.

THE. Coli is 60% susceptible, NG 100% susceptible, SA 100% resistant.



Picture 1 0

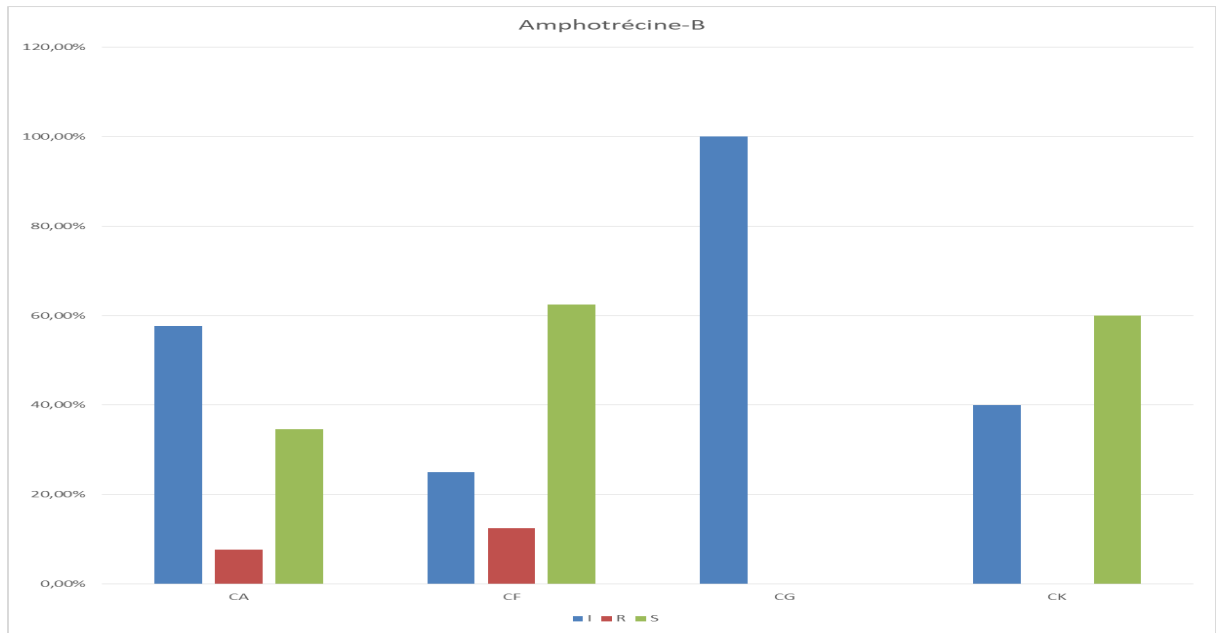
THE. Coli is 40% resistant, NG is 20 % resistant, SA is 100% resistant and SCN is 100% intermediate.



Picture 1 1.

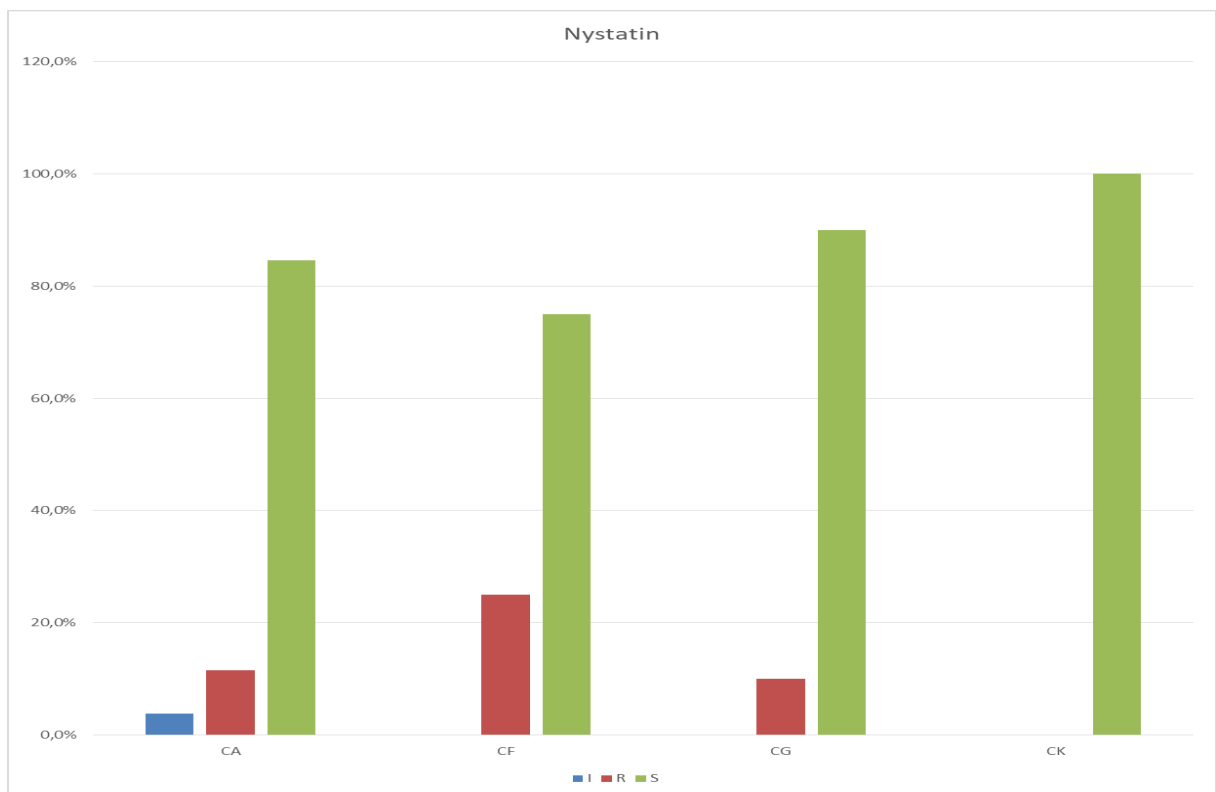
THE. Coli is 60% resistant, NG is 100% intermediate, SA is 100% resistant, and SCN is 100% susceptible.

ANTIFUNGAL



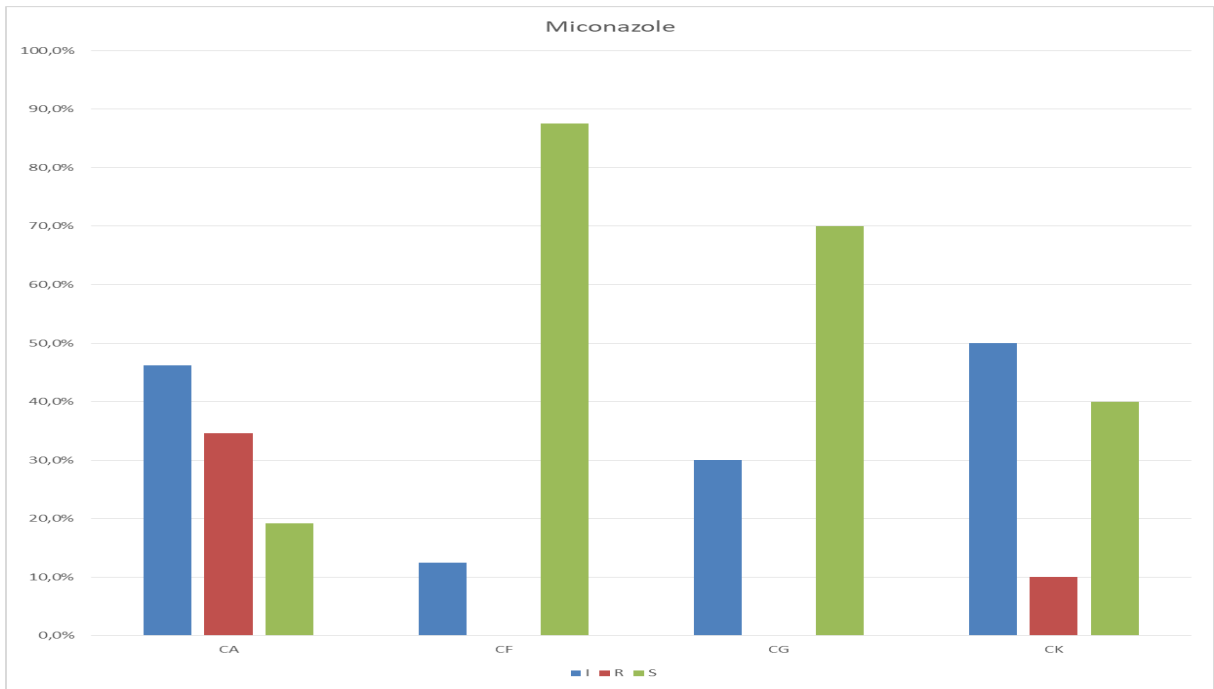
Picture 1 2.

CA is 40% sensitive, CK is 60% sensitive.



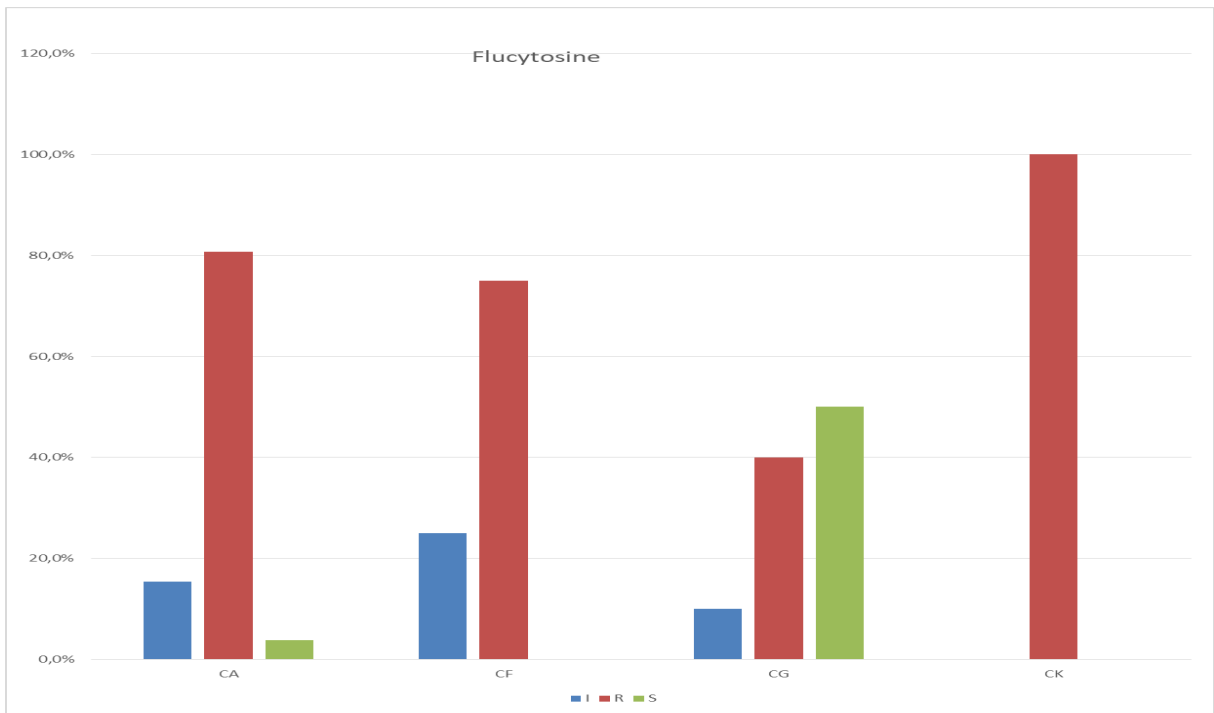
Picture 1 3

CA is 80% sensitive, CK is 100% sensitive.



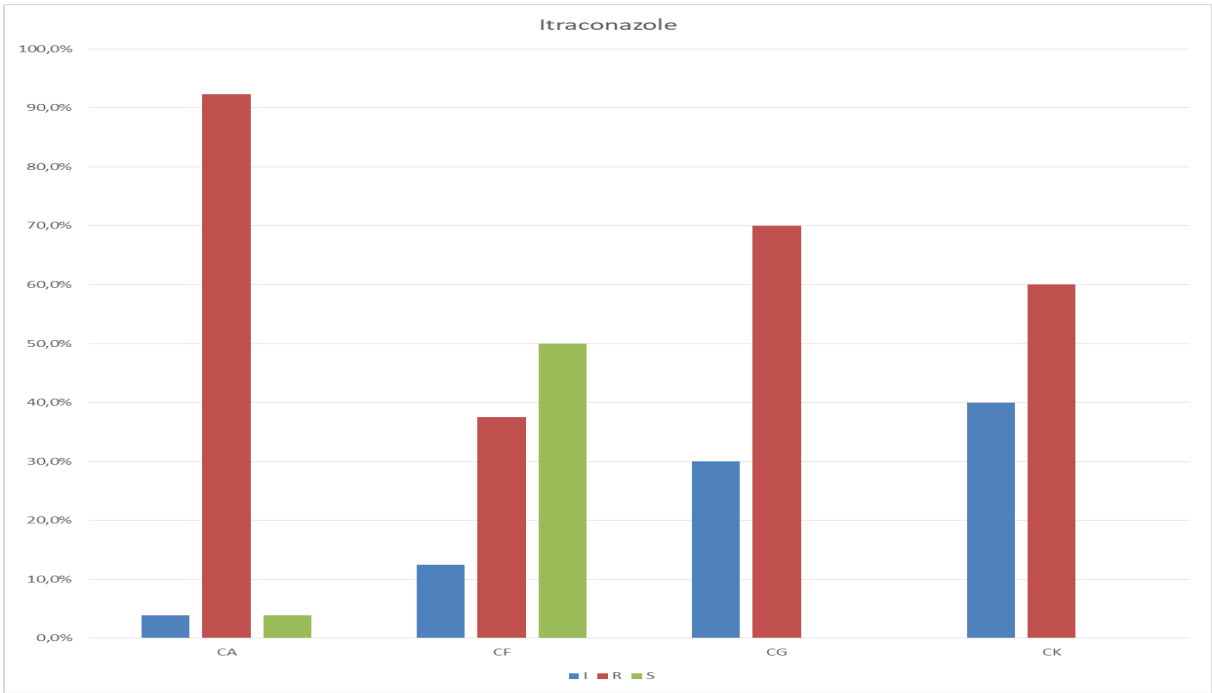
Picture 14

CA is 20% sensitive, CK is 40% sensitive.



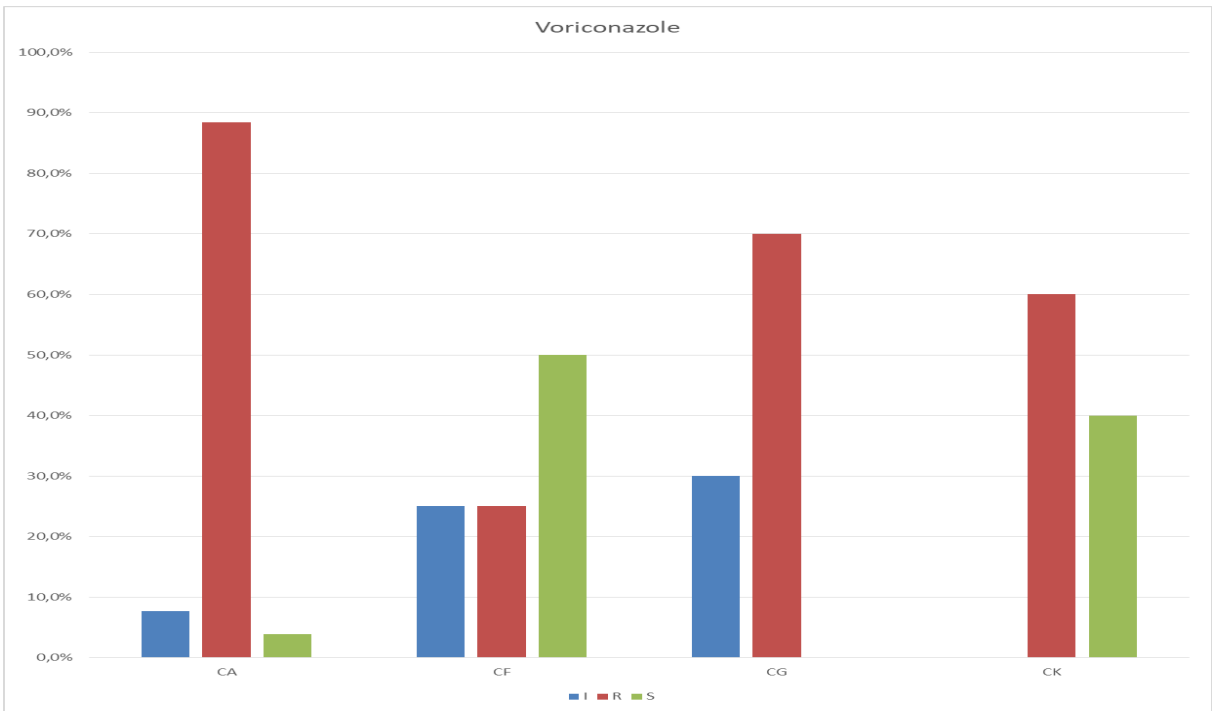
Picture 15

CA is 80% resistant, CK is 100% resistant.



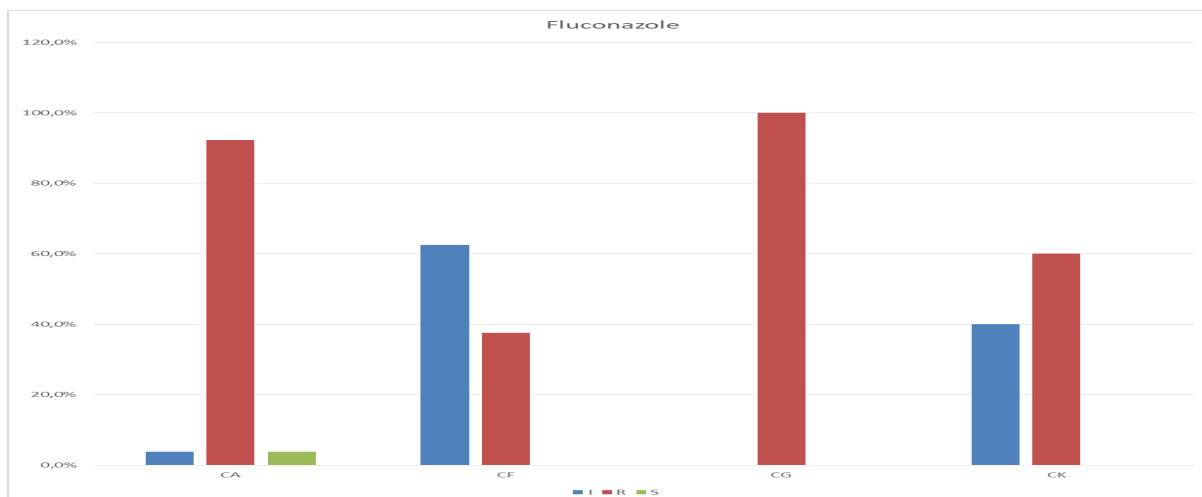
Picture 16

CA is 90 % resistant, CK is 60% resistant .



Picture 17.

CA is 90% resistant, CK is 60% resistant.



Picture 18.

CA is 90% resistant, and CK is 60% resistant.

DISCUSSION

In our study the prevalence was 23% which is close to that of Balaka . B and all in Togo in 2003 which was 21.5% (64) . Asmaa Sadik in Morocco in 2020 had found a prevalence of 18.4% (65) . In Ethiopia, a prevalence of 19.4% (66) , in Burkina-Faso a prevalence of 17.3% (67) in Denmark a prevalence of 17% (68) were found using the same diagnostic methods (score of NUGEN). The results observed in our study were much lower than the various results of other countries such as Burundi 33.30% (69) , Kenya 37% (70) Botswana 38% (71) Zimbabwe 32.50% (72) . A lower prevalence of bacterial vaginosis was found in India 10% (73) , Sweden 9.30% (74) , France in the Lille region 7.10% (21) .

We say that the prevalence rate of bacterial vaginosis varies among pregnant women from different communities. This may be due to certain factors such as: race, age of the pregnant woman, gestational age, sexual habits, vaginal hygiene, and socio-economic status. An American study reveals that the prevalence of vaginosis is higher among African Americans (23%), and lower among whites (9%) as well as among Asians 6% Hispanics 16% have an intermediate prevalence (75 –79) . This means that the risk of vaginosis seems greater in African women. The black race is one of the most well-known factors of vaginosis . In our study, the age range of pregnant women with bacterial vaginosis ranged from 17 to 45 years. This age group is close to that of Asmaa-Sadik in Morocco in 2020, which was 18 to 45 years old (65) . In the studies in Italy (23) , the United States (80) , Cameroon (81) and Burkina-Faso (82) the age groups were respectively 20 to 45, 17 to 48, 24 to 31 years old and 18 to 41 years old. In 2018 in Burundi, Gasogo had found the age group of 18 to 42 years (69) . Balaka et al in Togo found an age range of 16 to 42 years (64) . We note that BV is found at all ages of a woman's life, however BV is more frequent between 18 and 35 years (81.60%) in our study and these values are close to those of Tchelougou in Togo in 2012 of 20 to 35 years (81.15%) (84) . Similar results were obtained in Benin (73) and Senegal (85) .

Indeed, this age group corresponds to the period of full genital activity of the woman and the age of desire for pregnancy. The antecedents and clinical characteristics of pregnant women in our study paucigestes , primiparous and nulliparous are the most represented with rates of 38.80% and 48.70% respectively, while Gasago in his 2018 study in Burundi had found a rate of 46.67% for pauciparous and rates of 56.67% for nulliparous and primiparous.

Tchelougou in Togo in 2012 also found that nulliparous and primiparous were more represented with a rate of 66.90% (86) .

Faye - Kette et al found the same results in a study on the epidemiological and clinical aspects of bacterial vaginosis in Abidjan (88) this also corroborates with the work of Thakur et al in New Delhi in 1986 (89) .

In all the studies, no scientific explanation is provided to explain the phenomenon. Indeed it is in this category of pregnant women that the desire for pregnancy is more intense with a higher frequency of sexual activity.

Progression stage of pregnancy

Our results reveal that women whose evolutionary stage of pregnancy is in the second trimester are the most numerous / 46.70% / to do the analyzes relating to vaginal sampling (pv). While Tchelougou in Togo in 2012 found that women with second trimester pregnancy were 38% more likely to achieve a PV ; this corroborates with our results.

Gasoso in Burundi in 2018 found that the majority of pregnant women 47.78% came for analyzes relating to vaginal sampling between 33 and 36 SA.

Asmaa Sadik in Morocco in 2020 found that the majority of pregnant women 54.55% came for analyzes relating to vaginal sampling between 37 and 41SA.

Bacterial vaginosis and functional signs

In our study we found the presence of leucorrhoea of medium abundance 33.60% while Tchelougou found 47.49% of leucorrhoea of medium abundance.

Gasogo in his study reported that 50% of patients had no complaints related to leucorrhoea this corroborates with the result of Moutquin . JM in Quebec in 2000 (90) comes close to the results of Abdoulaye Keita in Mali in 2009 for rates of 51% and 49% respectively for the presence and absence of pathological leucorrhoea (89)

Amaa Sadik in Morocco in 2020 associated bacterial vaginosis with the presence of leucorrhoea 43.48%. This result is consistent with the study carried out in Ethiopia in 2015 (65) . In the study by Faye- Kette et al, leucorrhoea was isolated at a rate of 63.50% while Calzolari et al found a rate of 53.50% of patients with leucorrhoea (23,65,85) . In our series; In 76.5% of cases, the presence of leucorrhoea associated with the positive Amsel score showed a highly significant difference (p=0.001).

In our series; In 85.0% of cases, the presence of the odor associated with the positive Amsel score showed a highly significant difference (p=0.001).

In our series; In 58.3% of cases, the yellowish color of the leucorrhoea associated with the positive Amsel score showed a significant difference (p=0.008).

In our series; In 31.3% of cases, the whitish coloration of the leucorrhoea associated with the positive Amsel score showed a significant difference (p=0.008). While Tchelougou in Togo in 2012 had a frequency of whitish leucorrhoea of 89%. This frequency is slightly higher than ours. Tchelougou had also found yellowish leucorrhoea in second position with a frequency of 7.31%. Asmaa Sadik for whitish 67% and yellowish 21% leucorrhoea.

Reason for consultation

In our study, prenatal consultations were the main reason for consultation to carry out a PV with a frequency of 62.50%, while Tchelougou found a frequency of 31.31%. We found a frequency of 15.78%

for vulvar pruritus while Tchelougou found a frequency of 10.22%. Asmaa-Sadik in Morocco in 2020 had found a frequency of 53.64% of pregnant women who came only for CPN while vulvar pruritus with a frequency of 8.18%.

➤ ***Cultures, Antibiogram And Antifungigram***

In our study of the 104 samples of vaginal secretions, 94 had pathological germs and 11 were germ-free and 24 were co-infections. From the 1950s to the beginning of the 1960s, the bacteria most often isolated in perinatal infection in the United States and in Europe were *S.aureus* and *E.coli*. Today the perinatal bacterial ecology is dominated by the two germs in Africa and Latin America. In industrialized countries, *S. agalactiae* only emerged as a germ of perinatal infection at the end of the 1960s and still remains the predominant germ there, whereas its rarity is becoming more and more rare in tropical Africa.

The distribution of the germs identified according to the vaginal ecological groups showed in our study, a predominance of the germs of group II and a rarity of the germs of group III corresponding in this to the data of ASMAA SADIK (65) and also to the data of the literature (91).

✓ ***Gram-positive Cocci***

In our study, the germs were dominated by enterococcus 47.60%, the ASMAA SADIK result of 25.53% in Morocco (65) and the result reported in the Italian study where enterococcus was isolated in 28, 60% of cases (92–94)

✓ ***Gram-negative bacilli***

They were represented with 39.8%, enterobacteriaceae represented the majority of Gram-negative bacilli in our study. While ASMAA SADIK in 2020 in Morocco also found that enterobacteriaceae were more represented with a rate of 49.38%.

Escherichia Coli and *klebsiella pneumoniae* were the most frequently isolated species with a rate of 17.5% and 12.7%; while ASMAA SADIK found a rate of 19.15% for *Escherichia Coli* and a rate of 6.38% for *Klebsiella pneumoniae*, this result is close to our study. The aforementioned dissimilarities could be linked to the fact that the studies referenced focused on pregnant women from different countries and who have different habits (sexual, behavioral, vaginal hygiene, etc.)

✓ ***The other germs***

In our Neissera study *Gonorrhoeae* was isolated with a rate of 9.5%, this result is double the Moroccan study in 2020 where *gonococcus* was isolated with a rate of 4.25% (65), and triple the study Norwegian where *gonococcus* was isolated in 3% of cases (96). We isolated *streptococcus agalactiae* only once and ASMAA SADIK also isolated *streptococcus B* only once, these two results are similar to the study by TCHELOUGOU.D in Togo in 2012 where he isolated no *streptococci* (95).

In our series no strain of *Trichomonas Vaginalis* was isolated, this corroborates with the study of ASMAA SADIK in Morocco in 2020, while TCHELOUGOU.D in Togo in 2012 isolated *Trichomonas Vaginalis* with a rate of 3.66% (95). Our study did not search for *Chlamydia Trachomatis* as well as *Mycoplasmas* (*Mycoplasma Hominis* and *Ureaplasma urealyticum*). In our study, *E. Coli* is 20% resistant to ciprofloxacin while in the TCHELOUGOU.D study in Togo in 2012, enterobacteriaceae (*E. Coli*) resisted ciprofloxacin in 16.67% of cases, this result is close of our study.

In our study the *E. Coli* is 38% resistant to cephalosporins while TCHELOUGOU.D found 8.33% resistance of Enterobacteriaceae (*E. Coli*) to cephalosporins. In our study, the prevalence of *candida albicans* in pregnant women was 48.1%; while DJOHAN V, ANGORA KE, et al in Ivory Coast have a

prevalence of 43% (100) , ASMAA SADIK in Morocco in 2020 found the rate of 30.49% (65) ; in argentina a rate of 33.3% (97) ; in Italy a rate of 33.8% (93) ; in Turkey a rate of 37.4% (101) ; in Togo a rate of 30.77% (95) ; in benin a rate of 38.9% (102) .

However our result is slightly higher than DJOHAN V 43%. The prevalence of vaginal candidiasis varies from country to country and from region to region within the same country. This could be due to a difference in the risk factors and behaviors of the local population.

CONCLUSION

Vaginoses are frequent and still constitute a major public health problem, especially the evolution that can lead to complications involving the upper genital tract. Several resistance factors specific to our environment are identified with an antibiogram coming out of our usual probabilistic antibiotic prescriptions. Mass awareness, bacteriological equipment as well as continuous staff training could reduce its extent in our environment.

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105. **Strengths:** Contribution to the knowledge of factors, ecology as well as the sensitivity and resistance of vaginosis in our environment.
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EPIDEMIO-CLINICAL PROFILE AND MANAGEMENT OF DIABETES MELLITUS: CASE OF THE MEDICARE POLYCLINIC

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ABSTRACT

Diabetes is a metabolic disease of multiple etiology characterized by chronic hyperglycemia with disturbances in the metabolism of carbohydrates, lipids, and proteins, due to a defect in the secretion of insulin, its action or the two mechanisms combined; it is an affection, frequent, recognized like a world epidemic. Methods: This is a cross-sectional descriptive observational study whose data collection was retrospective and prospective on a sample of 239 patients at the MEDICARE Polyclinic over a period of 3 years. Results: The results showed that the prevalence of diabetes mellitus was 8.5%. The most affected age group is between 42 and 46 years or 23.4% and with an average age of 47.4 ± 10 years with a female predominance of 52.7% with 66.5% of diabetics who were married; 47, 7% of diabetic patients had the cardinal syndrome, 27.6% of patients with no signs and 17.6% of patients in a comatose state with cardinal signs. We observed that the most common diagnosis was unbalanced diabetes with a percentage of 43.9% and hyperosmolar coma at 28.5%; 79.1% of our diabetic patients were type II and 20.9% of diabetics were type I. 55.6% of patients were on insulin therapy, 33.1% on ADO and 11.3% on insulin and ADO.

Keywords : Diabetes mellitus, Management, Epidemio-Clinical, Medicare

INTRODUCTION

Diabetes is one of the four priority non-communicable diseases (NCDs) identified by the WHO, alongside cardiovascular diseases (which cover heart attacks and strokes), cancer and chronic respiratory conditions. Recognized by the WHO as a global epidemic, diabetes is now inflicting a heavy burden on the already underprivileged health systems of low- and middle-income countries and could become the 7th leading cause of death worldwide. 2030 Indeed from the epidemiological point of view, according to the International Diabetes Federation, IDF in acronym, 382 million adults in the world would be suffering from diabetes in 2030. The number of men affected was around 14 million more than women,

that is 198 million men against 184 million women. The majority of the 382 million adults affected would exist in the age group of 40 and 59 years. Type 2 diabetes mellitus remains the most common type in adults (Risasi, ER et al 2021). When it comes to children and young people, type 1 diabetes remains the most common form, just like in adults. The prevalence of type 1 diabetes is increasing worldwide. Europe alone has 24% of children with type 1 diabetes, closely followed by South-East Asia, which is home to 23% of the world's young people with type 1 diabetes, and America and the Caribbean, with 19% of cases (NDOUR, M. et al. 2011). Type 2 diabetes mellitus remains the most common type in adults (Risasi, ER et al 2021). When it comes to children and young people, type 1 diabetes remains the most common form, just like in adults. The prevalence of type 1 diabetes is increasing worldwide. Europe alone has 24% of children with type 1 diabetes, closely followed by South-East Asia, which is home to 23% of the world's young people with type 1 diabetes, and America and the Caribbean, with 19% of cases (NDOUR, M. et al. 2011). Type 2 diabetes mellitus remains the most common type in adults (Risasi, ER et al 2021). When it comes to children and young people, type 1 diabetes remains the most common form, just like in adults. The prevalence of type 1 diabetes is increasing worldwide. Europe alone has 24% of children with type 1 diabetes, closely followed by South-East Asia, which is home to 23% of the world's young people with type 1 diabetes, and America and the Caribbean, with 19% of cases (NDOUR, M. et al. 2011). The prevalence of type 1 diabetes is increasing worldwide. Europe alone has 24% of children with type 1 diabetes, closely followed by South-East Asia, which is home to 23% of the world's young people with type 1 diabetes, and America and the Caribbean, with 19% of cases (NDOUR, M. et al. 2011). The prevalence of type 1 diabetes is increasing worldwide. Europe alone has 24% of children with type 1 diabetes, closely followed by South-East Asia, which is home to 23% of the world's young people with type 1 diabetes, and America and the Caribbean, with 19% of cases (NDOUR, M. et al. 2011).

The lack of data in other regions of the world such as Africa makes it difficult to estimate type 1 diabetes mellitus. There are approximately 70,000 new cases of type 1 diabetes that are diagnosed each year in young people . The number of children with diabetes in 2013 would be 497,100 and whose age varies between 0 and 15 years.

Diabetes mellitus, being one of the major causes of morbidity and mortality, would have caused in 2013 in the world, the death of 5.1 million people according to the IDF. In 2015, the WHO states that there were 8% global mortality deaths. Diabetes is a veritable epidemic of the new millennium. The WHO estimates that the number of diabetics is 422 million (April 2014) and it should become one of the main causes of disability and death in the world within the next twenty-five years. It is a long-term, stable or progressive condition that requires an improvement in the quality of care for diabetics, while aiming for the "Doctor-Patient" relationship, the aim of which is to improve the quality of life of these patients (Karima ATTAR, 2017).

It is believed that every six seconds a person dies of diabetes. This disease causes at least 548 billion USD in 2013 for its prevention and treatment, thus representing a heavy economic burden for humanity.

The geographical distribution of diabetes mellitus in 2013, in terms of people affected, is as follows in descending order (millions of people): China (98.4), India (65.1), the United States United of America (24.4), Brazil (11.9), Russian Federation (10.9), Mexico (8.7), Indonesia (8.5), Germany (7 .6), Egypt (7.5) and Japan (7.2).

In Africa, faced with the evolution of the lifestyles of the inhabitants, in urban centers and even in rural areas, which unfortunately contrasts with the precarious budget of many countries of this continent,

the responses against this new epidemic are very limited, as a consequence, diabetes mellitus is seeing its prevalence increase in these latter countries.

In this regard, Africa presents enormous difficulties in the diagnosis of diabetes mellitus, particularly type 1, for lack of competent personnel, for example; and when diagnosed, often an inaugural coma is indicative in a quarter of cases; the latter is sometimes confused with other causes of comas and only few children who suffer from it have the means to obtain insulin, syringes and monitoring equipment, to the point that most die. It should be noted, however, that type 2 diabetes is one whose progression is directly related to urbanization. Its occurrence is predominant in people over the age of 40.

As for its complications, Handicap International (2012) in its framework document on diabetes and other cardiovascular risk factors published in July 2012 considers diabetes mellitus to be a debilitating disease. It has a strong disabling potential, linked to daily symptoms, and to potential long-term complications such as: diabetic retinopathy (10% to 47% of diabetics), stroke (1% to 12% of diabetics), heart failure (1% to 43% of diabetics), renal failure (0.3% to 33% of diabetics), diabetic neuropathy (13% to 65% of diabetics).

In the Democratic Republic of Congo, according to the WHO (2006), the prevalence of diabetes mellitus varies approximately between 7% and 10%. During the tropical medicine congress held from September 30 to October 05, 2013 at the Félix Houphouët Boigny University on diabetes mellitus in sub-Saharan Africa, it was announced that the DRC has a prevalence of 14.5% for diabetes mellitus of kind 2.

In Africa, it is estimated that around 80% of people with diabetes are undiagnosed; in many countries, 5 to 10% of the health care budget is absorbed by diabetes and more than 50% of this expenditure is attributable to the complications of diabetes (IDF 2011).

A study, covering the period from January 2009 to June 2012, on the determinants of mortality among diabetic patients in the city of Kinshasa, carried out jointly by the general provincial reference hospital of Kinshasa and the Saint Joseph hospital indicated that the average age of the cases, on the day of death was 57.2 ± 10.3 years, the most affected age group was that of 50-59 years, the female sex was slightly predominant, i.e. 52.9% against 47.1% of men and 100% of deaths had presented complications, the most marked of which was diabetic feet, which represents 44%. Knowledge of the epidemiological and clinical profiles is sparse with regard to diabetes mellitus in the DRC.

It is in this order that the present study was conducted to determine the epidemioclinical profiles and management of diabetes mellitus in the city of Lubumbashi, in the DRC. The MEDICARE Polyclinic was chosen as the workplace. This work aims to study the epidemiological and clinical profile of diabetes mellitus in the city of Lubumbashi, in the DRC; Case of the Medicare Polyclinic.

III.2 Methodology

III.2.1 Material and method

a. Type of study

This work consisted of a cross-sectional descriptive observation study whose data collection was retrospective on patient records covering a sample of 239 patients during the period from January 1, 2019 to December 31, 2021. The Internal Medicine department of the MEDICARE Polyclinic served as the setting for this study. The MEDICARE Polyclinic is one of the largest hospitals in the City of Lubumbashi and has a capacity of 127 beds.

b. Inclusion criteria:

All patients whose diagnosis was inaugural during the period of our study; hospitalized in the medical department and who have been subjected to treatment that respects their intake with good follow-up.

c. Exclusion criteria:

Non-diabetic patients were not included in this study, Diabetic patients admitted to the service during the study period but whose records were incomplete and those who were not found in the service during the study period. our study.

d. Variables collected

- Age,
- Sex,
- Marital status,
- Occupation,
- Residential commune,
- clinical data,
- Biological data

e. Sampling

Our study involved a sample of 239 patients during the period from January 1, 2019 to December 31, 2021. We used epi-info software

CHAPTER IV: PRESENTATION OF RESULTS

PREVALENCE

During our research period from January 2019 to December 2021, therefore three years of study, we collected a number of 2817 cases in consultation in the internal medicine department of the MEDICARE VILLE hospital, including 239 cases of diabetes mellitus, i.e. a hospital prevalence of 8.5%.

Figure 1 Hospital prevalence of diabetes mellitus

Pathologies	Effective	Percentage
Diabetes	239	8.5
Other Diseases	2578	91.5
Total	2817	100

This table offers a prevalence of 8.5% of cases of diabetes mellitus against 91.5% of other diseases.

Figure 2 Distribution of cases by gender

Sex	Effective	Total
Feminine	126	52.7
Male	113	47.3
Total	239	100

By observing this figure, we find that the female sex predominates with 52.7% over the male sex, i.e. 47.3% (sex ratio F/M=1.11 in favor of women).

Table I: Distribution of cases by year of discovery.

Year	Effective	Percentage
2019	63	26.4
2020	81	33.9
2021	95	39.7
Total	239	100

This table shows 39.7% of diabetic patients diagnosed in 2021; 33.9% in 2020 and 26.4% in 2019.

Table II Distribution of diabetics according to marital status

Marital status	Effective	%
Married	159	66.5
Single	64	26.8
Divorce	5	2.1
Widower	11	4.6
Total	239	100

The table above shows that most diabetics were married, 66.5%, followed by single people with 26.8%.

Table III Distribution of diabetics according to occupation

Occupation	Effective	%
Liberal activities	123	51.4
Public sectors	33	13.8
Household	74	31.0
Unoccupied	9	3.8
Total	239	100

In observance of this table, the majority of registered diabetics, ie 51.4%, were those who had liberal activities followed by housewives with 31.0%.

Table IV Distribution of diabetics according to age

Age range (year)	effective	%
[17-22[	4	1.7
[22-27[	3	1.3
[27-32[	7	2.9
[32-37[	19	7.9
[37-42[	30	12.6
[42-47[	56	23.4
[47-52[	44	18.4
[52-57[	32	13.4
[57-62[	23	9.6
[62-67[	21	8.8
Total	239	100

This table shows us that the most affected age group is between 42 and 46 years old or 23.4% and with the average age 47.4 ± 10 years. The extremes of age between 17 years and 66 years.

Table V: Distribution of diabetic patients according to signs on admission

Clinical signs	Workforce	Total
Cardinal syndrome	114	47.7
Cardinal syndrome + coma	42	17.6
Neuropathies	8	3.3
Asymptomatic	66	27.6
Others	9	3.8
Total	239	100

The cardinal syndrome represents: polyuria, polydipsia, polyphagia, asthenia.

We observed 47.7% of diabetic patients presented with the cardinal syndrome (Polyuria, Polydipsia, Polyphagia and Asthenia), 27.6% of patients with no signs and 17.6% of patients in a comatose state with cardinal signs. .

Table VI Distribution of diabetics according to diagnosis on arrival of the patient

Diagnostic	Effective	%
Diabetes sugar imbalance	105	43.9
Diabetic ketoacidosis	51	21.3
Hyperosmolar coma	68	28.5
Others	15	6.3
Total	239	100

This table tells us that 105 cases, or 43.9%, were diagnosed with unbalanced diabetes followed by hyperosmolar coma, or 28.5%.

Table VII Breakdown of diabetics according to treatment

Treatment	Effective	%
insulin therapy	133	55.6
teen	79	33.1
Teen + Insulin therapy	27	11.3
Total	239	100

The table above shows us that 55.6% of diabetics were on insulin followed by ADOs with 33.1%.

Table VIII Distribution of diabetics according to length of hospitalization

Duration of hospitalization	Effective	%
3-8	163	68.2
9-14	46	19.2
15-20	30	12.6
Total	239	100

In view of this table, hospitalized diabetics had a stay of 3-8 days, i.e. 68.2%. Average hospital stays were 9 days and extremes included 3-21 days.

Table IX Distribution of cases according to type of diabetes Probable

TYPE OF DIABETES	Effective	%
Type I or insulin-dependent diabetes mellitus	50	20.9
Type II or non-insulin dependent diabetes mellitus	189	79.1
Total	239	100

In view of this table, we note a predominance of type II diabetes mellitus, i.e. 79.1%.

Table X: Distribution of cases according to evolution

Evolution	Effective	Percentage
Death	18	7.5
Healing	221	92.5
Total	239	100

This Table shows us that 92.5% of the cases the evolution was good against 7.5% of death.

DISCUSSION

The study carried out made it possible to establish the epidemioclinical profiles and management of diabetes mellitus at the MEDICARE Polyclinic, in the City of Lubumbashi in the Democratic Republic of Congo. The following characteristics were studied: frequency of diabetes, most exposed sex, age group, BMI, type of diabetes, complaints on admission, risk factors for diabetes, rate blood sugar levels, complications and management.

1. According to the years of discovery

We observed 39.7% of diabetic patients diagnosed in 2021; 33.9% in 2020 and 26.4% in 2019. For 10 to 20 years, the phenomenon of globalization has also contributed to standardizing lifestyles on a model that promotes the increase in obesity and sedentary lifestyles. In this context, the incidence of diabetes is experiencing a strong increase in the countries of the world, even taking on epidemic proportions in certain developing countries, or in the underprivileged populations of certain industrialized countries. If nothing is implemented at the level of societies and their health systems to prevent the disease and its complications, the main responsible for its financial, social and human cost, diabetes could well become one of the major public health problems of the world. 21st century (Louis MONNIER 2014).

Amagara Domon TOGO 2010, in its retrospective and prospective descriptive study over a period of 10 years (from January 1999 to December 2008), allowed us to have the frequency of diabetes in children and adolescents aged under 20 with diabetes seen in outpatient or who have been hospitalized in the Internal Medicine department of the Point "G" National Hospital; from 1999 to 2008, the frequency rose from 2.9% in 2000 to 20% in 2008. Diabetes is a reality in the face of this increase in the number of cases.

The increased prevalence of diabetes in our study and in those of the authors cited above was related to family history and obesity. This means that the genetic factor, followed by changes in lifestyle favor the occurrence of diabetes in the population (COULIBALY, 2010 and KITEAKOTEA, 2014).

According to the 2016 WHO World Diabetes Report, diabetes is gaining ground. The prevalence of diabetes, long the prerogative of wealthy countries, is steadily increasing everywhere, particularly in middle-income countries.

Globally, an estimated 422 million adults were living with diabetes in 2014, up from 108 million in 1980. The global prevalence of diabetes (age-standardized) has nearly doubled since 1980, from 4.7 to 8.5% of the adult population. These figures reflect the increase in associated risk factors such as overweight and obesity. Over the past decade, the prevalence of diabetes has increased more rapidly in low- and middle-income countries than in high-income countries.

A study indicates that the global losses in GDP between 2010 and 2030 (Bloom DE 2011 and WHO 2016), including direct and indirect expenditure related to diabetes, will reach a total of US\$ 1700 billion, of which US\$ 900 billion in low-income countries high and US\$ 800 billion in low- and middle-income countries.

2. SEX

The female sex predominates with 52.7% over the male sex, i.e. 47.3% (sex ratio F/M=1.11 in favor of women. Teke Bagambula in 2003 whose study population consists of 183 men (44.5 %) and 228 women (55.5%); KASIAM (2008) et al, report in their research on the prevalence and risk factors of diabetes mellitus that women were mostly affected compared to men, i.e. 5190 women against 4580 men According to the International Diabetes Federation, in its 6th edition of the 2013 Diabetes Atlas, the number of men affected was approximately 14 million more than women, or 198 million men compared to 184 million women in the world. In other countries, such as the USA, diabetes mellitus affects more men than women, ie 15.5 million men against 13.4 million women. We can deduce that diabetes spares no one, it affects both female and male sex.

3. AGE

The most affected age group is between 42 and 46 years or 23.4% and with the average age 47.4 ± 10 years. The extremes of age between 17 years and 66 years. Our results are similar to those of RISASI in his study conducted at the Provincial General Reference Hospital of KINSHASA on the epidemiological, clinical profile and risk factors of diabetes mellitus. (Risasi, ER et al 2021); type 2 diabetes was predominant with 41 patients. Type 1 diabetes was dominant in the age group > 40 years (41-51 years) with 56.0% and type 2 diabetes prevails in the age group 52-62 years (also > 40 years) with 54%.

4. COMPLAINTS AT ADMISSION

We observed 47.7% of diabetic patients presented with the cardinal syndrome (Polyuria, Polydipsia, Polyphagia and Asthenia), 27.6% of patients with no signs and 17.6% of patients in a comatose state with cardinal signs. Our results are similar to those of RISASI in his study conducted at the Provincial General Reference Hospital of KINSHASA on the epidemiological, clinical profile and risk factors of diabetes mellitus. (Risasi, ER et al 2021) complaints on admission of diabetic patients were supported by the following cardinal signs of diabetes mellitus: polyuria, polydipsia, polyphagia, asthenia which accounted for a proportion of 44%, followed by wounds to the lower limbs 24% or 12 cases. The proportion of patients who had no complaints on admission was 18.0%.

5. TYPE OF DIABETES

In our study; we observed a predominance of type II diabetes mellitus, i.e. 79.1% against 20.9% of type 1 diabetes mellitus. Our results are similar to those of Risasi, in 2021 conducted in the City of KINSHASA 41 cases i.e. 82.0 % of patients suffered from type 2 diabetes against 9 cases or 18.0% of patients with type 1 diabetes. According to the international diabetes federation (DIONADJI, M et al. 2015), type 2 diabetes represents 85% at 95% of all diabetes cases in high income countries and possibly even more in low and middle income countries. We can conclude that our country is not spared from this upward trend of type 2 diabetes worldwide.

6. SUPPORTED

Diabetic patients cared for at the MEDICARE Polyclinic; 55.6% of diabetics were on insulin followed by oral antidiabetics (OAD) with 33.1% and OAD and insulin therapy 11.3%. The management in our study environment was first linked to the patient's admission table. DIALO. M et al report that the patients were treated with: diet (8%), ADO (58%), insulin (30%), insulin-ADO combination (6%). Daily treatment with ADO was: single dose (16.7%), 2 doses (55.6%) and 3 doses (27.8%). The insulin therapy regimen was 2 injections (77.8%) and 3 injections (22.2%) with 83.3% of patients independent for the injections; 86% of the patients were considered to be compliant with the treatment. We observed a cure rate of 92.5% and 7.5% of deaths.

CONCLUSION

This study was carried out in the women's and men's internal medicine department of the Medicare polyclinic on a sample of 239 diabetic patients. This is a cross-sectional descriptive observation study with retrospective and prospective data collection from January 2019 to December 2021

With the following objectives:

- To determine the hospital prevalence of diabetes mellitus at the Medicare polyclinic for a period of 3 years, i.e. from January 1, 2019 to December 31, 2021.
- To describe the socio-demographic profile of registered diabetics.
- Identify the support measures put in place.

The results showed that the prevalence of diabetes mellitus was 8.5%. The most affected age group is between 42 and 46 years old or 23.4% and with the average age 47.4 ± 10 years with a female predominance of 52.7% with 66.5% of diabetics who were married ; 47.7% of diabetic patients had the cardinal syndrome (Polyuria, Polydipsia, Polyphagia and Asthenia), 27.6% of patients with no signs and 17.6% of patients in a comatose state with cardinal signs. We observed that the most common diagnosis was unbalanced diabetes with a percentage of 43.9% and hyperosmolar coma 28.5%; 79.1% of our diabetic patients were type II and 20.9% of diabetics were type I. 55.6% of patients were on insulin therapy, 33.1% on ADO and 11.3% on insulin and ADO.

RECOMMENDATIONS AND SUGGESTIONS

Following the realities seen on the ground during the collection of data at the Medicare polyclinic, we suggest;

- ❖ **To the political-administrative authorities;**
 - Strengthen the technical platform with the acquisition of modern diagnostic means,
 - To have a spirit of solidarity in order to help diabetic patients by providing treatment at a lower cost, because it is a lifelong disease.
 - To remunerate healthcare personnel well in order to allow them to serve the population in a normal way,

- Helping to popularize information to the population on diabetes mellitus
- ❖ **To the nursing staff;**
- We suggest that they be recycled at any time by training seminars in order to rehabilitate good care, to improve the state of health of diabetic patients,
 - Carry out a thorough anamnesis and a good filling of the files on the state of health of diabetic patients;
 - Demand better patient follow-up;
 - To give the best of themselves to master the important notions on the management of diabetes mellitus, while avoiding the neglect of certain aspects.
 - To put a policy of popularization of information on diabetes, starting with primary health care, in order to ensure a strong sensitization with insistence on educating the mass on diabetes, by restoring hope for life among diabetics known about the means of avoiding acute metabolic complications,
 - Teach diabetics the risk factors and the first symptoms.
- ❖ **To the population ;**
- To balance the diet,
- Prioritize physical exercise
- Avoid a sedentary lifestyle, because diabetes remains a disease that can be treated but cannot be cured. It is therefore necessary to watch yourself, keep good eating habits, practice physical activity and take your treatment regularly. A diabetic can therefore be a healthy patient. Let us practice this because health is priceless;
 - Join diabetes associations.

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WOMEN'S EMPOWERMENT- A STUDY

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ABSTRACT

Due to the vast discrimination and differences between the sex a dis-balance is created in the society which encourages the idea of women's empowerment. The women's empowerment movement originated from women's harassment. In general, Women Empowerment means to equip the women's for real and practical life. Emphasis should be given on designing different activities, framing policies, management, developing relationships and socialism, position, power, politics, economy etc. In the present study women's empowerment means the women's social, economic, legal and political empowerment. The objectives of the study were to know the awareness amongst the women's about prohibition of child marriages, child labour, family planning, social practice and gender violence, farming practice, economic empowerment and political empowerment. Three hundred women's of which 135 were from rural areas and 165 were from urban areas responded from across the India and Turkey. The survey and interview were used to collect data by a self made tool. The raw data was then grouped and percentage was used to do the analysis and interpretation. The study concluded that the rural and urban women have a strong dislike for child marriages, child labour, domestic and gender violence as well social exploitation and strived to prevent it. In addition they also discuss family planning, the number of children they should have as well their social and economic issues that affect their lives.

Keywords : Women Empowerment, Empowerment, Gender

INTRODUCTION

As the child grows up, his environment becomes more and more complex and accordingly the needs also increase. Due to the vast discrimination and differences between the sex and it being influenced towards the males, success is more inclined towards the male than the female which creates a dis-balance in the society. In most of the countries, there is a vast discrimination between the males and the females which leads towards the idea of women's empowerment. The women's empowerment movement originated from women harassment. The World Bank supports any program related to the upliftment of the women and in the direction of women's empowerment. Women Empowerment means to equip the women's for real and practical life. Emphasis should be given on designing different activities, framing policies, management, developing relationships and socialism, position, power, politics, economy etc. Thus, Women's Empowerment means the ability of the women to judge what, when, where, why, how and developing a harmonious relationship in the environment and with the environment. The women's empowerment described as above chiefly depends upon women's social, economic, legal and political

factors. Hence, it is necessary to know the effect of these factors. In the present study *women's empowerment means the adding to the women's social, economic, legal and political liberty*. The present study is restricted strictly to the rural and urban women's of India and Turkey and the factors as such awareness amongst the women's about prohibition of child marriages, child labour, family planning, social practice and gender violence, farming practice, economic and political empowerment.

Although along with the world we are in the 21st century but then too it is found that those women's who are behind the success of all our doings are still lagging behind. This discrimination and the lagging of the women's needs the immediate follow up in the benefit and hence the development of the country. The women's in any country contributes a lot because their population is nearly equal to the males. Moreover when they are such in mass as the males, their upliftment for the development of the family, society, state, nation and hence the world becomes inevitable. In the developing country, the contribution of the women's about the prohibition of child marriages, child labour, family planning, social practice and gender violence, farming practice, economic empowerment, political empowerment is not only necessary but must and important and further these are the benchmarks for the progress of the country. Thus the progress of the country without consideration, upliftment and the empowerment of the women's is next to impossible hence it becomes necessary to study the women's empowerment especially social, economic, legal and political. In a project conducted by IFAD it was observed that the non working women's were not considered. With reference to this study, it becomes important to know if this is true in the case of a housewife also. Accordingly a study was conducted which had the following objectives to compare with the working and the nonworking women's.

Objectives

1. To know the awareness amongst the women's about prohibition of child marriages.
2. To know the awareness amongst the women's about child labour.
3. To know the awareness amongst the women's about family planning.
4. To know the awareness amongst the women's about exploitative social practice and gender violence.
5. To know the awareness amongst the women's about improved farming practice.
6. To know the awareness amongst the women's about economic empowerment
7. To know the awareness amongst the women's about political empowerment

Research Design

200 women's of which 135 were from rural areas and 165 were from urban areas of India and Turkey remained the respondent. The survey and interview being economical was used in the study. A self-made tool with ten questions was deployed in the study. The raw data was then grouped and percentage was used to do the analysis and interpretation.

Results and discussion

1. To know the awareness amongst the women's about prohibiting child marriages.

From the data analysis it was found that 78% of women residing in rural area and 85% women's residing in the urban area were aware of the prohibition about child marriages. The others belonging to the categories other than the general being affected by their culture, although aware about prohibition of child marriages preferred the same under some or the other excuses.

2. To know the awareness amongst the women's about child labour.

From the data analysis it was found that 66% of women residing in rural area and 89% women's residing in the urban area were aware of the prohibition of child labour. The others being unaware of

prohibiting child labour and affected by their economic conditions were enforced towards child labour. A few of the rural and urban women's although aware of prohibiting child labour sent their girls for labour due to their poor economic conditions.

3. To know the awareness amongst the women's about family planning.

From the data analysis it was found that 96% of women residing in rural area and 100% women's residing in the urban area were aware about family planning.

4. To know the awareness amongst the women's about exploitative social practice and gender violence.

From the data analysis it was found that 37% of women residing in rural area and 72% women's residing in the urban area were aware of the exploitative social practice and gender violence. The others were unaware of the same.

5. To know the awareness amongst the women's about improved farming practice.

From the data analysis it was found that 70% of women residing in rural area and 23% women's residing in the urban area were aware about improved farming practice.

6. To know the awareness amongst the women's about economic empowerment.

From the data analysis it was found that 25% of women residing in rural area and 45% women's residing in the urban area felt that economic empowerment of the women's could lead to women empowerment.

7. To know the awareness amongst the women's about political empowerment.

From the data analysis it was found that 26% of women residing in rural area and 47% women's residing in the urban area were aware about political empowerment of women and believed that men and women were equally important.

Conclusion

The rural and urban women's who are aware about prohibition of child marriages, child labor, domestic violence and gender violence do not prefer child marriages, child labour, domestic violence and gender violence and social exploitation. The rural and urban women's also discuss family planning, the number of children etc. within the household. The urban women's held kitty parties whereby apart of fun they discuss about preventing child marriages, child labour and domestic and gender violence as well they discuss the social and economic issues affecting life. The same is the case with the rural women's also but it is not that spread related to political and legal issues as compared to the urban women.

Suggestions

1. Enhancement of the prohibition of the child marriage programs and its consequences is still required in the rural area.

2. Economical upliftment of the particular classes in the rural area is necessary to prohibit child labour.

3. Awareness about the prohibiting women's exploitative social practice and gender violence is required especially in the rural areas

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İŞ YAŞAM KALİTESİ VE İŞ DOYUMU ARASINDAKİ İLİŞKİNİN İNCELENMESİ ÜZERİNE BİR ARAŞTIRMA⁷⁹

A RESEARCH ON THE RELATIONSHIP BETWEEN QUALITY OF WORK LIFE AND JOB SATISFACTION

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Ayhan ÇETİNBAŞ⁸¹

Özet

Araştırmanın amacı, Ankara’da yer alan özel bir elektrik şirketinde görev yapan bireylerin iş yaşam kalitesi ile iş doyumları arasındaki ilişkinin tespit edilmesi ve hangi değişkenler arasındaki ilişkinin anlamlığının irdelenmesidir. Motive olmuş, iş doyumuna erişmiş, iş- yaşam kalitesi arasında dengeyi kurabilen çalışanlar, işletmenin insan sermayesini artırarak pozitif yönde bir etki ortaya koyacaktır. İşletmenin amaçları ile kendi amaçlarını bütünleştirmiş, amacı odaklı çalışanlar işletmelere rekabet avantajı kazandırabilecektir. Bu nedenle iş yaşam kalitesi ile iş doyumunu arasındaki ilişkinin tespit edilmesi, hangi değişkenlerin iş doyumunu ile ilişkilerinin kuvvetli olduğunun tespit edilmesi araştırmanın önemini oluşturmaktadır. Araştırma nicel bir araştırma olup, araştırmada anket yöntemi kullanılmış ve anketler katılımcılara yüz yüze doldurulmuştur. Araştırmanın evreni, Ankara merkezli özel bir elektrik şirketinde görev yapan 250 saha ve ofis çalışanlarından oluşmakta olup araştırmanın örneklemini 124 katılımcıdan oluşmaktadır ve yeter örneklem sayısını karşılamaktadır. Araştırmada kullanılan yöntem tümevarımdır. Anlamlık seviyesi %5 (p=0,05) alınmış olup, istatistiksel anlamlılık için p<0,05 düzeyi aranmıştır. Yapılan korelasyon analizi sonucunda iş yaşam kalitesi ve iş doyumunu arasında anlamlı ve pozitif yönlü (p= **0,707****) bir ilişki olduğu tespit edilmiştir. İş doyumunu ile en anlamlı ilişki ise iş yaşam dengesi arasında (p= **0,829****) tespit edilmiştir.

Anahtar Kelimeler: iş yaşam kalitesi, iş doyumunu, içsel doyum, dışsal doyum, iş yaşam dengesi

Abstract

The aim of the research is to determine the relationship between the quality of work life and job satisfaction of individuals working in a private electricity company in Ankara and to examine the significance of the relationship between which variables. Motivated employees, have job satisfaction, and can balance quality of work-life will have a positive effect by increasing the human capital of the

⁷⁹ Çalışma, Batman Üniversitesi Sosyal Bilimler Enstitüsü bünyesinde yapılmış olan ‘ İş Yaşam Kalitesinin Çalışanların İş Doyumunu Üzerine Etkisi: Ankara’da Özel Bir Elektrik Şirketinde Uygulama’ (2021) adlı yüksek lisans tezinden üretilmiştir.

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organization. The purpose-oriented employees who have integrated the goals of the business with their own goals will be able to gain a competitive advantage to the businesses. For this reason, determining the relationship between work-life balance and job satisfaction and determining which variables have a strong relationship with job satisfaction constitute the importance of the research. The research is a quantitative research, survey method was used in the research and the survey were filled in face to face with the participants. The universe of the research consists of 250 workers who works in a private electricity company based in Ankara, and the sample of the research consists of 124 participants. The method used in the research is induction. Significance level was taken as 5% ($p=0.05$), and $p<0.05$. As a result of the correlation analysis, it was determined that there was a significant and positive ($p=0.707^{**}$) relationship between the quality of work life and job satisfaction. The most significant relationship was found between job satisfaction and work-life balance ($p=0.829^{**}$).

Keywords: quality of work - life, job satisfaction, intrinsic satisfaction, extrinsic satisfaction, work-life balance

GİRİŞ

İşletmelerde insan kaynağının, işletmenin verimini arttıran önemli bir unsur olduğunun anlaşılması ile beraber örgütsel davranış alan yazınında yapılan çalışmalar da artmış ve daha değerli hale gelmiştir. Örgütsel davranış alanında iş doyumunu oldukça çok çalışılmış olmasına rağmen hala çalışılmakta ve önemini korumaktadır. İş doyumunu yüksek bir çalışan, hissettiği pozitif duygular sebebiyle işyerinde daha huzurlu olmakta ve bu huzur ortamında performansı daha da iyiye gitmekte dolayısıyla bu performans artışından örgütte olumlu yönde etkilenmektedir.

Çalışanın iş yaşamından beklentilerinin giderilmesi ve bu duruma verdiği tepki olarak karşımıza çıkan iş yaşam kalitesi kavramı elbette ki çalışanın algısında oluşan soyut bir kavramdır. Çalışan ancak iş ile ilgili bütün değişkenleri kendi beklenti ve ihtiyaçları çerçevesinde değerlendirerek bir kalite algısına erişebilecektir. Kaliteli iş yaşamı olduğu kanısına varan çalışan ise daha pozitif duygularla işe devam edecek ve işine sahip çıkacaktır. Bu bağlamda çalışmada iş yaşam kalitesi ve iş doyumunu arasındaki ilişki incelenmiştir.

1. LİTERATÜR TARAMASI

İş yaşam kalitesinin tanımını yapmadan önce yaşam kalitesinin tanımının yapılması daha doğru olacaktır. Çünkü iş yaşam kalitesi, yaşam kalitesi unsurları arasında yer almaktadır.

Yaşam kalitesinin tüm bilimlerden kabul edilen ortak bir tanımı bulunmamaktadır. Ancak kavram ilgili yapılan tanımların ortak noktası bireyin yaşama ilişkin öznel değerlendirilmesini içermesidir (Bilir vd., 2005:663). Dünya Sağlık Örgütü yaşam kalitesini “bireyin hedefleri, beklentileri, istekleri, standartları ve çıkarları doğrultusunda kendi kültür ve değer sisteminde yaşamını algılaması” olarak tanımlamıştır (Boylu ve Paçacıoğlu, 2016:138). Anlatılmak istenen bireyin kendi ölçütleri ve değer yargıları çerçevesinde yaşamını algılaması ve buna uygun bir değerlendirme yapmasını içermesidir. Yaşam kalitesi; bireyin yaşam yönetim sisteminin bir çıktısı ve yaşam biçiminden tatminin ölçümüne yönelik geliştirilmiş standarttır (Gönen ve Özmete, 1999:40).

1.1. İş Yaşam Kalitesi

Sosyal bilimciler, son yıllarda popüler olan "iş yaşam kalitesi" kavramını tanımlamakta zorlanmaktadırlar. Çünkü iş yaşam kalitesi; iş güvenliğinden ödül sistemlerine, eğitimden terfi fırsatlarına ve hatta yönetsel kararlara katılım gibi kavramları içine alan bu kavramlardan etkilenen çok boyutlu dinamik bir yapıdır. (Considine ve Callus, 2002: 2).

İş yaşam kalitesi kavramı, iş hayatında yönetim anlayışındaki güncel değişimler ışığında kâr amaçlı ve kâr amacı gütmeyen işletmeler için önemli bir ilgi alanı haline gelmiştir. Bunun en önemli nedeni ise, verimliliği arttırma noktasında rekabet avantajı oluşturan en önemli olgunun çalışan ve çalışanın beklentilerinin olduğunun anlaşılmasıdır (Serbest, 2000: 27).

Nalton'un 1973'teki çalışmasında yer alan iş yaşam kalitesi; çalışanların psikolojik sağlıkları, ihtiyaçlarının giderilmesi ve bunların giderilmesi durumunda gösterdikleri reaksiyon şeklinde tanımlanmıştır (Çakır vd., 2018:346).

Martel ve Dupuis (2006:333-334), iş yaşam kalitesini; çalışma koşullarının değerlendirilmesi, çalışanın memnuniyeti düzeyi, verimlilik, çalışanın örgüt içindeki sosyal çevresi, örgütte uygulanan yönetim tarzı, iş yaşamı ile iş dışındaki yaşamın birbiriyle ilişkisi olarak tanımlamışlardır. İş yaşam kalitesi, kişilerin işletme tarafından istihdamı durumunda önemli kişisel ihtiyaçlarını karşılayabilme derecesini göstermekte (Kılıç ve Keklik, 2012:148) ve işletmedeki tüm çalışanlarının değerini yükselten bir yönetim anlayışıdır (Yüçetürk, 2005: 102). Ayrıca İş yaşam kalitesi çalışan ve çalışma ortamı arasındaki ilişkinin kalitesinin göstergesidir.

Yapılan tanımlardan da görüldüğü üzere iş yaşam kalitesi birçok farklı değişkenden etkilenmektedir ancak çalışmada iş yaşam kalitesi (İş-yaşam dengesi, İşin özellikleri, Yönetimsel davranışlar ve Ödül-yarar) dört boyutta ele alınmıştır (Chen ve Farh, 2000).

1.2. İş Doyumu

İş doyumu, bir örgütte çalışanların bir işi gerçekleştirme karşılığında beklentilerinin giderilmesi sonucunda işlerine ve örgütlerine karşı hissettikleri duygusal durum şeklinde ele alınabilir. Bu durum çalışanın iş doyumunun çalışanın beklentilerinin karşılanma düzeyleri ile ilgili olduğunu göstermektedir. Locke (1976) iş doyumunu, çalışanın işinden kaynaklı olarak memnun olmasını sağlayan hissi bir durum şeklinde tanımlamaktadır (Akt. Koustelios, 2001:354).

Barutçugil (2004:389), iş doyumunu "*bir çalışanın yaptığı işin ve elde ettiklerinin ihtiyaçlarıyla ve kişisel değer yargılarıyla örtüştüğünü veya örtüşmesine olanak sağladığını fark etmesi sonucu yaşadığı bir duygu*" olarak tanımlamaktadır. Bu tanım doğrultusunda iş doyumunu çalışanların işinden edindiği haz duygusudur. Başka bir ifade ile bireyin yaptığı işten edindiği hoşnutluk ya da hoşnutsuzluk durumudur.

İşinden pozitif duygular edinen çalışan işinde mutludur ve genel olarak insanlar mutlu oldukları yerde bulunmak isterler. Daha istek ve şevkle işini yapan çalışanın performansı ve verimliliği artabilecek, bireysel performansın artması ise örgütsel performansa yansıtılabilecektir. Böylelikle örgüt bir bütün olarak verimli hale gelebilecek ve rekabet avantajı kazanabilecektir.

Dolayısıyla örgütün başarısının altındaki önemli etkenlerden birinin çalışanların iş doyumları olduğu söylenebilir (İnandı vd., 2013:222).

Çalışmada iş doyumunu içsel doyum ve dışsal doyum olmak üzere 2 boyutta ele alınmıştır.

İçsel doyum çalışanın başarı, tanınma, takdir görme, yükselme, terfi, (Maslow'un ihtiyaçlar hiyerarşisinde saygı-statü ihtiyacı), kariyer olanakları, yapılan işin kendisi ve işin sorumluluğuna karşı hoşnut olması durumunu ifade etmektedir (Üçüncü, 2016:6). Ayrıca daha açık ve anlaşılır bir şekilde ifade etmek gerekirse çalışanın; çalışma sırasında, işini yaparken hissettiği doyum olarak tanımlanabilir.

Dışsal doyum çalışanın; işletme politikası, yönetim şekli, yönetici, çalışma arkadaşları, ast-üst ilişkisi, çalışma koşulları, ücret (emeğinin karşılığını alması), iş güvencesi gibi durumlardan duyduğu hoşnutluk olarak tanımlanabilir (Üçüncü, 2016:6). Bu tanımdan çerçevesinde dışsal doyum çalışanın; çalışma sonucunda, çalışma karşılığında elde edilen kazanımlardan hissettiği doyum olarak tanımlanabilir.

2. METODOLOJİ

Çalışmanın bu bölümünde, araştırmanın amacı, önemi, ölçekler, evren-örneklem, hipotezler, verilerin analizi ve analiz sonucu elde edilen bulgular yer almaktadır.

2.1. Araştırmanın Amacı ve Önemi

Araştırmanın amacı, Ankara’da yer alan özel bir elektrik şirketinde görev yapan bireylerin iş yaşam kalitesi ile iş doyumları arasındaki ilişkinin tespit edilmesi ve hangi değişkenler arasındaki ilişkinin anlamlılığının irdelenmesidir.

İşletmelerin en temel amacı kâr elde etmektir. İşletmeler istedikleri kârı da ancak performansı yüksek, etkin ve verimli bir şekilde işini yapan çalışanlar vasıtasıyla elde edebilecektir. Motive olmuş, iş doyumuna erişmiş, iş- yaşam kalitesi arasında dengeyi kurabilen çalışanlar, işletmenin insan sermayesini artırarak pozitif yönde bir etki ortaya koyacaktır. İşletmenin amaçları ile kendi amaçlarını bütünleştirmiş, amacı odaklı çalışanlar işletmelere rekabet avantajı kazandırabilecektir. Bu nedenle iş yaşam dengesi ile iş doyumunu arasındaki ilişkinin tespit edilmesi, hangi değişkenlerin iş doyumunu ile ilişkilerinin kuvvetli olduğunun tespit edilmesi araştırmanın önemini oluşturmaktadır.

2.2. Araştırmanın Yöntemi ve Ölçekler

Araştırma nicel bir araştırma olup, araştırmada anket yöntemi kullanılmış ve anketler katılımcılara yüz yüze doldurulmuştur.

Ankette demografik bilgiler dışında çalışanların iş yaşam kalitesi ve iş doyumunu ölçmek için iki ayrı ölçekten yararlanılmıştır. Anket formunda iş yaşam kalitesi ve iş doyumunu ölçeklere ilişkin ifadeler ayrı gruplanmış olup ifadeler kısa, kolay, anlaşılır ve kapalı uçlu hazırlanarak cevaplayanın fazla zamanını almaması için uğraşılmıştır. Uygun ifadelerle katılımcıların bu ifadelere ne oranda katıldıkları sorularak beşli likert ölçeği kullanılmıştır. İş yaşam kalitesi değişkeni için Chen ve Farh (2000) tarafından geliştirilen ölçek kullanılmıştır. İş doyumunu değişkeni için Minessote iş doyumunu ölçeğinden yararlanılmıştır.

2.3. Evren ve Örneklem

Araştırmanın evreni, Ankara merkezli özel bir elektrik şirketinde görev yapan 250 saha ve ofis çalışanlarından oluşmaktadır. Araştırma örneklem sayısının belirlenmesi için örneklem hesaplama formülü kullanılmıştır. Bu formül evren büyüklüğünün bilindiği çalışmalarda kullanılmaktadır. Formüle göre (Kalaycı, 2015: 69);

$$n = \frac{N \cdot Z^2 \cdot P \cdot Q}{d^2 \cdot (N-1) + Z^2 \cdot P \cdot Q}$$

n = Örneklem büyüklüğü, N = Ana kütle hacmi, Z = Belirli serbestlik derecesinde ve saptanan yanılma düzeyinde z tablosunda bulunan teorik değer, P = Olayın gerçekleşme olasılığı, Q = Olayın gerçekleşmeme olasılığı, d = Hata payını temsil etmektedir.

Bu formüle göre örneklem sayısı:

$$250. (1,96)^2. (0,5). (0,5)$$

$$n = \frac{250. (1,96)^2. (0,5). (0,5)}{(0,05)^2. (250-1) + (1,96)^2. (0,5). (0,5)}$$

$$n = 151,683619$$

$$n \cong 152$$

Formül sonucuna göre çalışma için gerekli olan örneklem sayısı hesaplandığında 152 örneklemin ana kütleyi temsil etme gücüne sahip olduğu söylenebilir. Basit tesadüfi örnekleme yönteminin kullanıldığı örneklem 158 katılımcıdan oluşmaktadır ve yeter örneklem sayısını karşılamaktadır.

2.4. Araştırmanın Hipotezleri

Araştırmanın hipotezleri şu şekildedir;

H₀: İş yaşam kalitesi ile iş doyumu arasında anlamlı bir ilişki vardır.

Alt hipotezler

H_{1a}: İş yaşam dengesi ile içsel doyum arasında anlamlı bir ilişki vardır.

H_{1b}: İşin özellikleri ile içsel doyum arasında anlamlı bir ilişki vardır.

H_{1c}: Yönetimsel davranışlar ile içsel doyum arasında anlamlı bir ilişki vardır.

H_{1d}: Ödül ve yarar ile içsel doyum arasında anlamlı bir ilişki vardır.

H_{2a}: İş yaşam dengesi ile dışsal doyum arasında anlamlı bir ilişki vardır.

H_{2b}: İşin özellikleri ile dışsal doyum arasında anlamlı bir ilişki vardır.

H_{2c}: Yönetimsel davranışlar ile dışsal doyum arasında anlamlı bir ilişki vardır.

H_{2d}: Ödül ve yarar ile dışsal doyum arasında anlamlı bir ilişki vardır.

2.5. Verilerin Analiz Yöntemi

Araştırmada kullanılan yöntem tümevarımdır. Örnekten hareketle evren hakkında genellemeler yapılmıştır. Araştırma türü ise neden sonuç ilişkisine dayalı açıklayıcı araştırmadır. Anket sorularına yönelik örneklem verilerinin analizinde SPSS 23.0 programı kullanılmıştır. Yapılan analizlerde anlamlılık seviyesi %1 (p=0,01) alınmış olup, istatistiksel anlamlılık için p<0,01 düzeyi aranmıştır.

Hipotezler test edilmeden önce değişkenlerin güvenilirlik (Cronbach Alfa) ve geçerlilik analizleri (Faktör Analizi) yapılmıştır. Hipotezler Korelasyon testi ile analiz edilmiştir.

2.6. Verilerin Analizi

Araştırmada kullanılan ölçeklerle elde edilen verilere ait güvenilirlik analizi sonuçları Tablo1'de gösterilmektedir.

Tablo 1: Güvenirlik Analizi Sonuçları

Ölçekler	İfade Sayısı	Güvenirlik Katsayısı
İş-Yaşam Kalitesi	12	0,855
İş Doyumu	20	0,847

Tablo 1’de görüldü üzere deęişkenlerin cronbach alfa deęerleri $0.80 \leq \alpha < 1.00$ arasındadır ve çok yüksek güvenilirliktedir.

Tablo 2: İş Yaşam Kalitesinin KMO ve BARTLETT Testi Sonuçları

Testler		Sonuçlar
KMO (Örneklem Uygunluğu Ölçüsü)		0,799
BARTLETT (Küresellik Sınamaları)	X ²	514,340
	Sd	66
	P	0,000

Tablo 2 incelendiğinde; KMO (Örneklem Uygunluğu Ölçüsü) deęerinin 0,799; BARTLETT (Küresellik Sınamaları) testi sonucunun ise anlamlı olduęu ($X^2= 514,340$ ve $p<0,01$) görülmüştür. Bu verilerden hareketle iş yaşam kalitesi ölçeğinin yeterli düzeyde geçerli olduęu sonucuna baęlı olarak Açımlayıcı Faktör Analizinin yapılabileceęi söylenebilir.

Tablo 3: İş Yaşam Kalitesi Ölçeğinin Geçerlik Analizi Sonuçları
Dönüştürülmüş Bileşen Matrisi

İfadeler	Alt Bileşenler			
	Faktör 1	Faktör 2	Faktör 3	Faktör 4
Amirim/müdürüm işim konusunda bana rehberlik eder.	0,878			
Amirim/müdürüm işimde bir problemle karşılaştığımda, problemin çözülmesi için bana yardımcı olur.	0,720			
İşimde başarı elde ettiğimde, amirim/müdürüm beni takdir eder.	0,680			
İşyerimdeki meslektaşlarımla karşılaştığımda, kendimi daha fazla ödüllendirilmiş hissedirim.		0,849		
Diğer iş yerlerinde çalışan meslektaşlarımla karşılaştığımda, daha fazla ödüllendirildiğimi düşünüyorum.		0,822		
İşyerim benim hayat standartlarımı yükseltmemi önemser.		0,770		
Kendi kararlarıma göre işimi yaparım.			0,896	
İşim yaratıcılık içerir ve anlamlıdır.			0,831	
İşim elde edilmesi zor olduęu için beni motive eder.			0,561	
İş ve aile hayatım birbirinden etkilenmez.				0,902
İş yüküm kabul edilebilir düzeydedir.				0,615
Çalışma sürem kabul edilebilir düzeydedir.				0,513

Tablo3’de çalışmada kullanılan iş yaşam kalitesi ölçeğine ait alt faktörler olan Faktör 1 (İş yaşam dengesi), Faktör 2 (İşin özellikleri), Faktör 3 (Yönetimsel davranışlar) ve Faktör 4 (Ödül ve yarar) alt bileşenlere atanan ifadeler gösterilmiştir. Tablo’da görüldüğü üzere her bir maddenin faktör yükü 0,50’nin üzerindedir.

Tablo 4: İş Doymu Ölçeğinin KMO ve BARTLETT Test Sonuçları

Testler	Sonuçlar	
KMO (Örneklem Uygunluğu Ölçüsü)	0,726	
BARTLETT (Küresellik Sınamaları)	X ²	692,451
	Sd	190
	P	0,000

Tablo 4 incelendiğinde, KMO (Örneklem Uygunluğu Ölçüsü) değerinin 0,726; BARTLETT (Küresellik Sınamaları) testi sonucunun ise anlamlı olduğu ($X^2= 692,451$ ve $p<0,01$) görülmektedir. Bu verilerden hareketle iş doymu ölçeğinin yeterli düzeyde geçerli olduğu sonucuna bağlı olarak Açımlayıcı Faktör Analizinin yapılabileceği söylenebilir.

**Tablo 5: İş Doymu Ölçeğinin Geçerlilik Analizi Sonuçları
Dönüştürülmüş Bileşen Matrisi**

İfadeler	Alt Bileşenler	
	Faktör 1	Faktör 2
Kendi kararımı verme özgürlüğü tanıyor.	0,735	
Bu işte ilerleme imkânım var.	0,701	
Yaptığım iyi bir iş karşılığında aldığım övgüler oluyor.	0,656	
Aldığım ücret yeterli düzeydedir.	0,638	
Yöneticim elemanlarına karşı hakkaniyetlidir.	0,633	
İşyeri çalışma koşulları çalışmaya elverişlidir.	0,617	
İşimden elde ettiğim başarı duygusu yüksektir.	0,569	
Yöneticimin karar verme konusunda yeterlidir.	0,533	
Firma politikasını uygulama imkânı sağlıyor.	0,456	
İşyerinde çalışma arkadaşlarımla birbirleriyle iyi anlaşmasını sağlıyor.	0,416	
İşim çalışırken kendi yöntemlerimi deneme imkânı sağlıyor.	0,400	
Başkaları için bir şeyler yapabilme imkânı tanıyor.		0,717
İşim bana sürekli bir işe sahip olma imkânı tanıyor.		0,622
İşim sürekli bir şeylerle meşgul olabilme imkânı tanıyor.		0,595
İşim tek başıma çalışma imkânı sağlıyor. İşim zaman zaman farklı şeyler yapabilme imkânı tanıyor.		0,580
İşim bana toplumda bir yer edinme imkânı sağlıyor.		0,578
İşim zaman zaman farklı şeyler yapabilme imkânı tanıyor.		0,562
İşim başkalarına ne yapacaklarını söyleme imkânı tanıyor.		0,555
İşim yeteneklerimi kullanabilme imkânı veriyor.		0,484
İşim vicdanıma ters düşmeyen şeyleri yapabilme imkânı veriyor.		0,439

Tablo 5’de Minnesota iş doymu ölçeğine ait faktörlerden Faktör 1 (içsel doyum) ve Faktör 2 (dışsal doyum) alt bileşenlere atanan ifadeler gösterilmiştir. Her bir faktöre atanan maddelerin faktör yükü 0,40’ın üzerindedir.

Araştırmada iş yaşam kalitesi ve alt değişkenleri (iş yaşam dengesi, işin özellikleri, yönetimsel davranışlar ile ödül ve yarar) ile çalışanların iş doymu ve alt değişkenleri (içsel doyum ve dışsal doyum) arasındaki ilişki (korelasyon) değeri belirlenmiş olup sonuçlar Tablo 6’da sunulmuştur.

Tablo 6: Korelasyon Analizi

Değişkenler/ Korelasyon Değerleri		İş Yaşam	İş Doymu	İçsel Doyum	Dışsal Doyum	İş Yaşam Dengesi	İşin Özellikleri	Yönetimsel Davranışlar	Ödül ve Yarar
İş Yaşam Kalitesi	Pearson Korelasyonu	1							
	Anlamlılık	-							
İş Doymu	Pearson Korelasyonu	0,707**	1						
	Anlamlılık	0,000	-						
İçsel Doyum	Pearson Korelasyonu	0,897**	0,668**	1					
	Anlamlılık	0,000	0,000	-					
Dışsal Doyum	Pearson Korelasyonu	0,828**	0,540**	0,495**	1				
	Anlamlılık	0,000	0,000	0,000	-				
İş Yaşam Dengesi	Pearson Korelasyonu	0,648**	0,829**	0,617**	0,467**	1			
	Anlamlılık	0,000	0,000	0,000	0,000	-			
İşin Özellikleri	Pearson Korelasyonu	0,463**	0,686**	0,476**	0,311**	0,386**	1		
	Anlamlılık	0,000	0,000	0,000	0,000	0,000	-		
Yönetimsel Davranışlar	Pearson Korelasyonu	0,431**	0,714**	0,374**	0,370**	0,458**	0,292**	1	
	Anlamlılık	0,000	0,000	0,000	0,000	0,000	0,001	-	
Ödül ve Yarar	Pearson Korelasyonu	0,492**	0,734**	0,445**	0,390**	0,564**	0,322**	0,317**	1
	Anlamlılık	0,000	0,000	0,000	0,000	0,000	0,000	0,000	-

Tablo 6’da, görüldüğü üzere, iş yaşam kalitesi ve alt boyutları ile (iş yaşam dengesi, işin özellikleri, yönetimsel davranışlar ile ödül ve yarar) çalışanların iş doymu ve alt boyutları (içsel doyum ve dışsal doyum) arasında kurulan ilişki (korelasyon) düzeyinin testine ilişkin sonuçlar listelenmiştir. Analizler 0,01 anlamlılık seviyesinde test edilmiş olup, değişkenler arasında kurulan ilişki (korelasyon) değerleri şu şekildedir;

- İş yaşam kalitesi ile çalışanların iş doymu arasında anlamlı, pozitif yönlü ve 0,707 değerlerinde kuvvetli düzeyde korelasyon saptanmıştır.

- İş yaşam dengesi alt faktörün diğer değişkenler arasındaki ilişkisi (korelasyon) şu şekildedir; iş yaşam kalitesi ile 0,648 değerlerinde kuvvetli düzeyde korelasyon, iş doymu ile 0,829 değerlerinde kuvvetli düzeyde korelasyon, içsel doyum ile 0,617 seviyesinde kuvvetli düzeyde korelasyon, dışsal doyum ile 0,467 değerlerinde orta düzeyde korelasyon, işin özellikleri ile 0,386 değerlerinde orta düzeyde korelasyon, yönetimsel davranışlar ile 0,458 değerlerinde orta düzeyde korelasyon ve ödül ve yarar arasında da 0,564 değerlerinde pozitif yönlü, anlamlı ve orta düzeyde korelasyon saptanmıştır.

- İşin özellikleri alt faktörün diğer değişkenler arasındaki ilişkisi (korelasyon) şu şekildedir; iş yaşam kalitesi ile 0,463 değerlerinde orta düzeyde korelasyon, iş doymu ile 0,686 değerlerinde kuvvetli

düzye korelasyon, içsel doyum ile 0,476 deęerlerinde orta düzye korelasyon, dıřsal doyum ile 0,311 deęerlerinde orta düzye korelasyon, iř yařam dengesi ile 0,386 deęerlerinde orta düzye korelasyon, yönetimsel davranıřlar ile 0,292 deęerlerinde zayıf düzye korelasyon ve ödöl ve yarar arasında da 0,322 deęerlerinde pozitif yönlü, anlamlı ve orta düzye korelasyon saptanmıřtır.

- Yönetimsel davranıřlar alt faktörün dięer deęiřkenler arasındaki iliřkisi (korelasyon) řu řekildedir; iř yařam kalitesi ile 0,431 deęerlerinde orta düzye korelasyon, iř doyumunu ile 0,714 deęerlerinde kuvvetli düzye korelasyon, içsel doyum ile 0,374 deęerlerinde orta düzye korelasyon, dıřsal doyum ile 0,370 deęerlerinde orta düzye korelasyon, iř yařam dengesi ile 0,458 seviyesinde orta düzye korelasyon, iřin özellikleri ile 0,292 deęerlerinde zayıf düzye korelasyon ve ödöl ve yarar arasında da 0,317 deęerlerinde pozitif yönlü, anlamlı ve orta düzye korelasyon saptanmıřtır.

- Ödöl ve yarar alt faktörün dięer deęiřkenler üzerindeki iliřkisi (korelasyon) řu řekildedir; iř yařam kalitesi ile 0,492 deęerlerinde orta düzye korelasyon, iř doyumunu ile 0,734 deęerlerinde kuvvetli düzye korelasyon, içsel doyum ile 0,445 deęerlerinde orta düzye korelasyon, dıřsal doyum ile 0,390 deęerlerinde orta düzye korelasyon, iř yařam dengesi ile 0,564 deęerlerinde orta düzye korelasyon, iřin özellikleri ile 0,322 deęerlerinde orta düzye korelasyon ve yönetimsel davranıřlar arasında da 0,317 deęerlerinde pozitif yönlü, anlamlı ve orta düzye korelasyon saptanmıřtır.

Deęiřkenler arasında kurulan korelasyon (iliřki) analizi bulgularının pozitif yönlü ve anlamlı olması arařtırmanın bütün hipotezlerinin kabul edildiđini göstermektedir. İř yařam kalitesi ile iř doyum düzeyleri arasında anlamlı ve pozitif yönde iliřki bulunduđu bulgusu elde edilmiřtir.

SONUÇ VE ÖNERİLER

Analiz sonuçlarına göre bütün deęiřkenlerin birbiri ile pozitif yönde anlamlı bir iliřkiye sahip olduđu tespit edilmiřtir. Zaten bizim çalıřmada beklediđimiz ve olmasını tahmin ettiđimiz bulgularda bu yönde ancak hangi deęiřkenler birbirleriyle daha yođun iliřki içerisinde olduđuna bakmak ve bunları yorumlamak faydalı olacaktır. İř doyumunu ile içsel doyum arasındaki iliřkinin pozitif yönlü ve yüksek olması çalıřanın çalıřırken iřini yaparken elde ettiđi doyumun, çalıřma karřılıđında elde ettiđi doyumdan yüksek olduđunu göstermektedir. Çalıřan iřini yaparken hořnut manevi anlamda tatmin ancak iřin yaptıktan sonra elde ettiđi kazanımlarından daha az hořnut olduđunu göstermektedir. Bunların içerisinde ücret, iř güvenliđi, yönetici iliřkileri gibi unsurlar çalıřanın memnuniyetini etkilemektedir. İř yařam kalitesi ve iř yařam dengesi arasında ki iliřkinin pozitif yönlü ve yüksek olması, iř ve özel hayatın uyumlu olmasının iř yařam kalitesinde daha etkin olduđunu göstermektedir. Ödöl ve yarardan daha çok iř ve özel hayatın dengeli olmasının iř yařam kalitesinde etkili olduđu sonucunu göstermektedir. Çalıřma mavi yakalı çalıřanlarda yapılmıř olup, iřten aldıkları ücret asgari ya da asgari üretin biraz üzerindedir. Ancak bu durumda dahi çalıřanlar yařam kalitesinde ücretten daha çok iř ve özel hayat arasındaki dengenin önemini vurgulamaktadır. Bu durum çalıřanların bu farkındalıkta olduđunu göstermektedir. İř ve özel hayat uyum içinde ve dengeli olduđunda iř doyumunun yüksek olması bu faktörün iř doyumunda etkili olduđunu göstermektedir. İř yařam dengesi ile bütün alt deęiřkenler arasındaki iliřki pozitif yönlü ve yüksektir. Yöneticiler genellikle özellikle mavi yaka çalıřanlarda çalıřanın iř yařam kalitesinin ücretle sađlanabileceđini düşünebilmektedir. Ancak arařtırma sonuçlarına göre en azından arařtırmaya katılan çalıřanlar, maddi imkânların yanında daha fazla iř hayatı ile yařamının dengesinin önemli olduđunu vurgulamaktadır. ‘Deęiřim ve geleceđi řekillendirmek’ konseptinden baktıđımızda günümüz bilgi çağında insanların bilgiye kolay ulařması (çalıřanların yař ortalamalarında %75 inden fazlası 16-45 yař arası) , birtakım manevi deęerleri maddi deęerlerden daha çok önemsediklerini göstermektedir. Bu durum Taylorizm (Taylorizm’in yani çalıřanların ücretle motive olacađı görüřüne) öldü mü sorusuna cevap niteliğindedir. Artık çalıřan ücretten ziyade yařam kalitesine, iřinde mutlu çalıřmaya, kendi hayatı ile iř hayatının dengeli olmasına daha fazla önem

vermektedir. Çalışanlar işinin yaşamına kattığı anlama daha fazla değer vermektedir. Eğitim düzeyi (katılımcıların %52,4'ü lise ve altı eğitim düzeyine sahiptir) burada bir etken olmaktan çıkmakta ve çalışan için işi ne anlam ifade ettiği önem kazanmaktadır. Bu anlam işinden tatmin olmasında daha etkin hale gelmektir. O nedenle iş yaşam dengesinin diğer alt değişkenlerle ilişkisinin (iş yaşam kalitesi, iş doyumunu, içsel doyum, dışsal doyum) daha kuvvetli olduğu sonucuna varabiliriz.

Değişimi ön plana alan geleceği şekillendirmek isteyen yöneticiler; çalışanların iş doyumunda iş-yaşam dengesinin önemli bir rolü olduğunu da göz önüne alıp, çalışanlarını iyi analiz ederek bu duruma uygun yönde planlamalar yapmalıdırlar.

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PERSPECTIVE TO CASHLESS SOCIETY: AN INTENTION AMONG MILLENNIALS AND X GENERATION IN MALAYSIA

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ABSTRACT

A cashless society deems important and has become the aim of a financial institution in Malaysia. Recently, Central Bank; Bank Negara Malaysia should be satisfied with a mushrooming growth of e-wallet types in Malaysia. However, this cashless thing related to new technology and rapid changes in technology creates anxiety and fear for many people. Some say it would seem embedded in the lives of younger generations, but it is quite cold and unaccepted in older generations. However, this assumption is yet to be proved regardless of the recent technophobia which has become a phenomenon that might result from security issues. Nevertheless, the social interpretation would give more impact as well as an emergent modern lifestyle among young consumers. Thus this study is aiming at examining the consumer intention towards cashless applications. This cross-sectional study would investigate lifestyle compatibility, social influence, and security level towards cashless applications and would be conducted towards younger consumers from Islamic Banking students. Specifically, the adapted instruments will be distributed primarily for peer review before embarking on a pilot test. This study is hoped to invite new perspectives to the young consumer intention towards e-wallet which might reconceptualize the Islamic education towards financial issues.

Keywords: e-wallet, consumer intention, lifestyle, security level, financial education.

1. INTRODUCTION

A cashless society deems important and has become the aim of a financial institution in Malaysia. Central Bank; Bank Negara Malaysia should be satisfied with a mushrooming growth of e-wallet types in Malaysia recently. At present, there are more than 50 types of accelerated growth of financial technology in Malaysia. This so-called digital wallet has been supported by participating merchants which offers a wide range of rewards and cashback. To propel the cashless agenda, the government has initiated a variety of programs including injecting cash

into youth financial accounts and adhere non-government organizations to boost the cashless society and digital economy.

However, in the situation which witness most countries are reaching for a cash-free country, there are some possible negative consequences (Rivera, 2019). Cashless society probably sounds like a dream for the past years, but several powerful forces have moved its effort towards rationalizing it to make it on its way.

The cashless society is not meant to go cash-free however with its challenges, a cashless society becomes an aim of most countries. This is due to its advantages such as it would lower the rate of criminal towards tangible money. A cashless society brings a few challenges like; (1) security and privacy concerns. There is an increasing fear of security solutions. An increasing rate of crimes involving an organized and sophisticated gang had worsened the worrying wave. (2) Resilience where there is always a need to cash especially in a natural disaster such as flooding, earthquake, etc. (3) Tracking spending is quite uncontrollable and leaves people with less money due to uncontrollable spending via non-cash. (4) Unwilling consumers were in whatever circumstances, there will always people who are not tech-savvy as their younger peers who still prefer cash for several reasons. (5) Loss of control where cash notes and coins always become their comfort and security.

However, there are few benefits like less time and costs associated with storing, handling, and depositing cash notes. Cashless also would strongly recommend lowering the crime rate associated with paper money. Nevertheless, cashless would probably expose breach of personal information. Similarly, if hackers successfully do their job, they will drain the bank account of the victims.

New and rapid changes in technology create anxiety and fear for many people. It would seem embedded in the lives of younger generations, but it is quite cold and unaccepted in older generations. Now technophobia is a phenomenon that might result from security issues. Lifestyle is also a factor to determine purchase decision and young consumers are called 'new prosumers' (Adnan et al., 2017). Not to mention that social influence would also give a great influence on decisions especially on online business (Shen et al., 2016). Thus it is important to measure the actual impact of these factors on intention to use an e-wallet. Essentially this study aims for three objectives which are (1) to examine the lifestyle compatibility towards e-wallet use among X Gen and millennial in Malaysia, (2) to determine social influence towards e-wallet application, and (3) to measure security level as perceived by X Gen and millennials in Malaysia

Literature Review

Recently technology has dominated lifestyles and put a huge impact on everything, from the second one starts their life and wake up from the bed until we return to the bed again.

Lifestyle is a tax relief in Malaysia in which individual can relieve their tax by purchasing tools like a smartphone. This reflects and portrays its meaning. Lifestyle is a way of living and doing things (Ryan, 2018). Lifestyle influences consumer intention to buy both online businesses (Belanche et al., 2020) and brick and mortar businesses (Chairy, 2017). Thus

lifestyle might give some influence on the intention to use the e-wallet application. Other factors might be a factor to consumer intent. Social influence would give some impact on the intention to use the e-wallet application. Social influence refers to the level of a person perceives about people who are important of self-believe that he or she should adopt new technology (Venkatesh et al, 2003). Theoretically, social influence concerns the way how individuals change their behavior to meet the social environments at that particular time. According to the Theory of Social influence, it has two essential elements, normative and informational which enhance the need to be liked and to be right (Deutsch & Gerald, 1955). This theory would give some weight to the consumer intention.

New and rapid changes in technology create anxiety and fear for many people. It would seem embedded in the lives of younger generations, but it is quite cold and unaccepted in older generations. Now technophobia is a phenomenon that might result from security issues. Security especially financial security would be a vital factor to consumer intent.

The definition of consumer intention has been expanded (Bagozzi, 2010). However, the intention has a clearly defined meaning. The intention is a person's *commitment, plan, and decision to act to achieve a goal* (Eagly & Chaiken, 1993). Most of the time Theory of Planned Behaviour and Theory of Reasoned Action was used to measure intention (Harsanto & Jatnika, 2017), (Saved Elhoushy, 2020). However this study concern with three factors to be analyzed; lifestyle, social influence, and security. These factors are believed to be the factors to intention towards intention to use the e-wallet. Some studies predict their factors to dependent variables (Akman & Mishra, 2017) even demographic factors (Omar et al, 2016). In this study, marketing theory will be used in which various factors will be determinants to dependent variables including demographic details which would be best to solve the problems.

2. Methodology

The main sample are X Gen and Millennials consumers in Malaysia. The main reason is this study is to measure the intention towards using a cashless application from educated consumers. These adult consumers are supposedly aware and well versed with all sorts of cashless tools. To measure the consumer intention on cashless, this study intends to measure adult consumers with at least a knowledge background in finance. Simultaneously, these adult consumers are the demographic group who are eager and have a gut to try new trends in financial.

This cross-sectional study plan is as follows: First, we provide the literature to describe the underpinning theory to support this study. Second, a set questionnaire is designed to measure how independent variables; lifestyle compatibility, security, and social influence are influencing consumer intention to use e-wallet among adult consumers in TVET institutions. Thirdly, the item has been developed and adapted from various scholars and can be referred to in the below table. This Likert scale questionnaire uses a 4-point scale ranging from Definitely False to Definitely True. The dependent variable in this study is consumer intention and the instrument was adapted from Venkatesh (2003). After this stage of writing, the item will be sent for peer-reviewed and then undergone a pilot test. 30 samples of the pilot test will be used.

The sample frame would be the name list of all students in TVET institutions in Malaysia which will be acquired from each institution. Below is the conceptual framework for this study.

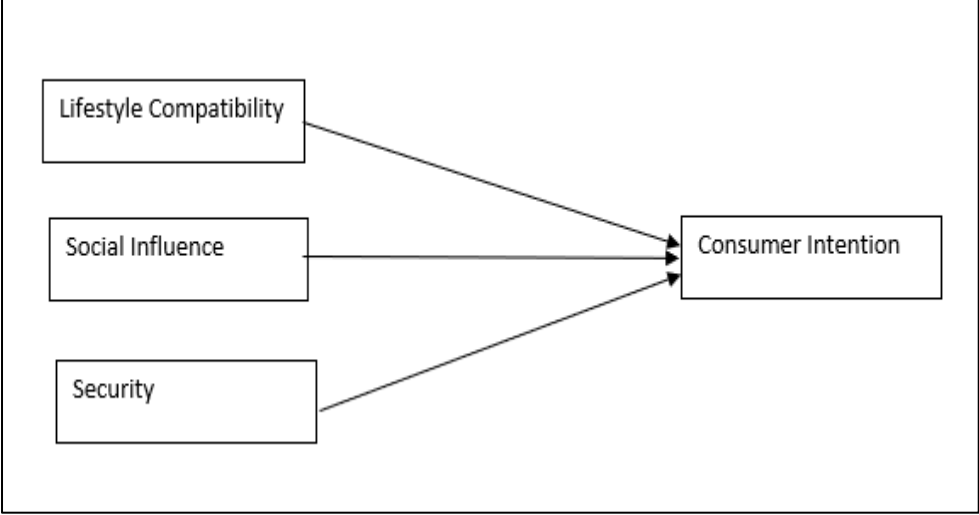


Figure 1: Theoretical Framework

After the pilot test, the Cronbach Alpha would be used to see the reliability test. The original set of the questionnaire has been showing an overall internal consistency above 0.6. All items to measure three independent variables and a single dependent variable would be conducted online in this yet ending pandemic.

Table 1 : Methodology

1.	Research Methodology	Quantitative Study (Creswell, 2013)
2.	Research Design	Cross-Sectional Descriptive Research (Hair, 2007)
3.	Research Method	Survey Method
4.	Population	22 795 500 (Jabatan Perangkaan 2019)
5.	Reliability	Cronbach Alpha
6.	Sample Size and Design	2401 respondents Simple Random Sample, in which each individual in the population has an equal probability of being selected (Creswell, 2014)
7.	Instruments	Questionnaire (5 construct and demographic section)
8.	Data Analysis	Descriptive Statistics and Correlation
9	Instruments	Questionnaire adapted from Venkatesh et al (2003), Moore and Benbasat (1991), Xian (2018)

The above table simplify the methodology utilised in this study. This study is a cross sectional study which employs four constructs to examine the variables. The adapted instruments will then distribute to more than 2401 respondents. Below is the table on the instruments which will be used to reach research objectives.

Table 2 : Instruments

Bil	Variables	Questions	Sources
1	Dependent Variable Consumer Intention	1. I would like to do transactions using an e-wallet (mobile wallet) shortly. 2. I will likely use my smartphone to pay at the point of sale 3. I will frequently use e-wallet in the future 4. I intend to recommend others to use an e-wallet	Venkatesh et al, (2003)

		5. I plan to use an e-wallet in all my financial transaction	
2	Independent Variables Lifestyle Compatibility	<ol style="list-style-type: none"> 1. I believe that using an e-wallet will fit in my lifestyle 2. I believe that using an e-wallet is suitable for me 3. I believe that my mobile wallet is compatible with the way I shop online 4. I think the mobile wallet is more suitable for me since I spend more time on mobile apps than on desktop 5. Keeping a record of transaction and receipts is my habit and I believe mobile wallet fulfills them 	Moore and Benbasat (1991)
3	Independent Variables Social Influence	<ol style="list-style-type: none"> 1. People who influence my behavior think that I should use an e-wallet 2. People who are important to me think that I should use an e-wallet 3. People who see me using an e-wallet would think of me as technology-savvy consumers 4. People in my surrounding has been using the e-wallet system 5. In general, this society has supported the use of the e-wallet system 	Xian (2018)
4	Independent Variables Security	<ol style="list-style-type: none"> 1. I will be confident making payments through an e-wallet system 2. I believe technology used in e-wallet is very secure. 	Xian, (2018)

-
3. I believe the service has the potential to be safer than traditional payments options such as credit card and cash
 4. I believe that transactions conducted through e-wallet are secure
 5. I believe the chances of losing money stored in an e-wallet system are low
 6. I believe the e-wallet applications users have freedom from danger, risk, and doubt about the security
 7. E-wallet is advanced cyber security
 8. The security factor is the main factor for e-wallet adoption
-

All of the instruments have been tested on the reliability statistics using Cronbach Alpha Coefficients. Below is the reliability coefficient value from the test.

Table 3 : Reliability Analysis

Variables	Cronbach Alpha Coefficients	Number of items in a construct	Reliability Coefficient
Consumer Intention	0.904	5	High
Lifestyle Compatibility	0.960	5	High
Security	0.943	8	High
Social Influence	0.897	5	High

All instruments exhibited high level of internal consistency. This shows a very good indicator to pursue the study into actual data collection. Demographic status has been evaluated and below table show the detail. This preliminary study utilizes online questionnaire and collects 40 responses.

Table 4 : Demographic Detail

Criteria	Description	Frequency	Percentage
Gender	Male	8	20
	Female	32	80
Marital Status	Single	8	20
	Married	32	80
Education Level			33.3
	Diploma	3	7.5
	First Degree	17	42.5
	Postgraduate	20	50
	Malay	37	92.5
Races	Indian	3	7.5
	Working	40	100
Working Status	Pensioners	0	0

3. Discussion and Conclusion

This pilot study is formally designed to detect plausible errors such as typing errors, meaning the questions brings and to undertake any action to ensure the meaning of the questions reach the respondents. This preliminary finding signals a good stage of data collection to pursue. The demographic details are good to go with the variables and would comprehend the actual data collection.

However, several challenges has been identified in data collection such as challenges in online responds which shown that the methods of data collection may best to use personally administered questionnaire

E-wallet is the cashless application that would be deemed important to be analysed. The cashless application would be considered an engine of growth of a country and the factors to it would be enhanced or avoided to make it become a reality to be a cashless country. By analysing the given independent variables, it is hoped that this study would solve the problems related to consumer intention among young consumers.

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**FULL PAPER TEMPLATE INTERNATIONAL
ACADEMIC STUDIES CONGRESS
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**TOURIST SATISFACTION TOWARDS PERLIS STATE
PARK**

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ABSTRACT

Satisfied tourists bring success to the tourism business. However, dissatisfied tourists might not go back to the same place and might not encourage it to other travellers. Even worse, dissatisfied tourists can review a place online and harm its market position. The current study aims to gauge tourists' levels of satisfaction because it is becoming increasingly crucial for promoting travel. Further, the findings were derived from a questionnaire survey of visitors who visited Perlis State Park. The objective of this study is to identify tourist satisfaction at Perlis State Park, to analyse factor influencing tourist satisfaction at Perlis State Park and to measure the satisfaction level of tourist at Perlis State Park. Therefore, this study is proposed on how tourist satisfaction towards Perlis State Park. The purpose of this study is to see whether tourist satisfied with the visit to the Perlis State Park and also to know factor that contribute to tourist satisfaction at Perlis State Park.

Keywords: Tourist, Satisfaction, Perlis State Park

1. INTRODUCTION

The state of Perlis, near the very tip of Peninsular Malaysia, is where Perlis State Park is located. In southern Thailand, it borders Thaleban National Park. Additionally, the Perlis State Forestry Department recommended to the State Government in 1990 that 1,000 hectares of Mata Ayer Forest Reserve be established, which is how the park got its start. The State Government basically approved in 1993 to the establishment of Kelian Dana State Park for

1,000 hectares of Mata Ayer Forest Reserve. But three years later, the State Government decided to establish Perlis State Park by expanding the region to include the Mata Ayer, Wang Tangga, and Wang Mu Forest Reserves, totaling 5,000 hectares (Latiff et al. 2001). Rahimatsah and Kasim (2002). From the Syamsul et al (2012) Perlis State Park is one of the nature-based experiences at Wang Burma and there are some of activities that can do there.

Furthermore, Perlis State Park was chosen as the natural forest representative. It was a wild cave adventure in a national park. Walking along the forest road to the entrance of Wang Burma Cave takes about 30 minutes from the campsite in Perlis State Park. Along the way, the beauty of the beautiful flora and fauna can be easily found. There are also many poisonous and medicinal plants and trees along the way before arriving at the cave entrance. The caves are mostly large, but there are some narrow paths to crawl. Moreover, it has unique and rare stalactite stalagmites, and columnar rock formations. Cave stalactites and stalagmites mimic walls, curtains, and cascades formed over millions of years.

The unique flora and fauna discovered only within Perlis State Park especially related to limestone. It is recommended that visitors stay away during the dry months since animal activity is quite low during those times. However, on drier months is a good time for caving activities. For example, Wang Burma Cave provide many recreational pursuits and the length of stay can be used to determine the type of facilities associated with the activity. Length of stay could also indicate visitors' satisfaction of Wang Burma Cave. Those who are dissatisfied have shortertime spent on site in relative to those who have higher satisfaction. (Syamsul, Sridar, Ahmad Syuib, Mohd Rusli, 2013). However, the study on tourist satisfaction on Perlis State Park of Wang Burma Cave are limited. Therefore, this study is to identify tourist satisfaction towards Perlis State Park on the facilities and provide improvement methods that will need to be highlighted in plans for tourism development in order to provide better reach to potential visitors.

2. LITERATURE REVIEW

2.1 Introduction

Perlis State Park is situated at the northernmost of Peninsular Malaysia. The park is located along the western border of Perlis, where Peninsular Malaysia meets Thailand. Perlis State Park is situated on the longest continuous range of limestone hills in the country, called the Nakawan Range which lies from Kuala Perlis to Southern Thailand.

A review of existing literature was performed to support the study undertaken in this research. A literature review is a piece of academic writing demonstrating knowledge and understanding of the academic literature on a specific topic placed in context. A literature review also includes a critical evaluation of the material this is why it is called a literature review.

2.2 Previous Study

According to previous studies, customer satisfaction is a crucial theoretical and practical concern. The degree of visitor satisfaction serves as a benchmark for how effectively a company's tourism-related services meet or surpass visitors' expectations. In addition, it may consider a range of factors that can be evaluated by getting visitor feedback on their experiences through

questionnaires or interviews. The degree to which a visitor's assessment of the destination's qualities exceeds his or her expectations for those attributes is how Tribe and Snaith (1998) defined tourist satisfaction with a place. Numerous researches have suggested that a customer's previous experience will have a positive effect on their perceptions of a future episode (Zeithaml et al., 1993; Anderson & Hair, 1972; Fache' 2000; Hoffman & 80 Mohd Fauzi Sukiman et al. / *Procedia - Social and Behavioral Sciences* 91 (2013) 78-87). Prakash and Lounsbury (1984; Bateson, 1997; Oliver, 1997; Oliver & Burke, 1999). Reviewing the role of expectations in customer satisfaction assessments is necessary before conducting a study of the expectation-satisfaction relationship (Oliver, 1997). In addition, Rodriguez et al. (1997) stated that assimilation theory (Sherif and Hovland, 1961) believes that consumers experience a psychological conflict if their expectations and perceptions of the consumption experience diverge. Consumers will then adjust their perception to better match their expectations and minimize the psychological tension (Anderson, 1973). Consequently, post-consumption evaluations are a function of consumer expectations (Oliver, 1977, 1997; Pieters, Koelemeijer, and Roest, 1995). On the other hand, the contrast theory (Hovland, Harvey, and Sherif, 1957) postulates that when expectations.

Factors Influencing Satisfaction Reynolds and Braithwaite (2001) claimed that ecotourists' satisfaction is influenced by physical attributes including tangible and intangible factors of the tourism site including facilities, design and weather and also planning, protected nature areas, financing & understanding. The guide's interpretation and role, variety and uniqueness of eco-experiences are also important factors in determining ecotourists' satisfaction. The tourism industry has benefitted from the natural environment because most visitors are eager to travel to enjoy the natural beauty. When a natural region is protected, visitors are drawn to the appropriate hotels both for their enjoyment and for the protection.

Some recent studies on the quality of travel services are attempting to determine the factors that influence consumers' perceptions of such services' quality and to model the discrepancies between those expectations and the services actually received (Chen, Wen-jung 2013; Prityana Seegoolam (2011) Mesfin Anteneh, Abede Dires (2016) Dr. David J. Shonk (2006) Hence, the need for research on the travel services industry, according to Seebaluck, P. Pillai (2006) Al-ababneh (2013), in order to better understand the factors that affect the quality of travel services. Researchers must take into account and combine a number of common dimensions for research purposes. Modern and up-to-date tourism facilities and services are proved to make visitors more attractive and satisfied. 2016 (Dires, e a tench).

Customer satisfaction is an evaluation of the effectiveness of the firm's entire services as received by the customer (Skogland and Siguaw, 2001). Customer satisfaction is a crucial factor to take into consideration when deciding whether to proceed with a purchase or otherwise. When performance goes above and beyond expectations, there is satisfaction. On the other hand, dissatisfaction will happen if the needs are higher than the performance (Parasumaran et al. 1990). Since tourists also subscribe to the services provided, the same concept remains good from the perspective of tourism. Therefore, the satisfaction element influences their decision to return. Another term that is frequently used while discussing the idea of tourist satisfaction is travel satisfaction, which is the outcome of a visitor's satisfactions following their personal experience

or the experience of a good or service received (Gunderson et al., 1996; Heide et al., 1999; Heung, 2000).

Additionally, most marketers and consumer researchers view customer happiness as a marketing strategy to draw in the most erratic market segments. In addition, satisfaction refers to the perceived gap between prior expectations and perceived performance following consumption; when performance falls short of expectations, discontent results (Oliver, 1980). However, it can also be described as how much a person thinks a particular experience makes them feel good (Rust & Oliver, 1994). Customers' attitudes or feelings toward a service after receiving it, according to Bitner and Hubbert (1994). Moreover, a concept of contentment has been examined by Woodside, Frey, and Daly (1989). It is commonly acknowledged that this concept relates to how much a consumer likes or dislikes a service or product after using it. According to several travel-related remarks by Mountiho (1987), this post-purchase construct is mostly a result of trip expectations and experiences. When comparing "a tourist's experience at the destination visited with the expectations about the destination," Pizam, Neumann, and Reichel (1978) defined tourist satisfaction as the outcomes. Although the definition is a little different, a destination's attractiveness reflects the thoughts, feelings, and ideas that a person has towards the destination's perceived capacity for satisfying.

There is no definitive definition of contentment, however most definitions would involve "an evaluative, affective, or emotional reaction," according to Spreng and Mackoy (1996). As a result, Hansemark and Albinson (2004) think that customer satisfaction is also an emotional response to the discrepancy between what customers expect and what they really get in terms of the fulfilment of a need, objective, or desire. In the context of tourism, satisfaction is usually understood as a result of pre- and post-travel expectations and experiences. Consequently, contentment among travelers is an emotional state following a vacation (Baker and Crompton, 2000). The visitor is content when their experiences match their expectations and they feel satisfied. However, the visitor feels unhappy when they cause feelings of annoyance (Reisinger & Turner, 2003). As a result, Kozak and Rimmington (2000) contend that customer pleasure is crucial to the success of destination marketing. A growing emphasis on customer happiness is one of the business strategies utilised by leisure companies to acquire a competitive edge, according to Philip and Hezlett (1996). Additionally, Philip and Hezlett appear to concur that customer happiness affects travel decisions, product and service consumption, and repurchase intentions. According to studies (Saleh and Ryan, 1991; Barsky, 1992; Bojonc and Rosen, 1994; Kozak and Kozak, 1996), customer satisfaction is likely to result in good behavioural intentions from customers, such as positive word-of-mouth and repeat purchases. As a result, in order to achieve customer satisfaction, tourism organisations should place an increasing emphasis on service quality and first understand what their tourist' expectations are and how to meet them. This is because achieving customer satisfaction encourages tourist loyalty and retention (Ojo, 2010). But in the linked literature, measuring customer satisfaction in the leisure and recreation sectors has been a key topic (Dorfman, 1979). Over the past three decades, a variety of methods for measuring customer satisfaction have been thoroughly investigated; nevertheless, no accepted method has yet been found. As a result, there are primarily two methods for researching customer happiness in the marketing literature.

3. METHODOLOGY

This study used a descriptive survey method to identify the factors influencing tourist satisfaction at Perlis State Park from tourists who have visited Perlis State Park. A total of 100 questionnaires were distributed during November–December 2021. 50 sets of questionnaires were returned by respondents using Google Forms and 50 sets of questionnaires were collected using on-site surveys, in which the questionnaires were distributed and collected at the same time at Perlis State Park.

4. RESULT AND DISCUSSION

4.1 Respondent Profile

A questionnaire survey was used to collect the data. Apart from questions intended to capture the background information of the respondents; the remaining questions in the questionnaire asked them to identify the degree to which the enabling factors and personal values were satisfied with their tourist programmes. Among the respondents who visited Perlis State Park, more than half (60%) of the respondents were male and the remaining 40% were female. Approximately 70% of respondents were from the age group of 18 to 29 years old, followed by 12% and 11% of the respondents fell under the age groups of 30 to 39 years old and 40 to 49 years old. Only 7% have been recorded as 50 years old or above. A majority of them are residents of Kedah (47%) and 12% are residents of Perlis State. Some tourists come from Johor (9%), Penang (7%), Kelantan (5%), Perak (4%) and other (16%). Besides that, most of the respondents, which is about 59%, have visited Perlis State Park in the past 2 years before the current visitation, other than that they are first-time visitors to Perlis State Park. In addition, the majority of respondents, or 34%, said they visited Perlis State Park because it is close to nature and they enjoy the sight, sound, and smell of nature. Almost 23% of respondents like the activeness of Perlis State Park. The majority of respondents (14%) stated that visiting Perlis State Park could provide a sense of harmony with nature. About 11% of respondents enjoyed the park as a quiet place to gain peace. Some of the respondents indicated that they liked to observe the beauty of nature (10%) and chose to escape from the pressure of work (8%).

Table 1: Characteristics of the respondent who visited Perlis State Park

Respondents Profile		Fre quent	Percentage
Gender	Male	60	60.0
	Female	40	40.0
	Total	100	100.0
Age	18-29 Years	70	70.0
	30-39 Years	12	12.0
	40-49 Years	11	11.0
	50 Years and above	7	7.0
	Total	100	100.0
Residences	Perlis	12	12.0
	Kedah	47	47.0
	Pulau Pinang	7	7.0
	Perak	4	4.0
	Kelantan	5	5.0
	Selangor	4	4.0
	Kuala Lumpur	1	1.0
	Negeri Sembilan	3	3.0
	Johor	9	9.0
	Others	8	8.0
	Total	100	100.0
Visited Perlis State Park in past 2 years	Yes	59	59.0
	No	41	41.0
	Total	100	100.0
Reason for Visiting Perlis State Park	Find quite place	11	11.0
	Attractive	23	23.0
	Escape from the pressure of work	8	8.0
	Observe the beauty of nature	10	10.0
	Enjoy the sight, sound, and smells of nature	17	17.0
	Feel close to nature	17	17.0
	Obtain a feeling of harmony with nature	14	14.0
	Total	50	100.0

4.2 Factors that influencing the tourist satisfaction toward Perlis State Park

To determine the factors that contributes to tourist satisfaction toward Perlis State Park, based on experience of tourist who visited Perlis State Park in past 2 years and also first-timer tourist who join Perlis State Park’s programmes, the tourist were asked to rate the applicability of four enabling factors on a four-point Likert scale, ranging from 1 (Strongly disagreed) to 4 (strongly agree), with higher scores reflecting a high tourist satisfaction toward Perlis State Park. four-point Likert scale questionnaires were designed which comprises four enabling factors as shown in Table 3. Table 2 shows the interpretation of the mean score of each dimension.

Table 2: Interpretation of the Mean Score

MEAN SCORE	INTERPRETATION
1.00 – 2.00	Low
2.01 – 3.00	Moderately low
3.01 – 4.00	Moderately high
4.01 – 5.00	High

The factors comprise 15 items as indicated in Table 3. Based on the tourist’s perception, there are a number of tourists who enjoy the Perlis State Park environment while visiting, which scored a moderately high mean of 3.24. Most of the respondents agreed that Perlis State Park retains a natural environment that allows tourists to take pleasure in the natural environment. Besides that, tourists also expressed satisfaction with the services provided by the Perlis State Park staff, which scored a moderate high mean of 3.20. It showed that Perlis State Park managed to provide good quality services to tourists (86% agreed). However, in the questionnaire responses, it is shown clearly that Perlis State Park is unable to provide a satisfactory level of service on facilities and special needs of tourists who visited the Perlis State Park were only moderately low, with mean scores of 3.04 and 3.04 respectively.

Table 3: Summary on Factors Influencing the tourist satisfaction toward Perlis State Park

ENABLING FACTORS	Strongly Disagree	Disagree	Agree	Strongly Agree	Mean
Q1 I enjoy the environment of Perlis State Park	0 %	8 %	60 %	32 %	3.24
Q2 The safety of Perlis State Park provided make me always feel save	0 %	12 %	58 %	30 %	3.18
Q3 Perlis State Park have many facilities	0 %	22 %	52 %	26 %	3.04
Q4 There are many people in this Perlis State Park	0 %	20 %	50 %	30 %	3.10
Q5 Staff understood the specific needs of their tourists	0 %	16 %	64 %	20 %	3.04

Q6	Staff always supply the information needed by tourists	0	0 %	16	16 %	54	54 %	30	30 %	3.14
Q7	Staff always polite and courteous when serving tourists	0	0 %	14	14 %	60	60 %	26	26 %	3.12
Q8	Staff always have time to respond to tourists' requests	0	0 %	20	20 %	52	52 %	28	28 %	3.08
Q9	The staff is always in a state of readiness to serve tourist	0	0 %	16	16 %	60	60 %	24	24 %	3.08
Q10	Staff willing to help if tourists have problems	0	0 %	14	14 %	56	56 %	30	30 %	3.16
Q11	Facilities at Perlis State Park attract tourists	0	0 %	18	18 %	58	58 %	24	24 %	3.06
Q12	The facilities provided are consistent and appropriate to the service/activities offered	0	0 %	16	16 %	60	60 %	24	24 %	3.08
Q13	Staff provide/perform services at an immediate rate without delay	0	0 %	16	16 %	54	54 %	30	30 %	3.14
Q14	I'm satisfied with the quality of services provided at Perlis State Park	0	0 %	14	14 %	52	52 %	34	34 %	3.20
Q15	From the overall did you satisfied with this State Park?	0	0 %	18	18 %	46	46 %	36	36 %	3.18

4.3 Level of respondent Personal Values towards Perlis State Park

In response to a survey on tourists' personal values toward Perlis State Park while visiting as an enable factor, most respondents indicated that they have left a positive image towards Perlis State Park. Tourists have the intention to revisit for the next trip, which moderately high scored means 3.29. Besides that, tourists have gained a good value on loving nature after their visit to Perlis State Park, where the higher means scored 3.35.

Table 4: Summary on Personal Values to meet level of satisfaction toward Perlis State Park

PERSONAL VALUES	Strongly Disagree		Disagree		Agree		Strongly Agree		Mean	
Q1	I have learned something new in this Perlis State Park	3	3%	9	9%	52	52%	36	36%	3.21
Q2	I will come again this Perlis State Park in the future	5	5%	7	7%	56	56%	32	32%	3.15
Q3	I will recommend Perlis State Park to visit to my friends and relatives	3	3%	7	7%	52	52%	38	38%	3.25
Q4	I will try to take care of the nature in my life like the state park	3	3%	7	7%	54	54%	36	36%	3.23
Q5	I will love more nature	5	5%	7	7%	36	36%	52	52%	3.35
Q6	The beauty of Perlis State Park made me want to visit the place that have nature in the future	5	5%	7	7%	50	50%	38	38%	3.21
Q7	I'm happy after visit Perlis State Park	5	5%	7	7%	48	48%	40	40%	3.23
Q8	After visiting Perlis State Park, I was able to relieve stress	3	3%	9	9%	50	50%	38	38%	3.23
Q9	The experience that I get from Perlis State Park, add to my knowledge	5	5%	7	7%	48	48%	40	40%	3.23
Q10	I will tell people around me about Perlis State Park after I go back from this place	3	3%	7	7%	48	48%	42	42%	3.29

5. CONCLUSION

In conclusion, this research is a study on Tourist Satisfaction Toward Perlis State Park, with a focus on tourists who have visited Perlis State Park. The findings of this research were made by using the questionnaire and google form. In addition, this research is able to find out the outlook of the tourist about Perlis State Park because everyday tourist who come to Perlis State Park are different, so their satisfaction with this state park will be different. This research that have been done on Perlis State Park, shows how important it is to make a study in a place to improve the place in terms of management or in the place itself.

A recommendation can help to improve the management of Perlis State Park. The recommendations provided are also applicable to other state parks. The questions given are based on the staff and the areas in Perlis State Park. The recommendations that have been given must be taken by the management of Perlis State Park to improve the satisfaction of tourists who come to the place. Besides, throughout the result the researchers proved the tourist satisfaction towards Perlis State Park are reliable and valid to be used in others studies for references. This research also beneficial to state park management to improve the quality and accessibility of the state park. This study can help state park management to gain better understanding on the important of factors contribute to tourist satisfaction while visiting Perlis State Park.

Besides that, this study will present some valuable information to academics in order to identify the tourist satisfaction towards state park. Thus, for future research should investigate the satisfaction of tourist not only after visiting but based on their experience while visiting to determine the level of satisfaction towards Perlis State Park.

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‘UTILISATION OF EBOOK IN A COMMUNICATIVE ENGLISH COURSE: ESL STUDENTS' PERCEPTIONS’

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ABSTRACT

The use of ebooks in the classroom is widespread across many subject areas, particularly in developing nations. The use of ebooks provides educators, students, and organisations with an additional medium or educational tool that can support or improve the learning process. In order to promote student utilisation of resources particularly those at the tertiary level, educators make them easily accessible for all students. The resources give teachers the chance to engage students in interactive tasks and teaching input. This study investigates how ESL students at a TVET institution see the use of ebooks to supplement and assist their learning of a Communicative English course module. The Technology Acceptance Model (TAM) was applied in this study as the lens to examine perceived usefulness, perceived ease of use, and attitude toward using e-books to substitute the traditional textbook in the classroom. Students from four semester-three classes were requested to respond to two open-ended questions concerning the usefulness and ease of use of e-books in the ESL course. A total of 80 students participated in this study and responded to the questions. The students' responses revealed that they agreed that the advantages of ebook might be handy as a tool to help and advance their learning. However, the majority of them pointed out the drawbacks of technology's accessibility and the reliability of the internet. These indicate that for an ebook to be fully utilized by ESL learners, it is essential for the institution to improve its technology and internet facilities.

Keyword: *Electronic book (ebook), ESL, Second language learning, Polytechnic, TVET*

1.0 INTRODUCTION

1.1 Background to the study

Education all over the world emphasises the development of information, communication, and technology (ICT) skills that students need to succeed in their careers in the Fourth Industrial Revolution (4IR) era, in addition to other 21st-century skills like critical thinking, problem-solving, communication, and collaboration. The fourth industrial revolution (4IR) represents a major change in the way people live, work, and interact with one another, with tremendous technological developments comparable to those of the first, second, and third industrial revolutions (World Economic Forum, 2021). In lieu of the demand for educational institutions to comprehend 21st-century teaching and learning, where educators support students to study and participate constructively in a global society, the use of technology such as ebooks in classrooms is a trend nowadays. In accordance with Malaysia's National E-learning Policy (DePAN), (MOHE, 2011), and the Malaysia Education Blueprint 2015–2025 (Higher Education), The use of multimedia technology has been rapidly increasing as part of Politeknik Port Dickson's Strategic Plan 2021–2025 (4:leading the education system through TVET 4.0), particularly to enhance the quality of learning for polytechnic students and help them acquire the knowledge and skills they need to be productive in the 21st century and the 4IR era. In response to this goal, the English Language Unit (ELU) of Politeknik Port Dickson implemented the use of ebooks in its ESL teaching and learning context in 2019. An ebook is a book that has been converted to digital form and can be read on a computer, typically through network services (Lee, 2002). The students' long-used paper course materials have been replaced by the ebook.

1.2 Problem Statement

Scholars like Hernon et al. (2006) and Annamalai (2016) suggest that as books that have been converted to digital forms and can be read on a computer and network services (Lee, 2002), ebooks offer a range of advantages to students as they simplify students' learning experience. Gone are the days when students had to fill their bags with files and books and carry them daily to classrooms and back home or hostel. With ebooks entering the educational domain, one device or application is enough to include the entire semester's syllabus. Other scholars suggest that advantages of using ebooks in teaching and learning a particular subject include ease of use, accessibility and searching capabilities, mobility, saving of physical space, convenience, saving time and money (Casey, 1994; Shiratuddin et al., 2003; Hernon et al., 2006; Lam et al., 2009; Rosso, 2009; Annamalai et al., 2014; Annamalai, 2016). Ebooks also enhance students' overall learning experience, as integrating ebooks into classroom teaching makes learning fun and engaging, as it helps students learn better and faster (Casey, 1994; Simon, 2002 & Wilson, 2003). Furthermore, its usage will develop students' 21st-century abilities, namely technological competencies, and communicative skills, as intended by the course module.

However, the development of 21st-century abilities in students could be affected if they need help understanding the meaning of the shift from using printed learning units to ebooks and utilising their ebooks effectively. Studies also reported challenges, as not all students feel comfortable with the technology (Wilson, 2003; Sharma, 2009; Zabed Ahmed, 2014; Boakye,

2017; Isibika & Kavishe, 2018). For instance, compared with reading paper-based text, some students find reading long text on a small computer screen tiring, less efficient, and even ‘painful’ (Wilson, 2003, p. 11), and the poor navigational controls on ebooks are argued as “awkward, difficult or time-consuming to use” (p. 14). Therefore, there is a need for this study to be carried out in our context to enable us to understand how our students perceive the use of ebooks they used in learning a particular English language course.

1.3 Research Aims and Objectives

Since the introduction of ebooks in 2019, students taking communicative English courses no longer require printed learning modules. In this study, we explored students' perceived benefits and limitations of using ebooks in their learning setting based on the problem statement that was previously presented. We also suggested potential improvement measures.

1.4 Research Question(s)

The two research questions that have guided this study are:

- i. How do students perceive the use of ebook in their learning context?*
- ii. What are the challenges faced by the students in using the ebook in their learning context?*

1.5. Significance of the research/study

The findings of this study will be redound to the students and teaching staff of the institution, particularly the English Language Unit (ELU), as the participants' data revealed the need to improve the content and presentation of the ebook to support the use of the technology in its teaching and learning context. The ELU will be able to make room for improvement and innovation concerning the construction of the contents of ebooks based on the responses given by the participants. This research will help us as the researchers and educators of the institution to uncover critical areas in the educational field that have not been explored in our unique context.

1.6 . Limitations of Research/Study

This study used only one type of data-generating instrument, which was open-ended questions. This means, our investigation relied heavily on students' words and not actions due to constraints, namely time and safety, i.e. the Movement Control Order (MCO) 1.0, which was imposed for months due to the COVID-19 pandemic, not allowing us to observe how the students use the ebook in their classrooms to triangulate and verify the findings generated from the open-ended questions.

2.0 LITERATURE REVIEW

2.1. Definition of Terms

Ebooks are “text in digital form, or digital reading material, or a book in a computer file format, or an electronic file of words and images” (Rao, 2003, pp. 86–87). Lee (2002) also included the definitions of an ebook from the Hi-Tech Dictionary and The New Concise Oxford English Dictionary respectively as a book that has been converted to digital form and could be

read on a computer, usually through network services or CD-ROM. While Cox and Mohammed, as quoted by Lee (2002), an “ebooks is a term used to describe a text analogous to a book that is in digital form to be displayed on a computer”.

In addition, Wilson, 2001 cited by Abd Mutalib et. al., (2012) stated that hardware, often known as ‘a reader’, software, and ebook files, are the three fundamental parts of an ebook. Hardware-based ebook readers are portable electronic gadgets made primarily for reading publications of any kind. The pricing range is determined by the quality that the ebook readers portray. ebook readers have the storage space to hold several books' worth of content, which can be virtually accessed from anywhere. Moreover, a good ebook reader will be able to do things like print, play music and video, interact with touch screens, and even communicate wirelessly. Pereus (2000) in Abd Mutalib et. al. further explained that software-based ebook readers are applications that show an e-data Book's on a device. Examples of this software include Adobe Acrobat Reader, Microsoft Reader, and Adobe Acrobat ebook Reader. Software-based readers have the benefit of providing additional features through a keyboard and larger screen sizes in addition to the features of dedicated readers (Lynch, 2001). Because users can alter the display's settings using the keyboard utilities, this might provide easier access to the information. A file with an embedded signature is referred to as a file type. The operating system is informed of how to handle that file. By looking at the file extension at the end of the file name, a user can determine what kind of file an ebook is that they have.

Table 1: lists some examples of the most popular file types used for ebooks:

ebook files types	
●	Plain ASCII text files have the extension .txt
●	Microsoft Word files have the extension .doc
●	Adobe acrobat files have the extension .pdf
●	Html files have the extension .html or .htm
●	Adobe eBook files have the extension .pdf

2.2. Advantages of Ebook in Educational Settings

Ebooks are capable of displaying any audio or visual content, whether it is speech, text, music, animations, pictures, or videos, alone or in various combinations. Ebooks can connect several representations, including visual and aural cues, written and spoken material, video and subtitles, and other combinations that could improve teaching and learning (Casey, 1994). Scholars' opinions on the worth of academic ebooks differ. Lemken (1999) and other advocates claimed that technology should "bridge the gap between printed and digital information" (p. 4). Many benefits have been cited as being connected to this type of technology. Herson et al. (2006) listed a few benefits, including portability, economy, ease, and use of more modern materials. According to Shiratuddin et al. (2003), students can create their own customised digital library. Several benefits of using ebooks were cited by Lam, Lam, and McNaught (2010), including access to more readings, remote reading, searchable readings, potential links to related multimedia materials, portable resources, and optimising reading time (e.g., during travel). Additionally, actual data shows that once children have access to technology, they read

more quickly and with pleasure (Wilson, 2003). (Simon, 2002). Although the majority of the study's participants who used ebooks for learning had never done so before, Isaacson, S. A. (2017) found that after the reading sessions were over, they preferred ebooks to paper texts. The study's conclusions are in favour of including ebooks in ESL curricular.

The success of the ebook technology seems to be greatly influenced by how simple it is to read. Users view the ease of navigation through a clear user interface, a clear and logical structure to support readers' feeling of place in the ebooks, and the layout of the ebooks on screen as a significant motivational force, according to Malama, Landoni, and Wilson's (2004) research. With mobile ebooks, the best possible screen usage is even more crucial than with laptops or desktop PCs. Wilson, Landoni, and Gibb (2002) cited the book metaphor as a key design element, emphasising the need of having a cover, a table of contents, a unified typographic look, a clear division of book sections, and indicators of reading progress.

Ebooks include a wide range of functions, including searching, text scrolling, and page turning. Functionalities associated to ebooks are more sophisticated and often being added. Users value a quick and accurate search feature, an annotation function, and the presence of hypertexts and dictionaries on the reader, according to user input gathered by Wilson (2003) on the use of ebooks. In their 2009 evaluation of four well-known ebook readers available for PCs and PPCs, Lam, Lam, and McNaught concluded that the features were generally regarded as useful and acceptable. When saved on lightweight portable devices like tablets or smartphones, ebooks are both downloadable and portable. The usability issue relates to the practicality of the various procedures required to use the software and hardware and the ease of use of the technology. It pertains to concerns like interface design that promotes efficient human-computer interaction, for instance (Wilson et al., 2002).

2.3. Issues in Using ebooks

However, there are drawbacks to utilising technology in a learning environment. Not every student is at ease with technology. For instance, compared to reading text on paper, some students find reading lengthy texts on a small computer screen to be exhausting, ineffective, and even "painful" (Wilson, 2003, p. 11). Wilson (2003) also reported complaints about the ineffective navigational controls on ebooks readers as being "awkward, difficult or time-consuming to use" (p. 14).

According to a number of studies, students have trouble accessing online resources. Lack of knowledge about e-resources, poor information technology infrastructure (especially in developing nations), which results in limited access to computers, unstable network connectivity, and slow download speeds (Sharma, 2009; Zabed Ahmed, 2014; Boakye, 2017; Isibika & Kavishe, 2018), and limited access to e-resources, including computers, relevant titles and contents on specific subjects are a few of these (Zabed Ahmed, 2013).are just a few examples (Zabed Ahmed, 2013).

2.4. Ways To Improve The Usage

The presence of management support for the introduction and use of ebooks is one of the elements that can help remove barriers and usage of ebooks, particularly in school and university settings. According to the literature, some examples of this support include paying for paid ebook memberships (Wendo & Mwanzu, 2016) or offering quick and dependable internet connectivity, which can be a significant obstacle to the use of ebooks in developing nations (Leonard & Snyman, 2019).

Ebooks provide numerous benefits over print media, including multimedia, hypertext linkages, search and cross-referencing tools, and the ability to read an electronic version of a printed book on a Personal Computer or handheld device designed specifically for this purpose.

The 21st century teaching and learning process needs to be strengthened through the use of technology. Over the years, we have witnessed significant shifts and transitions that have advanced web-based technologies, computer hardware, and software toward education. Most significantly, there have been major changes in educational preferences and approaches to teaching various generations.

3.0 METHODOLOGY

3.1. Technology Acceptance Model (TAM)

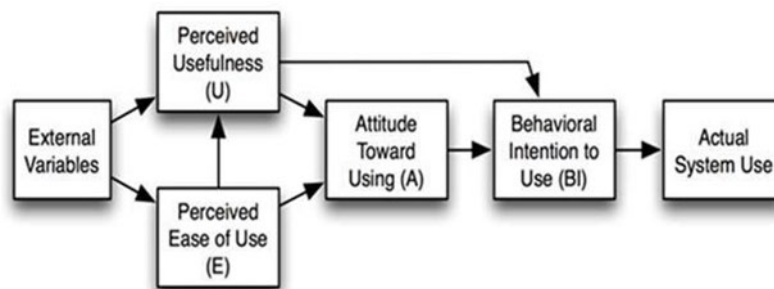


Figure 1: Technology Acceptance Model (TAM) (Davis, 1989)

Davis' Technology Acceptance Model (TAM) served as our model and the lens through which we conducted our entire inquiry. According to this concept, consumers' decisions regarding how and when to use new technology are influenced by a number of factors, along with: **Perceived usefulness (PU)** – Davis defined this as "the degree to which a person believes that using a particular system would enhance his or her job performance." It means whether or not someone perceives that technology to be useful for what they want to do. **Perceived ease-of-use (PEOU)** – Davis defined this as "the degree to which a person believes that using a particular system would be free from effort." If the technology is easy to use, then the barriers are conquered. If it is difficult to use and has a confusing user interface, no one will have a positive opinion of it. The attitude is greatly influenced by external factors like social influence. People will have the mindset and intention to use the technology once these items (TAM) are in place. However, because each person is unique, the perception may vary based on age and gender.

3.2. Research Design

A qualitative approach has been chosen for this study in order for us to answer the research questions above effectively. According to the reviewed literature, qualitative research is used in the majority of studies that examine issues linked to attitudes and perceptions about using technology in teaching and learning (Johnson, 1994; Bigatel, 2007; Md. Yunus, 2007; Alabaikan, 2010; Attia, 2011; Ahmad Busra, 2020). When little is known about a phenomenon or when researchers want to identify variables that might later be tested statistically (quantitatively), qualitative methods are appropriate to be used in the study. In this case, the concept is how ESL students perceive the use of ebooks in their learning context (Hoepfl, 1997). The method enables a thorough analysis of the contextual intricacies involved as well as an in-depth comprehension of the issue under research. We generated our data for this study qualitatively using two open-ended questions, which were then distributed to 80 semester 3 students in Politeknik Port Dickson. They wrote their responses to 2 open-ended questions, which were created on Google Form.

3.3 . Analysis of Data

The link to the open-ended questions was sent to students' groups on Whatsapp. We then analysed all the data using six steps adapted from Braun and Clark's Thematic Analysis (2006) approach (Figure 2) as our analytical framework (Figure 3). The processes involved familiarising ourselves with our data and generating initial codes after generating an initial list of ideas about what was in and interesting about the data. This was followed by searching for suitable sub-themes when all data had been initially coded and collated. Next, we reviewed and refined the sub-themes generated in step three by defining and naming the sub-themes and putting them under the elements of TAM; Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). They were then further refined and put under the overarching themes of "Advantages" and "Challenges". Finally, we wrote the report findings once we had a set of fully worked-out data.

**PHASES OF THEMATIC ANALYSIS
(ADAPTED FROM BRAUN & CLARKE, 2006)**

PHASES		DESCRIPTION OF ANALYSIS PROCESS
1	Familiarising myself with data	i) Narrative preparation, i.e. transcribing data ii) (Re-)reading the data and noting down initial ideas
2	Generating initial codes	i) Coding interesting features of the data in a systematic fashion across entire data set ii) Collating data relevant to each code
3	Searching for themes	i) Collating codes into potential themes ii) Gathering all data relevant to each potential theme
4	Reviewing themes	i) Checking if themes work in relation to the coded extracts ii) Checking if themes work in relation to the entire data set iii) Reviewing data to search for additional themes iv) Generating a thematic "map" of the analysis
5	Defining and naming themes	i) On-going analysis to refine the specifics of each theme and the overall story the analysis tells ii) Generating clear definitions and names for each theme
6	Producing the report	i) Selection of vivid, compelling extract examples ii) Final analysis of selected extracts iii) Relating the analysis back to the research question, objectives and previous literature reviewed

Figure 2: Braun and Clark's Thematic Analysis (2006)

2006

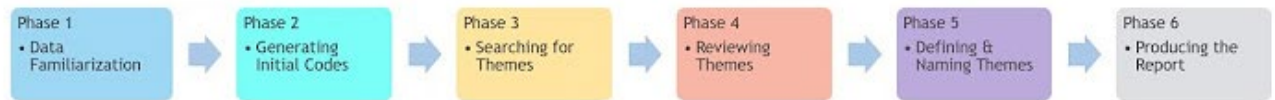


Figure 3: Analytical Framework

The following are the phases involved in our data collection methods:

Phase 1: Data familiarisation

The raw data gathered from students’ responses (Figure 4) were read and re-read. At the same time, initial ideas about each response were noted down in ‘memoing,’ i.e., the act of recording reflective notes about what the researcher is learning from the data. See our notes about each response in the blue column in Figure 4.

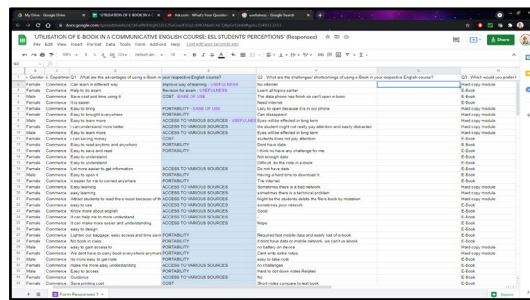


Figure 4: The Raw Data

Phase 2 and 3: Generating initial codes and searching for themes

After initial codes were generated, we continued searching for themes, informed and guided by our literature review. Students’ responses were mainly short and precise and, thus, were already in the form of ‘codes.’ For easy coding, initial themes are coloured ‘purple’ and ‘red.’

Phase 4: Reviewing themes

We continuously checked if the themes worked in relation to the codes and the entire data set. The data set was continuously reviewed (Figure 5) to search for additional themes, generating the thematic “map” of the analysis (Phase 5).

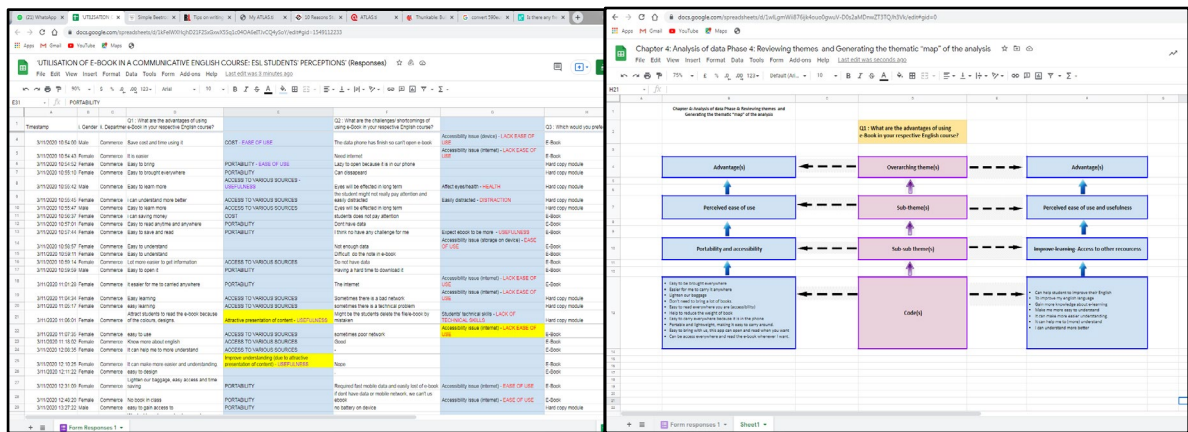


Figure 5: Creating Sub-themes

Phase 5: Defining and naming themes

After capturing the essence of what each theme is about and what aspect of the data each theme captures, we officially named our themes. Names given to the themes are concise and immediately give the reader a sense of the theme. After continuous revision of the themes in relation to our data, we were able to produce a final thematic map and describe each theme in sentences.



Figure 6: Themes Naming

4.0 FINDINGS AND DISCUSSIONS

This section presents the findings of this study in two categories: advantages and challenges regarding the usefulness and ease of use of ebooks that emerged from the analysis of the responses gathered.

4.1. Advantages

This study results reveal that students perceived utilisation of ebooks as advantageous, thus agreeing with Simon, 2002, Wilson (2003), Shiratuddin et al (2003), Hernon et al (2006), Lam et al (2009), Lam, Lam & McNaught (2010) and Isaacson, S. A. (2017). Reading ebooks has many advantages, and their usage is ever-increasing. Some prefer traditional printed books, but there is also a growing audience whose lifestyle and taste are suited to ebooks.

Participants were split evenly in their responses about whether they would or would not utilise an electronic book for their study. Those who stated they would do so cite factors including portability and advantages of the electronic medium like hypertext and searchability, which result in a greater grasp of the subject matter. Those who claimed they would not use an electronic book as a module cited factors such cost, short battery life, and weight; some users believed that portable electronic books offer no benefits over print or reading from a PC.

Reading ebooks can be more useful than reading printed materials in certain instances. Technical writings make up the majority of Politeknik's works. Because of this, many documents are lengthy, difficult to manage, and heavy to carry around. They are also harmful for the environment if we print them. On many occasions, the students don't even need to read the full book because using ebooks offers them so many benefits. For example, people can swiftly search for terms in a text, close it, and then immediately reopen it.

The students who participated in the study were divided in their opinions on whether students would find an ebooks device useful. Those who believed students would use ebooks gave the following reasons - respondents' data is gathered and categorized into five sub-themes:

Portability

The delivery of ebooks is virtually instantaneous; without getting up from their chairs, the students may quickly buy, download, and begin reading them. They do not have to wait for the physical books to arrive in the mail for days, weeks, or even longer, nor having to go to a bookshop to purchase them. ebooks are smaller in size, thus they do not require a room or a library. On their computer or reading device, thousands of ebooks can be saved. In addition, hundreds of books can be transported on a CD, laptop, smartphone, or any reader without being weighed down. Some respondents said they could read ebooks anywhere, on the bus, train, airport, and even while waiting in a class.

Accessibility

Our respondents further explained that links are available in ebooks for quick access to associated websites and further information. An ebook allows them to quickly search for any information without having to turn each page. By clicking on the hyperlinks given in texts, students can be redirected to the section they looked up. The traditional Table of Content with index numbering in a printed book is no longer required in an ebook. Moreover, there are no packing and shipping costs because ebooks are supplied online. Since ebooks are printable,

students mentioned that they could easily and cheaply print them at home or any printing facility around the campus if they prefer to read an eBook the old-fashioned way.

Cost-effective

The cost of delivering book publications to their intended audience is the crucial distinction between ebooks and published books. Evidently, the total absence of printing, paper, and binding from the process of making ebooks, cuts costs. Selling ebooks online is more economical because there is no need for inventory or shelf space at sales locations, which soon will include kiosks. According to new research, as ebooks become more popular, distributors and merchants' percentage of the retail price will likely fall dramatically ("Economics of ebooks: What You Save, What You Stand to Gain - IBPA Independent," 2014).

Environmental friendly

Without a doubt, few of our respondents quoted this to be the most prominent advantage of reading electronic books. Millions of trees are cut each year to produce books and newspapers that are still printed on paper. Choosing ebooks over traditional printed books is essential if we want to avoid this. Although ebooks need resources to run properly, they are not harmful to the environment and the trees.

Attractive interface

Interactive ebooks that include audio, video, and animations can strengthen the author's intended message. Respondents feel it is a bonus point to ebooks over the traditional printed book to be embedded with interactive features such as YouTube videos, GIF moving pictures and icons, hyperlinks, QR codes, and other engaging elements.

4.2. Challenges

The results of this study also reveal downsides to overcome when it comes to ebooks' wide publication, thus agreeing with Wilson (2003), Sharma (2009), Zabed Ahmed (2014), Boakye (2017), (Isibika & Kavishe, 2018), Kumar and Kumar, (2010), Chauhan and Mahajan (2014), and Isibika & Kavishe (2018). If ebooks are to become widely accepted, many of the advances in technology discussed above are not yet mature, and some of the advantages bring their inherent problems. The problems of ebooks publishing do not apply uniformly to all platforms, formats, or groups. The obstacles to ebooks publication can be broken down into resistance to change, font issues, and digital rights management.

Resistance to change

While futuristic technology, new smartphones, and latest gadgets bring excitement, for some, they would just prefer to keep things classic. Most people, if not all of them, resist changing their fundamental routines. They might experiment with something new for a while, but they rarely look forward to making significant changes to the way they operate. One of

those changes is reading ebooks. Ebooks are an electronic medium as opposed to a conventional paper-based book that readers can see and feel. They have no physical representation where you can exclusively store them in a bookshelf or mini library in your house. Ebooks are often kept in one's smartphone or tablet which is used for all different purposes and functions. We multitask things using our phone. From sending and receiving email, checking and updating social media platforms, paying bills, doing shopping, booking travel itineraries, keeping receipts, to scribbling important lecture notes, thus, leaving no personal sentiment for the stored ebooks. The act of reading is altered. No more turning pages; instead, scrolling is being used. Some reading apps provide the option to try to mimic your present experience by adding the sound of a paper page turning as you flip between pages. This is done to lessen the abrupt change in the reading environment. The very enhancements that make ebooks a potentially superior reading experience may simply turn off people from switching.

Font Issues

For ebooks, fonts have both benefits and drawbacks. It is advantageous to have the option to resize fonts to accommodate blind readers' needs. However, computer typefaces that are the same size as those used in printed products are not as easy to read. When reading ebooks, the different font quality can cause eye strain. Typography is another font issue that ebooks encounter. Text can be resized in some ebook formats to fit the reader's physical limitations. This has benefits for many different kinds of information. But in certain books, the arrangement of the text on the page contributes to the message being conveyed.

Digital Rights Management

According to Stork Paul P. (The Problems of eBook Publishing, n.d.-b), one of the main issues when releasing books in digital form is copyright protection for authors. When copiers were widely accessible, similar worries were voiced regarding conventional publications. Although it is now possible to duplicate a whole book, the expense and inconvenience of doing it manually have limited this sort of piracy. If ebooks are to flourish, there must be a way to distribute them safely while protecting the authors' copyrights and profits. Microsoft, Xerox, and Adobe are just a handful of the businesses tackling this issue right now.

5. CONCLUSION

This study reveals that a number of factors influence ESL students' decisions regarding how and when to use new technology, such as ebooks, in their learning context. The English Language Unit (ELU) team should join forces to address problems and work on the elements that serve as implementation constraints if we are to encourage people to keep using the ebooks and boost the effectiveness of ebooks in their setting. This could be accomplished by offering clear instructions that lecturers could use as a resource whenever they run into issues, as well as by holding several pertinent professional development sessions, especially at the start of the semester, to impart technical and pedagogical knowledge for successful implementation. For future research, we would suggest developing suitable materials for the ebook, focusing on the TVET instructors.

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DESIGN AND DEVELOPMENT OF AIRCRAFT MAINTENANCE MANUAL SMART READER AT POLITEKNIK BANTING SELANGOR

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ABSTRACT

Department of Aircraft Maintenance, Politeknik Banting is a Civil Aviation Authority of Malaysia (CAAM) approved Aircraft Maintenance Training Organization and is a leading aviation maintenance Technical and Vocational Training (TVET) institution in Malaysia. Aircraft Maintenance Manual (AMM) is a document that contains all the procedures that have to follow during the mandatory maintenance of an aircraft which is stated as in ATA chapters. A manual developed by the manufacturer of a particular airplane that contains information necessary for the continued airworthiness of that airplane. For each type of aircraft there is different type of AMM. Aircraft Maintenance Manual is a vital document for maintenance personnel. AMM are available currently in hardcopies and softcopies but because of a lot of ATA chapters in AMM we have to scroll and search for the correct procedure during the maintenance and sometimes the maintenance personnel and students get confuse if they are not familiar with the maintenance manual. AMM Manual Smart Reader is actually to enable the aviation student and maintenance personnel to refer to Aircraft Maintenance Manual an easy and fast access to the maintenance task within the AMM when undergo inspection in aircraft. The AMM is developed with speech to text recognition and named Aircraft Maintenance Manual Smart Reader. The AMM smart reader was created by four software which is Framework 7, Adobe Phone Gap Build, Firebase and Cloud speed API. This application reduces the time taken to search on the maintenance manual and they can save their time when inspecting aircraft. Then, it also prevents the oil stains from contacting with the hardcopy of the

maintenance manual when they use AMM smart reader. Currently the AMM Manual Smart Reader to be used by Politeknik Banting Selangor by students and lecturers for their workshop, laboratory practices and at the hangar for maintenance task.

Keywords: Aircraft Maintenance Manual; ATA chapters; Smart Reader; Framework 7; Airworthiness.

INTRODUCTION

Aircraft maintenance operations is a highly regulated by the aviation authority and manufacturer to always ensure the airworthiness of the aircraft and have a clear traceability if the need ever rises. According to (Kinnison and Siddiqui, 2012) maintenance is continuous process to ensure that a system operates and perform its specific function at its design in level of reliability and safety. Various processes and documentations are utilized by aircraft maintenance organization that are performed by aircraft maintenance personnel in order to comply the requirements set by the regulations and ensure airworthiness of the aircraft prior flight. One of responsibilities of aircraft maintenance personnel is to be able to read and understand written documentations pertaining to aircraft maintenance (Safura Abdul Rahman, 2017). Still, the requirements regard to aircraft maintenance manual does not only applies to the maintenance organization but also applies towards maintenance training organizations too. Examples of requirements that are currently in place are as follows.

“The trainees also need to know not only the importance of using the maintenance manual but also to understand the language and structure of the documents. These manuals have elaborate arrangements, which must also be understood.” (International Civil Aviation Organization, 2003).

This is also specified by the Civil Aviation Authority of Malaysia for engineering trainee.

“The student must be able demonstrate the capability to use relevant tools/ equipment/ test equipment as specified by the tool/ equipment/ test equipment manufacturer and the usage of maintenance manual in that the student are able to perform the required inspection or testing without missing any discrepancies.” (Civil Aviation Authority of Malaysia, 2021).

A single aircraft usually requires multiples maintenance manuals that in its traditional paper-based format, can accommodate several shelves of storage and can be a rigorous task for upkeep and updating process especially if an organization has multiple aircraft types with different configurations. Because of this, maintenance and training operation has long started the utilization of electronic version of the manual, that can be access through a specific website

provided by the manufacturer or in another digital format such as portable document format (PDF). Despite the changes of form, there are still limitations exist which will further be addressed in this paper.

Literature Review

There are 4 general categorization of aircraft documentations namely, manufacturer's documentation, regulation documents, in-house documents generated by operator or airlines and ATA standard documents (Harry Kinnison, 2012). Manufacturer's documentations consist of various documents given to the operator to maintain their aircraft. Example for such documents is Aircraft Maintenance Manual (AMM), Illustrated Parts Catalogue (IPC), Structural Repair Manual (SRM), Service Bulletins (SB) and Service Letters (SL). As for the Air Transport Association (ATA) standard document, it is a document specifically organized according to ATA100 chapter format, which systematically enables to reader of the manual to locate the chapter they need to find according to coded ATA chapter. In this paper, focus is specific to Aircraft Maintenance Manual (AMM) in ATA 100-chapter format as it is one of the most commonly used documents for aircraft maintenance personnel because it provides specific instructions in order to perform various daily maintenance tasks. These manuals often containing copious amount of text, diagrams, various schematics as well as step-by-step troubleshooting guide (Wang Yu, 2014)

(Herimanana Zafiharimalala, 2014), has studied the usage of aircraft maintenance manual by aircraft maintenance personnel. The purpose of their study was to investigate and understand the usage of aircraft maintenance documents and find out the cause of non-compliance of procedures by aircraft maintenance personnel. Their findings indicates that aircraft maintenance personnel use maintenance manual thoroughly before, during and by the end of maintenance task. The purpose of referring to maintenance manual are:

1. To search specific information by manually going through the manual using skimming and extraction of specific information
2. To verify and check if there were any missing steps in maintenance procedures by intensive reading
3. To learn about a task or system specific of the aircraft by identifying through skimming and extracting only relevant important information from the maintenance documentation
4. To strictly comply with the procedure stated in the maintenance manual by performing intensive reading

They found that some of aircraft maintenance personnel decision to not fully complying to the manuals was not because it was intended to but rather unique circumstance of situation and configuration of the maintenance operation that had constrained their choice. Other factors stated in the study was the maintenance personnel level of knowledge of the maintenance procedures, the perception of the utility as well as the usability of the maintenance

documentations provided to them as well any conflicted arise versus the needs of safety, legal implications and efficiency of the task.

Statement of the Problem

Regardless of the actual improvement due to change from paper-based AMM to digitalized format, it still doesn't fully address one of the fundamental problems exist that is finding specific maintenance procedures in the AMM. This is also mentioned by (Hobbs, 2008) that according to FAA, aircraft maintenance personnel spend around 25 to 40 per cent of their maintenance task duration dealing with maintenance documents. This problem is exacerbated by the lack of knowledge and experience especially in training school environments, whereby the students can easily be overwhelmed by the sheer complexity and amount of information they must go through in the AMM to understand prior a task. Moreover, as maintenance personnel performing their maintenance task, scrolling through the AMM with dirty, oily hands and especially if it is covered in gloves can be a nuisance. Then there's also limitations of paper-based manuals that are not durable and easily stained, even standard portable devices screen will have trouble registering touch inputs under such conditions. In addition, current digital PDF based AMM are also lacking in voice search capabilities as it is only limited to text-based searches.

Material and Methods

Aircraft maintenance manual (AMM) smart reader is an enhanced compact version of a maintenance manual, it is an android based application that can be installed into various personal portable devices. The AMM smart reader contains a portion of manual originating from Boeing 737-400 AMM, ATA chapter 09 taxing and towing and is specifically integrated with a speech to text recognition feature. This application is made aircraft maintenance personnel who are working with on the field and especially engineering student who are studying in an Aircraft Maintenance Training Organization. Therefore, they can improve their work efficiency by using AMM smart reader. This paper is aimed to develop a mobile application which helps personnel to find the specific maintenance task procedure in the AMM and reduce the time taken for task to be carried out.

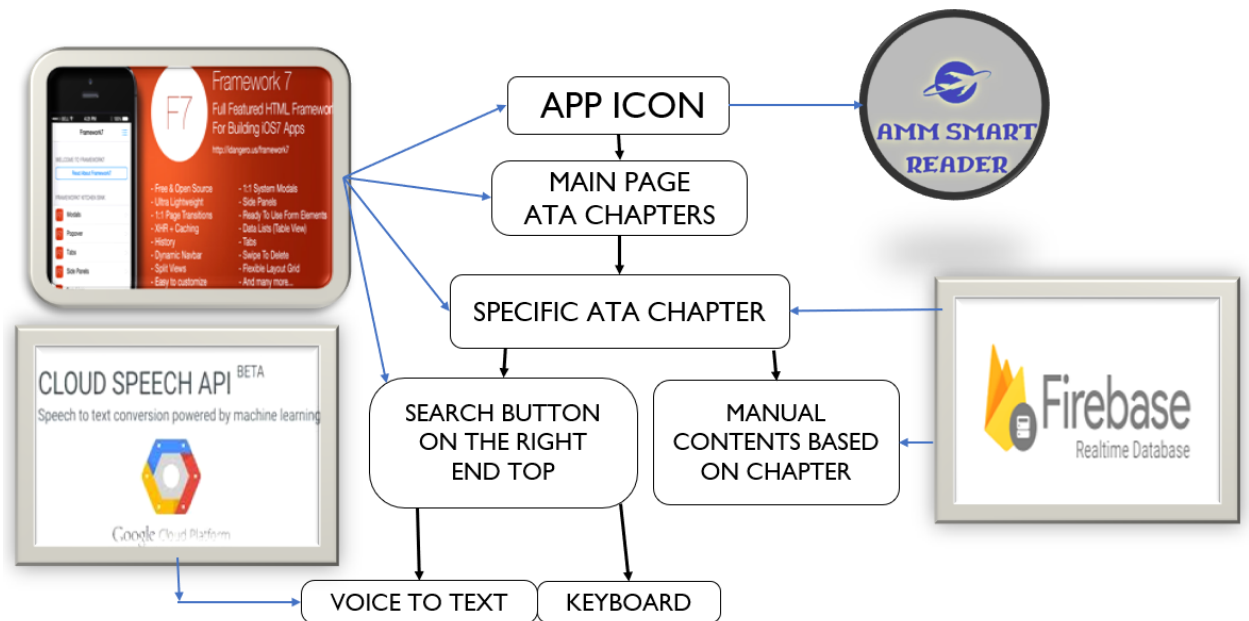


Figure 3: Application UI Design Process Flow and the application development software.

The initial steps taken to materialize the base application is by using Framework 7 studio. Framework 7 studio is the primary application generator software that were used in this development to create the base application. All of the user interface (UI) including front page of the application, placement of content tables and search bar were created using this software. It also allows application deployment to multiple devices without charges. The Cloud-based Speech to text application programming interface (API) was also integrated into the search function of the base application. The next software that was used is Adobe Phone Gap Build. Adobe Phone Gap is a standards-based, open-source development framework for building cross platform mobile apps with HTML, CSS and JavaScript for iOS, Android and Windows Phone 8. The side-line installation of the base application into the portable devices was performed using Adobe Phone Gap Build. As for the content integration of the application, Firebase was used as database. The Firebase Real-time Database allow the user to build applications by allowing secure access to the database directly from client-side code. This is the section which the portion of AMM Chapter 09 was installed into and becomes the primary content of the AMM smart reader.

Result and Conclusions

The base application was successfully created, along with the integration of Speech-to-Text search function and containing AMM ATA Chapter 09 as its main content.

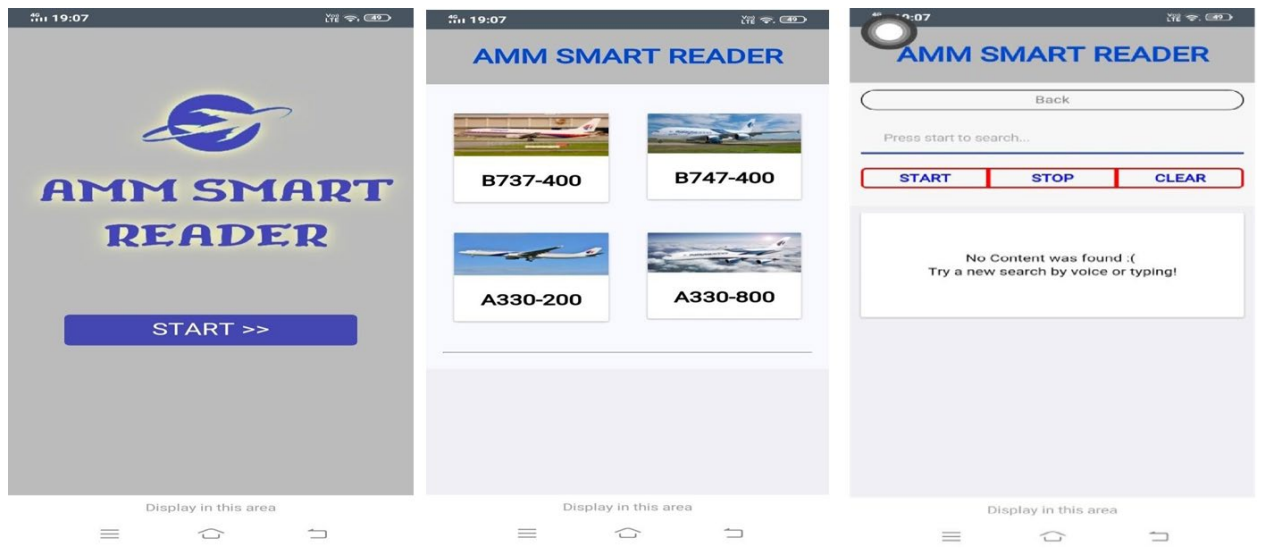


Figure 4: Front page of application, aircraft type category selection, search box and search results (from left to right).

The first figure starting from the left shows the actual front page of the AMM smart reader. User will have to click onto the main icon labelled “START” and it will proceed to its second page for further interaction. The second page on the center displays the AMM categories according to the aircraft type. The third page on the left displays the search boxes for maintenance procedures. There are four main buttons to operate the voice recognition system. The first button is ‘START” button. When the user clicks on it, the application will start recording user’s voice. Then there is a “STOP” button. When the user clicks on that button the application will stop recording. And then there is a “CLEAR” button. This button will clear the searching content. The last there is a “BACK” button. It will bring back the user to the previous second page of the application.

Throughout the design and development of this application, it can be concluded that development of this application considered successful. The AMM smart reader manages to address the fundamental problems associated with finding information in the AMM via its integrated speech to text search box function. With its compact size, it is very portable, can be brought anywhere on the aircraft and free from limitations of traditional paper based manual formats. Even though the contents of the manual is only limited to ATA Chapter 09, additional contents covering more aspects of other aircraft systems can be implemented with an increase size of the smart reader Firebase’s database. The accuracy of the Speech-to-text application programming interface (API) can also be updated in the future to further improved in order to cover other aspects of smart reader menu navigation as well.

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EVALUATION OF THE REFERENCE AND COUNTER-REFERENCE IN AN URBANO - RURAL DISTRICT: CASE OF THE HEALTH DISTRICT OF KENYA

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ABSTRACT

Introduction

The referral system is the interface between the decentralizing tendencies of the first line of care and the centralizing tendencies of the general referral hospital, for reasons of continuity of care in a holistic vision.

Methodology

We conducted a cross-sectional descriptive study on the evaluation of referral and counter-referral in the Health District of Kenya in the Democratic Republic of Congo with the aim of improving this interface. Data analysis was performed using Epi - Info 7 software.

Results

We noted that the severity of the disease motivated the referral in 54% of cases. The reason given for refusing the referral by the patient was the lack of money (95%). The majority of health centers were decentralized (56%); there is a non-existence of referral tickets at the health center level (78.9%). The counter-reference rate was 21.1 % with a reference rate of 31.5%.

Conclusion

In the context of universal health coverage, it is important to encourage the referral and counter-referral phenomenon to ensure a better supply of health care .

Keywords: Evaluation , Reference, counter-reference, health district, Kenya

INTRODUCTION

In the era of the development of healthcare structures in all countries of the world, it is more and more frequent for a patient, for a given health problem, to be taken care of and treated at different levels of the healthcare system. offer of care. This mechanism, which is only normal, aims to offer optimal care, that is to say effective, continuous, comprehensive and integrated care, whatever the issue of the treatment. It aims to make the health system more responsive to the expectations of the population as to how they wish to be treated.

A health system that follows this logic is organized in such a way as to coordinate the supply of care from the first contact of the patient with the health establishments until his discharge, because the multiplicity of care establishments and the variability of the types of services they provide are not contradictory, but communicate and complement each other. The compartmentalization between these different healthcare establishments and the isolation that could characterize them must be systematically abandoned to respect the principle of the uniqueness of the system (MiniSanté-Morocco, 2007) .

It is in this context that the supply of care in all health systems is organized in a network and in a pyramidal fashion with , at the bottom of the scale, the basic health care establishments which provide first contact, and gradually, the referral establishments which provide adequate complementary care.

The development of such a network, offers the guarantee of improving the care of individuals throughout their journey in the system, because the number of patients are little or not satisfied with the first services provided by the structures of first resort (MiniSanté - Morocco, 2007) .

Mady DENANTES and Coll. (Denande, 2009) , note that the difficulties of access to complementary insurance, flat rates and deductibles, excess fees, the absence of mutual insurance, the refusal of care for the poor, the refusal of medical aid from State (AME) or hassles with third-party payment are major obstacles to access to care for the poorest.

The 2003 WHO report points out that many factors, which do not directly depend on the health system, such as poverty, armed conflicts, institutional instability and infrastructure deficiencies, are origin of low utilization of health services .

The referral is the mechanism by which a first level structure directs a patient who exceeds his skills, towards a more specialized and better equipped structure (a hospital in general), for an adequate care while the counter-referral is the mechanism by which, a more specialized and better equipped structure addresses, after having treated him, a patient to the structure which had referred him, to ensure continuity of care and post-hospital follow-up. The referral/counter-referral system is the set of measures taken to ensure two-way circulation (back and forth) of patients between two care structures with different skill levels, in order to provide patients with the care they need, in the right place and at the right time.

Evacuation by convention designates a reference carried out in an emergency situation. This is the case for emergency obstetric and neonatal care (SONU). Retro information or “feed-back”: is the response made by the referral structure to the health facility that referred the patient

to it. It includes data on the reception of the patient, the diagnosis made, the care given and the prescriptions for the continuity of treatment (WHO-UNFPA, 209AD) .

METHODOLOGY

We conducted a cross-sectional descriptive study on the referral in the health district of Kenya precisely in the 19 constituent Health Areas. The health district. This study covered a year from 01/01/2020 to 31/12/2020.

Our study population consisted mainly of nursing staff from health centers, the general reference hospital as well as patients found respectively in observation and hospitalization during the data collection period at a rate of 60 patients at health centers, 25 at the General Reference Hospital 29 service providers including 10 at the General Reference Hospital and 19 at the Health Centres.

Data collection technique

We used the structured interview technique with filling out a pre-established questionnaire. This interview was conducted on both the personal and patient side. This questionnaire, administered following the free and informed consent of the respondents, served as a collection tool.

Data analysis

Before entering and analyzing the data, all the completed questionnaires were checked and validated as the collection took place in the field. A second cleanup was performed after data entry from the database. Our analyzes were carried out using the Epi-info software version 7.1.0.2, Microsoft Excel helped us to develop the graphs.

RESULTS

A. RESULTS RELATING TO HEALTH CENTERS

Table I. Distribution of patients at the Health Center according to socio-demographic characteristics

Variables	Effective	Percentage
Sex		
Feminine	38	63.3
Male	22	36.7
Patient kept under observation		
Nope	21	35
Yes	39	65
Patient's occupation		
Unemployed	12	20
Liberal	25	41.7
Official	8	13.3
Other	15	25
Level of education of the patient		
Primary	24	40
Secondary	29	48.3
University	7	11.7

Female patients were in the majority (63.3%), an average age of 38.5 years.

Table II. Distribution of patients at the Health Center according to the first contact structure

Origin	Effective	percentage
Medical structure	56	83.3
Other traditional healers	4	6.7
TOTAL	60	100

In 83.3% of cases, the patients received at the health center had been in a medical structure before being received at the health center.

Table III. Distribution of patients at the Health Center according to the reception reserved for them at the health center

Welcome	Effective	Percentage
Good	41	68.3
Bad	19	31.7
TOTAL	60	100

Forty-one patients (41) from the health center (68.3%) felt that the reception was good.

Table IV. Distribution of patients at the Health Center according to adherence to the decision of the reference taken by the nurse at the Health Center

Membership	Effective	Percentage
Yes	30	50
Nope	30	50
TOTAL	60	100

Half of the patients in the Health Centers, ie 50%, adhered to the reference decision taken by the titular nurse of the Health Center.

Table V. Distribution of health center staff according to socio-demographic characteristics.

Features	Number (N=19)	Percentage
Sex		
Feminine	5	26.4
Male	14	73.6
LEVEL OF EDUCATION		
A0	4	21.1
A1	15	78.9
A2	0	0
A3	0	0
SENIORITY		
≤ 5 years	3	15.8
≥ 5 years	16	84.2

The average age of service providers at the Health Center level was 39.3% with a predominance of the male sex (73.6%).

Table VI. Distribution of health center staff according to reasons for non-referral of patients

Reason for non-use	Effective	Percentage
I am not trained in the use of flowcharts	4	40
Flowcharts limit personal initiatives	5	50
Other (s) to be specified	1	10
Total	10	100

In 50% of the cases, the nurses holding the health certificates said that the flow charts limit the reference.

The severity of the disease had motivated the referral in 54% of these cases.

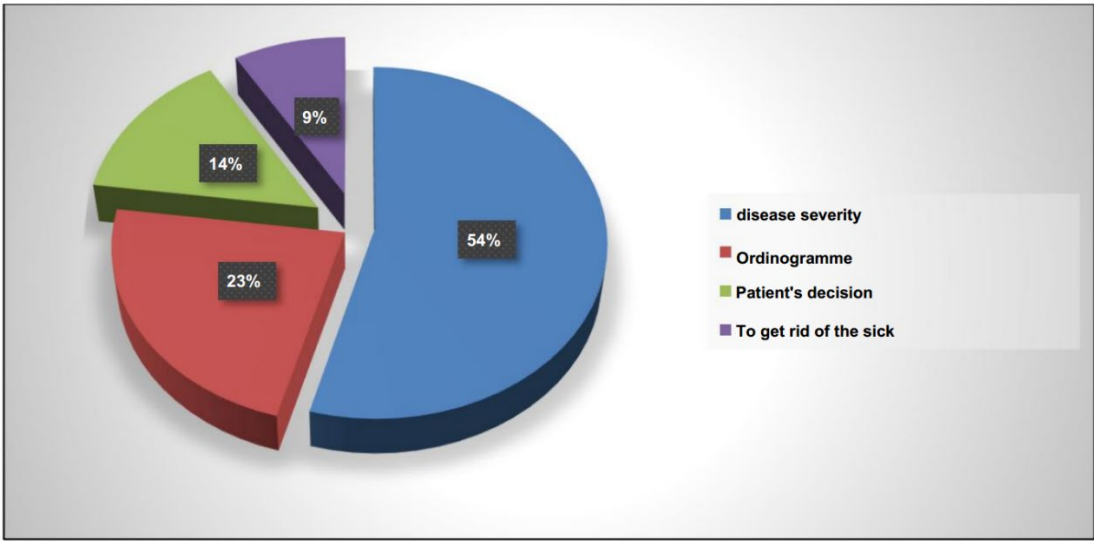


Figure 1. Distribution of respondents according to the reference base

Lack of money was the reason cited by the patient for refusing the referral (95%).

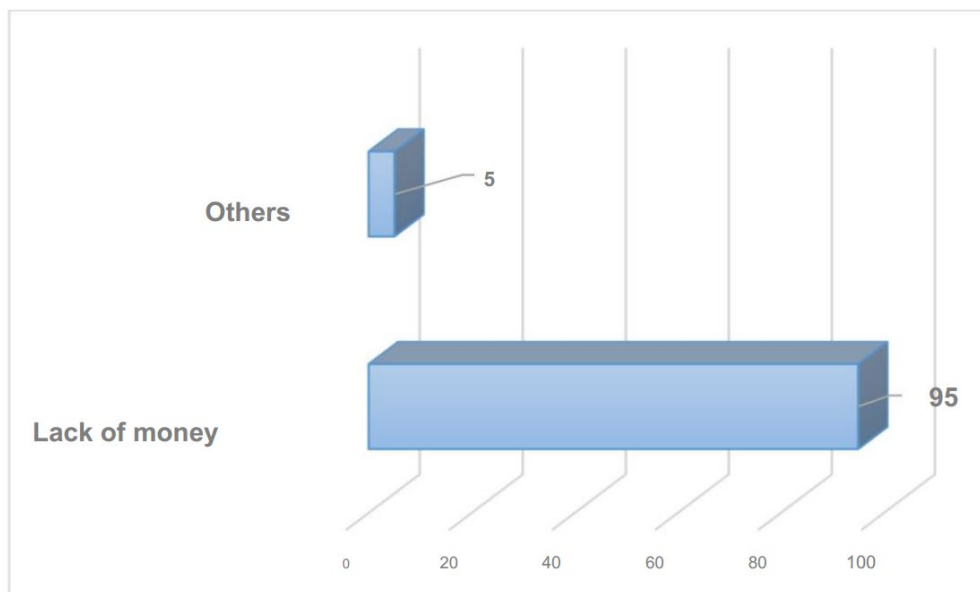


Figure 2. Reason given by the patient for the refusal of the referral

Table V II. Distribution of health areas by distance from the hospital

Distance	Effective	Percentage
≤5Km	10	52.6
>5km	9	47.4
Total	19	100

In the majority of cases, health centers were decentralized (52.6%).

Table VIII. Distribution of health centers according to the availability of reference tickets

Existence of reference tickets	Effective	Percentage
Yes	04	21.1
Nope	15	78.9
TOTAL	19	100

In 78.9% of cases, a lack of reference tickets was observed in health centers.

Table IX. Distribution of respondents according to the frequency of the counter-referral of patients

Counter-reference	Effective	Percentage
Still	04	21.1
Occasionally	13	68.4
Never	02	10.5
TOTAL	19	100

Concerning the counter-reference, the nurses said that it was sometimes observed in 68.4% of cases.

RESULTS RELATING TO THE GENERAL REFERENCE HOSPITAL

Table X. Distribution of patients according to categories

Category	Effective	Percentage
Referral	11	31.5
Not referred	24	68.5
TOTAL	35	100

At the level of the general referral hospital, the majority of patients were not referred (68.5%).

Table XI. Distribution of respondents according to the estimate of the price paid to the hospital

Estimate	Effective	Percentage
Too high	09	25.7
Suitable	26	74.3
Cheaper	00	00
TOTAL	35	100

Nearly 7 patients out of 10 or 74.3% had estimated that the price paid to the hospital was suitable and 25.7% had estimated that the price was too high.

Table XII. Distribution of respondents according to the means of transport used during the referral

Means of transport used	Effective	Percentage
Feet	02	18.2
Bike	01	9.1
Motorbike	05	45.4
Public bus	02	18.2
Ambulance	01	9.1
TOTAL	11	100

The motorcycle was the most used means for the reference (45.4%).

Table XII III. Distribution of respondents according to the estimate of the quality of reception reserved at the General Reference Hospital

Hospitality estimate	Effective	Percentage
Very good	07	20
Good	26	74.3
Bad	02	5.7
TOTAL	35	100

At the level of the hospital, 74.3%, the patients considered the reception at the hospital to be good.

Table XIV. Distribution of respondents according to the accompaniment of patients referred, with their information or referral tickets

Accompaniment with information or reference tickets	Effective	Percentage
Yes	07	70
Nope	03	30
TOTAL	10	100

In most cases, the patients referred were accompanied by information (referral ticket) (70 %).

Table XV. Distribution of respondents according to the price of malaria treatment

Category	Price (in dollars)	Difference
Referred patient	30	
Patient not referred	32.5	2.5

With regard to malaria, we note that the patients referred paid more than the non-referred. (32.5 US dollars).

Table XVI. Distribution of respondents according to the evaluation of the referral and counter-referral system in the health zone.

Evaluation of the reference to the monthly and annual review.	Effective	Percentage
Yes	2	20
Nope	8	80
TOTAL	10	100

In 80% of cases, the reference system was evaluated during reviews (monthly or annually).

Table XVII. Distribution of respondents according to the reasons why the hospital does not cross-refer certain patients to health centers

Reasons for not counter-referral	Effective	Percentage
Lack of counter-reference ticket	01	10
Some recovering patients prefer to return to their families	05	50
Some patients are afraid to return to the CS as a result of the new pricing of care.	04	40
Total	10	100

Most patients prefer to go directly to their family rather than be referred (50%).

DISCUSSION

Sociodemographic characteristics of patients at Health Centers

Table I indicates that at the level of the first line of care, 48% of the patients at the secondary education level were observed, followed by those at the primary level (40%), while the female patients were in the majority (63.3 %) with an average age of 38.5 years. Regarding the sex of the patients, our results are in line with those found in Goma and Mali (Samake, 2009; Ntibenda, 2012) .

Origin of the patients before arrival at the Health Center and assessment of the reception by the patients.

We observed that in 83.3% of cases, the patients received at the health center had been in a medical structure before being received at the health center (Table II) and the majority declared that the reception was good as much at the health center than at the hospital level (68% and s 74.3% (Tables III and XIII). Our results, although slightly lower, are close to those found in China and in other countries of the world (Silva and Valentine, 2000; Wang *et al.* , 2017) .

Adherence of the patients to the reference decision taken by the nurse of the Health Center.

Half of the patients in the Health Centers, ie 50%, adhered to the reference decision taken by the titular nurse of the Health Center (Table IV).

Characteristics of Health Center staff.

The average age of service providers at the Health Center level was 39.3% with a predominance of the male sex (73.6%). Eight out of ten providers had experience ≥ 5 years 78,9 and the majority had a university education (A1) (Table V).

Reason for non-referral at Health Center level

According to the opinions of the nurses, the flow charts limit the referral to the level of the health center (50%) whereas the gravity of the disease had motivated the referral in 54% of these cases (Figure 1).

Reasons for non-referral at health center level.

In 95% of cases, lack of money was the reason mentioned by the patient at the first line of care for refusing the referral (Figure 1).

On the other hand, JEREMIE has, in his study carried out in Kinshasa, found that the barriers identified for the referral and counter-referral system are among others: the direct cost of care (93.3%), the indirect costs of care (80%), the distance between CS and HGR (66.7%), lack of means of transport (66.7%), respect for culture or custom or religion (66.7%) and the cost of transport (60%) (J r mie, 2017) .

Distribution of health areas according to distance from the General Reference Hospital

In the health district of Kenya, 52% of the health centers were decentralized (52.6%) against 47.4% which were not as shown in Table VIII. Our results differ from those of the health district of Gombe in Kinshasa, where 66.67% of the population is far from its general reference hospital, that is to say that it is beyond 31 km (Jeremiah, 2017) . In Bamako, Mali, a study reveals that the average distance traveled by evacuees is 13.35 km. The extremes are 0.3 to 61.4 km (Traore, 2010) .

GENERAL REFERENCE HOSPITAL

Payment method.

Patients considered the cost of care at the general referral hospital in Kenya to be suitable (affordable) in 74.3% of cases (Table X) and patients referred paid relatively less than those who did not. not been referred (2.5 Dollars difference) XV .

No case of indirect payment (mutualization of care or health insurance) was reported then. For GUINDO, women referred within the framework of the referral system are supported by the solidarity fund (Guindo, 2008) .

Proportion of patients referred and means of transport used by the patient for the referral.

During the referral, the motorbike was the most used means of referral (45.4%) versus the ambulance and the bicycle with 9.1% whereas in Burkina-Faso, the ambulance was the most common means of transport. no longer used 75.7 (BARRY, 2011) . In the Health Zone of Kisanga as well as that of Kapolowe in the Democratic Republic of Congo, the means of transport used were respectively public transport vehicles and motorcycles (MIKOMBE, 2016) .

The referral rate was 31.5%, or 11 out of 35 patients seen at the General Reference Hospital. In Kinshasa, in the Gombe Zone Out of 100% of the patients referred from the Health Centers, 35% of patients refused the referral and those who accepted the said referral represent 65%, of which 22% of the patients referred arrived at the General Hospital of Reference and 43% were treated at the Reference Health Centers (Jérémie, 2017) . In Mali, the benchmark rate was 13.38% (Théra *et al.* , 2015) .

Table XIV. Distribution of respondents according to the accompaniment of patients referred, with their information or referral tickets

In most cases, patients referred were accompanied by information (referral ticket) (70%) (Table XIV).

Evaluation of the referral and counter-referral system in the health zone.

In 80% of cases, the reference system was evaluated during reviews (monthly or annually) (XVI).

Reasons why the hospital does not cross-refer some patients to health centers

Most patients prefer to go directly to their family rather than be referred (50%) (XVI).

FINDINGS

We conducted a study to assess the referral as well as the counter-referral in the health district of Kenya in the Democratic Republic of Congo and we observed that at the level of the Health Center, female patients were in the majority (63.3 %) the majority were kept under observation (65%); the liberal profession was in the majority (41.7%).

In 83.3%, patients had to attend another health facility before arriving at the health center. Forty-one (41) patients considered that the reception was good at the level of the health center. Half of the patients in the Health Centers, ie 50%, adhered to the reference decision taken by the titular nurse of the Health Center. The flowchart was the element limiting the reference in 50% of cases according to the nurses.

Since the referral is an interface between the first level of care and the Hospital, it is important to encourage it when it proves to be essential.

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THE IMPACT OF MOLECULAR BIOLOGY AND BIOTECHNOLOGY IN THE DEFENSE OF NATIONAL INTEGRITY

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ABSTRACT

Recent developments in molecular biology and biotechnology affect our lives in many ways. This new technology is used in preventive medicine (preparation of vaccines), treatment (pharmaceutical technology), agriculture (biotechnological production of plants and fruits) and similar fields. It is also possible that such technology, which is very beneficial for humanity, is used against epidemics. In the event of such an attack, it is necessary to have the advanced technologies necessary for early diagnosis. For this reason, supporting institutes and universities working on this subject and creating institutes that will produce molecules to respond to the health problems of the population in this field can be the

Keywords :Molecular Biology, Biotechnology, Genetic Engineering, Recombinant DNA Technology,

INTRODUCTION

The most important developments that marked the second half of the last century in the scientific world were experienced in computer science and biotechnology. Recombinant DNA technology, which appeared alongside developments in the fields of molecular biology and molecular genetics, has accelerated developments in biotechnology (Baba, 2001; Cunningham, 2000).

Recombinant DNA technology is a method based on the isolation of DNA fragments using *in vitro* (extracellular) molecular methods and their transfer into the genome of another living being (usually a bacterium) to obtain molecules that will benefit human beings (Gabig and Wegrzyn, 2001; Jain, 2001). The most important part of this technology is gene cloning. Gene cloning, in general, is the transfer of a gene from its original place in the chromosome to another living cell, such as a bacterium, through molecules called vectors. For this purpose, plasmids and cosmid vectors are frequently used. As the vector reproduces rapidly in this cell, many copies of the gene that leads to it are also produced. The proteins of the transferred gene are obtained. In this way, many molecules such as insulin and growth hormone can be obtained quickly and inexpensively (Brenner, 2001; Debouck and Goodfellow, 1999; Graffeo, 1994).

FIELDS OF APPLICATION OF BIOMOLECULAR AND BIOTECHNOLOGY

Today, recombinant DNA technology is frequently used in the diagnosis of genetic diseases, the manufacture of recombinant vaccines and the production of transgenic plant and animal strains by gene transfer from other organisms. Transgenic plants are obtained by modifying various properties of plants or by transferring recombinant genes. Plant varieties resistant to agricultural pests, herbicides, drought or high salt content can be produced. DNA molecules with different structures created by recombinant DNA technology are also used for gene therapy.

In cancer, a tumor suppressor gene is often transferred into cells in this controlled manner, this gene fragment carrier carrying the molecule is usually a virus. The part of the tumor suppressor gene placed in the genome of the virus is transferred to the cells with the viral structure and becomes active there. Another method used in the treatment of diseases is that the protein synthesized from the transferred gene works by blocking a metabolic pathway in the cell. Rapidly proliferating cancer cells can thus be destroyed. All of these mentioned approaches are examples of the use of these technologies for the benefit of mankind (Mahmood and Green, 2005; Pignati et al, 2002; Shankar et al, 2006).

The role of biotechnology in defense policies: The malicious use of genetically modified (recombinant) viruses or bacteria has an effect similar to that of the atomic bomb. Its sphere of influence will not only be limited to military units, but it will be able to affect all people living in this region. For this reason, this subject, which is discussed under the name of bioterrorism, is today the nightmare of even the most technologically advanced armies (Streatfield, 2005; Tang et al, 2004; Orive et al, 2003). It can spread like a cold using genetic technology. anthrax It is possible to create an image of a disease that can be fatal, as Therefore, armies or societies that can encounter different organisms must prepare for it. One of the ways to take the necessary measures in a short time is to define the factor encountered (Patton, 1996; Shah et al, 2002; Shaikh et al, 2005). This is only possible with well-equipped gene technology research centers (Fig. 1).

Figure 1. For molecular biology and biotechnology, qualified personnel and well-equipped laboratories are necessary.



The rapid development of genetic technologies over the past 20 years has also led to significant advances in the analysis of the genome of living beings. The genome map of the bacterium causing Hemophilus influenza was revealed about eighteen years ago. Today, the study, which aimed to reveal the analysis of human genome sequences, is coming to an end. Genome sequence analysis studies of different species (such as fruit fly, mouse, chimpanzee) are either completed or have reached a certain stage (Baba, 2001; Brenner, 2001).

Information about them is stored on computers with the largest memory in the world and made available to users. However, it is not so easy for such dense and different information to meet user needs. Reach information based on DNA, RNA and proteins, reveal the relationships of these materials to each other, find the structure of biological material (gene or amino acid sequence) and determine which living beings it may belong to requires expertise in the field of bioinformatics. These people, who have genetic and computer knowledge, interpret the data obtained as soon as possible and present it to their users. In order to be ready for a possible biological attack,

With the completion of the human genome project, various projects developed under this project are beginning to be studied. Today, the genes of the human genome and their functions are described. This information The roles of mutations in genes in diseases such as cancer, heart and diabetes are revealed. Another important project is research on single nucleotide polymorphism (SNP). With this project, genetic changes related to race, community and individual characteristics are studied in humans. These genetic changes, which make no difference when the person appears, are considered important in the different effects of a drug in different races. In the light of this information, genetic profiles of people can be established in the future and, based on this data, individual treatments can be applied. However, it is claimed that biological weapons that do not will affect that certain breeds can be produced with such a project. Although it is now put forward as speculation, it is important to follow scientific developments on this subject (Lubiniecki, 1997; Walsh, 1999, 2006).

Today, molecular gene techniques require expertise and have application difficulties. Today, computer technology is used to develop simple techniques that can examine many examples at once. The latest technology in this field is the method in which more samples are easily searched with the DNA chip in computers. With this technology, difficult-to-apply methods such as gel electrophoresis in a conventional molecular biology laboratory are eliminated and easy-to-use methods emerge. Thanks to the applied technology, the study of

genes in diseases can be carried out easily, quickly and reliably. Thanks to these new technologies,

The way to prepare society against a microbiological factor is through vaccination (immunization). Countries living with fear of bioterrorism are developing vaccination programs to protect society as a whole. Almost all vaccines used today are produced using recombinant DNA technology. All the vaccines used in our country come from abroad. An important area of study in molecular biology and biotechnology is the creation of biosensors. Studies on this technology, based on the detection of chemical or biological molecules in the environment with living micro-organisms sensitive to this factor, are continuing rapidly, particularly in research institutions in developed countries. The developments to be made in this technology will be of great importance, particularly in the pre-detection of chemical and biological factors (Veronese and Pasut, 2005; Gabig and Wegrzyn, 2001; Jain, 2001; Shaikh, 2005).

Today, some substances used in highly destructive bombs can remain in the environment for a long time after war (for example, "depleted uranium"). The effects on human health of devices emitting ionizing and non-ionizing radiation at low doses, the number of which is increasing rapidly and are used daily, can be revealed by detailed genetic studies (Gabig and Wegrzyn, 2001; Jain, 2001). It is inevitable to carry out these studies, which are also important in terms of environmental safety. The loss of an organ, of a certain part of an organism, is a common problem in military units in times of peace and war. . It is now possible to produce synthetic blood that can replace human blood, artificial skins that do not react in the body, artificial tendons, artificial heart or spleen that can be used in severe burns. Scientists from different branches, as well as scientists dealing with molecular biology, play an important role in the production of next-generation biomaterials identical to living tissues (Patton, 1996; Shah et al, 2002; Shaikh et al, 2005).

In our time, biotechnology has developed especially in North America (USA and Canada), on the European continent, in the Far East and in India.

CONCLUSION

Today, the power of countries and armies is measured not only by the number of soldiers and the superiority of weapons, but also by the technologies they have and their ability to use them. This increases in parallel with the economic power and the level of development of the countries. The strength of an army depends on the availability of advanced technologies. Therefore, recombinant DNA technology and biotechnology, which have developed on the basis of molecular biology, should also be part of national defense strategies against epidemiological threats.

RECOMMENDATIONS

Considering the role of biotechnology in the defense industry, the need for qualified manpower and the cost of the investments to be made, the following suggestions can be made for our country:

1. A national strategy in this area can be determined and priorities can be set. For example, it may aim to reveal the genetic profile of the Congolese population, which is important in many areas of biomedical research.
2. Molecular biology and biotechnology research centers with special status can be set up

Molecular Biology and Biotechnology can be included in undergraduate and graduate programs of faculties such as Applied Science, Medicine, Veterinary Medicine, Pharmaceutical Sciences and Agriculture to train a new workforce . Coordination can be achieved with engineering faculties. In this area, a contribution can be made to the development of the private sector.

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ENRICHING CURRICULUM – USING LOCAL WISDOM

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Abstract

The time has come to realize that education has crossed the boundary of its school campus. It means that the education is associated with the current society and also with the available assets in and around the school. Incorporating school activities, academic and non-academic activities has narrowed the approach towards the curriculum. This change has totally abandoned the precious and valuable Local Wisdom, which could enrich the curriculum. Local wisdom means availability of human skill or wisdom which is easily accessible or something that is within the reach. Despite advancement in technology, educational advancement still works in isolation and still there are challenges we face. The best use of local wisdom could be done in such case through the available resources to enrich curriculum. A large number of such talented persons with excellent skill can give ample motivation and reinforcement to accelerate the inquisitiveness of the students and increase their enthusiasm. Values, Morals, Science, developing questioning skills etc. can be taught easily and effectively with the same. The use of local wisdom to enrich the curriculum is the need of this hour. The article emphasizes the application of Local Wisdom wherever possible and thus add quality to the education.

Keywords: *knowledge, wisdom, education, local, local wisdom*

Introduction

Education cannot be static and fixed or unchanging as it has to be planned according to the changing circumstances and needs of a particular society or nation. The individuality and personality of the learner must be known before he is taught or subjected to behaviour modification. The process and pattern of growth and development during different stages of an individual's life, his instincts and other innate abilities, the learned and acquired abilities, individual difference in terms of abilities and capacities and their measures such as the extent of interests, aptitudes, attitudes, intelligence and creativity are also important for personality appraisal.

These days children have to go for certain activities because they are scheduled. There is no willingness amongst the students. They prefer just to finish their home work rather than learning and developing those skills. These and many more are the comments heard and felt by the real academicians. It is time to realize that education has to come out of its boundary wall of a school campus. The education needs to be Inter connected with the society and available resources in it. Including the academic and non-academic school activities only is a narrow

approach towards the curriculum. Local wisdom is that wonderful resource which has been often neglected by education and can enrich the curriculum.

Local wisdom means availability of human skill or wisdom. Local is difficult to put it into the term of area and perimeter but then Local refers to easily accessible or something that is within the reach. Thus, local wisdom means that resource whether natural or manmade or human himself which is easily available or accessible and possesses the skill or wisdom.

Exigency of Local Wisdom

It is expected that through education, the physical, mental, social, cultural, cognitive and psycho-motor development of a child can be achieved. Day by day the role of education is increasing, and it shapes the destiny of any nation. The quality of human power in any country ultimately determines the sustainable well being of its people. Thus, education is of utmost importance for the learning of human beings. Educational advancement still works in isolation. Thanks to the technological advancement that it has made the world smaller and brought the people together. But still there are challenges of electricity, technological gadgets, its availability and accessibility as well as internet where knowledge is exploding which necessitates the need of local wisdom to enrich the school curriculum.

Application of Local Wisdom

The local wisdom can be used easily and effectively in the benefit of the students and teachers and hence the education. There are several applied examples most of which are known to us and even used by us but was used without any idea of using the local wisdom.

The perfect use of local wisdom is an applied example of Kalor district in Karnataka, near Bangalore. David Hosbrough, had nothing much to start his mission other than his will. He collected the children around the villages and trained some of the educated people of that village for teaching. He did carpentry to make mathematical equipments and taught his children plumbing, carpentry, cooking, singing and all other subjects. It was a school of free education for all the children. He used human and natural resources to enrich curriculum.

Again there are many talented personalities in and around us. Mr. Suresh Bhandarkar a blind man (uneducated person) possesses such an excellent questioning skill that wherever he goes he involves the whole class. The motivation and reinforcers used by him accelerate the inquisitiveness of all the students and all the students participate in that session with full enthusiasm.

The puppetiers using their puppets teach a lot to the people. History, civics, values, morals, science etc. can be taught easily and effectively with the same. Such and many more personalities are beside and around us. The need is their proper, timely and maximum use in our education.

Dr. Jha (2020), Dean, Department of Education, CVM University, during his formal talk, gave an example of the blind people performing the collage making skills in the local schools. These blind people are given 10 to 15 minutes to perform their skills and to market the goods so that the children in the school buy. He rightly pointed out in his talk that these people are having an excellent questioning skills which mesmerizes the whole lot of children gathered at one place to keep quiet and listen for nearly 10 to 15 minutes. They are tempted to buy the cheap product only by the power of questioning skills of the performer. He was of the opinion that if such questioning skills are brought in the classroom by the teacher then it would create wonders in the class.

Bas Verschurren et al. (2010) argues that the natural sites of the country are guarded and preserved by the local tribes as they are closely connected with religious beliefs and their heritage. So they take care of their natural sites with great care for centuries. They also keep the history and geography of the place intact with them from generation to generation. If these people are brought to the class to explain the history of that sacred place then they would be more successful to disseminate information correctly to the target audience than any history teacher in the class as the presence of the community heritage keepers will create inquisitiveness in learners with full involvement.

Mark (1996), in report published by IUCN mentions that, when the Forest Conservation Act was passed in India the Forest Committees of Tangi, Orissa people were largely disturbed by deforestation. Due this they started a campaign in all the villages to protect the forest. The village head took the initiative and made sure that the woods from the forest were not taken away. People like this who had participated in making a great change in the society could be called in the classroom to deliver a lecture to conserve forest. The wisdom that they possess cannot be replicated or given by the Geography teacher.

Advantages of Local Wisdom

Following are the advantages of using local wisdom.

- It is very cheap and hence could be easily afforded in education.
- There is an interconnection of Society and School.
- It involves enrichment of curriculum by not only knowledge dominated people rather efficient at manual work also.
- It is better assimilation of concepts with use of all familiar things and people.
- It makes the teaching learning process easy and enjoyable.
- It develops interest amongst the students as it is livelier in education.
- It reduces the burden of teachers.
- It requires less effort for management and administration.
- It involves other teaching methods and techniques than just lecturing.
- It conveys the society that home can be a better school.

Limitations of the Local Wisdom

Enrichment of curriculum through using Local Wisdom is even not as easy as we can think of. There are several limitations for an institution: -

- These days there has been huge burden on students as well as school's teachers for the completion of courses and it's drilling. A huge amount of time is consumed on it. Usually using any outside resources takes time for its preparation and presentation. Therefore the effectivity of such activities loses their impact.
- Many schools have large number of students in their classrooms. For such activities less number of students is always a sensible idea. Therefore the utility and effectivity is hardly possible.
- Generally everyone is not keen to put in their efforts to identify the Local Wisdom. One has to have deeper understanding of the present curriculum and its requirement. This is the way of having human resource that may be efficient in the identification of Local Wisdom and have comprehensive understanding of the curriculum and its chronological upgradation.
- Sometimes the locals may keep themselves away due to shyness or inferiority complex.

Suggestions

Though it is hard task to include local wisdom appropriately in the curriculum but it gives a sweet fruit and add to the glory of the institution. It motivates the students for learning. Therefore schools will have always fewer dropouts from their schools. There are some suggestions to involve the Local Wisdom and get its fruitful result of enriching curriculum.

- Institution must motivate their teachers to be experimental in their teaching – learning process.
- Institutions must facilitate the time, space and required equipments.
- Institutions must motivate their teachers to be innovative and effective. There can be some kinds of rewards, who put in their efforts in this field.
- Teachers must understand that Local Wisdom is to enrich the curriculum not the supplement of their efforts. So the fear is that teacher's may step back thinking their content has already been covered through Local Wisdom.
- Institutions must get in touch with other institutions which are already practicing and have enriched their curriculum, whether they are within the country or abroad.
- Institutions have to understand their requirements and explore the areas to fulfill through local resources.
- Institution can award certificate or prize for the locals' contribution to the young learners.

Conclusion

Using of local wisdom to enrich the curriculum is the need of this hour. In this world of competition where every education institutions are in the race of producing better results, they need to sit back and introspect what they are doing with the future of the nation and future of the children.

Use of local wisdom is the key to the best management of educational institutions and make the education accessible by presenting it in a more experimental way to most of the learners.

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We were established in 2020 as an academic studies group. The purpose of our group is to share academic information, write academic books, and share new views and ideas. Our group, which started its activities with this mission, has become an association in 2022. The Academic Studies Group is a group formed by faculty members from more than 20 countries. Our group consists of 800 academicians, 500 of whom are from Turkey and 300 from various countries of the world. We held our first congress together with Çağ University in May 2021. We held our second congress together with Karabuk University in October 2021 . We held our third congress together with Osmaniye Korkut Ata University in May 2022. IV. The International Congress of Academic Studies (ASC-2022 / FALL) held in Poland between 3-5 November 2022, hosted by Alcide De Gasperi University of Euroregional Economy, POLAND, face-to-face and online. As the Academic Working Group, we are getting stronger with each congress. We would like to thank the organizing committee and our authors for their support at the congress. We hope to unite this cooperation under the roof of an institute or university in the coming years.



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