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WAYS TO IMPROVE THE ADMINISTRATION OF LOCAL TAXES AND FEES IN UKRAINE

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Abstract

The article substantiates the role and place of local taxes and fees in ensuring effective social and economic development of the state and regions. Considerable attention is paid to the theoretical, institutional and regulatory foundations of the administration of local taxes and fees by tax authorities and relevant executive units of local administrations. The factors that have a positive or negative impact on the formation of local budget revenues due to the corresponding tax payments are determined. A comparative analysis of the indicators of the local budgets implementation in Ukraine at the expense of local taxes (unified tax, property tax) and fees (fee for parking spaces for vehicles, tourist tax) was carried out, which made it possible to reveal the significant fiscal role of the unified tax and land fee. Emphasis is placed on the priorities of improving the administration of tax on immovable property other than land in Ukraine taking into account the experience of foreign countries.

Ways to increase the efficiency of the administration of local taxes and fees in Ukraine are proposed, taking into account the modern realities of the development of the world and national economy. Among them, key ways are the following: introduction of an effective system of assessment of real estate objects for taxation purposes, provision of tax autonomy of local self-government bodies in terms of administration of local taxes and fees, interaction of local self-government bodies and tax administrations in the context of control over the payment of local taxes and fees to budgets, implementation of digital technologies into the system of administration of local taxes and fees in Ukraine, taking into account foreign good practices.

Keywords: *tax system; functions of taxes; local taxes and fees; revenues of local budgets; local self-government bodies; social and economic development of territorial communities.*

JEL Codes: *E62, H70, R11*

Introduction

Modern conditions for the formation of effective inter-budgetary relations require active scientific research in the field of administration of local taxes and fees.

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Accumulation of fiscal resources of municipalities in most developed countries of the world occurs at the expense of the revenues from local tax payments. This aspect encourages local self-government bodies to take maximum measures for the effective administration of delegated and fixed taxes and fees in order to increase the fiscal potential of local budgets, create an appropriate living environment and effectively perform functions and tasks to ensure sustainable social and economic development of regions. That is why increasing the role of local taxes and fees and increasing their share in own revenues of local budgets is one of the main tasks of the fiscal policy of the state, regions and territorial communities.

Local taxes and fees should be the main source of income for budgets of local self-government bodies as they form their own funds. This statement is especially relevant in the complex implementation of financial decentralization measures, which consist in the transfer of the sources of local budget revenues from the state budget and the corresponding powers to manage them from the state executive authorities to local self-government bodies in the context of the implementation of relevant functions.

At the same time, effective administration of local taxes and fees will contribute to increasing the fiscal potential of territorial communities in Ukraine to adequately overcome the negative consequences caused by wartime risks. The Ukrainian system of local taxes and fees does not correspond to world principles due to the fact that the legally approved local taxes and fees and their rates do not take into account the real capabilities of taxpayers and thus, do not perform a stimulating function. At the same time, significant obstacles to the development of local taxation are the unstable state of tax legislation and the inconsistency of certain Ukrainian legal acts. Thus, the problem of the formation of financial resources of local budgets at the expense of appropriate taxes and fees is relevant and requires the optimization of scientific research in the context of the development of proper optimization recommendations.

Results and Discussion

In most scientific studies, the essence of taxes is defined as mandatory payments established by the state, which are carried out in accordance with the procedure established by law for the formation of budgetary resources and are directed to the financing of the state’s functions. Taxes are the most effective tool for regulating social and economic processes. In the essence of the tax itself there are enormous opportunities for the state’s influence on balanced economic growth, stimulation of entrepreneurial activity and improvement of citizens’ well-being. Taxes, which are included in the state and local budgets for the formation of own revenues, play a decisive role in ensuring the performance of the state function of social and economic processes’ regulation.

The entire range of relations that arise in the field of tax and fee administration is regulated by the Tax Code of Ukraine, which normatively declares the division of taxes and fees, international and local taxes. At the same time, local taxes are required to be paid on the territory of the corresponding territorial communities. They are established in accordance with the list and within the limits of marginal tax rates determined by the current tax legislation (Tax Code of Ukraine, 2010).

In Ukraine, setting the amount of local taxes and fees (within the limits set by the budget and tax legislation) belongs exclusively to the competence of local self-government bodies. Thus, they have real opportunities to influence the amount of income from the specified tax payments to the relevant budgets for the optimal formation and use of the resource potential of local self-government bodies, which serves as a source of social and economic development for territorial communities.

Paradoxically, local authorities have some autonomy only in the area of local taxes and fees. Undoubtedly, the establishment of local taxes and fees not provided by the Tax Code of Ukraine is prohibited. The powers of village, township and city councils regarding rates and fees include setting the rates of local taxes and fees within the limits of the rates determined by the Tax Code; determination of the list of tax agents in relation to the tourist tax; a change in the size of their rates; the provision of tax benefits, which entails a change in the tax obligations of taxpayers (Luchyshyn, 2019).

During the legislative regulation of the system of local taxes and fees, a number of factors must be taken into account:

1) consolidation of such revenue sources under local budget that would ensure stable income and financing of local authorities' own powers;

2) combining the interests of the state and local self-government to limit the unjustified influence of state power on local taxation;

3) expediency and reasonableness of introduction of local taxes and fees on the relevant territory;

4) appropriateness of the sums of funds coming to the budgets from such taxes and fees with the costs of their administration, etc.

Along with this, it is worth paying attention to the following shortcomings in the administration and regulation of local taxes and fees:

– lack of an effective (stable) legal field that would correspond to modern business conditions;
– lack of interest of local authorities in additional fundraising from local taxes and fees, primarily due to the peculiarities of determining the amount of inter-budgetary transfers (grants);

- secondary nature of local taxes and fees compared to national taxes;
- lack of environmental taxation as a purely local tax;
- underdevelopment of self-taxation as an alternative form of income to local budgets, which is associated with insufficient awareness and distrust of the population in this type of financing of one-time targeted measures of social and household nature (Kmit & Vovchanskyi, 2018).

At the same time, the fiscal and regulatory potential of local taxes and fees in the world is quite differentiated: in some countries their revenues to municipal budgets are significant (more than 40%), in others they are less significant. In Ukraine, the share of local taxes and fees is much smaller than in developed countries and is about 7% of the total revenues of local budgets (Kaneva, 2023). The administration of local taxes and fees in Ukraine attests to their insignificant role in shaping the finances of local self-government bodies compared to the revenues of local budgets in foreign countries, which outlines certain prospects in this direction. It should be noted that, on average, property taxes generate 0.3-0.6% of GDP in low- and middle- income countries, 1.1% in OECD countries. The average value of the specific weight of property taxes in GDP for the EU-27 in 2021 was 2.19%, in Ukraine the ratio of property taxes to GDP in 2021 was 0.79% (Maidannyk & Zhuravel, 2020).

Remarkably, in Japanese legislation there is the Law "On Local Taxes", which defines the types of taxes that can be administered by local authorities. According to this Law, local authorities are given the right, if necessary, to apply tax rates that exceed the standard ones. The enumeration of these taxes is limited to the list given in the specified Law (Eleni, 2024). In addition, they may introduce taxes not provided by this Law, but only on condition that the Minister of Internal Affairs gives his consent to this. In terms of quantitative indicators, in Japan they make up to more than 20 taxes, among which 12 are at the prefectural level and more than 10 are municipal. Among the municipal taxes, the largest of the total amount of taxes received by municipalities is the resident tax (50.6%) and the property tax (37%). The uniqueness of Japan's regional tax policy is ensured by a combination of such factors as high rates of economic growth and a moderate level of public spending compared to other countries (this was significantly facilitated by the almost complete absence of a military budget).

In our opinion, the experience of understanding and the creative application of high-quality regional tax policy carried out in Japan is worthy of imitation in modern Ukraine. About 49% of local taxes are transferred to the budget, which is of particular importance for the formation of their financial base, since such a tax system has exceptional flexibility and high adaptability (Leodolte, Princen, Rutkowski, 2022).

The comparative analysis proved that in Ukraine the role of local taxes and fees in the structure of tax revenues remains insignificant. Since 2015, there has been a moderate increase in the share of local taxes and fees from 0.5% of GDP in 2014 to 1.7% of GDP in 2022, which is a result of the decentralization reform. However, this share remains low compared to the level of EU countries with decentralized management systems. Local self-government bodies do not have a significant influence on the formation of the country's cash flows, but mainly use the funds provided for them in the form of local taxes and fees, fixed shares of national taxes and inter-budgetary transfers.

In general, we state that in the period 2015-2022, the tax dominance of local budgets strengthened and their specific weight exceeded the specific weight of official transfers. However, after the introduction of martial law in Ukraine such trends became more dynamic and dependent on global fiscal decisions regarding financial support for Ukraine.

However, the dominance of tax revenues in the structure of local budgets testifies to the strengthening of the financial independence of local self-government bodies, although the correlation of revenues with expenses requires greater financial flows, which can be comprehensively ensured by increasing the tax potential of local self-government bodies at the expense of non-tax and credit-grant resources.

In our opinion, effective tax policy and redistribution of tax revenues (qualitative performance of fiscal and distributive functions of taxes at the local level) are able to strengthen the autonomy of local economic development, adequate to the level of the developed countries of the world (Sydor, 2019).

Decentralization mechanisms made it possible to generate revenues of local budgets taking into account the share of certain taxes and fees (personal income tax, excise tax, rent, etc.) as well as the delegation of a single tax to the category of local payments. The rules of enrollment and the amounts of the share are declared in the Budget Code of Ukraine.

This approach is characterized by a positive impact on the formation of the fiscal potential of local self-government bodies, as evidenced by the pragmatism of the accumulation of taxes and fees to local budgets in the 2019-2022 period (Table 1).

Table no.1 – Formation of tax capacity of local budgets in Ukraine, million hryvnias

№	Tax payments	Percentage off is calcharges into local budget	2019	Share in tax revenues	2020	Share in tax revenues	2021	Share in tax revenues	2022	Share in tax revenues	Growth rate in 2022
1	Personal income tax	60%	165504,4	61.18%	187602,7	65.69%	212230,3	61.21%	272245,3	69.19%	1.28
2	Ecological tax	55%	2238,9	0.83%	2090,4	0.73%	2073,4	0.60%	1575,6	0.40%	0.76
3	Excise tax on fuel produced in Ukraine and imported into the customs territory of Ukraine	13.44%	5949,1	2.20%	6519,7	2.28%	7426,9	2.14%	2862,4	0.73%	0.39
4	Excise tax on retail sales of excisable goods by business entities		6323,1	2.34%	7168,9	2.51%	8236,3	2.38%	10219,2	2.60%	1.24
5	Income tax of enterprises and financial institutions of communal ownership	100%	375,3	0.14%	605,3	0.21%	341,6	0.10%	1306,8	0.33%	3.83
6	Single tax	100%	35270,2	13.04%	38030,9	13.32%	46282,4	13.35%	47266,1	12.01%	1.02
7	Property tax	100%	37993,9	14.04%	37433,4	13.11%	43242,7	12.47%	36790,8	9.35%	0.85
8	Income tax of private enterprises	10%	6968,1	2.58%	5839,8	2.04%	11440,8	3.30%	8425,3	2.14%	0.74
9	Tourist tax	100%	196,2	0.07%	130,6	0.05%	243,9	0.07%	186,4	0.05%	0.76
10	Parking fee for vehicles	100%	114,9	0.04%	91,2	0.03%	127,1	0.04%	101,8	0.03%	0.80
11	Rent and fees for the use of other natural resources	According to the norms of the BCU	5277,9	1.95%	4636,9	1.62%	8569,2	2.47%	8740,9	2.22%	1.02
12	Other tax revenues	-	2744,2	1.01%		1.60%	6498,6	1.87%	3740	0.95%	0.58
13	Tax revenues	-	270545,8	100.0%	285571,5	100.0%	346713,2	100.0%	393460,6	100.0%	1.13
14	Revenues of local budgets	-	560531,3	-	471479,9	-	580699,2	-	555097,1	-	0.96

Source: State budget web portal for citizens.

During this period, the tax potential of local self-government bodies was traditionally identified by the tax capacity based on four taxes which together account for more than 93% of the total tax revenues for local budgets:

- personal income tax (the average indicator is equal to 62.7%);
- single tax (13.2%);
- real estate tax (13.2%);
- excise tax in two categories (4.62%) etc.

As illustrated by the data in Table 1, the implementation of the tax potential of local self-government bodies can be ensured primarily by mobilizing incomes from personal income tax (more than 60% of all tax revenues and almost 30% of the total amount of local budget revenues). Other tax payments have a less pronounced fiscal effect, however they can be a regulatory potential for local economic development.

A pragmatic analysis of the share of local taxes and fees in the architecture of tax revenues of local budgets (with the exception of revenues of personal income tax, which in the Tax Code of Ukraine belongs to state taxes) testified to the fiscal dominance of a single tax (the average value is 48.5%) as well as land rent (26.4%) and land tax (15.0%) (Table 2).

Table no. 2 – Share of taxes and fees in budget revenues of local tax payments in Ukraine

	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Average value**
property taxes	59.11%	55.25%	51.24%	51.64%	49.46%	48.10%	43.64%	51.21%
including tax on real estate other than land plot	*3.36%*	*4.61%*	*5.96%*	*6.64%*	*7.61%*	*8.70%*	*8.44%*	*6.47%*
land tax	*19.14%*	*18.35%*	*16.17%*	*18.14%*	*16.93%*	*15.40%*	*21.88%*	*18.00%*
land rent	*36.03%*	*31.82%*	*28.60%*	*26.48%*	*24.65%*	*23.83%*	*13.20%*	*26.37%*
transport tax	*0.58%*	*0.47%*	*0.52%*	*0.38%*	*0.27%*	*0.18%*	*0.12%*	*0.36%*
Parking fees for vehicles	0.16%	0.15%	0.16%	0.16%	0.12%	0.14%	0.12%	0.14%
Tourist tax	0.13%	0.13%	0.15%	0.27%	0.17%	0.27%	0.22%	0.19%
Single tax	40.61%	44.47%	48.45%	47.94%	50.25%	51.48%	56.02%	48.46%

Source: State Treasury Service of Ukraine.

Notably, an important aspect is that in most countries of the European Union, property taxes occupy a significant place in ensuring the social needs of territorial communities.

Real estate tax is the main source of income for local budgets. Among the EU countries, it is not carried out only in Malta and Ireland. The object of taxation is land plots, houses, apartments in multi-apartment buildings, cottages, garages, country houses etc. The subject of taxation is the property owner or tenant. The tax is paid once a year or in equal parts every quarter (Maior, 2004).

The basis of local taxation in Great Britain is municipal tax (property tax), which is paid by owners and tenants of real estate. In each of the country's regions, specific taxation norms are established and tax rates are set according to a differentiated approach. At the same time in Great Britain, the tax is administered on real estate used for commercial purposes and the basis of taxation is the annual rent (Mikesell, 2011).

In France, real estate is administered on the basis of cadastral assessments, which are revised every 10 years. The elements of taxation are differentiated and depend on the nature of property exploitation. According to the taxation practice introduced in Poland, such type of property tax as "per square meter" increases the level of GDP every year by approximately 1% or the level of total income of a territorial community (gminas) by 15%. Property tax in Poland is the most significant source of income for the budgets of the lowest level. The revenue from its administration to municipal budgets amounts to more than $3 million per year or more than 15% of the total income of community budgets, or 45% of the income from own sources (excluding income from subventions and distribution of taxes) (Burtseva & Vlasov, 2017).

Property tax in Spain is paid once a year. The object of taxation is land plots as well as buildings within the municipal district. The property valuation procedure carried out by such an institution as the Spanish Cadastral Office is interesting. The amount of tax to be paid depends on the quality characteristics of the housing. For example, for an apartment you need to pay about €100-500 per year, while for a villa – €300-2000 per year. The amount of tax to be paid depends not only on the occupied area, but also on its actual location as well as other factors (Gubareva, 2021).

In Poland, Ukraine, Slovakia, the Czech Republic and partly in Hungary real estate tax is paid by individuals depending on the useful (total) area of the real estate or its parts. The advantage of using this area as a tax base is related to the ease of administration since the information is contained in the register of real estate owners, but it does not reflect important consumer characteristics of the property (depreciation, cost of improvements, location etc). The tax does not take into account differences in the value of the real estate (location of housing in towns and cities, resort area, in the centre or on the outskirts, quality of real estate – new buildings, panel or brick houses, level of deterioration, availability of infrastructure).

The experience of Bulgaria is also significant for Ukraine, despite the fact that the real estate tax rate in this country is positioned as the lowest in Europe. The basis of taxation is the assessment of immovable property, which is determined for each municipality by the relevant council using the principle of fiscal federalism. The application of land tax in foreign countries encourages the owner or user to use the land economically and effectively. In Bulgaria, for example, in the case of uncultivated plots of land their owners are taxed at increased tax rates which provides an economic incentive for their continuous cultivation (Rybnitska, 2023).

An important task in the future is the digital transformation of the effective application of monitoring technologies of real estate objects.

In this case, the paradox of the situation in Ukraine is revealed in two ways: on the one hand, it is the application of real estate tax rates to objects that are actually available (survived and not destroyed as a result of military operations) and on the other hand, it is a clear monitoring of the destroyed property of Ukrainians for the application of a grace period of the taxation during the full recovery of real estate and the solvency of the owner of such property.

Therefore, in view of establishing real estate tax in the future it is necessary to assess the feasibility of applying tax benefits from the point of view of differentiating the living standards of citizens in Ukraine in order to protect socially vulnerable segments of the population.

Conclusions and proposals

The stability and reliability of the taxation system at the local level determines the strength of local budgets, the sufficiency of their resources and ultimately it determines the well-being of territorial communities. The system of local taxes and fees under modern conditions should become a tool for stimulating business activity, planning and forecasting the economic development of communities. The tax system at the local level should become a real instrument of influence of local executive authorities and local self-government bodies on economic activity, investment and innovation activity and the quality of life of the population. When creating an effective system of local taxation in Ukraine it is necessary to take into account the experience of the developed countries of the world and more deeply substantiate the methods of developing tax reform projects at the legislative level taking into consideration the realities of countering the risks of martial law, European integration processes, digital transformation of the global fiscal space etc. (Filipova, Yaneva, Mierlus-Mazilu, 2023).

Basing on the conducted research and taking into account the experience of the developed countries, in order to increase the efficiency of the administration of local taxes and fees and the revenues to local budgets in Ukraine, there is a need to ensure the following conditions and implement appropriate measures:

1. To regulate the mechanism of real estate tax assessment in Ukraine, we should conduct an inventory of property and introduce an effective system of real estate valuation, using a progressive tax rate in proportion to the increase in the market value of housing. And, in this sense, it would be appropriate to apply methodical approaches that would take into account the location of the real estate object and would ensure the control of the relevant institutions over the registration of real estate objects to prevent abuse and evasion of paying property tax.

2. To improve the taxation of small businesses and the simplified taxation system in order to minimize abuses.

3. To reform the mechanisms for crediting personal income tax to local budgets taking into account modern realities and risks.

4. To ensure tax autonomy of local self-government bodies in order to increase their fiscal stability on the basis of fiscal decentralization or fiscal federalism. The indicator of absolute tax autonomy shows the share of local taxes, the base and rate of which can be determined by local self-government bodies in the general structure of taxation. In Ukraine this indicator is 2.39%. There are a set of factors that significantly limit the possibilities of expanding tax autonomy. In particular, these are: disproportions of economic development in terms of territorial communities, different property status of the population, uneven density of settlement and different demographic structure.

5. To establish cooperation between local self-government bodies and bodies of the State Tax Service of Ukraine in the context of administration of local taxes and fees and control over their payment to budgets.

6. Active use of digital electronic technologies in the system of administration of local taxes and fees which will produce the following effects:

– reduction of time and effort required for the preparation and submission of tax reporting;

– reducing the risks of technical errors since many processes are subjects;

– an opportunity for tax payers to monitor the status of their financial transactions and tax accounting online;

–increasing the transparency, efficiency, convenience, accessibility of local tax and fee administration procedures etc.

It is also worth emphasizing that the use of modern technologies in the administration of local taxes and fees under modern realities is one of the key factors in improving the efficiency of tax services. This allows to reduce tax crime, simplify the processes of tax accounting and tax collection, increase the confidence of citizens and businesses in tax institutions and local self-government bodies, as well as to improve the level of tax culture and awareness of taxpayers.

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ACCESS TO FINANCE AND WOMEN MICRO, SMALL AND MEDIUM-SIZED ENTERPRISES PERFORMANCE IN KADUNA STATE: ROLE OF BUSINESS NETWORKING

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Abstract

Women Micro, Small, and Medium-Sized Enterprises (WMSMEs) are crucial for Nigeria's economic growth, yet they face significant challenges in accessing finance and business networks. In this study, the role of business networking on the access to finance and WMSME performance in Kaduna State, Nigeria is examined. Utilising a cross-sectional design, the study focused on the Government Enterprise and Empowerment Program (GEEP) 2.0, with a population of 5,086 participants. A sample of 356 respondents was drawn using multi-stage sampling techniques. Data was analyzed using Smart PLS 4, revealing significant positive effects: both access to finance and business networking independently improve WMSME performance. Additionally, business networking partially mediates the relationship between access to finance and performance, underscoring the importance of social connections in leveraging financial resources for business growth. These findings highlight the need for targeted policies promoting financial inclusion and networking platforms tailored to women entrepreneurs, fostering economic empowerment and sustainable development in the region.

Keywords*: WMSMEs; access to finance; business networking; social capital theory; performance*

JEL Codes*: M10, M19*

Introduction

Women Micro, Small, and Medium-Sized Enterprises (WMSMEs) are crucial for economic growth (Meriem & Chahinez, 2023) yet they face significant challenges in

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accessing finance and business networks. Women-owned Micro, Small, and Medium-Sized Enterprises (WMSMEs) are businesses where the woman entrepreneur owns a minimum of 51% of the business and is actively involved in the daily operation of the business as an owner and/or manager. The performance of WMSMEs is critical to its contribution to economic growth and development. Performance is "the overall index of the ability of the firm to satisfy its stakeholders, measured in terms of financial as well as operational indicators, using primary data to measure 'subjective business performance' and secondary data to measure 'objective business performance', or both" (Vij & Bedi, 2016). In the context of WMSMEs, performance is the ability to achieve the goals and objective of the business measured, using financial measures or non-financial measures or both measures (Choongo, 2017; Rosli & Sidek, 2013).

In their research, Ojeleye and Mustapha (2024) opined that the number of WSMEs is increasing drastically in Africa, challenging the earlier stereotype of women as dependents (Dimitrieska & Efremova, 2020). This aligns with an earlier report by PwC MSME Survey (2020), which found that women comprise 49% of Nigeria's population and own 41% of the country's MSMEs, positioning Nigeria as a global leader in entrepreneurship. This is further confirmed by Kempis and Ogden (2023) in their study where they stated WMSMEs account for 40% of the total MSME in Nigeria. Despite the increasing numbers of women initiating and running businesses in Nigeria, WMSMEs are plagued with multifaceted challenges which hinder their performance and subsequent contribution to economic growth and development. WMSMEs are consistently lagging that of male-owned businesses (World Bank Group, 2019) constraint in terms of access to finance which limits their ability to start and grow businesses as compared to men (Global Entrepreneurship and Development Index 2013, Bahari, Jabar & Yunus 2017). Therefore, WMSMEs present a sobering reality, marked by high business failure rates which stem from their inability to secure adequate financial resources, and establish valuable business networks (SMEDAN, 2021).

According to the International Labour Organisation, Nigerian women are highly interested in becoming entrepreneurs, but access to finance is a major challenge. WMSMEs operate informally without registration making it difficult for them to access funds when available. Additionally, some MSMEs prefer to remain small and informal as a means of avoiding the burdensome regulations, taxes, labour laws, and restrictions on entry and exit that larger, formally registered enterprises face (Garba, Kabir & Mahmoud, 2019). This makes it difficult for them to be served financially (Women world Banking, 2015).

Access to finance is the provision of financial services to all individuals and enterprises without any price or non-price barriers that may hinder their utilisation (Bhavani & Bhanumurth, 2014). It is the use of financial services as and when needed by entrepreneurs, which is often constraint by availability and cost. Women World Banking (2015) in their study of women entrepreneurs categorized women entrepreneurs' access to finance as those who want access to credit but are unable to or are insufficiently served. Finance helps in starting a business, empowers existing businesses to expand by providing the funds needed to exploit growth and investment opportunities, innovation, expand to new markets, and provide millions of jobs (International Finance Corporation, 2013). Finance is a determinant of entrepreneurship (Kerr & Nanda, 2009). Women-owned enterprises are often characterized by their informal nature, a higher perceived risk profile, few or no collateral options, little or no accounting and management capacity hindering their ability to access finance (Garba, Kabir & Mahmoud, 2019; Women world Banking, 2015). Indeed, most of the women-owned businesses in general are in the informal sector (60%), a proportion likely reflected in women-owned MSMEs specifically. PwcMSMESurvery (2020) in their survey outlined lack of bankable collateral; absence of credit histories; little access to assets and biased lending practices from financial institutions as barriers to access to finance of which women are most affected.

Moreover, WMSMEs in Nigeria often do not participate in business networks or utilise the advantages of networking (SMEDAN, 2021). According to George, Zahra, Whealtley and Khan, (2001), networking is the process of building long term contacts with the motive to have access towards information and resources. It is the sum of an entrepreneur's relationships, which provide important resources for their activities (Sengupta, 2011). To Chetty and Wilson (2003) leveraging their business networks, firms can gain access to a range of crucial resources and complementary expertise. This facilitates the development of specialised knowledge and the achievement of economies of scale through collaborative operations. Furthermore, these networks enable firms to acquire enhanced knowledge and capabilities. Business networks play a critical role across stages business growth, facilitating entrepreneurial social capital and providing access to both financial and non-financial resources (Ferguson, Schattke, & Paulin, 2016; Payne, Moore, Griffis, & Autry, 2011; Nordin, Ravald, Möller, & Mohr, 2017). Through networking, entrepreneurs can gain access to financing, resources, opportunities, knowledge, and emotional support (Surangi, 2016) in addition to identifying opportunities, mobilizing resources, gaining competitive advantages, and improving overall performance (Ojotu, Tersoo, & Kenneth, 2019).

However, women face specific challenges in accessing peer support networks (Barr, 2015; World Bank Group, 2019; Uzialko, 2024). Their business network often includes family members at the process of business creation on which they may rely fully for funding. As such, they become stranded in the later years of the business when there is need for expansion as the network of family and friends becomes inadequate in providing the needed resources for the growth and expansion. Business networking goes beyond family members and friends to bring entrepreneurs together for the purpose of sharing information, mentorship and role modelling. In these social relations and interactions, social capital is developed. Networking creates a pool of experts (Ward, 2021). In other contexts, a positive significant effect has been reported between business networking and performance (Schoonjans, Cauwenberge & Bauwhede, 2013; Tendai, 2013; Vannoni, 2018; Cisi, Devicienti, Manello & Vannoni, 2020). However, WMSMEs are yet to fully utilize business networking to enhance their performance. This has informed the necessity for this study to determine the role of business networking on the access to finance and WMSME performance in Kaduna State, Nigeria based on the social capital theory. The following hypotheses are stated:

H01: Access to finance does not have a significant effect on WMSME performance in Kaduna State, Nigeria.

H02: Business networking does not have a significant effect on WMSME performance in Kaduna State, Nigeria.

H03: Business networking does not mediate access to finance and WMSME performance in Kaduna State, Nigeria.

Social Capital Theory

The Social Capital framework examines the value and importance of social networks, interpersonal relationships, and mutual trust within a society or community context (Claridge, 2018; Bhandari & Yasunobu, 2009). The benefits from such networks and relationships forms social capital. Social Capital Theory helps in understanding the value embedded in social networks, relationships, and trust within societies and communities (Claridge, 2018; Bhandari & Yasunobu, 2009). It posits that social capital arises from these connections, encompassing both tangible benefits like access to resources and information, as well as intangible advantages such as trust and cooperation. For WMSMEs, this theory underscores the significance of cultivating robust social networks that provide avenues for mentorship, partnerships, and market insights. Relationships within these networks are foundational, fostering collaboration and collective action that can enhance business resilience and innovation. By leveraging social capital, WMSMEs could capitalize on shared knowledge, reduce transaction costs, and strengthen their market presence through enhanced credibility and customer relationships. Ultimately, the productive benefits of social capital extend beyond mere networking to empower WMSMEs with the resources required to navigate obstacles, capitalise on prospects, and maintain long-term prosperity within competitive marketplaces.

Methodology

This study used survey method with cross-sectional design to collect the data from owners and/or managers of women owned businesses participating in GEEP 2.0 in Kaduna State. GEEP is a Nigeria Government initiative program which seeks advance to increase access to finance to start and grow businesses; establish financial inclusion; promote entrepreneurship and financial literacy; and reduce poverty among the target populations. The registered women business owners participating in the programme according to the National Orientation Agency of Nigeria, Kaduna, are 5,086 (National Orientation Agency Kaduna, 2023). The sample size was calculated to be 356 using Taro Yamane's formula. To mitigate the common issue of low response rates in survey research, the number of distributed questionnaires was doubled, in line with the guidance provided by Hair, Wolfinbarger, and Ortinau. As a result, 712 questionnaires were self-administered to the women entrepreneurs participating in the programme.

In this study, multi-stage sampling was utilized. This approach was chosen for its efficacy in representing the diverse characteristics of the population. The population was categorised into the three Senatorial Zones, followed by randomly selecting four local government areas from each zone, proportionally sampling each local government, and randomly selecting the respondents.

Measurement of Variables

The research variables were drawn from existing literature on the performance of women-owned and managed small and medium enterprises, their access to finance, and entrepreneurial networking. All the variables were measured on a 5-point Likert scale ranging from strongly disagree to strongly agree. The scales employed were originally developed and validated by previous scholars. To assess WMSME performance, Spillan and Parnell (2006)'s scale was used. Similarly, a five-item scale from Rajamani, Jan, Subramani and Raj (2022) was used to measure access to finance. Additionally, a nine-item scale form the studies of Wolff and Spurk (2020) was adapted to gauge entrepreneurial networking.

Research Findings

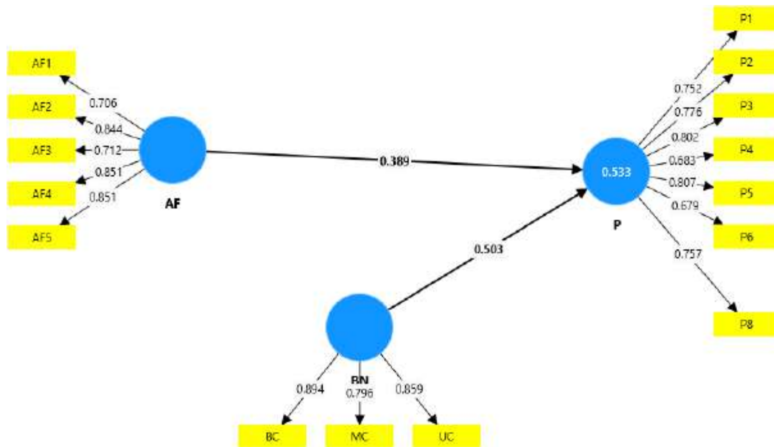
This section consists of preliminary data analysis, measurement model, structural models and discussion of the findings. A total of 512 copies of the questionnaire were administered, 391 copies were returned. The collated data was systematically coded and inputted into the statistical software SPSS 25. The initial examination of the data involved checking the data, handling missing values, addressing outliers, and conducting descriptive statistics, among other tasks. The preliminary data analysis revealed 30 missing values across 20 cases. In line with Hair et al. (2014)'s guidance, the observations were retained, as the missing values constituted less than 10% of the data. Missing values were addressed through mean substitution. Descriptive statistics indicated that the responses fell within the range of 1 to 5, and Mahalanobis distance was subsequently used to identify multivariate outliers, as recommended by Hair et al (2014). This process led to the removal of five cases, as their D^2 values exceeded the critical Chi-square threshold, signifying the presence of multivariate outliers. The final dataset comprised 386 observations, which were then analysed using Smart PLS 4 to test the hypotheses.

Measurement Model

The evaluation of the measurement model involves assessing indicator reliability, internal consistency reliability, convergent validity, and discriminant validity of the research variables. Indicator reliability was measured using the indicator loadings, Cronbach's alpha, and Composite Reliability (CR) should be over 0.70. Convergent validity, indicating how well constructs converge to explain item variance, is achieved when AVE values are 0.50 or higher. Discriminant validity was used to evaluate if constructs possess distinct identities through cross-loading (Ringle, Sarstedt, Sinkovics, & Sinkovics, 2023).

Business networking was used as a higher-order reflective construct, comprising three (3) lower-order dimensions: building contacts, maintaining contacts, and utilising contacts. The reliability and validity of this multidimensional conceptualisation were evaluated concurrently with other constructs, using a disjoint two-stage analytical approach. The measurement model is graphically presented in Figure 1, and Table 1 provides the reliability and the validity of the study variables.

Figure no. 1Measurement model



Source: Author's Smart PLS output

Table no.1 - Item loadings, Reliability and Convergent Validity

Constructs	**Items**	**Loading**	**Cronbach's alpha**	**Composite reliability**	**Average variance extracted (AVE)**
Access to finance	AF1	0.706			
	AF2	0.844			
	AF3	0.712			
	AF4	0.851			
	AF5	0.851	0.853	0.862	0.633
Business networking	BC	0.894			
	MC	0.796			
	UC	0.859	0.812	0.844	0.724
WMSME performance	P1	0.752			
	P2	0.776			
	P3	0.802			
	P4	0.683			
	P5	0.807			
	P6	0.679			
	P8	0.757	0.871	0.876	0.566

Source: Author's SmartPLS output

Item P7, with a loading of 0.439, was deleted from the model. Conversely, Item P6, which had a loading below 0.7 but above 0.5, was retained. This decision aligns with the recommendation of Ringle et al. (2023), which suggests that loadings above 0.4 and below 0.7 should only be deleted if doing so enhances the reliability or average variance explained. The reliability and convergent validity of the constructs were established.

Furthermore, discriminant validity was achieved using cross-loadings, whereby all constructs loaded more strongly onto their respective parent constructs than onto other constructs, as evident in Table 2.

Table no. 2 - *Discriminant validity using Cross Loadings*

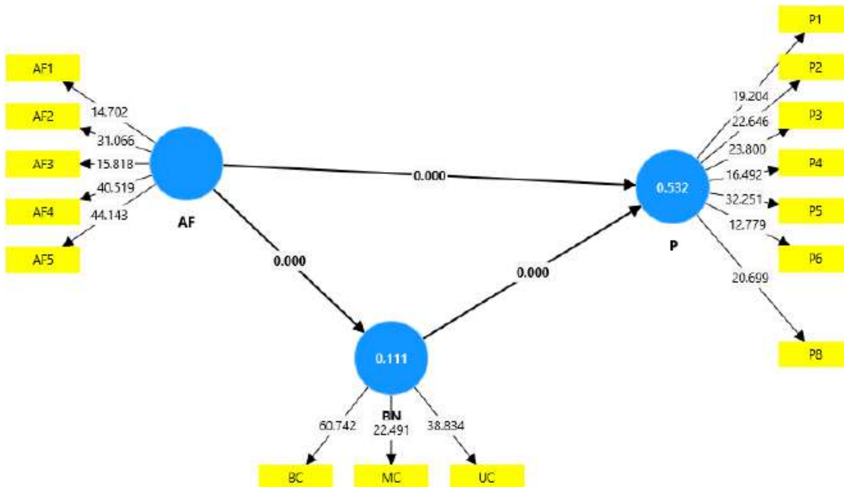
	AF	BN	P
AF1	0.709	0.260	0.388
AF2	0.838	0.190	0.449
AF3	0.709	0.220	0.397
AF4	0.850	0.247	0.464
AF5	0.858	0.378	0.497
BC	0.312	0.892	0.621
MC	0.220	0.797	0.397
UC	0.302	0.860	0.554
P1	0.454	0.391	0.752
P2	0.457	0.422	0.776
P3	0.422	0.461	0.802
P4	0.375	0.440	0.683
P5	0.449	0.565	0.807
P6	0.370	0.443	0.679
P8	0.396	0.571	0.757

Source: Author's SmartPLS output

Structural Model

This section presents the results of a structural equation modelling analysis, which was employed to examine the direct and mediating relationships within the data. The key factors considered in this analysis are the R-squared and the F-squared effect sizes (Guenther, et al., 2023)

Figure no.2 The Structural model



Source: Author's Smart PLS output

Table no. 3 - Test of direct hypotheses

	Original sample	Sample mean	Standard deviation	T statistics	P values	Decision
AF -> P	0.388	0.389	0.042	9.230	0.000	Rejected
BN -> P	0.502	0.503	0.045	11.119	0.000	Rejected

Source: Author's SmartPLS output

Table no. 4 - Test of indirect hypotheses

Total Effect (AF ->P)		**Direct Effect (AF ->P)**		**Indirect Effect (AF ->BN -> P)**		**Percentile Bootstrapping 97.5%**	
Beta	T/P Values	Beta	T/P values	Beta	T/P values	2.50%	97.50%
0.555	13.032(0.00)	0.388	9.230(0.000)	0.167	5.489(0.000)	0.109	0.228

Source: Author's SmartPLS output

Note: *Significant level 1%

The findings from Table 3 indicate that the null hypotheses H01 and H02 were rejected (H01: $\beta = 0.388$, $t= 9.230$, $p < 0.001$; H02: $\beta = 0.502$, $t= 11.119$, $p < 0.001$). This suggests that access to finance and business networking positively and significantly influence the performance of women-owned micro, small, and medium enterprises in Kaduna State, Nigeria. Specifically, the results demonstrate that higher levels of access to financial services and greater involvement in business networks are both associated with improved performance outcomes for WMSMEs. These findings underscore the importance of ensuring adequate access to finance and facilitating the development of strong, supportive business networks in order to enable the growth and success of women-led enterprises in this region.

Based on Table 4, the findings revealed a significant indirect effect (H03: β =0.167, t= 5.489, p<0.001) wherein access to finance influenced WMSME performance through the mediating mechanism of business networking. Specifically, the analysis demonstrated that access to finance enabled WMSMEs to expand and strengthen their business networks, which in turn contributed to enhanced enterprise performance. The total effect of access to finance on WMSME performance was also found to be significant (β = 0.555, t=13.032, p<001). Importantly, even with the inclusion of the business networking mediator, the direct effect of access to finance on WMSME performance remained significant (β =0.388, t=9.230, p<001), indicating a complementary partial mediation. This suggests that both access to finance and business networking play important and interconnected roles in driving the performance of WMSMEs in the study context.

The analysis followed the approach recommended by Zhao et al., (2010) to evaluate the statistical significance of the indirect effect. As indicated in Table 4, both the lower and upper confidence interval limits (0.109 and 0.228) are positive, with no zero values between them confirming that the indirect effect is statistically significant. This implies that the access to finance impacts the performance not only directly but also through business networking.

Therefore, H_{03} is rejected and the alternative is accepted. This result supports the findings of Madzimure (2019), Nuryakin, (2020), Ojotu, Tersoo and Kenneth (2019) who found networking to significantly influence performance.

Table no. 5 - Coefficient of determination (R^2)

R-square	**R-square adjusted**
0.532	0.528

Source: Author’s SmartPLS output

Table no. 6- Effect size (F^2)

	f-square	Effect Size
AF -> BN	0.124	Small
AF -> P	0.287	Medium
BN -> P	0.478	Large

Source: Author's SmartPLS output

The structural model was further assessed using the coefficient of determination, R^2, and the effect size, F^2. The R^2 value indicates the proportion of variance in the dependent variable that is explained by the independent variables. The adjusted R^2 from Table 5 is 0.528, which suggests that 52.8% of the variability in the performance of women-owned micro, small, and medium enterprises in Kaduna state can be attributed to access to finance and business networking. According to the guidelines proposed by Hair et al. (2019), an R^2 value of 0.50 is considered moderate, indicating a reasonable level of explanatory power for the model. This finding implies that the independent variables, access to finance and business networking, account for a substantial portion of the variation in the performance of these enterprises, and that the model has a reasonably good fit to the data.

The F^2statistic in partial least squares path modelling is used to evaluate the impact of excluding an independent variable from the model on the coefficient of determination of the dependent variable. Using Cohen's guidelines to interpret the degrees of predictive relevance, Table 6 reveals a small f-square effect size for the relationship between access to finance and business networking, suggesting a modest influence of financial access on networking activities. In contrast, the moderate f-square effect size for the link between access to finance and WMSME performance indicates that financial access plays a significant role in enhancing enterprise outcomes. Furthermore, the large f-square effect of business networking on performance highlights the critical importance of networking in driving the success of WMSMEs. Overall, these findings underscore the valuable roles of both access to finance and business networking in supporting the performance of WMSMEs.

Discussion

The results presented align closely with Social Capital Theory, which underscores the significance of social connections and networkingand trust in enhancing firm performance. The findings indicate that increased access to finance and business networking are associated with improved performance of WMSMEs. This is consistent with social capital theory, which posits that access to resources and information through networks enhances business outcomes. The mediation analysis suggests that business networking partially mediates access to finance and WMSME performance. Social Capital Theory supports this by highlighting how networks facilitate the flow of resources and opportunities, thereby enhancing performance outcomes.

The significant indirect effect (H_{03}) highlights the crucial role of social connections in magnifying the impact of financial resources on WMSME performance. The finding of complementary partial mediation suggests that while business networking plays a vital part in conveying the advantages of access to finance, a direct effect of finance on performance is still apparent. This aligns with social capital theory, whereby both direct resource access and indirect benefits through relationships contribute to firm success. The finding is consistent with the findings of Rita and Huruta (2020), Sanni, Oke, and Alayande (2020), Rajamani, et al. (2022), Mbuva and Wachira, (2019) and Ojotu, Tersoo & Kenneth, (2019).

Implication

The study's findings emphasise the pivotal significance of access to financial and business networking in improving the performance of WMSMEs in Kaduna State, Nigeria.Policymakers can leverage these insights to formulate targeted interventions that address the specific challenges faced by WMSMEs in accessing financial resources. Enhancing financial inclusion through policies that promote easier access to credit, microfinance services, and investment opportunities tailored to the needs of WMSMEs can significantly empower women entrepreneurs. By reducing barriers to financial resources, policymakers can stimulate entrepreneurship, promote economic growth, and contribute to poverty reduction in the region.

Limitations and Suggestions for Further Studies

The data was collected from GEEP 2.0 participants. However, there could be other WMSMEs who are not participating in the GEEP. Further studies in the context of WMSME performance could significantly benefit from exploring the regulatory environments and cultural norms that shape the entrepreneurial landscape. The regulatory framework is of paramount importancein determining the ease of accessing finance and conducting business operations. Understanding how specific regulations impact WMSMEs' ability to secure funding and navigate bureaucratic processes can provide insights into improving policy frameworks and enhancing support mechanisms. Cultural norms also influence business behaviors, networking patterns, and trust-building processes within communities.

Conclusion

This study investigated the role of business networking on access to finance and the performance of WMSMEs in Kaduna State, Nigeria. The findings show that both factors make significant contributions to enhancing WMSME performance, with business networking playing a crucial intermediary role in strengthening the link between access to finance and business performance. These results suggest that cultivating robust business networks alongside improving financial resource availability can substantially boost the growth and sustainability of WMSMEs. Accordingly, policymakers and stakeholders should prioritise strategies that enhance both financial accessibility and networking opportunities for women entrepreneurs, as these are fundamental to driving the success and long-term resilience of WMSMEs, thereby contributing to broader economic development and gender equity objectives.

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STRATEGIC PLANNING AND THE PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES

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Abstract

Strategic planning has attracted the minds of many scholars over the decades and is widely recognized as important ingredient that influences the attainment of high organizational performance. The objectives of the study were to determine the influences of the organization structure on customer's satisfaction of small and medium scale enterprises and also to examine the effects of budgetary allocations on profitability of small medium enterprises. The population of this study comprised all 1,663 SMEs in Abeokuta South Local government Ogun State. A sample size of 100 SMEs in Abeokuta South Local government Ogun State was randomly selected to represent the population for this study. A questionnaire was used to elicit information from the respondents. The ex-post facto method and Yamane formula were employed. Analysis of variance (ANOVA) and correlation efficient were adopted. The responces acquired from the questionnaire were sorted, coded and the statistical Packages for Social Sciences (SPSS) version 20.0 was employed. The empirical findings revealed show that there is significant relationship between the organization structure and customer satisfaction of small medium enterprises in Ogun state. The findings of hypothesis two show $R^2 = .036$ which proves that budgetary allocations affect profitability of small medium enterprises. Budgetary allocation enablesthe business to set targets which are met since every item is budgeted for, budgetary allocation influences growth in the business. The study recommends that Small and Medium Enterprises should embrace the use of strategic planning as a tool and concept to be used in achieving the organizational performance.

Keywords: *Strategic planning, performance, Small Medium and Enterprises(SMEs)*

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Introduction

Strategic planning is a continuous and systematic process where decisions on intended future outcomes, their accomplishment, measurement and evaluations are made. It includes goal setting and resource allocations that stimulate pro-activity, performance improvement, long-term thinking, communication, strategic issues, gaps, priorities and choices (Muogbo, 2021; Fiberesima & Abdul, 2021). Hunt (2018) elucidates that strategic planning provides a mechanism for enhancing communication between various units of an organization on its strengths and weaknesses in the pursuit of a common set of objectives. This would enhance the organization's ability to prevent problems (Armstrong, 2016; Poister, 2017; Okwachi et al, 2021).

The word Strategic planning was first used before the concept strategic management. The first institution to use the word strategic planning before being used in business management during World War II was a military institution (Akande et. al, 2017; Larsen et al, 2017). Fehnel (2017) emphasized thatstrategic planning can be regarded as management by plans, a process or procedures which focused on making effective and optimal decisions. Dauda et al. (2017) opined that strategic planning as the procedure and process of making a match between a technology and a firm for market efficiency and performance. Strategic Planning helps in fundamental decision-makings, which enhance organization functions, actions, guidance and procedure (ORegan et al, 2017).

In fact, Arasa & Obonyo (2020) aptly note that strategic planning is a systematic process in which an organization assesses its basic reason for being (that is, its purpose or mission), what its strengths and weaknesses are, and what opportunities and threats it might face in the immediate and foreseeable future. It has been confirmed by researchers of entrepreneurship studies that strategic planning is seen by policy makers as tools for promoting performance (Alaka et al, 2017; FCAR, 2001). Strategic planning is an avenue for SMEs development tools in most countries (Grant, 2017). Moreover, setting clear objectives and organizational structure is being categorized as a panacea for the business and economic challenges.

Luen, Yong and Fook (2021) mentioned that strategic planning is characterized by formation of processes, people and services rather than by a physical structure. This research seeks to answer the following research questions (i) What are the influences of organization structure on customer's satisfaction of small and medium scale businesses? (ii) How does a budgetary allocation affect the profitability of small and medium enterprises?

Literature Review

The Concept of Strategic Planning

Strategic planning involves setting clear sales objectives with a clear direction and purpose. Objectives serve as a source of motivation for sales teams and provide benchmarks against which sales performance can be measured and evaluated. Objectives help in prioritizing resource allocation within the organization, setting sales objectives encourages SMEs to engage in strategic planning. The findings of Glaister et al. (2019) proves that strategic planning has significant relationship with high performance.

Furthermore, Robert and Peter (2020) investigate the correlation that exists between strategic planning and control processes at different stages of growth in a sample of manufacturing enterprise. As a result, in order there to be a mature growth there must be formal planning system, which is an important element in the management. It is being said today that strategic planning is in fact the management itself (World Bank, 2017). In the SMEs, strategic planning has been regarded as a critical source of SMEs (Shrander et al, 2019).

Kowo and Akinbola (2019) describe Strategic planning as the most important tool for SMEs, setting goals and clear objectives, organizational structure and budgetary allocation are the optimum key for enterprise development. In the path of this evolutionary trend and business world, strategic planning in enterprise is the solution which assists in globalization world of today. For societies to expand and move from traditional to industrial, technology driven enterprise is the course of evolutionary development (Glaister et al, 2009; Akingunola, 2011; Dogan et al, 2019).

Literature Review

Concept of Strategic Factors

Strategic factors are critical to firm and organizational performance. However, this can only be possible in a situation whereby those selected strategic factors are well implemented. Strategic factors are often considered as a possibility for large enterprises especially multinational organizations rather than small businesses because of variations in size and ability to overcome challenges in the business environment. Well-implemented strategic factors are an essential part of firm performance. (O’Regan & Ghobadian, 2017) Strategic Factors are those things that your organization or business unit need to get right in order to succeed with your key stakeholders, that is, your customers, suppliers, employees, owners and any other organization, business unit or individual that you depend on for success. The stakeholders use these criteria to evaluate you. Ojo et al. (2006) point out that strategic factor includes the size of a Firm, New

Entrants, Technological and knowledge contribution, Location of the firm, Speed of growth, Investment sector, Equity Base, Working Capital, Tariff Policy and Organizational Structure (Ojo, 2006; Ongeti, 2014, Kowo, Akinbola & Akinriola, 2019; Abbasi & Malik, 2015).

The Concept of Small Medium Enterprises (SMEs).

Al-Quatamin and Al-Quatamin (2020) defined the main factors of small and medium-sized enterprises by determining an enterprise as SMEs based on the following features and conditions: (i) staff headcount and (ii) either turnover or balance sheet total. A small-sized enterprise is a company that comprises of less than 50 employees and a medium-sized enterprise as one that has below 250 employees (Gibbons & Oconnor, 2005; Chahninez & Meriem, 2023). SMEs can be observed as heterogeneous in terms of population whose performance in terms of international competiveness, productivity, performance, growth and wages differs considerably across different regions, areas, firms and sectors. (Bilal, & Mousa, 2024).

This can be explained by several factors and differences, such as the business environment, the size of the economy, market structures, institutions, business conducts and resource endowment (Aldehayyat & Twaissi, 2011; Amurle et. al, 2021). In Australia, micro-firms are over-represented; it was revealed that Japan and the United States have relatively larger firms (Falshaw, Glaister & Tatoghue, 2016). However, SMEs can perform more than large enterprises in the area of services sectors, many new start-up ventures and job creation occur in sectors that have below average productivity levels (Brachouche, Maamri & Belgoum, 2024).

Moreover, new established firms often start smaller, with increased productivity gaps differences between small and large firms at the aggregate business level. This lower productivity has been as a result of lower-paid jobs. SMEs and larger ones were seen paying employees around 20% less than large firms (Akinyele & Fasogbon, 2007). Considering the current business dynamics rate on personal income and material well-being, these developments have raised concerns and agitation about education and training of the workforce environment (Abereijo & Fayomi, 2005).

Strategic Planning and SMEs Performance

SMEs performance has been studied for the past decades. Research on business performance has shown that strategic planning has enhanced SMEs performance (Kraus, Harms & Schwarz, 2016). There is a need for strategic planning to enhance SMEs growth. SMEs development with the aid of effective goals and clear objectives is one of the most important determinants in the management and entrepreneurship research

(Gibbons & Connor, 2015). Continuous growth with the aid of strategic planning is the main goal of any enterprise because only through growth, organizations are able to progress. Attaining the SMEs goals and objectives depends upon the extent to which its growth is reached (Garrett, 2008).

There has been issues on the concept of SMEs performance in the academic literature which has been a subject of debate, as over the decades there has not been a universally accepted definition of this concept. SMEs performance can be recognized and pointed at by effectiveness (whether an enterprise can achieve its goals and objectives), efficiency is regarded (whether an enterprise makes use of available resources efficiently and properly), customer innovativeness and satisfaction, profitability, employee's satisfaction, ability of enterprise to maintain human pool and quality of products or services (Grant, 2017; Yepwi, 2017).

Different scholars have revealed that strategic planning is an important element for enhancing SMEs performance, it also helps in the creation of enterprises, entrepreneur sustainability, business survival and continuity (Poister, 2017). The major primary aim of strategic planning is setting clear goals and objectives which help to eradicate business failure and enhance SMEs performance (Hunt, 2018). Effective Strategic planning has gained popularity in different countries, most especially in Nigeria in recent years, it has been observed as major tools for increasing successful local companies' survival (Alaka et al, 2017; Akande et. al, 2017). It was discovered that SMEs performance can be judged by financial availability and stability. Setting objectives, organizational structure and budgetary allocation is the possibility of efficiency in SMEs. Other factors cannot be left out such as motivation, satisfaction of employees, trust and effectiveness (Muogbo, 2021).

Figure no. 1 Michael Porter's five forces analysis adapted from the Harvard Business Review

Source: Michael Porter (2018, p. 4)

Theoretical Framework

Richard Cantillium

Richard Cantillium (1685-1734) appeared to be the first to view the entrepreneur as a specialist in risk taking. Richard Cantillium further maintained that all entrepreneurs including the merchants, financiers, fanners and artisans operate their enterprises at a risk by buying at a certain price and selling at an uncertain price. From his point of view, he made the distinction between the entrepreneur who is bearing risk and the capitalist who is providing finance (FCAR, 2001).

According to him, the entrepreneur plays a prominent role in the development of market economy of the three classes of people that make up an economy (entrepreneur, landowners and workers), the entrepreneur is the only class that provide a commercial role in the stages of production, so the entrepreneurial role is central to the development of any economy. RichardCantillium (1685- 1734): Economic Production Development (EPD) = F(Risk taking Ability of Entrepreneur + Risk taking Ability of landowner + Risk taking ability of workers)EPD = f (RTAE + RTAL + RTAW).

Jean Baptiste Say's Psysiocratic Thoughts.

Jean Baptiste Say (1767- 1832): In furtherance of the above-said, he differentiated between the entrepreneur and the provider of capital. He asserted that while profit comes to the entrepreneur for bearing risks, interest accrues to the person providing the capital. He described the entrepreneurship process as consisting of coordinating business resources, taking risks and managing the business. According to him, the entrepreneur shifts the economic resources from area of lower productivity to areas of higher productivity and greater yield.

The two physiocrats over-emphasized the national development of economy at the expense of entrepreneurial interest. They lack the idea of social progress and how to achieve it. They also formulated only general laws. Richard Cantillium and Jean Baptiste Say were 18th century French economists; they belong to the economic school of thought known as physiocrats (FCAR, 2001).

Methodology

The population of this study comprised all 1,663 SMEs in Abeokuta South Local government Ogun State, according Small and Medium Enterprises Development Agency of Nigeria (SMENDAN), 2023. The sample size was selected from the random sampled population using Taro Yamane’s formula.

$$n = / N$$

$$1+N(e)^2$$

Where n = required sample size

N = whole population

e = sampling error (usually 0.10 or 0.05 or 0.01)

If

N = whole population = 1,663

e = error margin at 0.05

***n** = 1,663*

1 + 1,663(0.10 x 0.10)

***n** = 1,663*

1 +1,663(0.01)

***n** =1,663*

16.6

***n** =100*

A sample size of 100 SMEs in Abeokuta South Local government Ogun State was randomly selected to represent the population for this study. A questionnaire was used to elicit information from the respondents. The criterion for decision making therefore is that when the mean is 2.5 or > (greater than 2.5) for five items rating scale, and 1.5 or > (greater than 1.5) for yes or no items, the statement in the questionnaire will be accepted, but if otherwise, the statement in the questionnaire will be rejected. Split-half method (measure of internal consistency) was adopted because it is widely used in determining reliability.

Moreover, it is simple to apply. Also, it is an indication of the items being internally stable. Data were analyzed with the aid of frequency distribution, percentages and table presentation. Regression statistical analysis from the SPSS version 20 was employed to test all the hypotheses at 0.05 level of significance.

Results and Discussion

Table no. 1 - Effects of organization structure on performance of small medium enterprises

S/N	Items	SA (%)	A (%)	D (%)	SD (%)
1	The organization structure shapes the culture of the company, influencing how employees prioritize customer satisfaction.	35 35.0	35 35.0	15 15.0	15 15.0
2	The effectiveness of communication and coordination within the organization directly impacts on the quality of customer service.	43 43.0	30 30.0	9 9.0	18 18.0
3	Organizations that empower their employees to make decisions and take ownership of customer interactions tend	49 49.0	25 25.0	17 17.0	9 9.0

	to have higher levels of customer satisfaction				
4	In SMEs with a matrix or cross-functional organizational structure, employees from different departments or functions collaborate closely to serve customers.	49 49.0	21 21.0	15 15.0	15 15.0
5	SMEs with flexible and adaptable organizational structures are better positioned to innovate and introduce new products or services in response to changing customer preferences.	42 42.0	32 32.0	7 7.0	19 19.0

Source: Field Survey, 2024

Table 1 shows the respondents' response to influences of budgetary allocations on performance of small medium enterprises. Specifically, it shows that 70% of the respondents were in agreement with the organization structure, which shapes the culture of the company, influencing how employees prioritize customer satisfaction; while 30% of the respondents were in total disagreement.73% of the respondents were in agreement with the effectiveness of communication and coordination within the organization, which directly impacts on the quality of customer service, while 27% of the respondents disagreed. 74% of the respondents agreed with organizations that empower their employees to make decisions and take ownership of customer interactions, which tend to have higher levels of customer satisfaction, while 26% of the respondents disagreed.70% of the respondents agreed that SMEs with a matrix or cross-functional organizational structure, whose employees from different departments or functions collaborate closely to serve customers, but 30% of the respondents disagreed with that. 74% of the respondents were in agreement that SMEs with flexible and adaptable organizational structures are better positioned to innovate and introduce new products or services in response to changing customer preferences, while 26% were not in agreement with that.

Table no. 2 - Influences of budgetary allocations on performance of small medium enterprises

S/N	Items	SA (%)	A (%)	D (%)	SD (%)
6	Effective budgetary allocations ensure that resources such as funds, manpower, and materials are allocated optimally to activities that directly contribute to profitability.	48 48.0	34 34.0	12 12.0	6 6.0
7	Budgetary allocations help SMEs identify areas of excessive spending or inefficiency, allowing them to implement cost-saving measures.	29 29.0	48 48.0	15 15.0	8 8.0
8	Budgetary allocations enable SMEs to allocate funds for strategic investments that drive growth and expansion.	35 35.0	42 42.0	17 17.0	6 6.0
9	Budgetary allocations provide a framework for monitoring and evaluating performance against financial targets.	42 42.0	49 49.0	7 7.0	2 2.0
10	Effective budgetary allocations contribute to the financial stability of SMEs by ensuring that adequate funds are set aside for operating expenses, debt servicing, and contingencies.	41 41.0	39 39.0	12 12.0	8 8.0

11	Budgetary allocations for customer-related activities such as marketing, sales, and customer service can directly impact on customer satisfaction and retention.	39 39.0	40 40.0	18 18.0	3 3.0
12	Budgetary allocations for employee-related expenses such as salaries, training, and incentives can impact on the employee motivation and productivity.	46 46.0	29 29.0	14 14.0	11 11.0
13	Budgetary allocation encourages further growth by realizing places that requires more funds for further productivity	42 42.0	33 33.0	13 13.0	10 10.0
14	Budgetary allocation enables the business set targets which are met since every item is budgeted for	40 40.0	47 47.0	8 8.0	5 5.0
15	Budgetary allocation influences the growth in the business	54 54.0	40 40.0	3 3.0	3 3.0

Source: Field Survey, 2024

Table 2 shows the respondents' response on Influences of budgetary allocations on performance of small medium enterprises. Specifically, it shows that 82% of the respondents agreed that effective budgetary allocations ensure that resources such as funds, manpower, and materials are allocated optimally to activities that directly contribute to profitability, but 18% respondents disagreed. 76% of the respondents agreed that budgetary allocations help SMEs identify areas of excessive spending or inefficiency, allowing them to implement cost-saving measures, while 23% of the respondents disagreed.77% of the respondents were in agreement that Budgetary allocations enable SMEs to allocate funds for strategic investments that drive growth and expansion, while 23% of the respondents disagreed. 91% of the respondents were in agreement that budgetary allocations provide a framework for monitoring and evaluating performance against financial targets, but 9% of the respondents disagreed. 81% of the respondents agreed that that Effective budgetary allocations contribute to the financial stability of SMEs by ensuring that adequate funds are set aside for operating expenses, debt servicing, and contingencies, while 19% of the respondents were in disagreement.79% of the respondents were in agreement that budgetary allocations for customer-related activities such as marketing, sales, and customer service can directly impact customer satisfaction and retention, while 21% of the respondents were in total disagreement.75% of the respondents were in agreement that budgetary allocations for employee-related expenses such as salaries, training, and incentives can impact employee motivation and productivity, while 25% of the respondents disagreed. 77% of the respondents agreed that budgetary allocation encourages further growth by realizing places that requires more funds for further productivity, while 23% of the respondents disagreed. 87% of the respondents agreed that budgetary allocation enables the business set targets which are met since every item is budgeted for, but 13% of the respondents disagreed with that.

94% of the respondents were in agreement that budgetary allocation influences the growth in the business while 6% were not in agreement with that.

Test of Hypotheses

H0$_1$: There is no significant relationship between the influences of organization structure and customer satisfaction of small medium enterprises in Ogun state.

Table no.3 - Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.008[a]	.041	.041	.99758
a. Predictors: (Constant), Employees from different departments or functions collaborate closely to serve customers				

Source: Computer Computation, SPSS v20.

According to the results indicated in table 3, the organization structure shapes the culture of the company, influencing how employees prioritize customer satisfaction, effectiveness of the communication and coordination within the organization, which directly impacts on the quality of customer service. Organizations that empower their employees to make decisions and take ownership of customer interactions tend to have higher levels of customer satisfaction.

SMEs with a matrix or cross-functional organizational structure and employees from different departments or functions collaborate closely to serve customers. SMEs with flexible and adaptable organizational structures are better positioned to innovate and introduce new products or services in response to changing customer preferences which shows R^2= .041 of variance as an effect of the organization structure on performance of small medium enterprises. This shows that there is a significant relationship between the influences of the organization structure on customer satisfaction of small medium enterprises in Ogun state.

Table no. 4 - ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.002	1	.002	.036	.941[b]
	Residual	27.915	198	.995		
	Total	27.875	199			

Source: Computer Computation, SPSS v20.

The predictors on the criterion were significant (F= .036; P> 0.05)

Table no.5-Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	The organization structure shapes the culture of the company	4.238	.676		6.271	.000
	Employees from different departments or functions collaborate closely to serve customers	.007	.164	.008	.044	.965
	a. Dependent Variable: The organization structure shapes the culture of the company					

Source: Computer Computation, SPSS v20.

Hypothesis Two

$H0_2$: There is no significant relationship between the effect of budgetary allocations and profitability of small medium enterprises

Table no. 6-Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.008[a]	.036	.052	.92321
a. Predictors: (Constant), Budgetary allocations enable SMEs to allocate funds for strategic investments that drive growth and expansion				

Source: Computer Computation, SPSS v20.

According to the results indicated in table 6, effective budgetary allocations ensure that resources such as funds, manpower, and materials are allocated optimally to activities that directly contribute to profitability. Budgetary allocations help SMEs identify areas of excessive spending or inefficiency, allowing them to implement cost-saving measures. Budgetary allocations enable SMEs to allocate funds for strategic investments that drive growth and expansion.

Budgetary allocations provide a framework for monitoring and evaluating performance against financial targets, effective budgetary allocations contribute to the financial stability of SMEs by ensuring that adequate funds are set aside for operating expenses, debt servicing, and contingencies. Budgetary allocations for customer-related activities such as marketing, sales, and customer service can directly impact on the customer satisfaction and retention. Budgetary allocations for employee-related expenses such as salaries, training, and incentives can impact on the employee motivation and productivity. Budgetary allocation encourages further growth by realizing places that require more funds for further productivity. Budgetary allocation enablesthe business set targets which are met since every item is budgeted for. Budgetary allocation influences the growth in the business, this shows R^2= .036 of variance as effects of budgetary allocations on profitability of small medium enterprises. This shows that there is a significant relationship betweenthe effects of budgetary allocations on profitability of small medium enterprises.

Table no. 7 - ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.002	1	.002	.002	.965[b]
	Residual	23.865	198	.852		
	Total	23.867	199			
a. Dependent Variable: Budgetary allocations enable SMEs to allocate funds for strategic investments that drive growth and expansion						
b. Predictors: (Constant), Budgetary allocation encourages further growth by realizing places that require more funds for further productivity						

Source: Computer Computation, SPSS v20.

Discussion of Findings

It was revealed that the organization structure shapes the culture of the company, influencing how employees prioritize customer satisfaction, effectiveness of communication and coordination within the organization, which directly impacts on the quality of customer service. Organizations that empower their employees to make decisions and take ownership of customer interactions tend to have higher levels of customer satisfaction. SMEs with a matrix or cross-functional organizational structure and employees from different departments or functions collaborate closely to serve customers.

SMEs with flexible and adaptable organizational structures are better positioned to innovate and introduce new products or services in response to changing customer preferences which shows R^2= .041 of variance as an effects of organization structure on performance of small medium enterprises. This shows that there is significant relationship between the influences of the organization structure on customer satisfaction of small medium enterprises in Ogun state.

Finally, this research has proved that effective budgetary allocations ensure that resources such as funds, manpower, and materials are allocated optimally to activities that directly contribute to profitability. Budgetary allocations help SMEs identify areas of excessive spending or inefficiency, allowing them to implement cost-saving measures. Budgetary allocations enable SMES to allocate funds for strategic investments that drive growth and expansion.

Budgetary allocations provide a framework for monitoring and evaluating performance against financial targets, effective budgetary allocations contribute to the financial stability of SMEs by ensuring that adequate funds are set aside for operating expenses, debt servicing, and contingencies. Budgetary allocations for customer-related activities such as marketing, sales, and customer service can directly impact on the customer satisfaction and retention.

Budgetary allocations for employee-related expenses such as salaries, training, and incentives can impact on the employee motivation and productivity. Budgetary allocation encourages further growth by realizing places that requires more funds for further productivity. Budgetary allocation enables the business set targets which are met since every item is budgeted for. Budgetary allocation influences the growth in the business, this shows R^2= .036 of variance as effects of budgetary allocations on profitability of small medium enterprises.

Conclusion and Recommendations

The study examined the impact of strategic planning in small medium enterprises performance in Ogun state. Two research questions and null hypotheses were formulated for the study. Pearson Product Moment Correlation was used to test the hypotheses at 0.05 level of significance. All the two null hypotheses were rejected. The study adopted a descriptive survey research design. The population of this study comprised all 1,663 SMEs in Abeokuta South Local government Ogun State, according Small and Medium Enterprises Development Agency of Nigeria. The sample for the study comprised 100 SMEs in Abeokuta South Local government Ogun State.

The frequency counts and simple percentage were used to analyse the demographic data of the participants, while the Pearson Product Moment Correlation (PPMC) statistical tool was used to test all the hypotheses at 0.5 level of significance. The research concludes that there was a significant relationship between the influences of organization structure on customer satisfaction of small medium enterprises in Ogun state and also there was significant relationship between the effects of budgetary allocations on profitability of small medium enterprises in Ogun state.

It was established that strategic planning variables have positive and significant effect on SME performance. This means that if the small and medium enterprises adopt the use of strategic planning, the performance level will improve. The SME sector in Nigeria should be of concern since the performance of the sector as at now is not showing any significant indicator for the economic development of the nation. The use of strategic planning should be considered as a very useful aspect to ensure improved performance and thereby improving the GDP of the nation.

The successful running of a business could be very challenging especially considering the external challenges that business operations encounter in Nigeria but with the adoption of strategic planning and the consideration of the moderating variables adopted for this study, the SME sector in Nigeria can be greatly improved.

As a result, it is recommended that the organizational strategy should be all-inclusive and preferably a bottom up approach be adopted and although it might be expensive, its cost benefit analysis will suggest the approach.

Secondly, the study found out that the innovation process in a firm is time and resource consuming. The process should not hurry much and beverage firms should adopt the most economical procedure which offers less waiting time and a higher spatial convenience than traditional process and thus be attractive to a large and quickly growing segment of customers.

Thirdly, firm clustering should be more encouraged by the government in other to bring about unity among competitive products.

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WASTE MANAGEMENT STRATEGIES IN ENERGY COMPANIES, THE TRANSITION TO A CIRCULAR ECONOMY IN ALGERIA

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Abstract

The concept of the circular economy appeared as an alternative model to the linear model, to preserve natural resources and protect the environment. Waste is at the heart of the circular economy. Companies need to develop comprehensive action plans that incorporate a circular business model to ensure effective waste management and environmental protection. These plans should address treatment and disposal strategies. NAFTAL-PLG, a company in the field of butane and propane gas marketing in Algeria has deployed waste management (gas cylinders) inclusive in cooperation with other waste recovery companies to promote the new circular economy model and participate in environmental protection with strict strategies applicable to all its structures nationwide.

***Keywords**: circular economy; waste management; business ecosystem; NAFTAL-PLG; Algeria.*

JEL Codes: O14; L23; L95, M11

Introduction

The linear economy, as it is represented today, is based on a process of wealth creation based on the conversion of natural resources into waste after manufacture and consumption. This classic model, in which goods are produced, used and then thrown away, has negative consequences for the environment and depletes resources.

The issue of natural resources and the environment has been an integral part of economic policy since the publication of the Meadows report in 1972 entitled ‘The Limits to Growth’, which highlighted the consequences of economic development on limited natural resources and the limited capacity of the biosphere to assimilate the quantity of waste thrown away.

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Beyond the conceptual framework, the circular economy has emerged and gained momentum in recent times, and it has received particular and growing attention from economic actors and public authorities.The management of waste presents a significant challenge that demands effective solutions, particularly in terms of treatment and disposal.

Energy companies, which are a key player in the national economy, are seeking to participate in actions introduced by the public authorities to improve environmental performance with positive economic impacts for them. They must put in place organisational and operational strategies to manage their waste, which is a major challenge requiring cooperation and coordination with other economic actors in order to participate in the deployment of an appropriate, so-called ‘circular economic model’, with a radical transition from the current model.

In this new economic model, waste is seen as a resource with a value, and companies in the energy sector play an important role in ensuring the supply of energy with efficient management of their waste.

The evolution of the status of waste requires innovative methods in terms of waste management strategies and the economic model to be adopted has given rise to the following question:

What waste management strategies can energy companies deploy to make the transition to a circular economy in Algeria? This question raised several other questions: How does environmental policy influence the waste management strategies adopted? What are the waste management methods used by the energy company NAFTAL-GPL?

To answer these questions, we proposed two hypotheses to affirm or confirm and these are:

Hypothesis 1: The government has implemented regulations to encourage energy companies like NAFTAL-LPG to adopt a circular economy model for waste management.

Hypothesis 2: The waste management strategies applied in NAFTAL-GPL have a positive impact on environmental and economic performance.

The aim of this study is to shed light on the importance of waste management for companies in strategic sectors such as energy. There are many benefits to be gained from implementing effective waste management strategies for the environment and a transition to a sustainable economic model.

This work is in two parts, the first is devoted to a general presentation of the concept of the circular economy, and the second - to innovative waste management methods for a real transition to the circular economy, with a case study of NAFTAL-GPL, a butane and propane gas marketing company in Algeria.

The Circular Economy.

The emerging circular economy

Le Moigne (2014, p. 39) summarised the history of the emergence of the circular economy as follows:

In 1966, the economist Kenneth E. Boulding compared the Earth, which had limited resources, to a spaceship, and proposed setting up a ‘closed economy’, in which the Earth became an isolated spaceship, so as not to have to extract it or pollute it.

From 1970 onwards, with the Meadows report by the Club of Rome in 1972, the issue was the sustainability of economic activity in the face of ecological degradation, but the analysis of the economic system itself stood the trial of time, given the current modes of production and consumption (Cacheux, 2015, p. 21), taking into consideration the increasing scarcity of resources and environmental degradation.

In 1976, Stahel, in his report ‘the potential for substituting manpower for energy’, proposed implementing a ‘loop economy’ to reduce energy consumption and create jobs. Producers are encouraged to close the loop by reverse recycling, substituting energy for labour, and redefining new processes for refurbishment.

In 1989, Frosch and Gallopoulos, in an article entitled ‘Strategies for Manufacturing’, introduced the concept of industrial ecology, in which the industrial ecosystem functions like a natural ecosystem. Waste from one industry becomes raw material for other industries in order to preserve natural resources and reduce energy consumption, they specified that an ideal ecosystem is to change the usual production and consumption towards the closed approach. (Frosch & Gallopoulos, 1989).

In 1989, in the article ‘Economics of nature resources and the environment’, David W. Pearce and R. Kerry Turner converted the linear system (extract - manufacture - reject) into a circular system. It was in this article that the term ‘circular economy’ first appeared.

An approach that analysed the life cycle of products from extraction to end of life, cradle to cradle, developed by William McDonough and Michael Braungart, was published in 2002 (Cradle to Cradle: Remaking The Way We Make Things). According to them, the life cycle analysis of technical and biological products seeks to produce an eco-efficient product that has less negative impact on the environment and is more beneficial to the producer (Le Moigne, 2014, p. 168).

Indeed, there has not been a standardised definition of the circular economy since the concept emerged, (Kirchherr, Reike & Hekkert, 2017) compiled a collection of 114 definitions of the circular economy. Its results show that the circular economy is most often described as a combination of reduce, reuse and recycle activities. According to ADEME, the circular economy is an economic model based on an analysis of the life cycle of products (goods or services) with the aim of increasing the efficiency of resource use and reducing the impact on the environment, while at the same time improving people's well-being, to decouple the consumption of resources from the country's economic growth, all for the satisfaction of individual desires. (ADEME, 2013)

The Ellen MacArthur Foundation defines the Circular Economy as: “A circular economy is an industrial system that is restorative or regenerative by intention and design”. It replaces the ‘end-of-life’ concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste through the superior design of materials, products, and systems for maximum efficiency. **(**Ellen MacArthur Foundation, 2013)

The two most widely used definitions in the academic literature indicate that the circular economy is an alternative model to the linear model that analyses the life cycle of products in order to improve people’s well-being, preserve the environment and reduce the use of natural resources.

Circular Economy Areas

The circular economy is based on a host of technological innovations aimed at efficient waste management and clean energy production, as well as organisational innovations such as industrial and regional ecology strategies, extending the life of products and responsible purchasing by consumers. (Bourdin & Torre, 2023) The circular economy is based on three main areas of action: supply from economic actors, demand and consumer behaviour, and waste management, for which recycling is essential.

Figure no. 1 The principales of the circular economy (3 areas, 7 pillars)

Source: Héry, M., & Malenfer, M. (2020). Development of a circular economy and evolution of working conditions and occupational risks — a strategic foresight study. *European Journal of Futures Research*, 8(8), 1-10. https://doi.org/10.1186/s40309-020-00168-7

The Circular Economy: A Systemic Approach

The notion of 'global systems' was introduced by the biologist Karl Ludwig Von Bertalanffy, who developed the idea. It was disseminated in an article entitled 'General systems theory' in 1968; general systems theory was based on interdisciplinarity.

He aimed to generalize the principles of biological synergy so they could be applied to all systems or organizations. The principle of this theory is the interaction between the main players involved in creating value in a dynamic environment for a common goal.

According to Bertalanffy, organisms, in their relationship and the interaction between the components that are part of them, are considered to be living biological systems (Bertalanffy, 1972).

The aim of systematic thinking is to offer the possibility of secure, judicious solutions that are both sustainable and parallel to the development of projects and businesses (Moayyad & Alkhatib, 2020). It is also a well-integrated approach to thinking, learning and innovative analysis to address the potential consequences.

The case of the circular economy appears in the relations between manufacturers which takes part in the lengthening of the life cycle of goods and services and the interaction with the behaviour of the purchasers with their responsible purchases and consumptions in order to take part in the protection of the environment, reducing the costs associated with producing or consuming goods and services.

Industrial ecology

Industrial metabolism is the study of all the biophysical components of an industrial system. This process, which is essentially analytical and descriptive, aims to understand the dynamics of materials and energy flows and stocks linked to human activities, from the extraction and production of resources to their inevitable return, sooner or later, to biogeochemical processes.

Industrial ecology aims to go a step further: drawing on knowledge of ecosystems and the biosphere, it seeks to identify the transformations that can make the industrial system compatible with the 'normal' functioning of biological ecosystems. The study of industrial metabolism is therefore an essential prerequisite for industrial ecology. (Erkman, 2004).

Industrial ecology or industrial symbiosis is defined as '*distinct entities in a collective approach aiming to benefit from a competitive advantage involving the physical exchange of materials, energy, water and by-products*'. Companies work together in the form of communities, with waste from one company becoming a source of production for others at the same stage (Diemer & Dierickx, 2022).

Industrial Ecology can be implemented on three levels: intra-company (within the company itself), inter-company (between different companies) and at a territorial level.

Boiral&Kabongo (2004) point out that the deployment of industrial ecology requires changes in industrial transformation processes, as well as technological innovation, particularly organisational innovation, which is essential for transforming and recovering the waste generated.

Business ecosystem and innovation

The circular model must be deployed at a spatial level, with cooperation between companies in a business ecosystem, which is defined by (Moore, 1993, p. 76) cited by (Daidj, 2011, p. 111) "in a business ecosystem, companies coevolve capabilities around a new innovation: they work co-operatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations". The success of a business ecosystem is based on the characteristics of the actors: they belong to different sectors of activity, are heterogeneous and the logic of competition is based on competitive dynamics to form a community of strategic destiny.

Moore (2006) states that the business ecosystem is a key public good which, like the idea of a business ecosystem and the identification of a space, is at the core of a plan for how contributions in the proposed system will be modularised and how these activities favour sharing between them as a cluster, and what type of company will supply what element, while the intensity will be on companies that become sophisticated in developing green strategies. A strong business ecosystem requires a robust foundation of technology, design, and well-defined partnerships.

Successful cooperation between companies or industries requires environmental innovation, as indicated (Debref, 2018, p. 50-51), where he identifies two types of innovation, one eco-innovation, resulting in a reduction in environmental impact, and the other - concerning the production method or process, marketing and organisational methods.

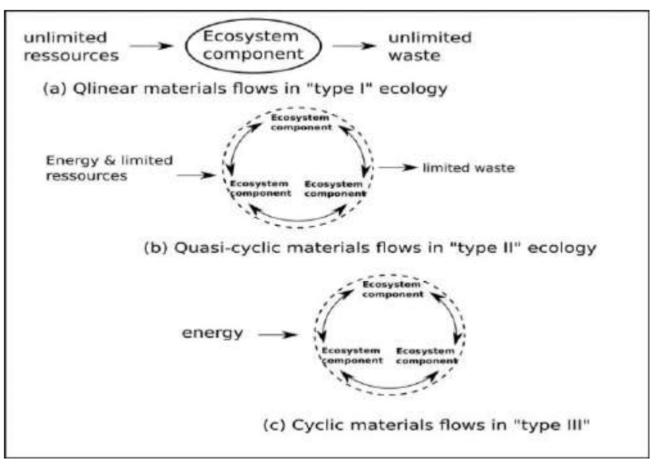
The OECD defines innovation more precisely in terms of the environment in its report 'Eco-innovation in industry, enabling green growth' (OECD, 2010) as: 'the production, assimilation or exploitation of a novelty in products, production processes, services or business management methods, which aims, through its life cycle, to prevent or significantly reduce environmental risks, pollution and other negative impacts of the resource and its use (including energy)'.

The interest in changing the production and consumption paradigm (World Trade Center Algiers WTCA & Réseau algérien d'Economie circulaire, 2022) argues in favour of modernising industrial sectors to ensure greater sustainability of activity, which emphasised the redeployment of company activities for a transition to a circular economy, that is based on new forms of cooperation between actors, and is a driver of innovation, competitiveness for businesses and job creation. This is the subject of the 1st International Conference on Companies as Key Players in the Circular Economy, that was held in Oran, Algeria, on 5 and 6 October 2022, through close collaboration between large Algerian companies and circular economy experts, new waste prevention strategies are being implemented, including the adoption of circular business models that prioritize product functionality.

Open innovation can drive the development of regional clusters, providing a platform for organizations to collaborate and co-create innovative solutions (Galiulina & Touate ,2023).

Debref (2018, p. 63-64) distinguishes three types of industrial ecosystem according to their openness to the environment: type 1, where waste can be disposed of without limits; type 2, where the semi-closed material and energy flow circuit allows materials to be partially recovered; type 3, called industrial ecology in a closed system, allows materials that require only one energy source to be looped. Figure no 2.

Figure no.2 Industrial ecosystem typology



Source: Debref, R. (2018). *Innovation environnementale et écoconception certitudes et controverses*. London: ISTE, p.64

The circular business model (economy of functionality)

The functional economy shifts the focus from product ownership to service provision. This paradigm shift was pioneered by (Stahel, 2012), when the company promotes to preserve resources and retain ownership of product and extend the lifespan without producing waste whose integration into processing is essential.

A circular business model can be a powerful tool for innovation. By focusing on product functionality and considering the entire product lifecycle, companies can develop new business models that are more sustainable and profitable (Mosangini & Tunçer, n.d), This model has the capacity to offer an environmental improvement as well as a competitive advantage for the company attracting customers.

Waste Management Strategies

Global waste management concept

Article 03 of Law no. 2001-19 of 12 December 2001 on the management, control and elimination of waste defines waste as ‘any residue of a production, transformation or use process, and more generally any substance, product or movable asset which the owner or holder discards, plans to discard or is obliged to discard or eliminate’ (Algeria. 2001, December 12).

The increase in the use of resources has been accompanied by an increase in waste and emissions - this is the linear mode of production. The effective model that analyses the waste hierarchy starts with the production of waste and its management up to the point of zero waste production. This is the waste prevention stage (Weghmann, 2023) (Figure no 3), which requires innovation and new technology with an efficient business model.

Figure no. 3 The waste hierarchy

Source: Weghmann, V. (2023). Waste management in Europe. *Public Service International Research Unit.*, p.11, https://www.epsu.org/sites/default/files/article/files/Waste%20Management%20in%20Europe_EN.pdf

Article 02 of Law 01-19 of 12 December 2001 (LAW 19, 2001) sets out the procedures for waste treatment and management as follows:

- preventing and reducing waste at source;
- organising the sorting, collection, transport and treatment of waste;
- recovering energy or organic waste by reuse, recycling and re-utilization methods.

Waste as resource

The field of action, waste management, corresponds directly to the curative approach, usually described by ecological economists as 'end of pipe' (Erkman, 2004, pp. 101-102), where he explains that waste is seen as a raw material to be exploited by companies and public authorities.

The implementation of the various plans in the field, in terms of environmental protection and remarkable growth, must adopt a change in the economic model towards a sustainable economy known as the circular economy. In Algeria, what the government is advocating is better production, better consumption, better waste management, improved quality of the environment and more responsible economic growth. This is the circular economy that should become the national economy.

Turning waste into secondary raw materials can have a big impact on the economy. We need to invest in new technologies to do this and support local businesses that can process waste (Adel & Guendouz, 2023).

Management of industrial waste

Effective waste management requires close collaboration between governments, producers, and citizens. Government incentive programs and public awareness campaigns can significantly reduce waste and promote recycling. Producers must commit to designing more sustainable products, reducing packaging, and implementing safe waste management procedures. This comprehensive approach will not only protect the environment but also create new economic opportunities through a circular economy (Tietenber & Lewis, 2013, p. 333).

In effect, Waste management is not only a pressing environmental issue but also a considerable economic burden. It demands substantial investments in infrastructure for collection, sorting, and treatment. The costs associated with recycling, energy recovery, and waste disposal are frequently passed on to consumers in the form of taxes or surcharges, or are funded by public authorities.

Potentially recycled waste falls into two categories;

1. First-hand recyclable waste from the transformation and production process, or waste that does not leave the factory and remains under the control of the manufacturer who is responsible for both the production of the goods and the management of the waste. It would be advantageous to set up operations that guarantee the homogeneity of the waste and limit the steps required for recycling. All this reasoning indicates that the primary waste market is working efficiently.

2. Second-hand recyclable waste for consumer use; or the operation of the market is inefficient, as consumers do not pay the costs of collecting, transporting, recycling or disposing of waste, only to have the products (Tom Tietenber & Lynne Lewis, 2013, pp. 318-319). Therefore, the role of the government comes for an integrated waste management, for the purpose of environmental prevention and public health, with marginal costs subsidized from the state.

According to a report produced by the National Waste Agency (Agence Nationale des Déchets /AND/, 2020) for the year 2020, Algeria's population has grown and the country's consumption patterns have become more dynamic, which is leading to an increase in the quantity and nature of the waste generated, and as a result of profound changes in lifestyles and eating habits, the composition of household waste has also changed. The organic waste fraction accounts for the lion's share at 53.61%, followed by plastics at 15.31%. Ferrous metals are more sought after they are recovered directly at source - 1.71% in 2018/2019 while the rate recorded in 2014 was 2.84%. This diversity of waste types makes waste treatment difficult.

Waste recovery in Algeria is remarkably behind schedule at 9.83% compared to the annual production of 13.5 billion tonnes in 2020. Algeria has a major loss for the national economy in terms of diversification of financial income and supply of resources, as well as the creation of new activities that generate jobs and improve the health of citizens, as specified by the Ministry of Water Resources and the Environment (MREE, 2017), as part of the National Environment and Sustainable Development Strategies. If the Ministry of the Environment and Renewable Energy (MEER, 2022) implements the national integrated waste management strategy SNGID-2035, Algeria's urban centers are gearing up to adopt advanced waste collection and processing systems. By introducing selective sorting to separate organic, paper, glass, and other materials, the country aims to maximize the value of its waste and convert it into raw materials for new products

The MEER project, co-financed by the European Union, will enable Algeria to develop better integrated waste management in order to contribute to the development of the green and circular economy and reduce environmental pollution. The projected recovery rate in 2035 was 18.31%, reflecting the pace of development of waste recovery processes.

Algerian cities will have a more efficient and effective waste collection and treatment system. The selective sorting of waste, by separating organic flows, paper and cardboard, glass and other materials, will enable the government and the private sector to recover them and convert them into secondary raw materials for industry, according to the review of actions carried out by MEER 2021-2022.

Waste Management in The Oil and Gas Industry

As part of sustainable development, waste management policies in energy companies (gas and oil) should be based on the principles of the circular economy; the R (reduce, reuse and recycle) to support the profitability of materials (Shahbaz et al., 2023).

There may be impacts on the environment and human health during the extraction of hydrocarbons and gas, as well as physical impacts (oil sludge). All the potential impacts of the routine operations of these oil and gas companies must be taken into account when designing local or regional management strategies.

Case studies

NAFTAL is a joint stock company, with share capital of 160,000,000,000.00 DZD. Founded in 1982, NAFTAL is a wholly-owned subsidiary of the Sonatrach Group. Its main mission is the distribution and marketing of petroleum products and derivatives on the national market.

LPG sector: LPG refers to LIQUEFIED PETROLEUM GASES. They are mixtures of Butane (C4) and Propane (C3). LPGs can be obtained from various hydrocarbon processing sources, such as:

Processing of natural gas or associated gases;

Oil refining;

Liquefaction of natural gas.

Within the LPG product range, NAFTAL markets two key products:

Commercial Butane

Mixture of hydrocarbons consisting mainly of butane and butene and in low proportion of propane and propene (less than 19% by volume). Butane is marketed in two forms of

Bottle of 13 Kg (B13).

Bottle of 06 Kg (B6).

Bottle of 03 Kg (B3).

Commercial Propane

A mixture of hydrocarbons made up of at least 93% propane and propene and the remainder ethane, ethylene, butane and butene.

Packaged propane is sold exclusively in 35 kg cylinders.

The main activity of the CHLEF LPG filling centre is the storage, packaging and distribution of cylinders of various capacities (B03, B06, B13, P11 and P35) and Sirghaz.

Results and discussion

Concrete research can use a mixed methodological approach, combining various data collection instruments and having both quantitative data and qualitative data available for analysis.

The information gathered is processed quantitatively using descriptive statistical analysis and explanatory statistical analysis. Qualitative information is collected and processed by documentary analysis or content analysis (N'DA, 2015). An interview was carried out with the analysis of internal documents as data to be exploited for our case studies, using floating reading (Bardin, 2013) to analyse the company's internal documents on waste management and monitoring.

Discourse analysis studies oral or written textual production within the framework of an internal analysis of documents. It considers writing and reading as the ideal place for observing the development of social meaning (Sabourin, 2003).

The theories produced by qualitative research are not part of the grand theory, the search for universal laws, but rather the notion of mechanism. It involves understanding, in a context or situation, what types of commitments, sequences and mechanisms are at work and account for the behaviour of actors (Dumez, 2011).

Environmental protection and waste management at NAFTAL-LPG

NAFTAL-LPG has a strategy for managing their waste as part of environmental protection, including the application of regulations in force deployed in Algeria.

NAFTAL-LPG's waste management plan involves five key phases;

Phase 1: Understanding waste and waste management

This phase is essential for improving waste management. It enables:

1-identifying the different types of waste and the processes that generate them, making an inventory of existing disposal channels and storage methods;

2-to monitor and analyse the quantities and management costs of waste produced;

3-to identify the most costly waste and the waste produced in the greatest quantities;

4-drawing up an inventory and identify areas for improvement, highlighting weaknesses and strengths.

Phase 2: Understanding waste legislation

Regulatory framework applied at NAFTAL-LPG

Law no. 2001-19 of 27 Ramadhan 1422 corresponding to 12 December 2001 on waste management, control and disposal, art 03

Waste: any residue of a production, transformation or use process, and more generally any substance, product or movable asset whose owner or holder discards it, intends to discard it, or is obliged to discard or dispose of it.

Waste holder: any natural or legal person who holds waste.

Waste management: any operation relating to the collection, sorting, transport, storage, recovery and disposal of waste, including the monitoring of these operations.

Executive Decree No. 2006-104 of 29 Moharram 1427 corresponding to 28 February 2006 establishing the nomenclature of waste, including hazardous special waste.

Executive Decree No. 04-409 of 2 Dhou El Kaada 1425 corresponding to 14 December 2004 laying down the conditions for transporting hazardous special waste

Law 03-10 art 3 the principle of preventive action and correction, as a priority at source, of environmental damage, using the best available techniques, at an economically acceptable cost and which requires any person whose activities are likely to have a significant detrimental effect on the environment, before acting, to take into consideration the interests of others.

Art. 5 - The environmental management tools consist of:

- an organisation of environmental information;
- a definition of environmental standards;
- planning of environmental actions carried out by the State;
- a system for assessing the environmental impact of development projects;
- a definition of specific legal regimes and control bodies;
- the involvement of individuals and associations in environmental protection.

Phase 3: Identifying weaknesses and actions to be implemented

On the basis of the information collected in phases I and II (waste management inventory), it will be possible to identify the weaknesses:

-any regulatory non-compliance (already in phase II);

-the potential for reducing waste at source;

-sources of recoverable waste not currently sorted;

-possible improvements in terms of management;

-shortcomings in terms of staff participation and buy-in, and a list of possible actions to be implemented to remedy the problems identified.

Prevention means adopting eco-responsible behaviour and attitudes, so as to reduce management costs and also the company's environmental impact by reducing the quantity and harmfulness of certain types of waste at source.

Waste prevention means taking action at all levels:

-the manufacture of products by applying eco-design principles that also include the rational use of resources (water, energy, materials, etc.);

-the consumption of products by applying a responsible purchasing policy (eco-consumption);

-good waste management means controlling each type of waste from production to disposal,

improved management involves the application of curative measures to optimising sorting, selective collection, recycling rates, choice of disposal/treatment methods, etc.

Phase 4: Drawing up an action plan

The action plan must take account of the weaknesses identified in phase III.

For each area of progress identified (legislation, prevention, management and staff awareness/adherence), operational objectives will be defined and translated into actions.

Phase 5: Evaluating the actions taken

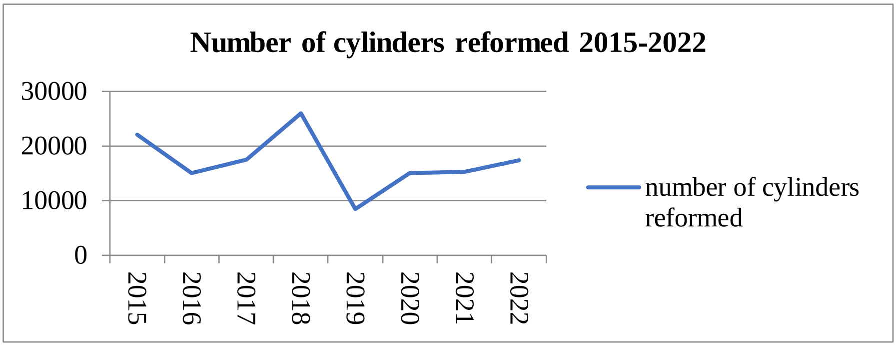
This phase will make it possible to quantify (by setting up indicators) and qualify the results of the actions and to visualise the improvements actually made to waste management.

Methods for Managing Reformed Gas Cylinders

Reformed gas cylinders are classified as special waste at NAFTAL in LPG. In order to manage this type of waste efficiently, it has put in place strategies that correspond to environmental performance in order to guarantee the company's supply of butane and propane gas cylinders with a contract with BAG, which produces and repairs different types of cylinders, as well as a contract with ENR (national recovery company), which buys ferrous waste (gas cylinders) and non-ferrous waste (cylinder locks).

Before putting the cylinders at the end of their life NAFTAL LPG proceeded and applied principles of reuse with the operation of filling the gas cylinders for the marketing of gas as energy to ordinary or professional customers, After the gas consumption, the gas cylinders are checked before being filled again, otherwise they will be reconditioned and considered as waste causing environmental damage, It must be subject to a special management of collection, sorting, transport and recovery or elimination for a positive impact on the environment and the financial state of the company.

Graph no. 1 Number of gas cylinders at end of life



Source: prepared by the authors

As shown in graph 01, the number of recycled gas cylinders constitutes ferrous waste, with a large quantity destined for sale to companies specialising in recycled ENR representing financial flows for NAFTAL-PLG, stored under very specific conditions with labelling indicating the dangerousness in order to protect individuals as well as participating in the protection of the environment.

Table no. 1 –Pillars of the circular economy applied within the company

Pillars d'CE	Apply
Eco-design	Integrating the rational use of resources (water, energy, materials, etc.)
Functional economy	/
Industrial ecology and territory	Sale of ferrous and non-ferrous scrap to ENR, which transforms it into raw materials for other industries nationwide Supply of gas cylinders and valve accessories by BAG (gas cylinder companies)
Reduction	Reducing costs
Reuse	Reusing gas cylinders by refilling them several times
Repair	Repair of bottle valves
Recycling	Collecting and transporting ferrous and non-ferrous waste, sorting and separating it from other waste, as well as storing gas cylinders in appropriate conditions.

Source: prepared by the authors

Only one pillar of the circular economy - the economy of functionality - is not deployed in NAFTAL-PLG, because the product itself that serves the customer is energy, and the nature of the main activity is the marketing of energy products.

The Transition to The Circular Model

The sale of recycled gas cylinders as ferrous waste to the national recovery company (ENR) under a cooperation contract creates an industrial ecology for the recovery of end-of-life products, or the outputs after treatment become raw material resources for other industries.

NAFTAL-PLG promotes the protection of the environment or the conditions of collection and transport of waste according to the regulations, the places of treatment, of storage of waste, subjected to the standards of the prevention of the individuals.

In fact, NAFTAL-PLG has deployed integrated waste management strategies with the aim of reducing the costs of purchasing new products in order to guarantee economic gains with less environmental impact as well as impacts for human health and to guarantee the satisfaction of its customers, in addition to the supply of energy in LPG material available with efficiency.

NAFTAL-LPG focuses on environmental performance with the adaptation of effective and rigorous waste management strategies to reduce burdens, which reduces dependence on resources, with these strategies promoting synergy with other industries, their waste becomes resources, without compromising internal supply the company builds an industrial ecology. This has created new economic opportunities, Transforming the linear mechanism into a sustainable, long-term model for companies working together in a territory as a waste exchange network, this mechanism was an environmental innovation for energy companies practising with the principles of the circular economy, with the emergence of a new circular business model focusing on the environmental impact of the activity of energy companies and economic development including the preservation of natural resources at the same time.

Conclusion

The transition to a circular economy has multiple benefits: for the environment, it reduces the risks associated with economic activity, in particular to protect individuals; for the economy, it reduces costs in the face of dwindling resources and increases company profiles, including customer satisfaction, with a circular business model that focuses on organisational and operational innovation.

NAFTAL-PLG branch has deployed effective waste management strategies with a circular business model based on the principles of R (recycling, recovery, reuse, etc.) and integrated the ecological aspect into the business of marketing butane and propane gas using eco-design, in order to preserve the environment and reduce carbon emissions.

For environmental and economic performance, NAFTAL-PLG has joined forces with other companies to repair and recycle gas cylinders in a cooperative business ecosystem, where the cylinders that are reformed after treatment will be raw materials for other industries in an open circuit.

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SUSTAINABLE DEVELOPMENT AND "GREEN ECONOMY": ANALYSIS OF FACTORS AND SITUATION IN KYRGYZSTAN

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Abstract

The article discusses the essence and basic principles of the sustainable development and "green" economy. The authors have conducted analysis of the factors influencing sustainable development in Kyrgyzstan, and believe that the main factors holding back economic growth and human development in the country are geographical features and a volatility of the political situation. Since gaining its independence, Kyrgyzstan has been characterized by a low level of social well-being, increasing pressure on the environment from the productions, especially agricultural production, and population with a low level of environmental awareness. The authors revealed the correlation between the level of poverty and the deterioration of air quality in Bishkek, namely, the growing level of poverty in the capital city was accompanied by an increase of emissions polluting the air. The state is taking certain measures to reduce poverty and protect the environment. However, many principles of sustainable development and the "green" economy are not being observed across the nation. The article validates the urgent need for active promotion of the sustainable development and the "green economy" in Kyrgyzstan.

Keywords: *sustainable development; green economy; economic progress; economic growth; social progress; human development; atmospheric quality; soil pollution; vehicles; poverty; rural population; rural tourism.*
JEL Codes: R4, Q5, Q1, Z3, O13, H

Introduction

Global warming researcher Paul Crutzen noted that the invention of the steam engine in 1784 was the first step towards technological and economic progress for mankind. Since then, emissions of carbon dioxide and other substances polluting the atmosphere have increased from year to year (Füchs, 2020). Many countries, striving for

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technical, economic and social prosperity, have developed their industrial productions at a rapid pace. However, the traditional industrial production model has been closely linked to environmental degradation, characterized by heavy reliance on fossil fuels, high energy consumption, and the generation of pollutants (Sadiku & Madzova, 2024).

Nevertheless, today scientific and technological progress is assessed as a positive process. As a result of economic and social progress, mankind receives new types of food products, living conditions are improving while the Earth’s population keeps growing. Population growth is accompanied by an expansion of human needs, accordingly, by an increase in the production of not only food products, but also many consumer goods made from materials that heavily pollute the environment, such as polymers. Until the 1940s, the annual production of artificial polymers in the world was measured in only tens of thousands of tons. By the mid-1970s, this volume had already reached 60 million tons, and by the beginning of 2022, the production of just one type of polymer - plastics - amounted to 380 million tons per year. The scientific and technological revolution of the mid-20th century significantly expanded the range of polymer products. Today, it is difficult to name an industry that does not use products made of polymeric materials, and even within the industrial sectors themselves, their use is becoming more intensive and widespread. According to Greenpeace estimates, the production of plastics and raw materials for them releases more than 170 chemicals into the air and water that are harmful to human health (Khudokormov, 2023).

Plastic has become a real test for the natural environment and the future of most countries in the world, including Kyrgyzstan. The production of plastic products causes enormous harm to the environment and, accordingly, to the health of the current generation of people and the well-being of future generations. But is scientific and technological progress to blame for this? In part, yes, but a more compelling reason lies in the unreasonable exploitation of natural resources in pursuit of profit and reckless human consumer behavior.

The purpose of this research is to substantiate the urgent need for active promotion of a “green economy”. It also aims at analyzing and assessing the impact of some factors on the social and environmental aspects of sustainable development in Kyrgyzstan.

Dataset and methods

The methodological basis of the study was shaped by scientific works of foreign and domestic scientists, as well as the authors' own works. We have used some data delivered by one of the authors of the current article in the Final Report based on the cost and benefit analysis conducted within the framework of the project "Political actions for climate security in Central Asia", implemented by UNDP in Kyrgyzstan, Tajikistan and

Uzbekistan with the financial support of the Government of Great Britain. Among others, the authors used such research methods as scientific observation, scientific abstraction, and different types of analysis such as comparative, factorial, and cause-and-effect.

The statistical analysis allowed us to identify some trends in poverty change level and the impact of the population on various parts of the environment. Comparison of statistical data reflecting the changes in the poverty level in Bishkek city and the volume of emissions of substances polluting the atmosphere allowed us to reveal that there is a direct link between the poverty level and the level of air pollution: the higher the poverty level, the more polluted the atmosphere in the capital city of Kyrgyzstan.The relationship between these indicators is examined using annual data for 2013-2022.

The concept of assessing national poverty differs from international poverty assessments. The national poverty level cannot be compared across countries or with the poverty level of $1.90 per day (National Statistical Committee of the Kyrgyz Republic, 2022).

Sustainable development and "Green Economy": Essence, Principles and Factors.

"Green economy" is one of the directions of sustainable development, the basis of which rests on the responsible attitude of man to resources and to future generations. Issues of sustainable development have been actively discussed by the public and scientists since the 70s, because the development of production and the scientific as well as the technological progress have had a strong negative impact on the environment since the second half of the twentieth century. Since the 1940s, technical progress has advanced at a rapid pace and has been accompanied by a significant deterioration of the environment. Today, environmental issues have acquired a global character, which has become the reason for bringing the sustainable development issues to the forefront.

Sustainable Development Goals (SDGs) were adopted by the United Nations in 2015 as a universal call to action to eradicate poverty, protect the planet, and ensure that by 2030 all people live in peace and prosperity (United Nations Development Programme, 2024).

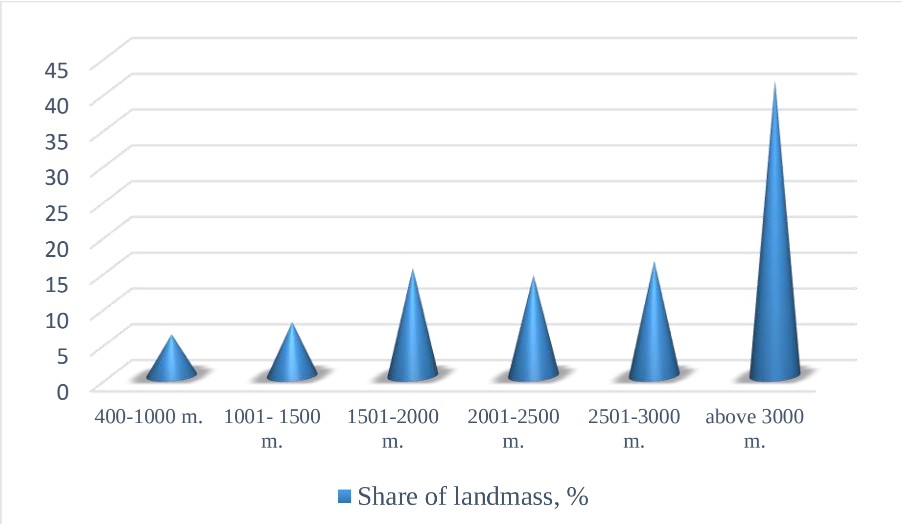
According to the definition formulated by Michael Jobs: Sustainable development is the development of societies in which the human condition improves while the environmental impact remains within the carrying capacity of the biosphere, so that the natural basis for the functioning of humanity is not destroyed. (Jacobs, 1999).

Sustainable development includes economic, social, and environmental components. The economic component involves achieving economic efficiency, that is, obtaining the greatest benefit at the lowest cost of all types of resources, especially natural ones. Achieving economic well-being will contribute to human development and also expand the opportunities for the implementation of large-scale environmental programs.

The social component is implemented through social justice, which promotes a fair distribution of income. The path to social well-being liest in improving the quality of life of the population. High living standards of the population can reduce the anthropogenic load of the population on the environment, and also contribute to their involvement in activities to protect and improve the environment.

The environmental component means ensuring environmental safety through the protection and improvement of the environment, achieved through the implementation of environmental measures and programs that cannot be implemented without the participation of the population, business, and the state. Environmental well-being means providing production with resources, and a person with all the benefits necessary for life within the capabilities of the environment. Economic growth and economic progress are achieved in the "brown" economy through intensive use of natural resources without taking into consideration the interests of future generations. The market economy is based on economic egoism. Producers strive to obtain high income and maximize their profits at any cost without taking into account the impact of production activities on natural environment. In the context of sustainable development, economic growth and economic development, as well as human development in general, should be achieved based on the principles of careful attitude to nature. The scale of economic and human development in Kyrgyzstan is limited by the geographical features of the country: 30.2% of the territory of the country is located at altitudes above 2000 meters above the sea level (Fig. 1).

Figure no. 1 Proportion of the territory of the Kyrgyz Republic located at different altitudes above sea level, %



Source: United Nations Development Programme in Kyrgyzstan, 2002.

Figure 1 shows that most of the territory of the republic is located at an altitude of over 2000 meters above the sea level. At altitudes of over 1500 meters above the sea level, the comfort of living decreases, here it makes 45.3% of the territory occupied by the country's population, where the cold season lasts for around 6 months. The sharply continental climate and large differences in altitude increase the basic energy costs necessary to maintain a minimum acceptable standard of living (heating homes, warm clothing, increased costs for transportation, overcoming mountain obstacles, etc.) at least by 1,5 - 2 times compared to the plain land. It should be emphasized that 6.3% of the population of Kyrgyzstan live in the harsh conditions of the highlands. The average altitude of the republic is 2750 meters above sea level (UN Development Programme in Kyrgyzstan, 2002).

Economic growth is limited in Kyrgyzstan by the following factors: long distance from the World Ocean (from 1700 to 6530 km), discontinuity and fragmentation of the territory, associated with the mountainous landscape, remoteness of settlements from each other, and all these contribute to external and internal communication isolation, while increasing the transportation costs. The cost of 90% of transportation in the country falls on road transport, which is 60-70 times higher than the majority of world transportation, which comes mainly by sea routes. The internal transport isolation of the Kyrgyz Republic exists due to the fact that in the mountain systems, not only rivers run off from the center, but also roads. The centrifugal highways do not allow the creation of a single economic space. In Western European countries, one square kilometer of territory produces 600 times more GDP than in Kyrgyzstan (Suyunbaev, 2005).

Due to its geographical location, the Kyrgyz Republic is a state prone to numerous natural disasters. As a result of emergency situations of various kinds in 2022, the republic suffered tremendous losses where 135 people died, 1,298 residential buildings and 54 road facilities were destroyed, 29 industrial and commercial facilities were ruined, and 5,6 thousand hectares of agricultural land were damaged. The economic cost of all types of emergency situations amounted to more than 4,6 billion Kyrgyz som (National Statistical Committee of the Kyrgyz Republic, 2023).

Another factor that complicates the path to sustainable development is the political instability in the country. During the period of independence, Kyrgyzstan has experienced three violent topplings of the corrupt government, locally called ‘revolutions’. One of the key reasons for social upheaval was the low standard of living of the majority of the population. The gravity of social injustice, corruption, the insatiable greed of the political elite for self-enrichment ignoring the interests of the state and these of society, along with other negative conditions in the lives of millions of Kyrgyz citizens aligned with the high risks of investment instability led to the most negative social implications.

Analysis of The Current Situation in Kyrgyzstan and Justification of the Need for Sustainable Development and “Green Economy”.

Green economy is a model of economic development that assumes a responsible attitude of a person to any natural resources and towards upcoming generations. It aims at finding a reasonable compromise between economic growth, human resource development and the preservation of natural resources. This is sustainable development and it remains the most important long-term goal of many countries globally, including Kyrgyzstan. However, in order to achieve it, it is necessary to make the economy green (Ministry of Economy and Commerce of the Kyrgyz Republic, 2024).

Economy is associated with production and consumption. As global pollution of the environment keeps exacerbating since most, if not all, of the nations on earth are run by the market economy, both production and consumption have a negative impact on the natural environment, and many issues of human development, sadly, continue to remain unresolved. Green economy is an economy that is focused on economic growth accompanied by human development, employment, poverty eradication and ensuring the protection of all elements of the natural environment from degradation. However, in most countries of the world, including the Kyrgyz Republic, both production and consumption are carried out without observing the principles of „green" economy. As a result, natural resources are greatly depleted, atmospheric air and water are polluted, and soil degradation and contamination keeps constant.

The agricultural sector holds a significant share in the economy of Kyrgyzstan. Agriculture is the main consumer of the republic's water resources. In 2022, the volume of water consumption amounted to 5.8 billion cubic meters of water, an increase of 14.8% compared to 2018. Of the total water consumption, 94.3% of water was used for irrigation and agricultural water supply, 3.4% for domestic and drinking needs, and 1.4% for industrial needs. As it is known, water consumers, unlike water users, irrevocably take this valuable natural resource from nature. At the same time, more than 27% of the taken water is lost during transportation due to the unsatisfactory condition of irrigation systems (National Statistical Committee of the Kyrgyz Republic, 2023).

An important place in the agriculture of Kyrgyzstan is given to livestock breeding. A distinctive feature of livestock care in the country is grazing in open spaces. Hence, pastures play an extremely important role. Over the past five years, pasture area’s size has decreased. If at the beginning of 2019 the area of pastures were 9005,7 thousand hectares, by the beginning of 2023 it made for some 8995,4 thousand hectares. Due to soil degradation, the quality characteristics of pasture lands, which occupy 85% of agricultural land, have deteriorated (National Statistical Committee of the Kyrgyz Republic, 2023).

According to the State Design Institute for Land Management “Kyrgyzgiprozem”, 1/4 of the total area of pastures in Kyrgyzstan is moderately and severely degraded due to excessive load on them connected to the increase in livestock. Domestic research institutes state that the yield of summer and winter pastures has decreased by 3 times over the past 50 years. Unjustifiably intensive exploitation of pastures has caused a decrease in their productivity. Thus, according to experts, as a result of this, over 11 million tons of natural feed are lost annually (Concept of Green Economy in the Kyrgyz Republic, 2018).

In recent years, the state of pasture lands has been negatively affected by tourist activities, including the ‘jailoo (*auth*: high-altitude summer pastures that Kyrgyz nomads take their flocks to)’ tourism, which are organized without observing the principles of preserving the natural environment. Problems arise due to household waste emerging from serving both domestic and foreign tourists. But, on the other hand, jailoo tourism contributes to improving the well-being of rural residents. Income from jailoo tourism makes up a significant part of the budget of families of shepherds and cattle breeders, most of whom permanently reside in the village of Kochkor in the Naryn region, for example. In general, during the nomadic season on Song-Köl (*auth:* Song-Köl is an alpine lake in northern Naryn Region, Kyrgyzstan. It lies at an altitude of 3016 m, and has an area of about 270 km*^{2} and volume of 2.64 km^3. The lake's maximum length is 29 km, breadth about 18 km at its widest, and the deepest point is 13.2 m. It is the second largest lake in Kyrgyzstan after Issyk-Kul, and the largest fresh water lake in the country), a family earns about 10-12 thousand dollars from tourists and the sale of livestock (Tumanova, 2021). At the same time, if the problem of getting rid of household waste without harming the environment is not solved, many pasture areas will be degraded.

Currently, this problem has become more acute. The area of degraded pastures has more than doubled. It should be emphasized that this type of economic activity has a negative impact not only on the soil, but also on the natural environment. With the development of jailoo tourism, the quality of atmospheric air in the areas of mountain pastures is deteriorating due to the increase in the number of vehicles. The actual emissions of the most common pollutants into the atmosphere in the Naryn region, where jailoo tourism is developing very quickly, amounted to 1260,4 tons in 2022, which exceeded the maximum permissible levels by 6.1% (National Statistical Committee of the Kyrgyz Republic, 2023). The problem of excessive air pollution also occurs in the cities of Kyrgyzstan, especially in the capital of the republic (Table 1).

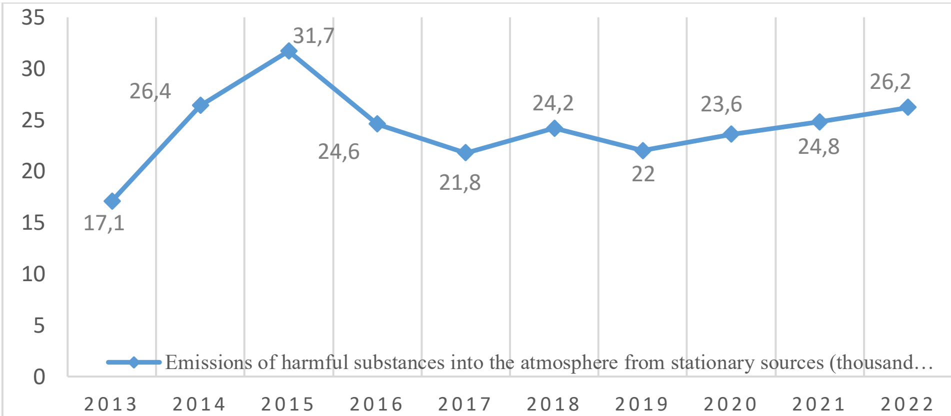
Table no. 1- Cases of exceeding the maximum permissible concentration of nitrogen dioxide (NO2) in the cities of the Kyrgyz Republic in 2022

City title	**The proportion of cases where the maximum permissible concentration was exceeded, in % of the total number of observations**	
	Industrial district	***Residential area***
Bishkek	13	311
Kara-Balta	9	2
Osh	-	-
Tokmok	9	4
Cholpon-Ata	18	-

Source: National Statistical Committee of the Kyrgyz Republic, 2023.

As it can be seen from Table 1, according to the data for 2022, the maximum permissible concentration of a substance hazardous to human health - nitrogen dioxide (NO2) - is exceeded in all cities of the Kyrgyz Republic, except for Osh (data for 2024 for Osh may differ). We observe the worst results in Bishkek, both in the industrial and residential areas. The significant pollutants of atmospheric air in Bishkek are stationary sources (Fig. 2).

Figure no.2 Change in the amount of emissions of harmful substances into the atmosphere from stationary sources in Bishkek (thousand tons).



Source: National Statistical Committee of the Kyrgyz Republic, 2023

Figure 2 clearly shows a significant increase in the emissions of harmful substances into the atmosphere from stationary sources in Bishkek, in the analyzed ten-year period, from 17.1 thousand tons to 26.2 thousand tons, that is, increase by 53.2%. Studies have shown that the main sources worsening the quality of atmospheric air in the capital are residential buildings and motor vehicles. At the same time, a large part in air pollution in the capital is due to families living in informal residential areas that spontaneously emerged around Bishkek because of internal migration since 90s. Most of these families are poor. The poor population, by rule of economy, consumes cheaper goods, the waste from consumption of which is harmful to the environment, for example, low-quality coal.

To identify the relationship between the level of poverty and the degree of air pollution in Bishkek, let us focus on the changes of indicators in different timeframes.

2013-2015: The poverty level in Bishkek increased from 20.4% to 23.5%. Figure 2 shows that in this period, the emissions of harmful substances into the atmosphere from stationary sources in Bishkek also increased, from 17,1 thousand tons to 31,7 thousand tons, or by 85,4%.

2015-2019: In 2019, the poverty level significantly decreased compared to 2015, amounting to 11.9%, and the emissions of harmful substances into the atmosphere in this period also decreased by 30.6%.

2019-2022: In 2022, the poverty level in the capital increased by 23.8% compared to 2019. During this period, air pollution in the city increased by 19.1% (National Statistical Committee of the Kyrgyz Republic, 2022, 2016).

Thus, a comparative analysis of the changes in the poverty level and the amount of air pollutant emissions in Bishkek showed that there is a direct connection between them:

an increase in the poverty level was accompanied by an increase in air pollutant emissions.

Significant damage to the quality of atmospheric air in Bishkek is caused by low-income families. They tend to buy and use cheap, low-quality coal with high sulfur content for heating. According to the results of a study of air pollution sources in Bishkek, conducted by specialists from the United Nations Development Programme in the Kyrgyz Republic and the United Nations Environment Programme, a significant source of emissions come from household heating using fossil fuels with high sulfur content. Heat and power centers (HPC) have a smaller impact on air pollution and, in particular, on the concentration of main pollutants (solid particles and sulfur dioxide) in Bishkek due to the higher emission height of HPC's exhaust pipes, combustion efficiency and monitoring equipment (United Nations Development Programme in the Kyrgyz Republic and United Nations Environment Programme, 2022).

However, the most dangerous source of substances that worsen the quality of atmospheric air in the whole country, including in Bishkek, is motor transport. According to the Ministry of Transport and Communications, in 2022, over 1,387,551 motor vehicles were registered in the Kyrgyz Republic, of which 1,103,400 were passenger cars, 234,600 were trucks, and 49,500 were passenger vehicles (Kudryavtseva, 2023)

According to certain predictions, by 2022, there were supposed to be some 1114000 automobiles, however the actual number of these is less by 10600 pieces. By 2024 the number of automobiles in Kyrgyzstan is expected to reach some 1176000 pieces. According to the Minister of Transport and Communications the actual increase in the number of automobiles in 2022 amounted to 0.7% (table 2).

Table no. 2 - Comparative analysis of actual and projected growth in the number of passenger cars and their maintenance in the Kyrgyz Republic

Indicator	**Factual**		**Prediction**		**in 2022 in % to 2021**	**in 2025 in % to 2024**
	2021	***2022***	***2024***	***2025***		
Number of passenger cars, pieces in thousands	1096	1103,4 *	1151	1176	100,7	102,2
Average annual cost of maintaining one car, taking into account inflation, in Kyrgyz soms	11900	12495	13776	14465	5,0	121,5

Source: authors research

Table 2 shows the actual and projected increase in the number of passenger cars in the country. At the same time, we see an excess of the projected annual growth in 2025 by 1.5% compared to the actual annual growth in 2022. We believe that the reason for the decrease in the annual growth in the actual number of cars is the annual increase in the costs associated with their maintenance: if in 2021 the average annual cost of maintaining a passenger car amounted to 11,900 kyrgyz soms, taking into account 5% inflation; in 2025, according to forecasts, the figure will increase by 21.5% and will amount to 14,465 soms.

On the one hand, these vehicles, being a source of household income, increase the well-being of the population, that is, they contribute to the implementation of one of the most important conditions of the "green" economy - the reduction and elimination of poverty. Automobile transportation differs from other modes of transport in its mobility, relatively high level of reliability and high availability. One of the priority areas of economic development of the Kyrgyz Republic is the transport sector, which is entering a new phase of development. The "road map" for the development of Kyrgyzstan contains specific infrastructure measures to help Kyrgyzstan overcome the "transport impasse" and become a "transit" country (Kambarov, 2022). Data on the performance of work by various types of vehicles are given in Table 3.

Table no. 3 - Execution of works by road transport in the Kyrgyz Republic (2022)

Title of the labor	**Factual performance**		**In % in relation to previous year**	
	2022	***2023****	***2022***	***2023***
Transportation of passengers by buses, minibuses, thousand people.	455 765,3	502 167,3	103,6	110,2
Transportation of taxi passengers, thousand people.	39 375,5	34 806,1	107,4	113,1
Cargo transportation, thousand tons.	35 913,8	41 291,9	137,3	115,0

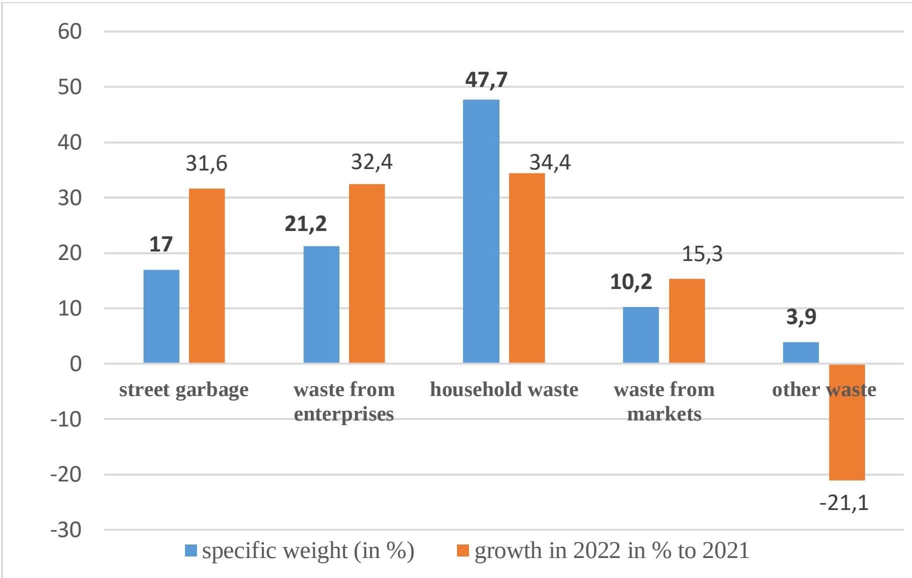
Source: Preliminary data. Source: National Statistical Committee of the Kyrgyz Republic, 2024

The data in Table 3 reflect the growth in passenger transportation by buses and minibuses volumes compared to the previous year in 2022 by 3.6%, and in 2023 by 10.2%. The number of passengers transported by taxi drivers increased compared to last year in 2022 by 7.4%, and by 13.1% in 2023. Freight transportation indicators increased significantly compared to the previous year by 37.3% and by 15% in 2022 and 2023, respectively (National Statistical Committee of the Kyrgyz Republic, 2024).

Consequently, the income of the owners of these vehicles increased from year to year. On the other hand, each passenger-kilometer of a vehicle's mileage results in strong pollution of the atmospheric air with exhaust gases. The most significant harm to the atmosphere is caused by diesel fuel used by minibuses transporting passengers and small cargos. The problem is particularly grave in Bishkek. According to official data, the country's capital was designed for 40 thousand cars, however today over 400 thousand cars are registered in Bishkek. Hence, 90% of environmental pollution in Bishkek comes from vehicles. For fairness sake, it should be noted that measures taken by government agencies contribute to solving this problem: four years ago, 100 buses using compressed natural gas (CNG) instead of diesel fuel began to operate in Bishkek (Official website of the Bishkek mayor’s office, 2024). According to the Bishkek mayor’s office, by the end of 2023, some 427 buses replaced the minibuses on passenger route lines in Bishkek. Gradually, all route taxis will be completely replaced by buses, and it is planned to increase their number to 1,500 units (Kaktus Media, 2023). Such measure is described as a meaningful step towards a "green" economy taken by the state at this stage, at least.

At the same time, the issue of environmental damage caused by the huge number of private cars remains open, among which a large share is made of inexpensive cars with worn-out engines, in which the incomplete combustion of fuel converts some of the hydrocarbons into soot containing resinous substances that significantly reduce the quality of atmospheric air. Another environmental problem in Kyrgyzstan is household waste in populated areas, which creates risks of soil and atmospheric air pollution. The volumes of household waste removed, in addition to other waste, in Kyrgyzstan have been increasing rapidly in recent years (Fig. 3).

Figure no.3 Removal of household waste (solid waste) by type of generation in the Kyrgyz Republic in 2022

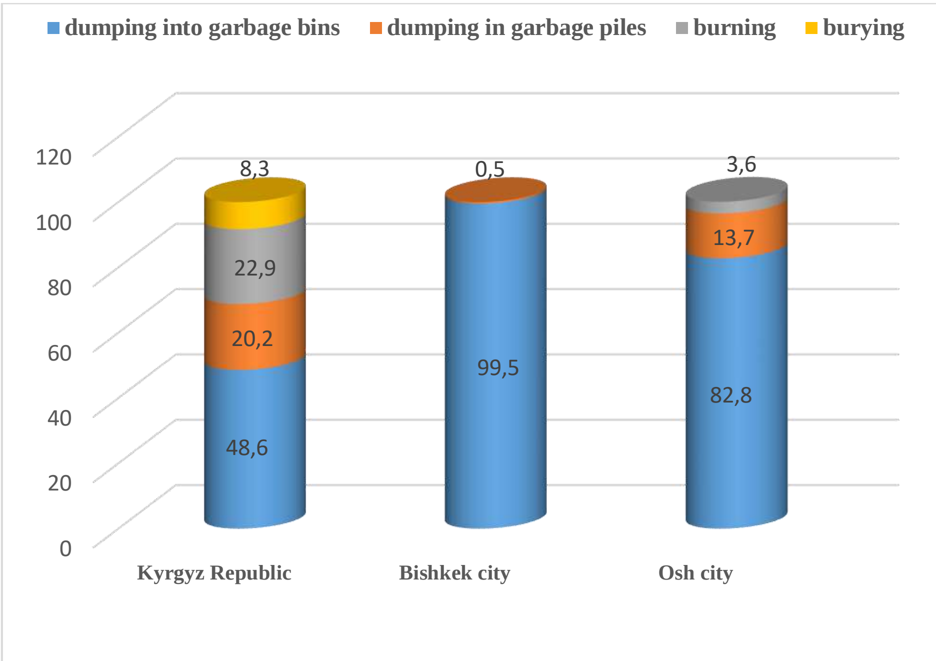


Source: National Statistical Committee of the Kyrgyz Republic, 2023

Figure 3 shows the removal of household waste (solid waste) by type of generation in the Kyrgyz Republic in 2022. It shows that household (family) waste accounts for about 48% of the total volume of waste removed. In addition, we see that this type of household waste generation has shown the highest increase (+34.4%) in the analyzed period. Here, it is necessary to pay attention to the fact that the population has irresponsible attitude towards the environmental issues, throwing away waste that is very harmful to nature as part of household waste. Retail outlets provide plastic bags for free, so people take them away with their purchases in large quantities to use for taking out the trash. The lack of awareness of the population about the extent of harm they cause to the environment plays a large role here. People are also poorly informed about the consequences of their actions. As Figure 3 shows, the second position is held by enterprises (organizations, institutions) with a share of 21.2%, and an annual growth of 32.4%. Next comes street waste with share of 17%, and the annual growth here is 31.6%. Only with repect to waste from enterprises we observe a slight decrease in 2022 compared to 2021, while the share of other waste is miniscule 3.9%.

The analysis showed that production and consumption contribute to the formation of a large amount of household waste. In our opinion, enterprises should be responsible for household waste generated as a result of the consumption of the products they manufacture. The methods of disposal of household waste play an important role in preserving the natural environment. According to published statistics, 4 methods of disposal of household waste are used in Kyrgyzstan (Fig. 4).

Figure no. 4 Shares of different methods of disposal of household waste in the Kyrgyz Republic and in large cities in 2022, in %.



Source: National Statistical Committee of the Kyrgyz Republic, 2023

As we can see in Figure 4, almost 49% of household waste in the country is disposed by dumping into street garbage bins standing outside of residential blocks. Removal by burning is 22.9 %, whereas the collection into garbage piles is more than 20 %, and the burying way of disposal makes for 8.3 %. It is generally accepted that the best method is dumping into street garbage bins, which is 82.8% in Osh, the second largest city, and 99.5% in the capital Bishkek. However, waste from street garbage bins is taken out of the city by special transport, where mountains of landfills are formed. Among the waste, there are many plastic bags, discarded plastic products (broken toys, disposable tableware, forks, spoons, etc.), which, when heated by sunlight, release toxic substances into the atmosphere. The worst way to dispose of waste is burning, which releases a large amount of pollutants into the open air, spreading it further over the city. Burying the waste across the country makes for just 8.3%, and this approach is not used in Bishkek and Osh.

When household waste is buried, the plastic contained in it pollutes the soil. Polyethylene waste varies in the degree of harmfulness to the natural environment. High-density polyethylene, PEHD (HDPE), out of which bottles, toys, food containers, cling film are made, practically does not decompose (the decomposition period is more than 1000 years), but is effectively recycled with proper sorting (Ohrey, 2020).

Thus, production and consumption in Kyrgyzstan, organized on the basis of the principles of a market economy, do not solve the problems associated with poverty, irrational use of natural resources, and environmental pollution, but actually aggravate them even further. In this regard, the need for a "green" economy for Kyrgyzstan is obvious.

Conclusions and recommendations

Summarizing this relatively small but comprehensive research, we came to the conclusion that, at the current stage of development, the basic principles of the "green" economy in the Kyrgyz Republic are not observed. There are many problems associated with ensuring social justice and solving the problem of poverty. The majority share of the nation is rural. In villages, the poverty level remains high. Solving problems requires an integrated approach. In our opinion, among other things, the problem can be solved, to a certain extent, by developing rural tourism as an additional type of economic activity. Rural tourism does not require large capital investments. Rural families have much of what is needed to organize rural tourism. If rural families unite in cooperatives, their chances of success will increase. Rural tourism services can be provided jointly with other types, for example, educational tourism.

The tourist product consists of tourist resources, services, and goods. It can have a variety of contents, since it is determined by the needs of tourists and the desire of the businesses to meet them, to some extent. These resources are natural-climatic, socio-cultural, and historical, entertainment, cult, religious and others that help meet tourist needs. The product of educational tourism is a combination of the tourist product and the product of education. This combination is well integrated and paired to meet the tourist and educational needs of consumers. The combination of tourism and education products can take various shapes. The specific about the tourist product that participates in is static. It includes basic tourist services such as transport, accommodation, and meals. While the product of education may be different. It can be training, seminars, research trips, summer camps and the like. There is a certain variety of the types of educational products that could, together with tourism, make the product of educational tourism (Voleva-Petrova, 2020). Rural tourism in Kyrgyzstan can be presented in the form of jailoo tourism - living in high mountain pastures in yurts (the home of the ancient nomadic people - the

Kyrgyz). The combination of rural and jailoo tourism will increase the attractiveness of this tourism product and will contribute to improving the well-being of rural residents.

Providing rural tourism services based on the principle of "one village - one tourism product" is useful from the point of view of the success of the rural tourism business. In this regard, it is necessary to begin active work in Kyrgyzstan to form a culture of using rural tourism services among residents of cities and urban-type settlements. Measures are needed to promote this type of economic activity in villages, to teach villagers the art of providing rural tourism services. It is necessary to conduct seminars, trainings, courses for villagers in online and offline modes, teaching the art of hospitality and running a small tourist business in villages. Today, even the residents of remote highland villages of Kyrgyzstan use the Internet. This achievement of scientific and technological progress should also be used to benefit the "green" economy.

Positioned in different business niches, entrepreneurs can use the expanding opportunities to simultaneously implement technological and non-technological (including social) innovations, thus contributing to compensating the skill gaps of different groups of persons in the labor market. Opportunities for courses and training that contribute to creating sustainable jobs are expanding (Bogdanova, 2022).

The main conclusion is that the environmental situation in the country is difficult, and there are many problems associated with the pollution of all elements of the environment. At the same time, the government is taking certain measures to solve the most acute of them. For example, in Bishkek, the minibuses providing public transport services are being replaced by buses. Minibuses use diesel fuel, which is very harmful to the atmosphere, and buses use compressed natural gas, which has a low level of negative impact on air quality. It is important to conclude that individual vehicles are a dangerous source of air pollution in Bishkek. We consider it appropriate to oblige vehicle owners to install equipment in their vehicles to control emissions that pollute the atmosphere. A necessary measure is to introduce strict quality control of exhaust gases from vehicles used on Bishkek roads. Of course promoting walking and/or biking habits can contribute to decreasing air pollution.

It is necessary to pay special attention to household waste, which contains environmentally hazardous types of polyethylene and plastic. The solution to this problem is active work with the population to develop responsible consumer behavior. It seems appropriate to introduce strict measures aimed at restricting the ban on the production and import of goods from hazardous non-degradable types of plastic, as is done today in some countries.

It is necessary to study in depth the international experience of countries moving towards a "green" economy and apply it in our country, taking into account the peculiarities of the Kyrgyz Republic. In our opinion, a big step forward towards a "green" economy will be made, if we manage to replace coal with alternative fuel in the near future.

The reality is that in most countries of the world, including Kyrgyzstan, it looks impossible to do without using coal today. Global practice shows that over the past 10 years, almost half of the global increase in energy consumption was covered by coal (Füchs, 2020). However, putting forward up front, the issue of solving this problem by using alternative and renewable energy sources must become a priority. The Ministry of Energy of the Kyrgyz Republic has proposed a radical measure to develop alternative energy in the country by installating solar panels on the roof of each house. This draft law has been put up for public discussion. According to the official document, starting in 2024, all construction companies will be required to equip multi-story buildings under construction with photovoltaic panels. It is proposed to establish a requirement to occupy at least 50% of the free space on the roofs of newly built houses with solar panels, regardless of the form of ownership. This initiative is designed to stimulate the use of renewable energy sources in the country to reduce the level of energy deficit (Eurasia Today, 2024). It should be concluded that Kyrgyzstan's transition to the path of "green" development is a time-consuming process that requires a comprehensive professional approach at all levels, and it should be done immediately.

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INVESTIGATING YOUNG ENTREPRENEUR'S AWARENESS OF CYBERSECURITY: A FOCUS ON STUDENT START-UP PROJECTS

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Abstract

This study investigates the level of cybersecurity awareness among young Algerian entrepreneurs who founded start-ups within university ecosystems. These entrepreneurs are typically assumed to have a higher knowledge base in this domain due to their academic background. We examine five key factors influencing cybersecurity: importance, knowledge, resources, culture, and impact on start-ups. A questionnaire was distributed to 51 young entrepreneurs across various sectors. Statistical techniques were employed to analyze the results. The findings show that while student entrepreneurs have some cybersecurity awareness, there is a considerable knowledge and resource gap. This vulnerability exposes their projects to an increased risk of cyber-attack. Based on the findings, the study suggests a collaborative strategy. Universities and socioeconomic partners should share responsibilities for improving entrepreneurs' cybersecurity skills. This united endeavour will create a safer environment for start-up development while contributing to worldwide growth.

Keywords: *Cybersecurity; Start-up; Awareness; Entrepreneurs; Projects; University.*
JEL Codes: M13 ; L26 ; O31.

Introduction

Cybersecurity is linked to the dimensions of the economy, especially the shift to the knowledge economy, which has adopted information and communication technologies as a means of developing the organization through processed and stored data for use according to specific strategies related to increasing production, controlling costs, gaining customer satisfaction, securing used machines and means of payment, and other

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goals that can be achieved. It is disrupted due to the risk of electronic attacks. Thus, the importance of cyber security arises which accompanies the organization's activity in all of its stages to secure various operations.

Moreover, the rise in cybersecurity incidents has significantly boosted top executives' engagement and increased the awareness of cybersecurity challenges on a large scale. With time, cybersecurity has evolved from a problem at the operational level to a constant strategic concern, involving influential internal (executives, for example) and external (stakeholders) agencies (Zhang, 2020). When awareness of the significance of cybersecurity results in new laws, inclusion in curriculum, training courses, and promotional materials for mobile banking and telecommunications companies, the program is considered sustainable (Changa & Coppel, 2020). For this, it is advised to raise Internet security awareness by teaching users about the many cyber threats and vulnerabilities of computers and data, given society's growth and the changing nature of digital culture (Zhang-Kennedy & Chiasson, 2020).

In this context, recent studies showed a lack of awareness of cybersecurity among university students (Binti Sirat, Othman, Dauda, & Garba, 2020; Mendoza, Roque Hernández, Quezada, & Salazar Hernández, 2023; Hnaif, Derbas, & Almanasra, 2023; Shun Xiang & Hasbullah, 2023), Others highlighted the importance of technical aspects, which exclude the consideration of human factors in cybersecurity. (Jeong, Mihelcic, Oliver, & Rudolph, 2019; Pollini et al., 2022)

However, this paper focuses on students specifically involved in start-up projects. These students might have a higher level of cybersecurity awareness due to the inclusion of workshops on platform/website creation within their university incubator training program.

This paper aims to:

- Provide an overview of cybersecurity ideas applicable to organizations. This clarifies the focus on business concepts.
- Create a preliminary framework for evaluating cybersecurity awareness among start-ups formed by young entrepreneurs and suggest methods to enhance it.

Literature review

Cybersecurity awareness

Cybersecurity is a science searching how to protect information provided and used by companies and keep systems safe from threats. Therefore, there are more investments in this field worldwide through means, tools, and procedures to ensure the protection of the whole. It has become a strategic element that several organizations give importance to; the increasing growth of automated media technologies in various sectors makes cybersecurity an utmost necessity because it protects data from theft and damage, including sensitive personal data, financial and intellectual property, and internal information systems.

Menasri (2023) research highlights that cybersecurity was not a significant concern in the early days of computing due to a lack of information about hacking threats. However, the advent of hacker culture in the 1980s and 1990s, driven by research and curiosity, revealed system weaknesses. As technology advanced in the 2000s, digitalization increased the demand for comprehensive cybersecurity. The risk of sensitive data being kept and transmitted online became more apparent. High-profile cyber-attacks in the late 2000s and early 2010s demonstrated the terrible implications of breaches, resulting in a global growth in cybersecurity awareness.

According to Algerian legislation, cybersecurity includes tools, policies, security concepts, security mechanisms, guidelines, risk and business management methods, training, good practices, safeguards and technologies that can be used to protect electronic communications against any event that would compromise the availability, integrity and confidentiality of the processing or transmission (Law No. 18-04, 2018).

The Global Cybersecurity Index (GCI), first released in 2015, identifies cybersecurity growth areas and best practices to strengthen nations' commitment to cybersecurity. The five pillars listed below serve as the main areas of national cybersecurity pledges according to the Global Cybersecurity Index:

Figure no.1 The five pillars of cybersecurity

Source: ITU-D. (2023). Cybersecurity Program Global Cybersecurity Index – GCIv5 Reference Model (Methodology). Retrieved from https://www.itu.int/en/ITU-D/Cybersecurity/Documents/GCIv5/513560_2E.pdf

Legal measures: legislative instruments, including law, rules and policies.

Technical measures: Technical institutions and frameworks can be used to measure technical measures.

Organizational measures: the existence of institutions and strategies coordinating cybersecurity development at the national level can be utilized to evaluate the effectiveness of the organizational measures.

Capacity development: includes the advancement of knowledge and abilities among the general public, individuals, professionals whose job involves cybersecurity professionals (ITU-, 2023).

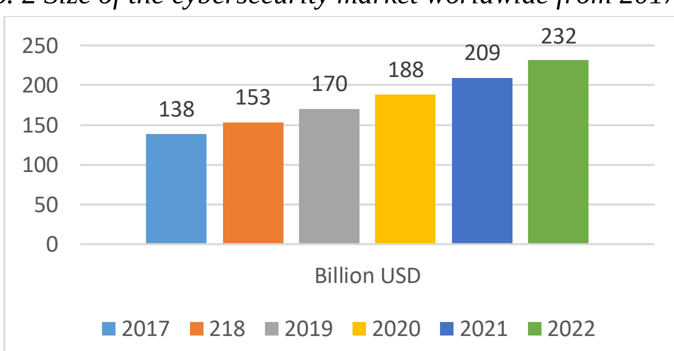
Cooperation measures: enhance dialogue and coordination, enabling the creation of a more comprehensive cybersecurity field of application.

Generally, cybersecurity aims to secure cyberspace, including digital services, by protecting data and systems' confidentiality, integrity, and availability. This encompasses maintaining user privacy, ensuring the legitimacy of electronic actions, and fostering trust in online applications and transactions. Additionally, cybersecurity aims to establish robust security policies and procedures for organizations and countries, ultimately promoting economic growth (Boudaoud, Dahou, & Souag, 2021).

The cybersecurity market is constantly growing, and new trends are emerging yearly. Additionally, being one of the industries' most rapidly expanding markets, it is predicted to expand with developing and established nations' rising internet adoption rates. While writing off cybersecurity as an IT department responsibility was customary, it is progressively taking centre stage in top-level strategic planning. As corporations and governments scramble to secure their networks, a booming market has opened for cybersecurity solutions (Bailetti & Zijdemans, 2014).

Figure no. 2 depicts a significant upward trend in the global cybersecurity market. From 2017 to 2022, the market value nearly doubled, increasing from USD 138 billion to USD 232 billion. This rapid growth highlights the growing importance of cybersecurity solutions in today's digital landscape.

Figure no. 2 Size of the cybersecurity market worldwide from 2017 to 2022



Source: Moiseienko, T., & Kiva, A. (2021). Cybersecurity Startup Investments. Cybersecurity Providing in Information and Telecommunication Systems, in Size of the cybersecurity market worldwide, Statista, 2021.

Table no. 1- GCI results (2020): Global score and rank Africa region (some first contraries) (ITU, 2021)

Rank	Country (Global)	Score	Rank	Country (Africa)	Score
1	United States of America	100	1	Mauritius	96.89
2	United Kingdom	99.54	2	Tanzania	90.58
2	Saudi Arabia	99.54	3	Ghana	86.69
3	Estonia	99.48	4	Nigeria	84.76
4	Korea (Rep. of)	98.52	5	Kenya	81.7
4	Singapore	98.52	6	Benin	80.06
4	Spain	98.52	7	Rwanda	79.95
5	Russian Federation	98.06	8	South Africa	78.46
5	United Arab Emirates	98.06	9	Uganda	69.98
5	Malaysia	98.06	10	Zambia	68.88
6	Lithuania	97.93	11	Côte d'Ivoire	67.82
7	Japan	97.82	12	Botswana	53.06
8	Canada**	97.67	13	Cameroon	45.63
9	France	97.6	14	Chad	40.44
10	India	97.5	15	Burkina Faso	39.98

Source: ITU. (2021). Global Cybersecurity Index 2020. Geneva. Retrieved from https://www.itu.int/epublications/publication/D-STR-GCI.01-2021-HTM-E

The table shows the Global Cybersecurity Index scores for different countries. The United States of America gets the highest global score (100), while 97.5 is the lowest recorded globally. Mauritius has the most incredible score in Africa (96.89), while Burkina Faso has the lowest score (39.98). It demonstrates a huge discrepancy in the cybersecurity preparedness of leading countries and African nations.

Algeria ranked 104 with a score of 33.95, indicating the need to make efforts in this area with the rational transformation to the use of electronic services.

In this context, (Law No. 09-04, 2009) aims to set rules to prevent and combat problems related to information and communication technologies. This including:

- Information system: any separate system or group of interconnected or systems. One or more of them involves automated processing of data to implement a specific program.
- Informational data: Any process of presenting facts, information, or concepts in a form ready for processing within an information system, including computer programs. A proportion that would make an information system perform its function.

- Data related to the movement of the system: any data related to communication through an information system produced by this. The latter is considered a part of a communications cycle, explaining the source of the communication, the destination to which it is sent, the route it takes, the time, date, volume, duration of the communication, and the type of service.

Cybersecurity's challenges awareness:

In information security, awareness refers to the user's ability to recognize or prevent behaviours that jeopardize cyber security. Users' awareness is critical to sensitizing them to associated issues and empowering them to gain adequate knowledge about what related systems are doing and sharing (Liu, Nikitas, & Parkinson, 2020).

Over the past few decades, practitioners and researchers have created a wide range of multimedia teaching tools aimed at non-expert end users to close the knowledge gap in cybersecurity and raise awareness (Zhang-Kennedy & Chiasson, 2020).

Research suggests that successful cybersecurity awareness campaigns hinge on several key factors (Changa & Coppel, 2020):

- Professional Development: Campaigns should be well-planned and organized for maximum impact.
- Focus on Positive Reinforcement: Fear-based tactics are ineffective.
- Engaging Education: More than simply providing information is required. Training should be targeted and actionable, and users should be provided with clear steps. Feedback is also crucial.
- Ongoing Support: Once users are receptive to change, continuing training and feedback are essential to maintain engagement.
- Cultural Sensitivity: Campaigns should be tailored to different cultural contexts and user characteristics.

Sereir El Hirtsi (2023) highlighted some challenges to increase awareness of cybersecurity in Algeria:

- Protecting businesses: Providing cybersecurity resources and protection for small and medium enterprises (SMEs).
- Boosting investment: Encouraging investment in cybersecurity solutions to strengthen national defences.
- Developing a skilled workforce: Investing in education and training to create a pool of qualified cybersecurity professionals.
- Fostering innovation: Establishing business incubators to support cyber-focused companies and opening university programs in cybersecurity.

Cybersecurity start-up

Entrepreneurship has grown significantly as organizations have been compelled to change their strategies to keep competitive and expand beyond the traditional business management model in order to contribute to supporting the economy (Saoud & Meddahi, 2023). In today's digital age, understanding entrepreneurship requires a multifaceted approach (Taylor-Wesselink & Teulon, 2022). The new task has been implementing a business plan to produce new ideas, limit costs, and decrease risks (Orero-Blat, Palacios-Marqués, & Garzón, 2021). This environment of digitalization is creating new ways of exchanging information and altogether new approaches to innovation processes, both within organizations and at the interface with universities or end customers (Schroth & Häußermann, 2018).

As a result of this modern business, start-ups appeared to help countries achieve long-term success. This is due to their potential to create jobs and contribute to national economy.

The start-up landscape is thriving due to mounting economic pressures and the rapid advancement of technology. However, concerns remain regarding the reliability of established and emerging technologies, especially in light of the increasing frequency of cybersecurity breaches. Consequently, start-ups are aggressively investing in the cybersecurity of their new and current digital assets (Nelson & Madnick, 2017; Norval, Janssen, & Singh, 2021).

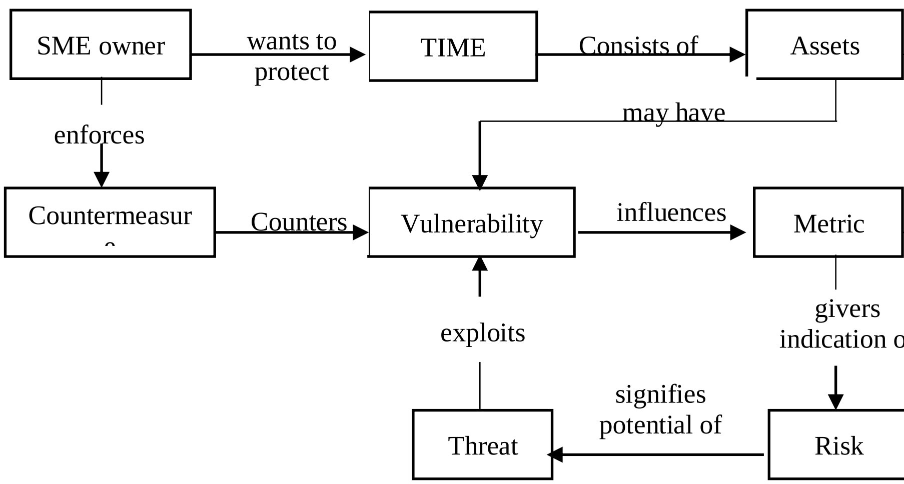
An extensive review of 24 research articles published between 2011 and 2022 found no single framework comprehensively assessing cybersecurity maturity in tech start-ups. While some frameworks share similarities in maturity levels, a gap exists for a unified approach (Marican, Abd Razak, Selamat, & Othman, 2023).

This is why it is essential to consider the security aspects of information security and the compliance dimensions of governance to ensure the application of appropriate policies and procedures with continuous improvement (Jayalath & Premaratne, 2021).

Ozkan & Spruit (2023) discuss start-ups that cannot defend their company against cyber-attacks because they need more financial resources to invest in cyber security. Pratomo (2023) highlights that adequate cybersecurity measures must be put in place by organizations which use digital platforms for financial transactions and information storage. For this reason, instead of focusing their efforts on major corporations, hackers are instead targeting start-ups and other smaller organizations (Marican, Othman, Selamat, & Abd Razak, 2023).

Figure 3 depicts the way the vulnerability-threat-control paradigm helps us assess cybersecurity risk. Assets have weaknesses (vulnerabilities) that attackers (threats) can exploit, causing harm. By measuring these vulnerabilities (cybersecurity metrics), we can understand the risk to an asset. The higher the metric, the greater the risk of a threat exploiting the vulnerability. To address this risk, SME owners can implement controls (countermeasures) to mitigate it.

Figure no. 3 View on cyber-systems to fit a threat-based cybersecurity risk assessment approach for SMEs- Start-ups



Source: Haastrechtet al. (2021). A Threat-Based Cybersecurity Risk Assessment Approach Addressing SME Needs. Proceedings of the 16th International Conference on Availability, Reliability and Security, p: 3. doi:https://doi.org/10.1145/3465481.3469199

Education cybersecurity

Given the importance of cyber security, universities, training centres, and even companies are prioritising it in their training programs.

Changa & Coppel (2020) discuss the importance of security education, which must be focused, possible, actionable, and providing feedback. Guo & Tinmaz (2023) showed that teaching cybersecurity in colleges can significantly benefit students. This education equips them with safe online habits and helps them understand the risks of neglecting cybersecurity. The study highlights the need for targeted programs to address students' weaknesses, further enhancing their online safety. More work has to be done to educate the public, especially students, about cybersecurity and responsible internet usage (Ahamed et al., 2024).

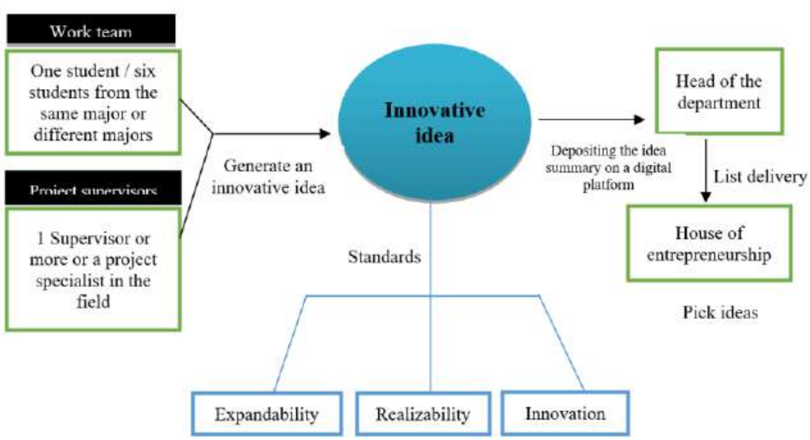
According to a study by Moallem (2019), college students need to be aware of how to protect their data, even if they think that they are watched when they use the Internet and that their data is not safe even on university servers. Furthermore, academic institutions are not actively working to raise college students' awareness of these problems and teach them how to defend themselves against possible cyber-attacks. This approach makes universities responsible even though organizations also create a space for collaboration in training.

Research Methodology

In Algeria, every university has incubators to help with start-up development. The university's incubator intends to boost student innovation by increasing the number of patents registered annually.

A graduation thesis project with a start-up focus combines university degree requirements with entrepreneurship training. This approach aims to cultivate students' entrepreneurial skills and create innovative businesses based on technology and problem-solving (Brachouche, Moussa, & Belgoum, 2024). Students develop a business model, marketing strategy, and financial plan, culminating in a pitch to a jury for funding and potential incubation. Figure 4 shows the process of creating a start-up at an Algerian University.

Figure no. 4 Stages of registering a start-up idea at the university



Source: Belgoum, F., & Benessalah, N. (2023). Start-up and patent degrees' initiative in Algeria: supporting business innovation and creation among university students. Entrepreneurship, 11(1), 21-30. doi:https://doi.org/10.37708/ep.swu.v11i1.2

Sample and data

We chose current graduate (license and master) students known as generation (Z) students, according to Mendoza, Roque Hernández, Quezada, & Salazar Hernández (2023), who are digital natives; they grew up in a technical environment. We distributed 51 questionnaires to a sample of 150 projects registered at the university. Of these projects, 34% were assessed as ready on a managerial and technical level. The distribution by sector and number of employees is shown in the graphs below.

Figure 5. Startup Distribution by Business Sector

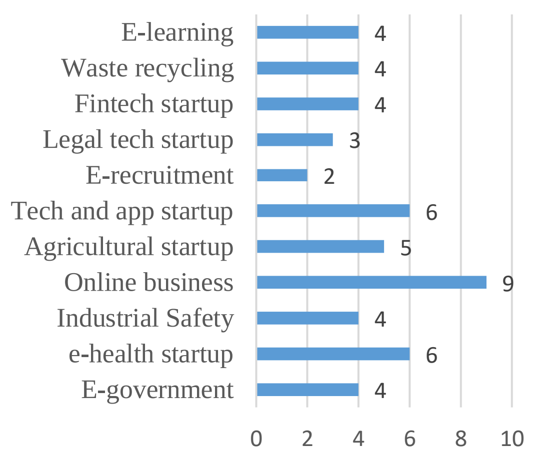
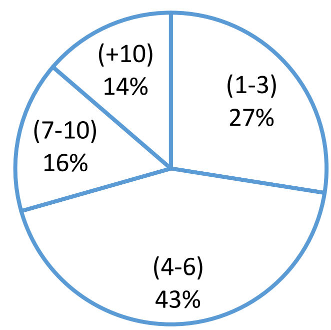


Figure 6. Employee Distribution (%)



Source: compiled by the authors

Measurement

A structured questionnaire will be administered to comprehend the interaction between factors influencing cybersecurity awareness thoroughly. This questionnaire will gather data on several crucial factors: The importance of Cybersecurity, Cybersecurity Knowledge, Cybersecurity Resources, Cybersecurity Culture and the Impact of Cybersecurity.

Each element will be measured using a five-point Likert scale to assess participants' responses. The Likert scale typically runs from "Strongly Disagree" (1) to "Strongly Agree" (5).

Based on their total questionnaire score, start-ups can be classified into various categories of cybersecurity preparedness. Those with low scores are thought to have weak defences and are highly vulnerable to attacks. Start-ups with high scores are believed to have solid defences and are significantly better protected.

Results and Discussion

Results

To analyze the responses from our sample, we employed a multi-step approach. First, we assessed the reliability of our data using reliability tests. This ensures that the data is consistent and can be trusted. Next, we calculated the means for each variable to estimate the respondents' overall level of cybersecurity awareness.

Following this, we conducted an Analysis of Variance (ANOVA) to identify any statistically significant differences in cybersecurity awareness levels across start-up sectors or study factors. Finally, we calculated correlation coefficients to explore the relationships between various variables and cybersecurity awareness.

Table no. 2 - Reliability Statistics

Factors	Cronbach's Alpha	N of Items
Importance of Cybersecurity	0.779	3
Cybersecurity Knowledge	0.889	3
Cybersecurity Resources	0.879	3
Cybersecurity Culture	0.885	3
Impact of Cybersecurity	0.891	3

Source: compiled by the authors (SPSS25)

The Cronbach's Alpha reliability statistic measures a scale's internal consistency. The table above shows that a number between 0.779 and 0.891 indicates high reliability, which means that the scale's components consistently measure the same underlying concept.

Table no. 3 - Descriptive Statistics

Factors	N	Mean	Std. Deviation
Importance of Cybersecurity	51	3,2745	1,19388
Cybersecurity Knowledge	51	2,5294	1,13759
Cybersecurity Resources	51	2,8889	,96762
Cybersecurity Culture	51	3,7778	1,06805
Impact of Cybersecurity	51	4,0131	1,16802

Source: compiled by the authors (SPSS25)

Analysis of Cybersecurity Knowledge and Resources:

The findings indicate a gap in knowledge regarding cybersecurity among student entrepreneurs. This translates to a lack of necessary information to protect their start-ups, including measures, such as:

- Implementing effective cybersecurity measures.
- Training employees on good cybersecurity practices.
- Identifying and mitigating cyber-attack risks.

The average score (2.88) for resource access suggests that students need more tools and support to implement robust cybersecurity practices. This could include limitations in:

- Affording effective cybersecurity solutions.
- Finding qualified cybersecurity experts for assistance.
- Positive Indicators.

Despite the knowledge and resource gaps, the high score (3.27) for the perceived importance of cybersecurity reflects a positive understanding. Students recognize the need for:

- Prioritizing cybersecurity for their start-ups.
- Implementing relevant security measures.
- Mitigating cyber risks.

The high score (3.77) for cybersecurity culture suggests that students value information security and incident response. This indicates an awareness of:

- The importance of protecting sensitive business information.
- The need to report and address cybersecurity incidents proactively.
- The positive Impact of Cybersecurity.

The satisfactory score (4.01) for the impact of cybersecurity highlights its perceived benefits for start-ups. Students acknowledge the positive influence on:

- Building a solid reputation.
- Gaining customer trust.
- Minimizing financial losses due to cyber-attacks.

Analysis of Variance (ANOVA) was used to compare the means of cybersecurity awareness levels among businesses across five categories: legal tech, online business, waste recycling, fin-tech, and agricultural start-ups.

Table no. 3- Analysis of Variance ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Importance of Cybersecurity	Between Groups	49,851	10	4,985	9,311	,000
	Within Groups	21,417	40	,535		
	Total	71,268	50			
Cybersecurit	Between Groups	43,058	10	4,306	7,956	,000

y Knowledge	Within Groups	21,648	40	,541		
	Total	64,706	50			
Cybersecurity Resources	Between Groups	32,703	10	3,270	9,270	,000
	Within Groups	14,112	40	,353		
	Total	46,815	50			
Cybersecurity Culture	Between Groups	49,248	10	4,925	25,289	,000
	Within Groups	7,790	40	,195		
	Total	57,037	50			
Impact of Cybersecurity	Between Groups	60,825	10	6,082	32,928	,000
	Within Groups	7,389	40	,185		
	Total	68,214	50			

Source: compiled by the authors(SPSS25)

The results revealed a statistically significant difference ($p < 0.05$). A post-hoc analysis using Least Significant Difference (LSD) identified higher levels of cybersecurity awareness in legal tech, online businesses, waste recycling, and fin-tech businesses. Conversely, agricultural start-ups needed to exhibit higher levels of awareness. This may be attributed to a greater focus on product development without prioritizing project security.

Table no. 4 - Correlation

		Importance of Cybersecurity	Cybersecurity Knowledge	Cybersecurity Resources	Cybersecurity Culture
Impact of Cybersecurity	Pearson Correlation	,777**	,351*	,534**	,909**
	Sig. (2-tailed)	,000	,012	,000	,000
	N	51	51	51	51

Source: compiled by the authors(SPSS25)

Note*. Correlation is significant at the 0.05 level (2-tailed).

The correlation analysis indicates a positive relationship between cybersecurity factors and cybersecurity impact. This suggests that businesses with more robust cybersecurity measures experience a more positive impact from those measures. It highlights the importance of prioritizing security within businesses.

However, the analysis also suggests that cybersecurity knowledge and resources can be improved. More efforts are needed to enhance these dimensions and ensure a robust cybersecurity posture.

Discussion

Our study highlights a critical discrepancy between students' awareness of cybersecurity's importance and the knowledge and resources they possess to implement it effectively in their projects. While students demonstrate a positive understanding of the need for a strong cybersecurity culture, they need more practical skills and tools to translate this awareness into action.

To bridge this gap and equip students with the necessary cybersecurity skillset, we recommend incorporating security awareness training directly into their academic programs. Cybersecurity experts should deliver this training through engaging workshops complemented by ongoing support as students develop their projects.

A comprehensive plan is required to build a strong cybersecurity culture, which involves educating individuals about internet threats, providing frequent training on cybersecurity best practices, and encouraging cooperation and open communication (Selvan & Fonceca, 2023). As cybersecurity is a rapidly expanding sector of the employment market, and the cybersecurity skills shortage is a global concern, a new method is required to develop the cybersecurity labour force (Da Veiga et al., 2021).

Nobles (2019) analyzes the role of human knowledge. Failure to appreciate the importance of human factors in the field of cybersecurity threatens the existence of institutions, as cybersecurity operations have expanded and become more ambiguous from a technological standpoint, which leads to an increase in the chances of human errors.

While initiatives like the university's recently introduced platform creation training are commendable, they must comprehensively address the broader cybersecurity challenges start-ups face. A more robust approach is required, encompassing platform security and integrating the latest information security techniques throughout every stage of the business development process.

Conclusion

Modern technology has become more prevalent, resulting in a new virtual world alongside the physical one. This "cyberspace" arose from the digital revolution, resulting in an information flood. The ease of accessing information through several communication platforms is unprecedented (Albada & Eleyan, 2024).

Our study revealed a positive cybersecurity awareness among student start-up projects. Students demonstrated a clear understanding of the importance of cybersecurity and a culture of developing information security practices. However, there is a critical need to enhance students' cybersecurity knowledge and provide them with technical and human resources.

This gap highlights the importance of initiatives to train and develop the next generation of cybersecurity professionals, as discussed by (Ng & Kwok, 2017; Belgoum, Entrepreneurship Education in Algeria: Between the perspectives of the University and the Accompanying Partners, 2020). Additionally, implementing the ISO/IEC 27001 information security framework, as endorsed by (ISO/IEC, 2022), can strengthen student start-ups' cybersecurity posture. This globally recognized standard promotes proactive risk management, protects critical assets, and ensures data confidentiality, integrity, and availability.

Universities worldwide recognize the value of equipping students with entrepreneurial training to launch their businesses (Shenkoya, Hwang, & Sung, 2023). However, the responsibility for fostering cybersecurity awareness among student entrepreneurs extends beyond universities. A collaborative strategy involving governmental bodies, training centres and private firms is crucial for achieving this goal.

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THE ROLE OF BUSINESS INCUBATION MECHANISMS IN INCREASING SUCCESS CHANCES OF STARTUPS: A CASE STUDY OF TEBESSA, ALGERIA

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Abstract

This study aims to explore the impact of business incubation mechanisms on enhancing the success chances of startups in Tebessa, Algeria. This exploration involves analyzing pivotal services, such as access to financing, the quality of mentorship programs, collaborative environments, and networking opportunities. Utilizing a descriptive-analytical approach for constructing the theoretical framework, this research adopts a mixed-methods approach that merges quantitative and qualitative techniques for a comprehensive case study. The primary data sources include the INNOEST COMPANY database, the Tebessa University Business Incubator, and interviews conducted with incubator graduates, managers, and mentors. Analysis was executed using SPSS V26 software, with findings highlighting the indispensable role of incubation services in bolstering startup sustainability and success. These findings demonstrate that mentorship programs, collaborative environments, networking, and financial access significantly influence startup success, with a statistical significance level of less than 0.05.

Keywords: *Business Incubation; Mechanisms; Startups; Success Chances.*
JEL Codes: *L26, M13,L21*

Introduction

In the entrepreneurial realm, startups frequently face a multitude of obstacles and challenges as they navigate from concept to a successful and sustainable venture. Business incubation mechanisms have emerged as a pivotal strategic tool for economic development, crafted to furnish a nurturing environment for startups during their initial and intermediate stages. This study meticulously examines the role of these incubation

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mechanisms, incorporating an array of services, in fostering the success and sustainability of startups (Awonuga, 2024, p. 1420).

The global proliferation of the incubation concept, indicates the existence of approximately 7,000 incubators, 2,000 accelerators, and over 500 science andtechnology parks globally by the year 2018(Awonuga, 2024, p. 1420). In this context, the term "business incubation mechanisms" encompasses a variety of models and tools such as business incubators, accelerators, and science parks, both physical and virtual.(Mian S. A., 2021).

These mechanisms are intricately designed to support the growth and success of startups and new ventures by increasing their chances of long-term sustainability. This support is achieved by providing an environment conducive to accessing funding, mentorship, networking opportunities, and workspace facilities (Awonuga, 2024, p. 1422).

The success of startups is of substantial economic importance as it drives innovation, generates employment, enhances industrial diversity, and revitalizes the business landscape. However, the journey from an innovative idea to continued success is fraught with uncertainties and substantial challenges, thereby making it imperative to delineate the key factors that contribute to startup success (Bărbulescu, 2021, p. 02).

Recent years have witnessed a notable surge in the growth of Algerian startups, catalyzed by government initiatives supporting entrepreneurship. Business incubation mechanisms play a crucial role in molding the development trajectories of these startups. Consequently, it is vital to explore how these mechanisms aid in achieving success by examining the strategies, financing mechanisms, mentorship programs, training, and the comprehensive services they provide.

Predicated on the aforementioned, this study poses a critical question: **How do business incubation mechanisms, through their diverse services, contribute to the success of startups?**

To answer the question, we formulated the following hypotheses:

- **H1**: Access to financing through business incubation mechanisms significantly impacts the success of startups.
- **H2**: The quality of mentorship programs within business incubation mechanisms plays a critical role in enhancing startup success.
- **H3**: Collaborative environments fostered by business incubation mechanisms are instrumental in the success and sustainability of startups.
- **H4**: Enhancing a startup's networking opportunities substantially increases its chances of success.

Theoretical Background

Terminology of the Study

Startups:

Startups are defined as entities that initiate a suite of business activities in contexts marked by significant uncertainty, engaging in the process, known as creative destruction. These entities play a crucial economic and social role by introducing innovative services and products that generate revenue, create employment opportunities, add value, and elevate living standards. Startups evolve through a symbiotic relationship with their surroundings by effectively utilizing available resources and engaging with partners and stakeholders within what is commonly referred to as the startup ecosystem (Máté, 2024, p. 01). Startups are considered one of the forms of entrepreneurship (Saoud, 2023, p. 70).

Business Incubation:

The term "business incubation" refers to the process designed to support the survival and accelerate the development of startups through a comprehensive array of services and resources essential for entrepreneurs. This support is facilitated through diverse programs and mechanisms, such as incubators, accelerators, and science parks, which are overseen by specialists with deep expertise in entrepreneurship, as these mechanisms are pivotal in fostering innovation and enhancing competitiveness. The selection of an appropriate incubation mechanism and the ability to fully leverage the support and guidance it provides are instrumental in the creation of innovative and financially independent firms, which, in turn, catalyzes economic growth (Mian S. A., 2021).

Business Incubation Mechanisms

Theories on the Study of the Business Incubation Process

Table no. 1 – Theories Used to Study the Business Incubation Process

Theory Used	Author
Initiating New Projects or Addressing Market Issues: Dealing with issues arising from inefficient resource allocation as a compensation for market failures.	Balsiglia and Allen (1985);Bollingtoft and Ulhoi (2005)
Resource-Based Theory: Incubation mechanisms are viewed as organizations that provide tangible and intangible resources for incubated companies to develop and grow.	McAdam and McAdam (2008);Patton et al.(2009); Todorovic and Mentre (2010); Mian et al. (2012)
Stakeholder Theory: Incubation mechanisms act as a bridge to	Mian (1997); Corana et al.

achieve the goals of partners and stakeholders in the entrepreneurial environment**.**	(2006); Etzkowitz (2002)
Social Network Theory: Incubation mechanisms intensify both the internal and external networks of incubated companies.	Tettermann and Steen (2005); Hansen et al. (2000)
Real Options Perspective: The selection of incubated companies is based on criteria that align with the strategies of each incubation mechanism.	Hackett and Dilts (2004)
Dyadic Theory: Support is produced through the collaboration between the incubation mechanism and the incubated company.	Rice (2002); Warren et al. (2009)
Institutional Theory: Business incubation mechanisms provide incubated companies with a structured approach and rules to reduce uncertainties and risks.	Guerrero and Urbano (2012); Van et al. (2005)
Driving Mechanisms Theory: Each incubation mechanism has an internal policy that includes values and organizes relationships within the incubator.	Ahmed (2014); Bergerik and Norman (2008)
Virtual Incubation Perspective: The incubation mechanism offers the necessary knowledge and ideas for developing entrepreneurial projects.	Nowak and Grantham (2000); Jans and Stern (2003).

Source: (Mian S. L., 2016, p. 02)

Models

Science parks, incubators, and accelerators are foundational mechanisms that enhance innovation, success, and the sustainability of startups through their significant value-added inputs. Choosing the right mechanism, aligned with the specific mission and context of the startup, is critical for achieving the desired outcomes (Mian S. L., 2016, p. 3).

Here is an elaboration of definitions along with a detailed comparison highlighting the key distinctions among each of the previously mentioned mechanisms.

• Business Incubators: As articulated by Bergek and Norrman (2008), business incubators are organizations that furnish shared workspaces, essential services, and networking opportunities to support startups during their nascent stages. The duration of incubation typically averages about two years, although this can vary based on the incubator’s policies and the specific circumstances of the company. According to Honig and Karlsson (2008), incubators facilitate the creation and growth of new companies by offering shared office spaces. They can broadly be defined as business stimulation organizations and more narrowly as business incubators (Hausberg, 2021).

• Business Accelerators: Defined by their time-bound programs, business accelerators offer intensive mentorship and educational services to startups over short periods ranging from three to six months. These programs are designed to connect startups with venture capitalists, angel investors, and seasoned entrepreneurs, supporting companies that have already commenced their operations and are aiming for rapid growth. Accelerators are more selective compared to incubators and culminate with a demo day where startups present their projects to potential investors (Hausberg, 2021).

• Science Parks: These specialized organizations are dedicated to promoting scientific research, facilitating technological flow, and stimulating economic growth. They often represent partnerships among academic institutions, government bodies, and the private sector, offering a range of services that include laboratories, office spaces, and workshops.(Link, 2003, p. 81).

Table no. 2 – Key differences between business incubation mechanisms.

Characteristics	Business Incubators	Business Accelerators	Science Parks
Objective	Support the creation and development of business ventures.	Accelerate business growth.	Support the process of technology transfer.
Provision of Workspaces	Focuses on providing workspaces; there are also virtual incubators.	Sometimes, but the main focus is on providing support services.	Based on real estate ownership.
Service Portfolio	Training workshops for skill development. Guidance for business model development and strategy formulation. Building internal and external networks. Access to funding, seed capital, equity. Various services, such as accounting, specialized equipment, etc.	Intensive training workshops for skill development. Intensive guidance focusing on growth strategies. Connecting with other entrepreneurs and stakeholders in the entrepreneurial ecosystem. Access to funding, seed capital, venture capital, demo day.	Includes R&D units for large companies. Includes incubators and innovation centers. Technology transfer. Connecting with other entrepreneurs and stakeholders in the entrepreneurial ecosystem.
Service Provision	On-demand.	Mandatory and part of the program.	On-demand.

Support Period	Typically up to 3 or 4 years, sometimes longer.	3 to 6 months.	Long-term lease.
Acceptance and Exit Criteria	Acceptance is continuous and focused according to the incubator's policy.	Acceptance is batch-based and competitive.	Acceptance is continuous and focused according to the science park's policy.
Tenant Status	They enter before the startup phase.	They enter after the startup phase.	Acceptance is continuous.
Business Model	Often subsidized and covers operational costs through rental fees, typically non-profit.	For-profit, linked to venture capitalists, private and public investors.	Linked to university research laboratories, may be either for-profit or non-profit.
Growth Directions	Moderate growth rate.	Moderate to rapid growth rate.	Stable growth.

Source (Mian S. A., 2021)

Factors Contributing to the Success of Startups

The evaluation of a country's business environment is often predicated upon the success of projects that have been meticulously established from the ground up (Kubatko, 2020, p. 64). Consequently, the theme of startup success has captured considerable attention among research scholars.

The Success and Continuity of Startups:

The continuity and longevity of startups are delineated by their capacity to realize their predetermined goals, sustain operational independence, and generate a positive cash flow, which is often facilitated through strategic partnerships and stakeholder engagements (Ssekiziyivu, 2021, p. 4).

Factors Supporting the Success of Startups

Product Idea: The conception of a product plays a pivotal role in the success trajectory of a company. It is imperative that the product idea not only fulfills a useful need but also aligns with consumer demands, ensuring its viability and market reception (Kubatko, 2020, pp. 67-68).

- Effectiveness of the Strategic Plan: The efficacy of a strategic plan is mirrored in the company’s vision, mission, and objectives, which should collectively aim at fostering sustained growth. This involves a continuous rollout of new products to adapt to market dynamics, alongside the development of comprehensive financial plans and technical feasibility studies (Tomy, 2018, p. 3).

- Personal Traits of the Entrepreneur: The competitiveness of a company can be significantly gauged through the personal attributes of the entrepreneur, which encompass factors like age, leadership quality, motivation, and vision. Additionally, the entrepreneur’s professional background, educational qualifications, and prior corporate experiences contribute to forging a robust network of relationships, pivotal for growth and success (Kubatko, 2020, p. 68).

- Financial Stability of the Startup: Financial stability stands as the cornerstone for the survival of startups (Crockett, 2013, p. 860). In their nascent stages, startups often lean on the personal savings of the entrepreneur or financial aids from close acquaintances like family and friends. As the startup matures, it increasingly seeks external financing avenues, such as angel investors, crowdfunding platforms, and venture capital, which not only provide capital but also strategic advice and networking opportunities (Suh, 2016, p. 677).

- Support Structures and Facilities: Infrastructures, such as business incubators, accelerators, co-working spaces, and science parks offer critical services including workspaces, training, mentoring programs, seed capital, investor linkage, and networking opportunities (Kubatko, 2020, p. 68).

-Innovation: Innovation manifests through the openness of team members, progressive thinking, a flexible organizational culture, and the development of new products that are in tune with market trends and consumer needs (Kubatko, 2020, p. 68).

Technology: The ability to monitor and harness cutting-edge technologies, coupled with expertise in technical skills and craftsmanship, is essential for maintaining a competitive edge (Park, 2017, p. 4).

Entrepreneurship: Entrepreneurship is characterized by the entrepreneur’s capacity to steer the startup towards success, marked by a penchant for adventure, a drive for achievement, sensitivity to risks, and a clear focus on goals (Kim, 2012, p. 900).

Market: Thorough analysis and comprehension of the market are crucial for discerning its characteristics and dynamics. A company evolves within a marketplace teeming with investors and financiers. In a highly competitive market, vulnerabilities may surface, yet these scenarios also present opportunities to forge strategic partnerships that can alleviate resource scarcities (Tripathi, 2019, p. 60).

The Role of Business Incubation Mechanisms in the Success of Startups

The fundamental objective of business incubation mechanisms is to nurture the growth and development of startups by mitigating the challenges they face and augmenting their chances of achieving long-term sustainability. These mechanisms provide a nurturing environment where resources and expertise are readily accessible, and where innovative ideas can mature into viable business projects (Li, 2020, p. 1822).

The efficacy of these mechanisms in fostering startup success is evaluated by examining several key aspects: Ease of access to funding; Quality of mentorship programs; Availability of collaborative workspaces; Networking opportunities - these elements are crucial components of a successful incubation program (Awonuga, 2024, p. 1423).

Access to Funding and the Success of Startups

Business incubation mechanisms serve as critical conduits to a variety of funding channels, providing substantial advantages to startups in their formative stages (Awonuga, 2024, p. 1423). The funding avenues, facilitated by these mechanisms include:

Initial funding, facilitated by business incubation mechanisms plays a crucial role in transforming concepts into tangible realities. This pivotal capital infusion assists entrepreneurs in developing product prototypes and conducting essential market research. Business incubation mechanisms cultivate relationships with venture capitalists, enhancing connections between startups and prospective investors, which allows emerging companies to present their innovative ideas and developmental progress, securing the necessary funding to foster their growth and ensure sustainability. Additionally, these incubation mechanisms establish vital links between startups and angel investors, who frequently offer financial backing and invaluable mentorship in return for equity stakes. They also enable startups to access government support programs tailored for their growth, and present direct investment opportunities, including joint ventures or partnerships with major corporations. Such collaborations provide startups with not only financial support but also critical access to industry expertise, i.e. the array of financing channels that business incubation mechanisms provide gives startups the essential tools to secure funding vital for their continued growth and long-term viability (Aguiar, 2019, p. 4). Based on these observations, the following hypothesis is proposed:

H1: Access to financing through business incubation mechanisms significantly impacts the success of startups.

The Quality of Mentorship Programs

Mentorship is recognized as an evolutionary process that aligns with the growth trajectory of startups. A robust mentorship program provides sustained support and continuously strengthens mentor-mentee relationships, adapting effectively to the evolving needs of startups as they progress through various stages of development (Aguiar, 2019, p. 5).

Successful mentoring develops the technical, managerial, and interpersonal skills of entrepreneurs to help them start their own businesses (Chahinez, 2023, p. 5).

The significance of mentorship is paramount, particularly during the initial phases of startup development. Mentors bring a profound wealth of experience and insights derived from their own success and challenges within the entrepreneurial landscape. Their guidance serves as a vital roadmap for new entrepreneurs, aiding in the strategic formulation and execution of business plans; moreover, mentors facilitate access to a broad network of collaborators, investors, and industry specialists, expanding the entrepreneurial horizon for newcomers. Beyond professional guidance, mentors also provide emotional support, offering solace and understanding in the high-pressure environment of startup development, thus mentorship extends further into practical realms, enhancing the entrepreneurial skill set with hands-on advice and strategies for navigating the business world (Robinson, 2022, p. 630).

Based on this understanding, the following hypothesis is posited:

H2: The quality of mentorship programs within business incubation mechanisms plays a critical role in enhancing startup success.

Collaborative Environments

Startups that are part of incubation programs benefit immensely from the communal infrastructure provided within these settings. This includes access to shared workspaces, office amenities, meeting rooms, tools, equipment, and, in the case of university-affiliated incubators, research laboratories. The physical proximity of various startups, each working on disparate projects yet within the same incubator, naturally fosters a culture of idea exchange, continuous learning, and mutual collaboration, and this closeness facilitates an environment where problem-solving and innovation thrive through the diversity of thought and brainstorming sessions actively promoted by the incubation facilities. The collective intelligence and shared experiences within these environments prove invaluable, enhancing the developmental prospects of all resident startups (Adeleke, 2019, p. 45).

Accordingly, the following hypothesis is proposed:

H3: Collaborative environments within business incubation mechanisms significantly contribute to the success and sustainability of startups.

Networking

Business incubation mechanisms play a crucial role in orchestrating and nurturing relationships among entrepreneurs and their peers, as well as between entrepreneurs and other vital stakeholders within the entrepreneurial ecosystem. These mechanisms enhance a startup's access to broader external networks by organizing networking events, forging partnerships with investors or academic institutions, and leveraging the personal networks of incubator managers and mentors. Such initiatives are instrumental in amplifying a startup's visibility and operational capacity within the market (Van Weele, 2018, p. 1165). Hence, the following hypothesis is introduced:

H4: Enhancing a startup's networking opportunities substantially increases its chances of success.

Case Study - Methodology and Data

Methodology

In addressing the research problem and exploring the theoretical underpinnings of business incubation mechanisms and their influence on the success and sustainability of startups, this study adopted a descriptive-analytical methodology. This approach involved a comprehensive collection, examination, and analysis of data sourced from a wide range of references, including scholarly articles and authoritative books on the subject matter.

To delve deeper into the practical implications and real-world applications of these theoretical insights, the study employed a mixed-methodology approach that combined both quantitative and qualitative research methods. This methodology was crucial in capturing the complexities of the topic and facilitating a robust interpretation of the research findings. (Tritoasmoro, 2024, p. 185)

A specific statistical technique used in this study was multiple linear regression, which was applied to examine the relationships between independent variables, namely, access to funding, the quality of mentorship programs, collaborative environments, and networking, and their collective impact on a critical dependent variable: the success of startups, defined here as the ability of a startup to survive in the market for at least three years' post-incubation.

Quantitative data for this study were meticulously gathered and processed from the databases of the INNOEST COMPANY business incubator in Tebessa and the university business incubator at the University of Tebessa. These institutions were selected as primary case studies due to their prominent roles in the regional startup ecosystem. Data processing and analysis were conducted using the Statistical Package for the Social Sciences (SPSS), Version 26.

To complement the quantitative analysis, structured interviews were conducted with a selected group of graduates from both incubators. These individuals had successfully founded startups that not only survived but thrived beyond the incubation period. Additionally, interviews were held with incubator managers and mentors, totaling 12 respondents.

The primary aim of these interviews was to gain insights into the specific services and practices offered by the incubators, assessing how these contributed to the startups' post-incubation success and longevity. Interview questions were carefully crafted to align with the study's hypotheses and to extract detailed information on the effectiveness of the incubation services provided.

Study Data

Quantitative Data

The research leveraged data from the INNOEST COMPANY business incubator, which is recognized as the pioneer business incubator in Eastern Algeria with its base in Tebessa. It also utilized data from the university business incubator at the University of Tebessa. The data encompassed records from the years 2021 and 2022, focusing on graduates who achieved the status of "Innovative Project" or "Startup." This designation indicated that these entities had been operational for a minimum of three years following their graduation from the incubator, thus meeting a key criterion for inclusion in the study. Data collection covered 30 companies that had successfully completed the incubation program and had graduated with the designation of either "Innovative Project" or "Startup."

Table no. 3 – Companies awarded the designation of "innovative project" or "startup" in 2021 and 2022

Project Name	Project Description	Specialization
Innoponia	A hydroponic farming project using AI technology.	Agriculture
Snailligent	A smart farm for snail production.	Agriculture
Transgo	An electronic application for transporting goods across the country.	Transportation
Nutrisect	Production of alternative protein feed for animal consumption.	Aquaculture
Presto	An electronic application for transporting people, goods, and food.	Services

Cooknero	An app aimed at cooking enthusiasts.	Technology
Bus time	An app for booking travel tickets.	Transportation
Smartbinx	A smart waste bin.	Environment
Farpan	Recycling palm fronds to produce wooden boards.	Agriculture
Kilial	Production of medical ethanol.	Pharmaceutical Industry
Rapi-bus	An app for booking bus travel tickets.	Transportation
Innoest technology	Production of an oxygen generator.	Industry
BZbooking	A digital app for hotel reservations.	Services
Drivemmes	An app for women's transportation.	Technology
I Pro Booking	An electronic booking platform specializing in tourism and hospitality.	Tourism Services
Tender Travel Boumendjel	An app in the field of health tourism.	Health Tourism
Bricool	An electronic platform connecting craftsmen and customers.	Services
FabroZit	A smart oil press.	Agriculture
Tourineta	A 3D digital archive of archaeological artifacts.	Tourism
Raqin	A digital platform for digitizing teachers' daily tasks.	Educational Technology
Agri Life	Recycling waste.	Environment
Idara Tech	An electronic app linking administrative bodies for digital administration.	Digitization
Marouvesty	Recycling used clothing.	Green Technology
Aqua Safro Tech	Biological saffron cultivation through aquaponics.	Agriculture

T-Tour	A digital platform to promote tourism.	Tourism
Orgacohol	Services.	Services
Sarl Saighi	Services.	Services
Qualif Plus	Technology.	Technology
Miramed	An app for booking medical appointments.	Health

Source: Compiled by the researchers based on the incubator databases.

Qualitative Data

The qualitative dataset was derived from comprehensive interviews with a cohort of startup founders who completed programs at two distinct incubators, alongside conversations with the respective managers and consultants affiliated with these incubators.

Each structured interview spanned roughly 30 minutes and commenced with an elucidation of the research goals, followed by an invitation for interviewees to introduce themselves and describe their startup or the incubator's role. The interview protocol was designed around the core research question: assessing the quality and efficacy of the support and services rendered within these incubation programs. We encouraged interviewees to elaborate on their answers, thereby facilitating deeper inquiry into the nuances of their experiences.

Questions to incubator staff focused on the modalities of support for startups, whereas entrepreneurs were queried about the nature, timing, and reception of the support they obtained. Initially, inquiries were open-ended to capture a broad understanding of the support landscape, subsequently narrowing to more targeted questions regarding their assessments of the support's effectiveness.

Study Variables

The study employs four independent variables to represent the array of services provided within the incubation programs, namely: access to funding, quality of mentorship programs, collaborative environments, and networking opportunities. The sole dependent variable is the success of startups, operationalized as the duration for which each startup remains operational following their graduation from the incubation program, extending for a minimum of three years.

Independent Variables

Table no. 4 – Independent *Variables.*

Code	Variable	Evaluation
X1	Funding Access: The extent to which the incubated company benefits from the funding provided by the incubator and its connection to other funding sources.	1: Weak, 2: Below Average, 3: Sufficient, 4: Good, 5: Very Good
X2	Quality of Mentorship Programs: Provided within the incubation mechanism.	1: Weak, 2: Below Average, 3: Sufficient, 4: Good, 5: Very Good
X3	Collaborative Environments: Marketing, offices, secretarial services, communication with other companies within the incubator.	1: Weak, 2: Below Average, 3: Sufficient, 4: Good, 5: Very Good
X4	Networking: Building internal relationships with companies within the incubator and external relationships with investors and funders.	1: Weak, 2: Below Average, 3: Sufficient, 4: Good, 5: Very Good

Source: Compiled by the researchers.

Dependent Variable

Represented by Y, the success of startups, defined as the continued activity of the startup after graduating from the incubation program for no less than three years.

Results

Descriptive Statistics and Correlation Coefficient

The data reveals an average startup survival rate of 0.33, signifying that only 33% of startups manage to sustain operation for at least three years' post-incubation. This statistic highlights the challenging nature of post-incubation survival in the startup ecosystem.

Table no. 5 – Descriptive statistics and correlation coefficient

No.	Variables	Correlation Coefficient	Mean	Standard Deviation	Response Rate
1	Access to Funding	**0.664	3.206	0.179	Sufficient
2	Quality of Mentorship Programs	0.788**	3.806	0.276	Good
3	Collaborative Environments	**0.718	3.778	0.291	Good
4	Networking	0.701**	3.870	0.380	Good
5	Overall	-	3.665	0.281	Good

Source: Prepared by the researchers based on SPSSv26 outputs.

Table 5 delineates the mean values, standard deviations, and correlation coefficients among the studied variables. It underscores that while 33% of startups successfully navigated the post-incubation landscape, a stark 77% did not.

The analysis of descriptive statistics reveals that 'Access to Funding' garnered a mean score of 3.206 out of 5, classified as sufficient. Conversely, 'Quality of Mentorship Programs' and 'Collaborative Environments' were both well-received with mean scores of 3.806 and 3.778, respectively, each rated as good. 'Networking' achieved the highest mean score of 3.870.

The overall standard deviation stood at 0.281, indicating a relatively low variance among responses, which suggests a consensus in the perceptions of the support's efficacy among participants. Furthermore, the data exhibit robust correlations between the independent and dependent variables, suggesting that the factors studied are significantly associated with startup success.

Linear Relationship between Study Variables and Hypothesis Testing

The analysis of the linear relationships among study variables utilizes the Multiple Linear Regression (MLR) model, a robust statistical technique ideal for interpreting complex interactions and facilitating hypothesis testing (Tritoasmoro, 2024, p. 189).

Table no. 6 – Linear Relationship Between Study Variables

Variable	B	Std. Error	Beta	T	Sig
Constant	2.240	0.310	-	7.000	0.000
Access to Funding	0.420	0.250	0.350	3.133	0.006
Quality of Mentorship	0.750	0.130	0.470	7.084	0.000
Collaborative Environments	0.675	0.160	0.420	6.092	0.000
Networking	0.430	0.210	0.380	3.570	0.002

Source: Prepared by the researchers based on SPSSv26 outputs.

The constant in Table 06 represents the expected value of the dependent variable (startup survival) when all independent variables are held at zero. The significance value (Sig) under 0.05 indicates a statistically significant influence of the constant.

Hypothesis Testing

H1: Access to financing through business incubation mechanisms significantly impacts the success of startups.

The beta coefficient for "Access to Funding" stands at 0.350, suggesting a positive and substantive impact on startup success, corroborating that enhancements in funding accessibility proportionally augment startup viability. The significance value (Sig = 0.006) falls below the conventional threshold of 0.05, substantiating the hypothesis that access to funding significantly influences startup success.

H2: The quality of mentorship programs within business incubation mechanisms plays a critical role in enhancing startup success.

The analysis from Table 6 reveals a beta coefficient of 0.470 for "Quality of Mentorship Programs," indicating a robust positive relationship with startup success. Each incremental improvement in mentorship quality enhances startup survival prospects by a factor of 0.470, reflecting substantial support for the hypothesis. The extremely low significance value (Sig = 0.000) further validates the critical role of high-quality mentorship in promoting startup endurance and success.

H3: Collaborative environments fostered by business incubation mechanisms are instrumental in the success and sustainability of startups.

From Table 06, the beta coefficient for "Collaborative Environments" is 0.420, affirming that collaborative practices within incubation settings significantly bolster startup success. With a significance value of 0.000, the data robustly support the hypothesis that fostering collaborative environments substantially enhances the sustainability and success rate of startups.

H4: Enhancing a startup's networking opportunities substantially increases its chances of success.

The analysis of "Networking" reveals a beta coefficient of 0.380, illustrating a significant positive influence on the success of startups. This suggests that intensifying a startup's network relationships is positively correlated with its chances of survival and growth. The significance value (Sig = 0.002), being well below the threshold of 0.05, robustly supports the hypothesis that effective networking substantially enhances the success probabilities of startups.

Discussion

The findings of this study reveal a stark contrast between the survival rate of startups within the post-incubation period, at 33%, and those reported in more developed entrepreneurial ecosystems. For example, Criaco (2014) reported an 87% survival rate for university startups (Criaco, 2014), and Udisabacti (2022) found a survival rate of 57% (Tritoasmoro, 2024, p. 190).

This discrepancy suggests that although the business incubation mechanisms studied are staffed with qualified mentors and offer well-equipped facilities and comprehensive services, including legal and administrative support, marketing, market research, and event organization, the inherent challenges of the local entrepreneurial ecosystem in Tebessa and the broader Algerian context play a significant role in the lower survival rates observed.

Incubator managers have identified securing adequate funding for startups and attracting investors and venture capitalists as major hurdles. The preference of most investors for larger, more established companies due to the perceived risks and significant financial demands of startups exacerbates these challenges. Despite these obstacles, incubators are committed to providing critical early-stage funding to support the development of initial product prototypes. The disparity in survival rates necessitates a detailed examination and analysis of the entrepreneurial ecosystem in Tebessa and Algeria at large, to pinpoint the specific factors contributing to these outcomes.

The empirical evidence underscores the pivotal role of business incubator services in supporting startup longevity and success, albeit with varying degrees of impact. Among these services, the quality of mentorship programs was deemed most influential, followed by collaborative environments, networking, and access to funding.

Ranked as the most impactful, the mentorship programs at the INNOEST COMPANY incubator in Tebessa are meticulously designed to shepherd entrepreneurs through their startup journey. This encompasses comprehensive legal and administrative guidance, pivotal in navigating the complexities of establishing a startup. Entrepreneurs benefit from the intensive "Be an Entrepreneur" training program, totaling 192 hours, which covers critical topics, such as entrepreneurship fundamentals, market research, the stock market, and intellectual property rights. Furthermore, the university business incubator provides tailored training sessions on crafting a Business Model Canvas (BMC), registering on the "Startup.dz" electronic portal to attain the "Innovative Project" label, and preparing financial statements for startup graduation theses. These extensive training initiatives underscore why superior mentorship is instrumental in steering startups towards sustained success and viability.

Ranked second for its impact, both the INNOEST COMPANY incubator and the Tebessa University business incubator have committed to fostering collaborative environments. These shared workspaces, equipped with comprehensive office services, are designed to enhance communication among startup founders and facilitate the exchange of innovative ideas. Such environments are pivotal in promoting creativity and innovation, thereby significantly boosting the likelihood of startup success.

The incubators diligently work to integrate entrepreneurs with various pivotal stakeholders within the entrepreneurial ecosystem, including investors and governmental entities. This strategic networking aims to open new avenues for startups, enabling them to forge partnerships and expand their operations, which are essential for achieving sustained success. Despite the critical nature of networking, the prevailing lack of entrepreneurial culture in Tebessa and a general aversion to risk-taking dampen the investment rates in startups, presenting a substantial challenge.

While previous research has often highlighted access to funding as a paramount factor in startup success, investors in Tebessa remain cautious, largely due to the inherent risks associated with new ventures. Nonetheless, both incubators actively seek to mitigate these challenges by providing the necessary funding for the development of product prototypes, with the university specifically allocating budget resources or utilizing its innovation platform when required.

Conclusion

This study underscores the pivotal role of business incubation mechanisms in fostering the success and longevity of startups by examining the impact of essential elements, such as quality mentorship, collaborative work environments, effective networking, and accessibility to funding. By prioritizing these components, incubation programs successfully cultivate a nurturing and resource-rich environment that addresses the comprehensive requirements of burgeoning enterprises.

Additionally, the research advocates for ongoing monitoring of startup performance following graduation to ensure their sustained success via continuous support and mentorship. It also calls for regular assessments of these startups' post-graduation performance and recommends that incubation strategies progressively emphasize enhancing direct communication between startups and their customers. This methodology will enable ongoing feedback and necessary product refinements, ensuring that offerings are more precisely tailored to meet market demands and customer expectations.

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MEASUREMENT OF THE IMPACT OF ORGANIZATIONAL STRUCTURE DIMENSIONS ON THE EFFECTIVENESS OF INTERNAL COMMUNICATIONS

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Abstract

The study aimed to measure the effects of the dimensions of the organizational structure: formality, centralization and complexity on the effectiveness of internal communications in the Electricity and Gas Distribution Directorate in the city of Laghouat. A questionnaire was developed with a sample size of 72 employees. Descriptive software analysis of sample characteristics and structural equation modelling were used using the partial least squares method (PLS-SEM). The hypotheses were also tested using the Bootstrapping method. The results revealed a significant effect of the formality dimension on the effectiveness of internal communication. However, the results did not show a statistically significant impact of the complexity and centralization dimensions on the effectiveness of internal communication in the organization. Hence, the present research paper recommends adopting the informal approach to managing organizational tasks. Correspondingly, it is desirable to reduce and merge administrative levels for better effectiveness of internal communications. All of this will have a positive impact on the organization's decision-making process through the availability of timely information.

Keywords: *Organizational structure; Formality; Centralization; Complexity; Effectiveness of Internal Communications.*

JEL Codes :*M10; M20; L20; L22.*

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Introduction

Rapid developments in the field of management and business have made organizations adopt contemporary strategies, especially in the field of administrative functions. The organizational structure is one of the pivotal factors that affect various organizational aspects. In this regard, management theories, with their various orientations, have contributed to scientific management, bureaucracy, administrative theory, and the theory of principles in developing this field of research. The organizational structure is the cornerstone of organizational function because it illustrates the framework of authority and decision-making processes. Organizations must develop an organizational structure reconciling its operational scope and empowering members to carry out tasks effectively. Mintzberg (1998) emphasizes the essential role of organizational design in the success of an organization. Mintzberg's insights into the components of organizational structure and adaptation of structures based on the organization's scope of activities and size help promote effective coordination and division of tasks. An effective organizational structure supports solid internal communication among the organization's employees. In addition, it facilitates the process of making decisions promptly.

On the other hand, the internal communications model is a critical factor in the success of the organization and is closely related to human resources. An effective internal communication ensures that information is exchanged accurately and quickly, crucial for making informed decisions. The communication model within an organization includes methods of exchanging information between employees across various departments and levels. It is necessary for coordination across all organizational functions, strengthening the employee’s social links, and contributing positively to achieving the organization's overall goals. The design of an organizational structure affects its communication dynamics. The organizational structure paves the way for defining roles, responsibilities and hierarchy of authority within an organization. The latter collectively affects the effectiveness of internal communications. Hence, this study explores the effects of the organizational structure dimensions, formality, centralization, and complexity on the effectiveness of internal communications within the Electricity and Gas Distribution Directorate in Laghouat City.

Literature Review

An organizational structure is a framework that defines the relationships between jobs and clarifies the responsibilities of individuals and groups to achieve the organization's goal (Mintzberg, 1972). It is a tool that ensures the division of tasks, the definition of duties, and the coordination between jobs and individuals in the organization (Gholam, Mehrpour, & Nikooraveshb, 2016, p.456). Thus, the organizational structure determines the mechanism by which employees interact with each other at different levels, exchange information, and participate in decision-making (Miguel, José, Javier & Raquel, 2017, p. 2). The organizational structure is how responsibility and authority are distributed within an organization and through which employees carry out business processes (Teixeira, Koufteros & Peng, 2012, p. 70). Hence, an organizational structure is a set of pre-defined roles, relationships, and patterns that interact to achieve the organization's common goal. It represents the functional framework that aligns with the resources and goals set by the organization in its strategy and embodies its culture, which directly affects the company's ability to attract, engage, and retain employees (Dignum, Dignum, & Sonenberg, 2006, p. 219). It is also how an organization divides tasks and ensures coordination at all administrative levels. It mainly depends on balancing functional specialization with coordination between individuals and groups within the organization to achieve the goal of functional integration (Janićijević, 2013, p. 37). Also, Adeoye (2018) stated that an effective organizational structure plays a role in positively influencing employees and their jobs, as an effective organizational structure is always designed to attract and accommodate high-performing individuals and work to achieve the organization's strategic goals. Heintze and Bretschneider (2000) point out that the application of information technology in any organization can affect its structure. For instance, adopting information technology applications may reduce the number of organization members and thus reduce the organization's size. Furthermore, information and communication technology can reduce or increase employment at a certain level within the organization, which leads to significant changes in the organization's structure.

However, Mintzberg (1998) claims five coordination mechanisms, which vary according to the organization's activity and size. Mutual adjustment is used in organizations that have a small number of employees and mostly use informal communication. Direct supervision is applied when the number of workers is large, and the organization needs a supervisor to ensure their coordination. Standardization: There are three types of standardization mechanisms, which differ based on the complexity of the tasks to move from one mechanism to another: standardization of work processes, which is widely used in organizations with production lines; standardization of outputs, which aims to be related to efficiency; and standardization of skills, which is based on acquired experience. In the same context, Fred (2012) proposed five components of the organizational structure. The strategic apex: These components are located at the highest level within the organization. The operational core: These components refer to the members of the work team who are directly involved in the manufacturing or service process. The middle line exists as a link between the strategic apex and the operational core. The technostructure aims to serve the organization by supporting other employees. Support staff sustain the production process indirectly, especially in large organizations.

Generally, the dimensions of organizational structure refer to formalization, centralization, and complexity. Formalization is adherence to rules and procedures according to a hierarchy. Formalism is preferred to promote organizational consistency. Overly formal organizations may limit the creativity of their employees (Schminke, Ambrose & Cropanzano, 2000, p. 296; Daugherty, Chen & Ferrin, 2011, p. 29). Centralization refers to the degree to which decision-making authority is focused at the top levels of an organization (Mahmoudsalehi, Moradkhannejad & Safari, 2012, p. 521). The process of decision-making is very complex and multi-phased (Dimitrieska et al., 2017, p.189) and is viewed as the degree to which lower hierarchical levels partake in strategic decisions (Nowotny, Hirsch & Nitzl 2022, p. 3). It is crucial to know the nature of the organization in this area. For instance, the organization is centralized if the manager makes most of the decisions. Conversely, in decentralized organizations, more authority is given to lower-level employees, and such decisions are made at lower levels (Ghorbani, Noghabi & Nikoukar, 2011, p. 2033). In this regard, the organization's structure influences knowledge management processes by influencing communication patterns between members and determining where decisions are made (Mahmoudsalehi, Moradkhannejad & Safari, 2012, p. 521).

On the other hand, complexity refers to the degree of detail and branching within the organization (Rahmanseresht, Mahmoudi &Ghaderi, 2016, p. 249). It also indicates the number of tasks or subsystems performed or existing within the organization. The complexity increases as the communications and transactions between individuals and groups in the organization increase. The degree of complexity reflects the differentiation within the different elements that make up the organization. Increased complexity indicates multiple administrative levels in the organization (Daryani & Amini, 2016, p. 361).

Communication within management has become a continuous trouble for organizational employees (Chew et al., 2023, p. 4). Communication is a multifaceted process that involves sending and receiving information and often requires multiple attempts to establish mutual understanding through various means (Bayad et al., 2021, p. 17). Internal communication is exchanging information among employees or managers within the organization (Bahchachi, 2021, p. 424). Internal communication is a means of spreading organizational culture and values among employees. It is also a tool for strengthening and enhancing ties among employees. Internal communication helps in aligning employee behaviour with customer needs. Likewise, it helps provide information and awareness about the organization’s goals. Quickly integrating new employees into the organization is one of the essential pillars of internal communication. Internal communication is a specific communication between individuals within the organizational structure. It is also a critical factor in assessing the value of an organization's intangible assets and is associated with higher performance and service levels (Verghese, 2017, p.104-105; Constantin & Baias, 2015, p. 976; Ruck & Welch, 2012, p. 294).

Milly (2020) stated that internal communication in the organization seeks to achieve goals. The most important are clarifying policy ambiguity, correcting misinformation, addressing misleading positions within the organization, identifying strengths, weaknesses, opportunities, and threats, facilitating communication between officials and workers, sharing results and strengthening social ties between employees through communication and participation. In addition, one of the most important goals of internal communication is the effective management of information in terms of understanding, development, and appropriate presentation. For instance, managers use different communication channels to interact with employees. Face-to-face communication is the most effective tool for conveying complex information because it facilitates feedback, natural language, multiple cues, and personal focus. Therefore, effective communication with individuals on specific tasks at different times requires flexible communication behaviors. Hence, managers work to generate the most significant number of effective communication methods and tools to foster communication between employees and their supervisors or colleagues to ensure that information is delivered in a timely and accurate manner (Linjuan, 2015, pp. 3-4).

Research problem, hypothesis and sample

The purpose of the current research is to evaluate and analyze the extent of the impact of the dimensions of the organizational structure on the effectiveness of internal communications in the Electricity and Gas Distribution Directorate in Laghouat. The study relied on the null hypothesis, H0: There is no impact of the dimensions of the organizational structure (formality, centralization, complexity) on the effectiveness of internal communications in the Electricity and Gas Distribution Directorate in Laghouat at a significance level of ($0.05 \leq \alpha$). The questionnaire tool was designed based on the study literature. The distribution targeted the employees of the Gas and Electricity Distribution Directorate in Laghouat. In this regard, (72) questionnaires were distributed. Table No. 1 summarizes the contents of the questionnaire items.

The researchers started by naming each dimension and then describing the abbreviations of the questionnaire questions. For example, the phrases related to the Formalization dimension were abbreviated as F1 to F4. The same approach was applied to the other dimensions and their respective phrases, as follows:

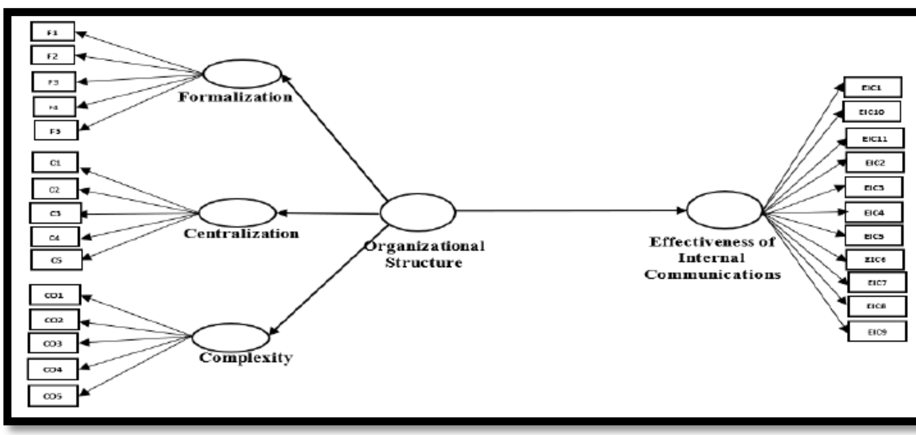
Table no. 1 – Detailed Statement of the Statements Comprising the Survey

Variables	**Dimensions**	**Item**
Organizational Structure	**Formalization**	F1 - F5
	Centralization	C1 - C5
	Complexity	CO1 - CO5
Effective Internal Communication		EIC1-EIC11

Source: researchers' processing

For more clarification on the study model according to the (SEM) through the (PLS) method and using the SmartPLS 4 software, Figure 1 is presented:

Figure no. 1 The general structural model of the study using the Structural Equation Modeling approach



Source: researchers' processing

Table no. 2 – Demographic Characteristics of Employees

Variables		**N**	**%**
Gender	Male	43	59.7
	Female	29	40.3
Age	Less than 30 years old	22	30.55
	Between 31 and 49 years old	37	51.38
	Over 50 years	13	18.05
Academic Qualification	Top Management	8	11.12
	Middle Management	17	23.61
	Executive Management	47	65.27
Experience	Less than 5 years	6	8.33
	10–6 years	31	43.05
	More than 11 years	35	48.61

Source: researchers' processing

It was evident from the above table that the number of male workers was 43, representing about 60% of all workers, while the number of female workers reached 29. This is due to the nature of work in the institution, as most jobs involve physical effort, especially among the technical staff. We also observe that the age group from 31 to 49 years of age was predominant, as this group is in its prime, offering high levels of performance due to their experience in addition to the standard working age. This is followed by the group aged 50 years and older, who are workers mostly with seniority in the institution, and finally, the group aged 30 years and younger, who are newly employed workers, mostly graduates of technical institutes and centers. Regarding the job level, most of the study sample were control and execution agents, totaling 47 workers. This focus on the operational management level was to assess the effectiveness of upward internal communications. This was followed by managerial staff and senior frames. As for seniority, the predominant group had 11 years or more of tenure, with 35 workers, followed by those who had been there from 6 to 10 years, supporting the study results that the majority in the sample are experienced and familiar with the matters related to the study. The least tenured group, with 5 years or fewer, comprised 6 workers.

Evaluation of Measurement Model

Convergent Validity

Table number 3 presents the results of the convergent validity test.

Table no. 3 – Convergent Validity test.

Variable	Item	FL	C R	AVE	Cronbach's Alfa
Formalization	**F1**	0.853	0.928	0.721	0.903
	F2	0.847			
	F3	0.870			
	F4	0.845			
	F5	0.831			
Centralization	**C1**	0.838	0.891	0.647	0.863
	C2	0.762			
	C3	0.907			
	C4	0.789			
	C5	0.714			
Complexity	**CO1**	0.860	0.870	0.666	0.837
	CO2	0.802			
	CO3	0.836			
	CO4	0.763			
	CO5	0.586			

Effective Internal Communication	**EIC1**	0.849	0.973	0.768	0.970
	EIC2	0.826			
	EIC3	0.891			
	EIC4	0.906			
	EIC5	0.922			
	EIC6	0.880			
	EIC7	0.774			
	EIC8	0.908			
	EIC9	0.902			
	EIC10	0.853			
	EIC11	0.918			

Source: researchers' processing

All the items have external loading coefficients greater than 0.7, except for statement CO5, whose loading coefficient is 0.586, which is removed from the final scale. In addition, all Composite Reliability (CR) coefficients are statistically significant and acceptable as they are greater than 0.7, and all Average Variance Extracted (AVE) values are statistically significant and acceptable as they are greater than 0.5. Additionally, Cronbach's Alpha values for all dimensions exceed 0.7, indicating the reliability and consistency of the study tool.

Discriminant Validity Test

Cross-loading test

Cross-loading test refers to an item's correlation with the dimension to which it belongs to be greater than its correlation with other dimensions

Table no. 4 – Cross loading.

Item	Formalization	Centralization	Complexity	Effective Internal Communication
F1	0.853	0.192	0.263	0.426
F2	0.847	0.169	0.275	0.402
F3	0.870	0.230	0.180	0.456
F4	0.845	0.147	0.233	0.370
F5	0.831	0.208	0.173	0.391
C1	0.052	0.789	0.140	0.072
C2	0.267	0.907	0.210	0.259
C3	0.018	0.762	0.065	-0.028
C4	0.224	0.838	0.123	0.193
C5	0.235	0.714	0.131	0.267
CO1	0.258	0.082	0.860	0.107
CO2	0.128	0.148	0.802	0.044
CO3	0.331	0.213	0.836	0.163

CO4	0.060	0.107	0.763	0.018
EIC1	0.439	0.126	0.083	0.849
EIC2	0.316	0.077	0.061	0.826
EIC3	0.461	0.137	0.054	0.891
EIC4	0.363	0.167	0.105	0.906
EIC5	0.394	0.216	0.136	0.922
EIC6	0.436	0.206	0.017	0.880
EIC7	0.459	0.071	-0.072	0.774
EIC8	0.403	0.241	0.132	0.908
EIC9	0.284	0.303	0.130	0.902
EIC10	0.402	0.230	0.094	0.853
EIC11	0.351	0.253	0.203	0.918

Source: researchers' processing

Table 4 depicts that all items are more strongly related to their dimensions than other dimensions, indicating no confounding items in the study model.

Fornell-Larcker criteria test

This test refers to the correlation between variables. The correlation ratio between each dimension and itself must be greater than that of other dimensions. The Fornell Larcker test compares latent variable correlations with the square root of the AVE of the construct. Each construct's square root value should be greater than the highest correlations with any other construct (Rabhi et al., 2023, p54). Table No 5- Depicts the results of Fornell-Larcker criteria test.

Table no. 5 – Variable Correlation test.

Variable	Effective Internal Communication	Complexity	Centralization	Formalization
Effective Internal Communication	0.876			
Complexity	0.116	0.816		
Centralization	0.216	0.175	0.805	
Formalization	0.413	0.265	0.223	0.849

Source: researchers' processing

Table No. 5 reveals no overlap between the study dimensions because their correlation with themselves is higher than other dimensions.

Heterotrait-Monotrait Ratio (HTMT) Criterion test

Table No 6. Shows the results of HTMT test.

Table no. 6 – HTMT test.

Variable	Effective Internal Communication	Complexity	Centralization	Formalization
Effective Internal Communication				
Complexity	0.130			
Centralization	0.221	0.191		
Formalization	0.466	0.276	0.235	

Source: researchers' processing

All HTMT values are below the threshold level of 0.9. Thus, the dimensions have discriminant validity in the study's measurement model.

Evaluation of the Quality Indicators of the Study Model

Model quality indices indicate that the study model is of high quality. The values of (R^2, F^2) were used to evaluate the structural model indices. Table No 7 illustrates the results:

Table no. 7 –Quality Indicators of the Study.

Indicator	Variable	Result	Decision
(R^2)	Effective Internal Communication	0.490	Intermediate
(F^2)	Organizational Structure	0.961	High impact
	Formalization	1.909	High impact
	Centralization	0.015	No effect
	Complexity	0.053	Feeble effect

Source: researchers' processing

The R^2 value estimates the model's explanatory power. Hence, the R^2 value is 0.490; this indicates that the predictor variable of structural organizational dimensions influences 49% of the endogenous variable of internal communication effectiveness. The remaining percentage, 51%, is influenced by other predictor variables. However, for the effect size, it is evident that the organizational structure impacts internal communications, where the impact ratio reached 0.961. This impact was primarily through formalization, with a high impact ratio of 1.909. Meanwhile, the other dimensions (centralization, complexity) had a feeble impact of less than 0.3.

Hypotheses Testing Results

The bootstrap method was used to test the study hypotheses using the SmartPLS-4 program. It is considered one of the modern methods for testing hypotheses and was developed by Preacher and Hayes. It is a resampling test. One of the advantages of this method is that it does not depend on the normal distribution, which makes it suitable for studies with small sample sizes (Badawi, 2019, p. 49). The results of the hypotheses test are as follows:

Table no. 8 – Hypotheses test results.

	Original sample	Standard deviation	T statistics	P values	Decision
O S → EIC	0.700	0.078	8.987	0.000	Supported
F → EIC	0.839	0.061	13.747	0.000	Supported
C → EIC	0.071	0.063	1.132	0.258	Rejected
CO → EIC	-0.137	0.079	1.719	0.086	Rejected

Source: researchers' processing

Note: O S = Organizational Structure; F = Formalization; C = Centralization; CO = Complexity; EIC = Effective Internal Communication

Table 8 shows that the p-value was 0.000, less than the significance level ($0.05 \leq \alpha$). Hence, the main alternative hypothesis of the study is acceptable, which states that the dimensions of the organizational structure impact the effectiveness of internal communications in the Electricity and Gas Distribution Directorate in Laghouat. Also, it is observed that there is an impact of the dimensions of the organizational structure on the effectiveness of internal communications at the Directorate of Electricity and Gas Distribution in Laghouat through the dimension of formalization, where the p-value for this dimension was 0.000, indicating a very high impact, and the first sub-hypothesis was accepted. The other dimensions, centralization and complexity, had no impact on the effectiveness of internal communications, with p-values of 0.258 and 0.086, respectively, which are higher than the significance level ($0.05 \leq \alpha$). Therefore, the second and third sub-hypotheses were rejected because their p-values were higher than the significance level.

Conclusion and Recommendations

The study sought to investigate the effects of the organizational structure and its dimensions on the effectiveness of internal communications in the Electricity and Gas Distribution Directorate in Laghouat. The literature reviews dealt with the organizational structure and internal communication as they affect many variables, the most prominent of which are the effects that affect the performance of employees and the development of creativity among employees; after the theoretical and field study, the following set of results were reached. The organizational structure represents the scope of supervision and responsibility and defines the powers of individuals according to the hierarchy. The organizational structure ensures coordination between functions and administrative levels and determines the patterns of institutional communication. The organizational structure has five mechanisms that ensure coordination between functions and levels. These mechanisms are joint consensus, direct supervision, standardization (processes, results, qualifications), and the transition from one mechanism to another through the size of the institution and the degree of complexity. The organizational structure also consists of five units: the strategic summit, the hierarchical branch, the operational centre, technicians, and support functions. Among the models used in studying the organizational structure are those concerned with the degree of formality, centralization, and complexity. On the other hand, internal communication is a process through which information is transferred and exchanged between individuals within the organization through many means of communication to achieve goals. Internal communication cultivates a culture of participation and teamwork and strengthens social ties among workers. In addition, internal communication enhances a good understanding of information and its exchange at appropriate times to make effective decisions. There are many means of internal communication, including personal interviews, Internet and social networking sites, written communication, or e-mail. However, it was found that face-to-face communication is the most effective means of communication.

The field study using the statistical program Smart PLS-4 indicated that the study model indicators are significant. The convergent validity evidence Factor Loading, CR, AVE, and Cronbach's Alpha results are excellent. The discriminant validity evidence represented by the fit index (cross-loading), the variable correlation CV, and the HTMT test demonstrate no overlap between the statements and axes. The model quality indicators are good, especially the effect size indicator (F^2). The dimensions of the organizational structure affect the effectiveness of internal communications in the Electricity and Gas Distribution Directorate in Laghouat through the formality dimension, which had a very high degree in the institution. Also, the degree of formality significantly affects the effectiveness of communications in the Electricity and Gas Distribution Directorate in Laghouat.

In contrast, the degree of centralization and complexity does not affect the effectiveness of internal communications in the Electricity and Gas Distribution Directorate in Laghouat. The study recommends relying on the informal framework to enhance the social relations of employees in the organization. It enhances cohesion among the individuals working in the institution through informal organization. Encouraging work in a team system by developing training programs for workers and urging them to work as a team. Adopting an organizational structure that aligns with the organization's field of work and adopting the project structure in the projects carried out by the institution. The study points out the necessity of relying on oral means of communication between employees and reducing the degree of formality in employees' dealings with each other. The informal framework achieves the goals of a formal organization if the goals are consistent and compatible.

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Appendix

code	item	Strongly disagree	disagree	neutral	agree	Strongly agree
F1	The organization is keen to follow the sequence and gradation of authority to complete the task.					
F2	The organization is keen to illustrate official relationships clearly.					
F3	The organization has all procedures and guidelines in writing form.					
F4	The organization follows up on various instructions to accomplish tasks.					
F5	The Communication between units is done formally according to regulations and instructions.					
C1	The organization has an appropriate organizational structure to complete tasks efficiently.					
C2	Formulating goals for the administrative unit involves several procedures, the most important of which requires senior management's decision.					
C3	The organization is keen to distribute authority effectively.					
C4	The organization is distinguished by the participation of all individuals in decision-making.					
C5	The organization is keen on the autonomy of the responsible person to make decisions related to his work without referring to higher levels.					
CO1	The organization is accurate in determining the tasks of individuals.					

CO2	There is difficulty in carrying out tasks according to the laws and procedures followed.					
CO3	The organization is keen to illustrate the duties of its members and the level of their authority without difficulty.					
CO4	Individuals perform various tasks when carrying out their activities.					
CO5	Individuals are trained, and the relationship between all levels is constantly clarified.					
EIC1	Formal and informal procedures for communication and coordination are established within the organization.					
EIC2	Communication tools are diverse and effective.					
EIC3	The Administration has sufficient information to integrate and coordinate administrative functions.					
EIC4	There is a trend among managers to enhance their capabilities and skills using formal communication.					
EIC5	The communication process involves all organizational levels.					
EIC6	Information reaches all members of the organization clearly and understandably.					
EIC7	For informal communication, the organization seeks to hold informal meetings.					
EIC8	Horizontal communication achieves the quality of consultation, participation and coordination.					
EIC9	The administration treats informal communication as an existing reality that is used to benefit its business and objectives.					
EIC10	Internal communication contributes to making decisions that support strengths and improve weaknesses.					
EIC11	Managers prefer to provide instructions and tasks verbally.					

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EXPLORING THE IMPACT OF SOCIAL INNOVATION ON EMPLOYMENT OPPORTUNITIES FOR PEOPLE WITH DISABILITIES: AN ASSESSMENT OF EFFECTIVENESS AND OUTCOMES

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Abstract

The European Innovation and Solidarity Policy emphasizes the importance of innovation in socio-economic systems to improve social well-being, including in terms of people's participation with the revival of the labor market. The main forms of application of social innovations can be summarized as follows: "social", where communities are organized on a democratic and social basis; "ecological" in which solidarity with the community is seen as a value system oriented towards the individual; and "economic" where the most disadvantaged groups participate fully in the labor market. At a time when social systems are facing various challenges, good practices are needed to integrate people with disabilities into the labor market. By disseminating the results of these innovative practices, there is potential to modernize labor market institutions and effectively address existing barriers to the employment of people with disabilities. After briefly describing the role of economic and social innovation in enabling the most disadvantaged to participate in the labor market, this topic provides a new overview of the application and potential of social innovation in the context of socio-economic systems. Social innovations, depending on their nature, are applied in different sectors and regions to improve social welfare.

Keywords: *social economy; social innovations; solidarity; disadvantaged groups; labor market.*

JEL Codes: *A13, D63, J14, O35, F55*

Introduction

The challenges that people with disabilities face in accessing employment opportunities are multifaceted and pervasive. One significant obstacle is the prevailing stereotypes that hinder the improvement of the employment prospects of this demographic group, which necessitates an urgent need to eradicate them (National program for employment and training of people with permanent disabilities, 2024).

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Innovation is no longer only seen as a linear process, but as a collective and cumulative process based on accumulated knowledge (Mulgan et. al, 2007). Social innovation has become a ubiquitous term in various articles, practice-oriented reports as well as academic contributions (European Commission, 2016, Mulgan et. al., 2007). Social innovation is the subject of research by various authors. In Bulgaria researchers publish various studies on the topics of social innovation, social entrepreneurship and the Bulgarian experience.

Welfare economics links competitive equilibrium to resource allocation, showing an interdependence between welfare and economic development (Welfare economics, Deardorff's Glossary of International Economics). Economic solidarity is an integral part of the overall policy of social justice. The European Union defines the risk of poverty as an income below 60% of the average household income. (Edwards-Schachter & Wallace, 2017).

The ESF Social Innovation+ initiative promotes innovative solutions to social challenges, including employment, education and social inclusion. The European Competence Center for Social Innovation promotes the transfer and/or scale-up of social innovation, including multiple types of actions. These projects conceptualize and validate tested approaches, help deploy proven models across Europe, or help social innovation support organizations improve their capabilities (ESF Social Innovation+ initiative). This includes social markets, communication platforms between socially responsible employers and social enterprises, and ecosystems (communities) for people with reduced employment opportunities who are actively looking to start a job, change career or self-manage (MLSP, 2021).

The Role of Economic Social Innovation in Providing Opportunities for the Participation of the Most Disadvantaged Groups in the Labor Market.

Innovative approaches are essential to address the barriers disabled people face in the labor market. By implementing social innovations that provide a combination of income support, active employment support and disability support, people with disabilities can be empowered to overcome challenges and secure meaningful employment opportunities.

In recent years, innovation has seen and seen an essential role in the

competitiveness and success of businesses. The importance of innovation has led to many scientific researches and has become a broad topic, which is generally perceived in a different way (Yuleva, 2019).

Those decisions not only overcome poverty but maintain the principles of equality, autonomy and dignity of people with disabilities by stimulating their inclusion in the labor power. Creating awareness, advocating for a barrier-free environment and facilitating the reintegration of disabled workers into the corporate culture are key steps supported by social innovations to improve the labor market participation of people with disabilities (REPORT Towards equal rights for people with disabilities).

As part of implementation of the National Plan for Recovery and Stable Development of Bulgaria, the Ministry of Labor and Social Policy plans to provide over 26 mils. BGN by 2027 in support of the social and solidarity economy, with a special emphasis on the social economy and the development of human resources. Those funds will have a direct impact on approximately 4200 persons from disadvantaged groups. Approximately 20 mils. BGN will be invested in social innovations (MLSP,2022).

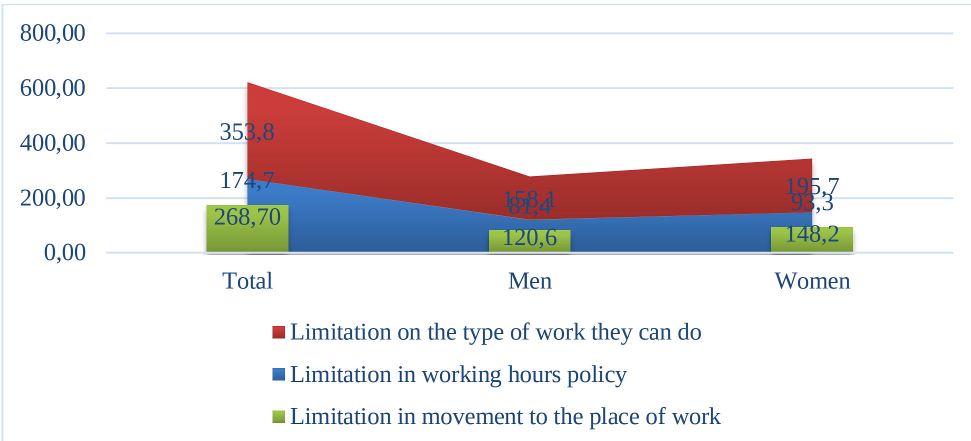
The "Development of Human Resources" program for the period until 2027 will support the national priorities such as education, social integration, and indirect industrial development by contributing to the key priorities: Priority 1 „Education and Skills "– on life-long education, non-formal vocational training, digital and ICT skills and the mismatch between labor market needs and skills supply; Priority 11 "Social inclusion" from the National Plan for Development "Bulgaria 2030" - employment, stimulation of labor market for vulnerable groups, reducing social inequalities, self-employment and social entrepreneurship. In addition, in the period until 2027 the "Development of the Human Resources" program will contribute indirectly for the fulfilment of Priority 3 - "Intelligent Industry" related to Industry 4.0. In such a manner, the good practices, aimed to integrate people with disabilities in the labor market, contribute to the solution of problems related to the social systems.

Improving the skills, socio-economic development and creating stable jobs (including for people with disabilities) are key elements for innovations, which support the labor market. Despite the progress in Bulgaria's socio-economic development, social entrepreneurship still lacks public recognition due to non-financial processes and mechanisms evaluating work activity, which differ from traditional economic activity. (Narlev, 2016). In Bulgaria, the integration of people with disabilities into the labor market through the mechanisms of the social economy is essential. Social enterprises implement good practices, including finding and providing real employment. The ways of identifying vulnerable groups are many and varied, but interdependent and affected by social, economic and physical environmental factors (Lalonde, 1974; Labonté 1993).

The share of persons with up to 50% permanently reduced working capacity/type and degree of disability is the smallest - 53,782, or 8.5%. People with at least one type of permanent health impairment and/or permanently reduced ability to work have different restrictions regarding the type of work, the duration of working hours and commuting to work.

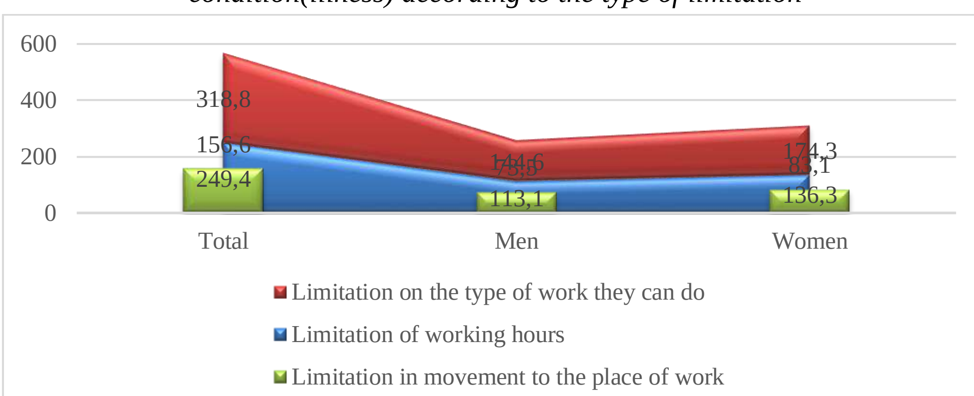
In figures 1, 2 and 3 is presented the data of NSI for persons in the age of 15-64 with at least one type of permanent illness and/or permanent reduced workability with respect to the type of limitation.

Figure no. 1 Persons in the age of 15-64 with at least one type of permanent illness and /or persistent difficulty in performing daily activities



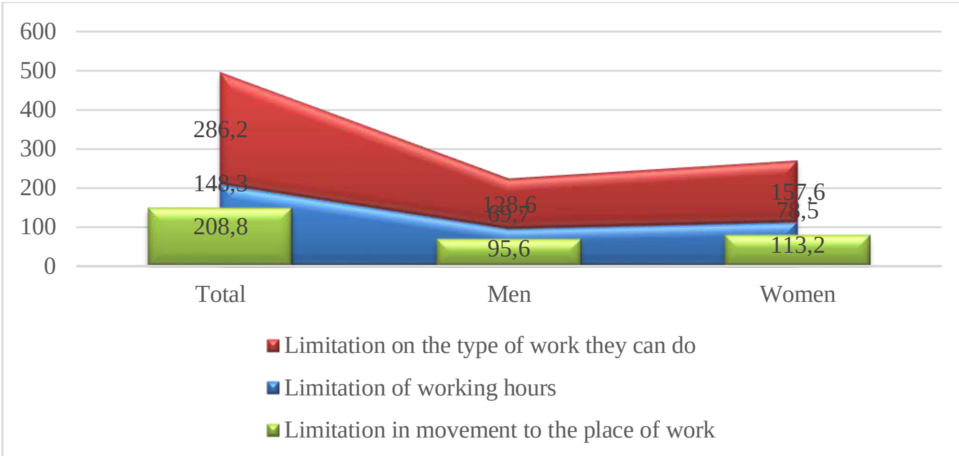
Source: NSI

Figure no. 2 Persons in the age of 15 - 64 with at least one persistent condition(illness) according to the type of limitation



Source: NSI

Figure no. 3 Persons in the age of 15 – 64 with at least one persistent difficulty in fulfilling daily activities depending on the type of limitation



Source: NSI

According to the findings the barriers in front of the integration of the persons with disabilities in the labor market delay the process of engaging people from that vulnerable group into the labor market. Of great significance is the limitation in the type of work they can do, followed by commuting and length of working hours. People with disabilities are more often economically inactive in comparison to people who do not possess any health impairments. Low levels of education among the majority of unemployed people with disabilities is also one of the causes of income inequality, poverty, social exclusion and isolation of that vulnerable group. The combination of factors such as low or average education and qualification, health conditions and lack of skills make that vulnerable subgroup extremely uncompetitive in the labor market.

Ultimately, integrating people with disabilities into the workforce not only improves their social inclusion and financial independence but also contributes to positive results in the overall economy, highlighting the importance of social innovations to promote equality and diversity in all sectors of society. (Ilcheva, 2020). In an effort to improve employment opportunities for people with disabilities, various successful social innovations have emerged. One such innovation is the introduction of measures aimed at increasing the employment of people with disabilities. By focusing on improving access to social inclusion services for disadvantaged people, these measures have facilitated the integration of people with disabilities into the workforce. Initiatives that seek to improve access to social and health services for people with disabilities have played a crucial role in creating a supportive environment for people seeking employment opportunities. In addition, measures aimed at re-entering the labor market for family members who take care of people with disabilities have not only eased caregiving responsibilities, but also indirectly contributed to the increased participation of people with disabilities in the labor force. By implementing these innovative approaches, societies can work to create a more inclusive and supporting environment that enables people with disabilities to secure meaningful employment opportunities.

Conclusion

The barriers faced by people with disabilities in accessing employment opportunities are complex and multifaceted, encompassing both physical barriers and social and economic constraints. The measures aim to address these challenges by improving access to social inclusion services, providing support for the integration of disadvantaged people into the labour market and society at large.

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ASPECTS OF SOCIAL VULNERABILITY AFTER RETIREMENT AMONG THE MOHAMMEDAN POPULATION IN BULGARIA. A PILOT STUDY.

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Abstract

The present study examines the sense of social vulnerability among the elderly Bulgarian-Mohammedan population in the underdeveloped rural and mountainous regions of Southwestern Bulgaria.The problem is especially acute for the elderly because, at the end of life, they should usually be most satisfied with life and what they have achieved, but it seems that this is not the case in Bulgaria at all. The elderly population is also among the most vulnerable groups because they have limited financial resources and physical strength, and are more dependent on the care of institutions, relatives, and society. The present pilot study was carried out through a field study (survey) of participants and an interviewer from the local population. For this purpose, specific research methods are developed, including a special questionnaire and research instructions. The results are summarized, analyzed, and presented in this innovative study on the territory of Bulgaria. The resulting data reveal the aspects of life that worry the elderly the most and that bring them the greatest satisfaction. Surprisingly, it is not limited to income and financial funds. The results obtained are intriguing and can inform the creation and updating of state and local policies to improve the sense of quality of life and satisfaction among the elderly population. Research should be extended to other areas of the country to cover a larger percentage of Bulgaria's elderly population for even more precise results.

Keywords: *social vulnerability; Bulgarian-Mohammedan; elderly population; rural areas; mountainous areas; social problems.*

JEL Codes*: Q5, Z13*

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Introduction

The elderly population has traditionally been among the most vulnerable groups in any society. For the Bulgarian-Muslim population in Southwest Bulgaria, the situation is even more challenging. They face numerous economic, social, and cultural challenges that require particular attention to the situation of this social group. According to Filipova, Yuleva-Chuchulayna and Iliev, the dynamic development of scientific and technical achievements of today, the integration of digital technologies into everyday life have a tangible impact on the functioning of all spheres of social life, which in global terms poses updated challenges to humanity that require a response (Filipova, Yuleva-Chuchulayna & Iliev, 2021).

This scientific article presents a pilot study on the social vulnerability of the elderly Bulgarian-Muslim population conducted in the village of Ribnovo, Southwestern Bulgaria. The article provides data collected from interviews with elderly individuals in the village who identify as Bulgarian-Muslims.

The study aims to contribute to a better understanding of the issues faced by the elderly Bulgarian-Muslim population in Southwest Bulgaria and to draw attention to the need for more effective social and legislative solutions and support for this vulnerable social group.

The concept of social vulnerability encompasses the lack of conditions and prerequisites for leading a dignified and ful filled life, restricting personal choice, as well as the inability to fully participate in public life. Vulnerability from a socio-economic perspective is characterized by insufficient opportunities to meet basic life needs, a lack of opportunities to find decent employment, a lack of access to productive resources, and a lack of social protection (Damyanova, 2014).

Studies on the social vulnerability of the elderly population are an important task from a philosophical standpoint, as they help us better understand what it means to be an elderly person in contemporary society. In addition to the usual daily challenges of sustenance, shelter, and mobility (Crooks, 2009), these individuals also face health issues, living with almost constant physical pain, difficulty in mobility, fear of death, lack of sufficient communication with children, grandchildren, and loved ones, limited access to adequate healthcare, impaired vision limiting their access to information and entertainment both in-person and online, reliance on medications, and many other problems, including suicidal behavior (Patel, 2022).

So, someone needs to ask these people – how they live, how they cope, what weighs on them the most, and what brings them the greatest joy in their daily lives? This is the main task of the present pilot study.

Elderly individuals face numerous economic, social, and cultural challenges. Research on their experiences helps us understand what it means to grapple with issues such as poverty, healthcare, isolation, and discrimination.

The challenges confronting the elderly highlight the importance of creating a society that recognizes and supports their rights and needs. As active citizens, we must engage in the question of what constitutes a just society and how we can ensure equal opportunities for everyone, including the elderly.

As stated by Comi et. al (2022), a substantial body of literature has focused on investigating how retirement impacts various facets of individuals' lives, such as consumption habits, lifestyles, and health status. This extensive research includes works by Banks et al. (1998) and Coe and Zamarro (2011). However, comparatively less emphasis has been placed on exploring the connection between decisions related to retirement and the social networks of individuals.

Studies on the social vulnerability of the elderly population are necessary to discover ways to assist these individuals and understand what is essential for their well-being. Such research can help us better comprehend what it means to be a person in a society that often fails to care for its most vulnerable citizens. Additionally, it can draw attention to the need for more effective social and legislative solutions and support for these individuals, as they require our assistance.

Research Methods

The present study is limited in scope, time, and resources. Its objective is to examine aspects of social vulnerability among the elderly population in the village of Ribnovo, Garmen Municipality, and it does not have the character of a comprehensive investigation into the social vulnerability of the population of Bulgaria. It paves the way and proposes a methodology for conducting similar studies.

Due to the lack of a clearly defined methodology for measuring social vulnerability among the elderly population in rural mountainous areas in Bulgaria, a basic methodology has been developed for the needs of the study. This methodology can serve as a foundation for future observations, inevitably undergoing refinement and corrections.

The developed methodology is based on the use of a qualitative research approach. The qualitative aspects of the study seek the subjective perceptions of the population regarding the social and economic problems that arise in retirement. For this purpose, a specific survey form tailored to the needs of the study was developed, through which information was collected directly from village residents falling within the target group of the study, i.e., retirees. They shared their personal perceptions of their problems, which is particularly valuable since personal and subjective perceptions often elude mass statistics.

The following scientific methods were employed during the course of the study:

- Development of Ad-Hoc materials tailored to the needs of the research – survey forms.
- Conducting a field survey to gather primary information on the topic.
- Analysis and synthesis of the collected primary information.
- Visualization and presentation of the data and results to the public.

The study is conducted anonymously to enhance the credibility of responses among the respondents.

Results and Discussion.

The present study focuses on the village of Ribnovo, Garmen Municipality, for several reasons:

The first reason is that the target group of the study is the elderly rural population living in mountainous areas. As previously mentioned, the study is part of a much larger, comprehensive picture of the vulnerability of the elderly population from a socio-economic perspective, which will be formed by means of future comprehensive studies of the population of Bulgaria.

Another important reason is that there is relatively less known information about the socio-economic problems of the residents of Ribnovo compared to other regions in the area. Thus, the information gathered during the study will have even greater value and will certainly be of scientific interest.

Socially vulnerable individuals are those who are at risk of one or several forms of social exclusion (also referred to as "social falling/outfall"). Overcoming social exclusion can be considered a fundamental human right. No one should be left without support, if they fall into such a state; therefore, state and local authorities in Bulgaria have various levers of influence.

The methodology of the current study is essentially an Ad-Hoc methodology, meaning it is created specifically for the particular case. Based on the accumulated knowledge on the topic during the preparation for this study, a specific survey form was developed. This survey aimed to gather information on the subjective perceptions of the elderly people in the village regarding their social and psychological vulnerability.

The survey form included questions about the most negative aspects of their daily life status (Figure 5), intending to present them to the public for discussion and resolution through collective efforts.

Additionally, questions about the most positive aspects of retirees' lives in the village were included in the survey form (Figure 4). These aspects should be supported by society, municipal, and state policies to expand opportunities for socialization, entertainment, and social services available to these residents. This would enhance the quality of life for elderly people in Bulgarian villages.

The subjective (personal, internal) attitudes of the population and the feeling of social isolation and injustice do not always correspond to the financial, monetary, or other quantitative results reported by social and economic statistics. Therefore, revealing them requires an individualized approach.

Many factors influence the assessment of the quality of life, i.e., the physical, spiritual, and health states, depending on an individual's value system, cultural environment, and more. The various concepts of quality of life are interconnected, indicating three distinct components – health, happiness, and lifestyle (Grigorova & Obreshkov, 2014).

The present study is based on scientific principles and adheres to good practices in scientific research, which is a prerequisite for the obtained data to be trusted. The fieldwork was carried out conscientiously and ethically (Figure 1).

To maximize the reliability of the results, the village residents were personally interviewed by a local resident, an assistant to the author, following instructions. Participation in the study was voluntary and anonymous.

In the field study, 10 elderly individuals, residents of the village of Ribnovo, Garmen Municipality, participated. At the outset, the profile of the participants was examined, considering gender, marital status, and household type.

The **first stage** of the research summarized the participants' profile by gender. Three men and seven women were interviewed. While these values do not fully overlap with the male/female ratio in the village, there is a trend observed (as is on a national scale) where the female gender tends to be in a dominant position compared to the male gender among the elderly population. There were no declared affiliations with other genders, nor were there participants who preferred not to disclose their gender.

The **second stage** of the study revealed the profile of the participants' marital status. Marital status shapes not only objective but also subjective aspects of well-being in an individual's life. Objectively, individuals living with a partner typically benefit from two incomes or pensions in the family, share expenses for sustenance, house maintenance, etc. Their situation is more favorable from a purely economic standpoint.

Subjectively, a person is happier when not alone or lonely. According to the National Statistical Institute of Bulgaria, individuals who live alone have a lower average life expectancy, specifically unmarried men (the opposite is true for married women!). Loneliness gives rise to sadness and depression, limits opportunities for social interaction, intensifies feelings of insecurity, and reduces the ability to cope with unforeseen situations.

Overall, both objectively and subjectively, family pensioners, i.e., those with living partners, are in a more favorable position. Widows and widowers, as well as those living alone for other reasons, are in a less favorable situation (Gaoling, 2022). Of course, like any rule, there are exceptions.

On a broader scale, the trend is that alienation between partners, their children, and within families is increasing in contemporary society (Pachkova, 2021). Loneliness is harmful to health. Loneliness is a common condition among all mature individuals, with its distribution reaching up to 33% or one in every three people. Statistics show that it is extremely harmful: it damages the brain and the immune system, leads to depression, and in some cases, even suicide. Loneliness can lead to premature death with the same probability as smoking. If a person feels lonely, stress permeates even the most ordinary situations, and even sleep doesn't help much – even if you've slept, you don't feel rested enough during the day. Compared to previous decades, loneliness has significantly increased worldwide. The latest trends affect not only the elderly – loneliness affects children in kindergarten and students in the early grades (Manager Magazine/Collective, 2018). Several studies report that social isolation is one of the important risk factors for the health of the elderly population living in urban areas (Yong-ook et al, 2020).

Information on this matter is also provided by the results of the **third stage** of our study – namely, the type of household in which the participants in the study live.

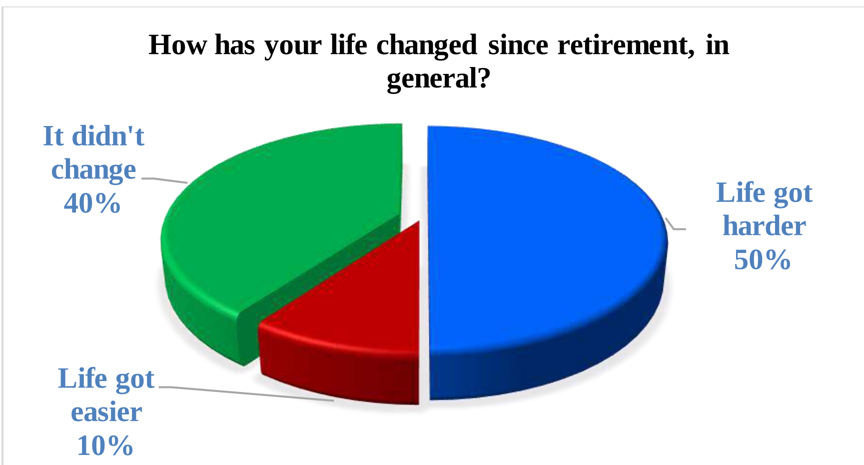
The majority of them (60%) live not only in a household with their family (whether alone or with a partner) but also share the household with their children or grandchildren. This indicates a healthy family environment in which the residents of the village of Ribnovo live. And this healthy family environment is a prerequisite for a happier life, due to the support of close family members, thereby reducing the risk of social exclusion and vulnerability.

The household plays an important role in calculating indicators of well-being. As noted by top economist Joseph Stiglitz (Angelov, 2013):

- When assessing material well-being, greater attention should be paid to income and consumption rather than production.
- Emphasize income from the household's perspective.
- Income and consumption should be considered together with well-being.
- More attention should be paid to the distribution of income, consumption, and well-being.

In the **fourth stage** of the study, participants were asked to share their opinion on how their life had changed after retirement in general. This pertains to their overall sense of things and does not specify a particular aspect such as finances, health, or loneliness. The results are presented in Figure 1.

Figure no. 1 Participants' perception of life changes after retirement



Source: author's research

Interestingly, for half of the participants, life after retirement has become more challenging, for 40%, it remains the same, and only for 1 in 10 individuals, it has become easier. Indeed, aging may be among the main reasons for a worsening subjective sense of the quality of life. The aging process is unidirectional, and figuratively speaking, it is unlikely to improve in the future. Nevertheless, as part of the EU, we must compare ourselves with other member states and strive at least to catch up with them, if we cannot surpass them. In the old EU member states, it is a common sight to see elderly people with white hair actively engaging in sports, riding bicycles, dancing, or traveling on world tours and cruises. In Western societies, the idea that life hardly begins until after retirement is actively promoted, especially when the responsibilities for children have dropped off, and a person has sufficient means.

Here, it is precisely the opposite. The results are not surprising when one considers the reality of Bulgarian retirees. Bulgaria is still far from reaching the dreamed-of standards of Western European countries. Here, life becomes significantly more challenging after retirement!

According to Robinson and Smith (2021), regardless of the anticipation associated with it, the act of retiring from employment constitutes a significant life transition that may introduce not only benefits but also stress and depression. Surprisingly, certain research findings suggest a connection between retirement and a deterioration in health. An ongoing study reveals that individuals who have retired, particularly during the initial year of retirement, face a roughly 40 percent higher likelihood of encountering a heart attack or stroke compared to their counterparts who continue to work.

The data from the **fifth stage** of the research categorically support the results of the previous stage, namely - how the financial situation of the research participants changed after their retirement.

Figure no. 2 Changes in participants' financial situation after retirement

Source: author's research

Here the correlation between income and a sense of happiness and a fulfilling life is clearly visible. Bulgarian pensioners are poor, and therefore unhappy. It is both a subjective and an objective feeling. For 7 of our 10 participants, their financial situation worsened after retirement, for another 30% there was no change, and no participant reported that their financial situation improved (Figure 3).

As Tur-Sinai et. al. (2022) imply, in the literature, two broad terms are utilized to classify engagement in the labor market following retirement: "bridge employment" and "unretirement" (Forman & Scahill, 2003; Cahill et al., 2006; Van Solinge & Henkens, 2014). Bridge employment refers to any type of work undertaken by an individual of retirement-eligible age subsequent to leaving a career-oriented job. It stands out as the most prevalent and extensively studied form of employment post-retirement. Cahill et al. (2006) narrow down the definition of bridge employment to ongoing work at retirement, albeit with a different employer. Nevertheless, many use the term more broadly to encompass any form of employment after retirement and before complete withdrawal from the labor market (Wang and Shultz, 2010). This term appears to function as an inclusive expression for any post-retirement employment that doesn't involve a complete departure from the labor market or a reentry into it after a full exit. Possible variations encompass working in the same industry or field, taking up employment in a different field, engaging in contingent jobs, and pursuing self-employment (Feldman, 1994; Wang et al., 2008; Bennett et al., 2016; Mazumdar et al., 2018).

It is likely that the 1 participant for whom life overall improved after retirement (from the previous stage) attributed this improvement to other, non-financial factors, such as – more free time, less stress, more time spent with grandchildren and friends, etc.

The next, **sixth stage** is one of the two fundamental moments for the entire study. In this stage, we asked our 10 participants what weighs most on them in their daily lives after retirement. Various predefined answers were prepared for facilitation, and a free-text field was left for them to add their own responses.

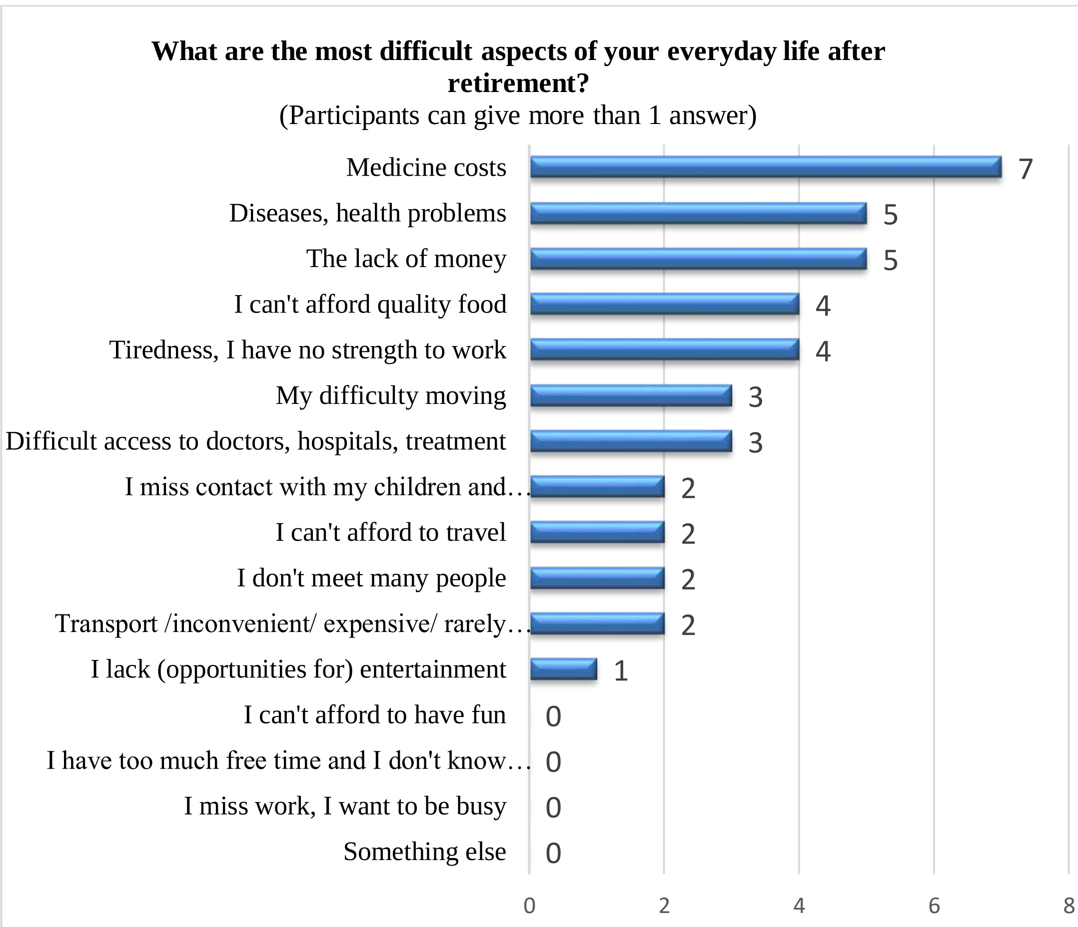
Interestingly, none of the participants supplemented the answers with their own. All chose from the pre-presented options. This indicates a certain apprehension and insecurity among the participants. Perhaps they are concerned about making mistakes due to their age, fearing that they might not understand something, etc. Nevertheless, participants provided more than one answer in this stage of the study.

Figure 4 presents the most burdensome aspects of life for our participant retirees from the village of Ribnovo. The values in the graphs show the frequency of indicating the respective answer, corresponding to the number of participants who selected it.

According to Pilehvari et. al. (2023), estimations reveal a statistically notable adverse impact of retirement on physical health, depression, and anxiety. The results bring to light that retirees not only possess a smaller number of individuals within their social circles but also engage with these members less frequently when compared to non-retirees. Given the established link between social networks and health, variations in the social networks of retirees and non-retirees account for a substantial portion of the differences in health outcomes observed between the two groups. Our findings suggest that a significant part of the influence of retirement on health is channeled through alterations in social networks.

Social vulnerability can also lead to additional problems (Manov and Milenkova, 2021). One of the most common is segregation, which is usually spatially defined and means the separation of social groups on the basis of ethnicity, race and religion. Segregation can be forced and voluntary in order to protect and strengthen community and social identity.

Figure no. 3 Most burdensome aspects of participants' lives after retirement

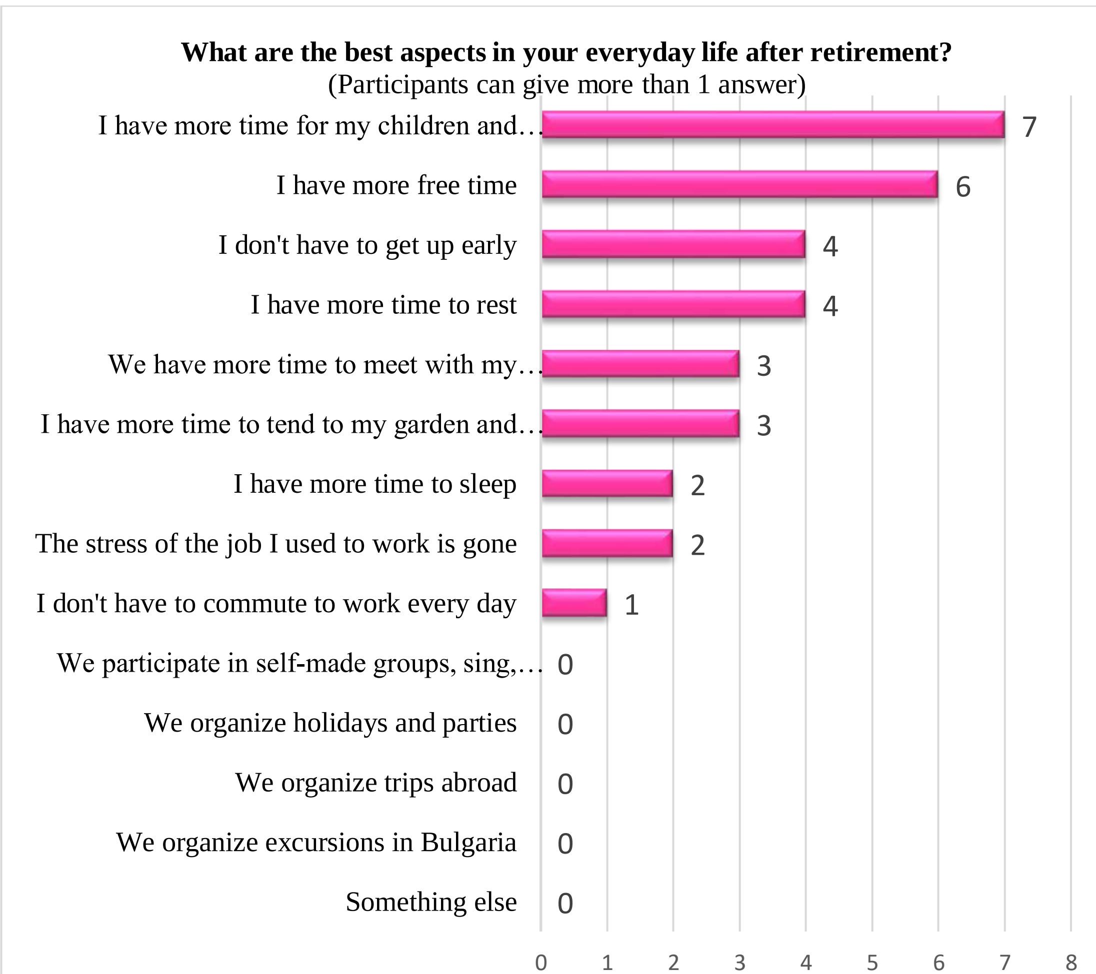


Source: author's research

Immediately noticeable is what concerns the elderly people in Ribnovo the most. It is health and access to healthcare and medicines. Participants most frequently mentioned expenses for medicines (7 out of 10 people), illnesses and health problems (5 out of 10 people), and similar issues such as "difficult access to doctors, hospitals, and treatment" – mentioned by 3 out of 10 people.

Related to health, but also to mobility and travel, is the answer "difficulty in moving" – indicated by 3 out of 10 people.

Figure no. 4 Most enjoyable aspects of participants' post-retirement lives.



Source: author's research

Difficulty in moving refers to the physical movement of a person. Fatigue is also among the health problems that intensify with age. It has been mentioned by 4 out of 10 participants.

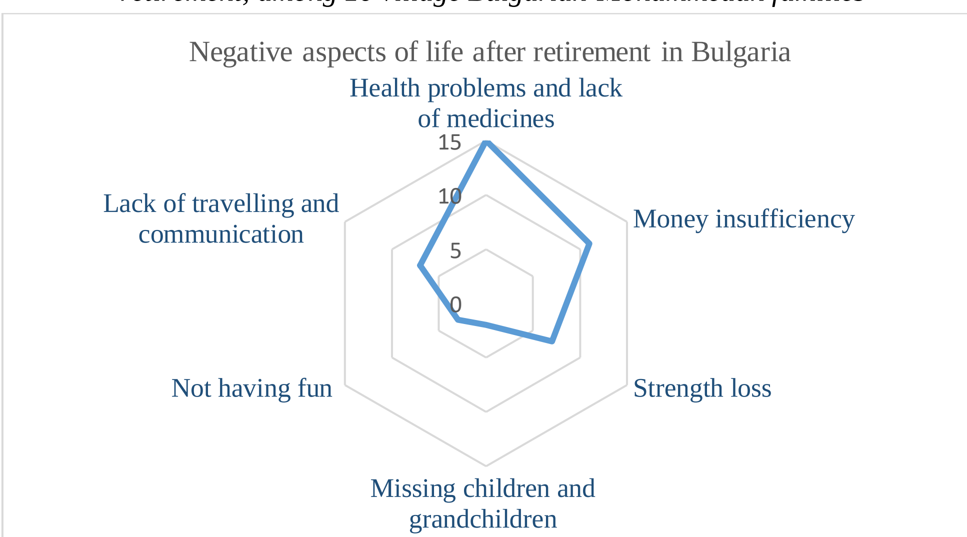
From the above, it becomes clear how strong the health aspect of life is in the perceptions of its quality. Not coincidentally, in the Bulgarian language, the most important and widespread wish is "stay alive and healthy." This shows that in the cultural psychology of Bulgarians, health is the most valuable thing after life itself.

A significant concern for the participants is also financial insufficiency. Although significantly inferior in overall representation compared to the health factor, it is still mentioned by half of the participants in the study.

The lack of contact with close relatives and family, albeit to a lesser extent, is also among the negative aspects of retirees' lives.

In small settlements like the village of Ribnovo, elderly people do not suffer from a lack of contact with their peers, neighbors, and fellow villagers. Due to the compactness of the settlement, they all see each other frequently and communicate with each other. The issue is rather the limited encounters with children and grandchildren in cases where families move to another location or abroad.

Figure no.5 Quantitative representation of the negative aspects of life after retirement, among 10 village Bulgarian-Mohammedan families

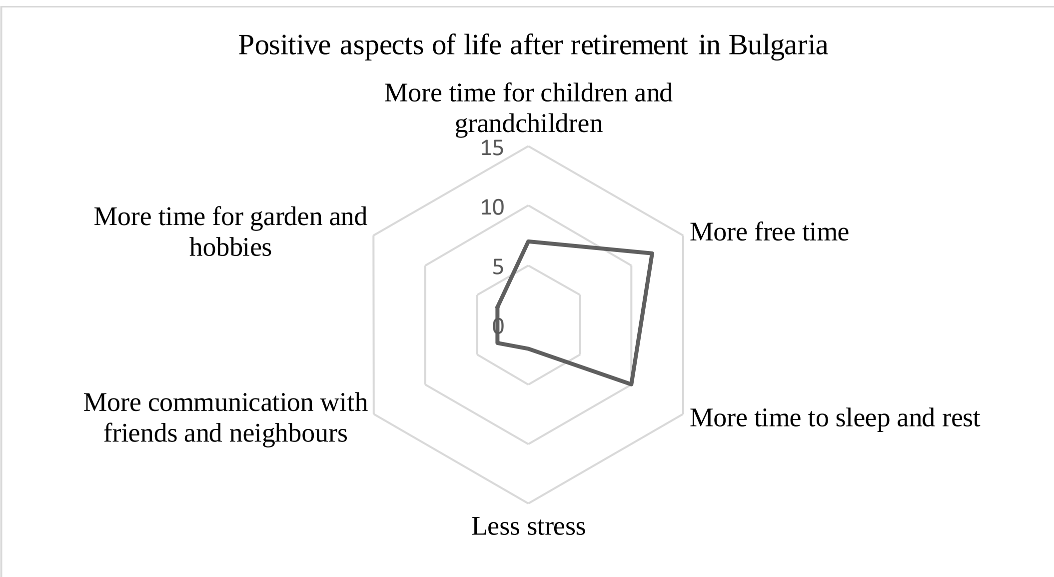


Source: author's research

In the concluding, **seventh stage** of the field study, we asked our participants about the most enjoyable aspects of their daily lives after retirement. Following the logic of the results obtained from the previous six stages, the expectations were confirmed that the most pleasant aspects of life for retirees in the village, providing a sense of comfort and satisfaction, are not related to the financial side of existence (Figure 4).

This once again reveals that Bulgarian pensioners are poor and, in this case, find happiness mainly in non-material aspects of life. For the majority of participants, these include "having free time to spend with their grandchildren," as shared by 7 out of 10 participants. "Having more free time (in general)" was mentioned by 6 out of 10 participants; "having more time for rest" by 4 out of 10; "more time for meetings with peers and friends" by 3 out of 10, and "more time for activities in my garden" again by 3 out of 10.

Figure.6 Quantitative representation of the positive aspects of life after retirement, among 10 village Bulgarian-Mohammedan families



Source: author's research

Overall, the perception of freedom is closely related to the perception of having free time. The study suggests that these aspects of life after retirement are highly valued and provide the greatest sense of happiness among the elderly living in the village. Whether this holds true for retirees in urban areas will be the subject of future and more detailed research.The results, obtained during the survey are visualized quantitatively on Figures 6 and 7. General dominants in the negative aspects of life are poor health and financial problems, and in the positive ones - free time and rest.

In summary, the following can be generalized:

- The greatest concerns are triggered by health-related worries and problems - high drug prices, insufficient access to healthcare, concerns about diseases, fatigue, etc. Financial deprivations come second.
- These two aspects most strongly worsen the perception of happiness and quality of life among the elderly in the village of Ribnovo.
- On the opposite pole, the subjective reasons that give the most joyful emotions and increase the sense of social satisfaction and happiness are mainly related to having a lot of free time for favorite activities and social contacts with family - meetings with grandchildren and children, working in the garden, meetings with friends, or personal time. The lack of stress from past work and the elimination of the need to wake up early are also among the most pleasant aspects of retirees' lives.
- As evident from the results - happiness is determined not by financial but by subjective, personal factors and perceptions.

Conclusion

Social vulnerability is a phenomenon that is both economic and socio-psychological. It cannot be measured solely by income levels, life expectancy, and other precise indicators. A comprehensive approach must be applied.

Adults (pensioners) are one of the most at-risk groups in Bulgaria and generally. This is because, in addition to the low pension and reduced income compared to the previous active period with a relatively higher salary, factors such as fatigue, impaired mobility, increased medication expenses, lack of strength for additional work to compensate for income gaps, all come into play. The combination of these factors is not at all favorable and has a predominantly negative impact on pensioners in Bulgaria.

Partly, this is also due to past policies, such as the type of pension system. In Bulgaria, it was recently entirely, and now predominantly, of the so-called "expense-covering type," where the pension amount rarely exceeds 1/3 of the salary. This condemns pensioners to poverty. The current additional pillars of pension insurance are in their infancy, partial, and cannot fully overcome this gap. Thus, the financial problems of pensioners in Bulgaria seem insurmountable at this stage. Aging and the overall poor demographic situation in the country will further burden the pension system in the future, making the prospects for future retirees even more pessimistic.

In this context, we must distinguish two main groups of pensioners in Bulgaria - those who live in the city and those who live in the village.

At first glance, the hypothesis that urban pensioners are more vulnerable is logical. They rely solely on financial income - mainly pension and in rare cases (if they are lucky) rent and other income. They have almost no conditions to grow their own food and support their daily existence. On the other hand, urban pensioners have excellent access to health care and medical care, which is a factor of great importance in reducing social vulnerability in the third age.

Rural pensioners lead a harder life, with more physical work, but are more independent financially, because they produce goods of plant and animal nature by themselves and support both their livelihood and income. The main problem for them, as the results of the present study showed, is the hard-to-reach healthcare.

The main concern of rural pensioners is the lack of doctors in the villages, the remoteness of hospitals and doctor's offices in other settlements, irregular transport, problematic especially in emergency cases, in winter or at night, the high costs of medicines and others. These issues were most strongly registered as concerns by the study participants. These problems make elderly people in villages highly vulnerable socially. And this situation, combined with the more difficult daily lifestyle of people in the countryside, lead to the lower average life expectancy of the rural population in Bulgaria, compared to the urban population.

As a result, the conclusion is drawn that the clean environment of a village, the air, the waters, the healthy and real food, cannot make up for the complete or partial lack of adequate health care, and the death rate there exceeds the levels in the cities.

As a conclusion, elderly people in the village are less vulnerable to financial risks, to risks of malnutrition and harmful habits, and pollution. But on the other hand, they are more vulnerable in terms of insufficient health care, both emergency and preventive, difficult access to medicines and medical care, which puts them in a serious difficulty and increases their mortality rate.

The state must take large-scale measures, and not incidentally, but with a long-term perspective, especially for: improving health care and access to health care in villages in order to minimize the social vulnerability of the elderly population living in them. For urban pensioners, conclusions and recommendations will be proposed after conducting the research in an urban environment. At the moment, it can be hypothesized that more activities and investments in green urban environments, parks, public fitness equipment and bike lanes, access to better quality and bio-grown food will be needed for them to enjoy the advantages of a rural and natural way of life, combined with the opportunities that the city provides, to minimize their levels of social vulnerability and increase their quality of life in the last years of their existence. As they have earned the right to a decent life and deserve it.

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A PROSPECTIVE STUDY OF THE ALGERIAN TOURISM SECTOR, PROSPECTS FOR 2030, USING THE STRUCTURAL ANALYSIS TECHNIQUE (MICMAC)

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Abstract

The study aims to address the problem of revitalizing the Algerian tourism sector, as well as anticipating the potential contributions of tourism projects in supporting Algeria's economic growth, prospects for 2030. Additionally, this study seeks to review the development strategy adopted by Algeria to develop the tourism sector, and assess the extent to which this strategy has been implemented in practice. In order to answer the research question, the structural analysis technique was used using the MICMAC program.

The study concluded that Algeria, despite possessing exceptional tourism potential which that positions it as a prime tourist destination and despite the adopted strategy for sector development, has experienced a slow pace in developing the tourism sector and transforming it into a development sector that is an alternative to the hydrocarbon sector. The study reached a set of results, the most important of which is that the tourism sector in Algeria suffers from a structural defect. In order to activate this sector, policy makers in Algeria must coordinate with the rest of the sectors to implement the sector's plans in their time and remove obstacles. The laws related to tourism investment must also be reviewed.

Keywords: *Tourism; Master Plan for Tourism Development; Tourism Indicators; Tourism Forecast; MICMAC; Structural Analysis.*

JEL Codes: *Z32; Z3; L83.*

Introduction

Tourism plays a vital and fundamental role in strengthening the economies of developing and developed countries, as it is a dynamic driver for other economic sectors due to its connection to more than 185 economic activities on the supply side. Tourism

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has become an integrated industry that includes planning, investment, construction and marketing. It is also a strategic sector that has the ability to generate income and provide job opportunities, stimulate capital markets, attract foreign investments, and add value at the local and regional levels.

The performance of the tourism sector depends directly on increasing the productivity related goods and services sectors, such as transportation facilities, communications networks, electricity and water services, as well as productive sectors such as agriculture and industry, and ensuring the provision of financial resources. To achieve this goal, a balance must be achieved between the number of incoming tourists and the volume of available tourism goods and services. Algeria has implemented short- and long-term development programs in the tourism sector, which can be an important economic alternative. To that end, a joint public-private economic strategy must be built, and enterprises geared towards investment in the tourism sector must be established with a view to its promotion. Providing tax concessions and incentives for tourism investments, whether for the national or foreign investor, as well as eliminating bureaucracy and administrative corruption, reviewing the investment law and finding solutions to the problem of tourism property in Algeria, which has become a major obstacle to the tourism sector. In our case, we propose a comprehensive prospective study of the 2030 horizons according to the SDAT2030 Tourism Development Master Plan. Hence, the main question in our work is:

What is the mechanism for revitalizing the Algerian tourism sector, the 2030 horizons?

To answer the question, we formulated the following hypotheses:

- **Hypothesis 1:** Tourism is the future of the Algerian economy.
- **Hypothesis 2:** The Tourism Development Master Plan includes sub-plans to facilitate its implementation and revive the tourism sector in Algeria, and hence the national economy.
- **Hypothesis 3:** The laws governing the Algerian tourism sector are the main factor in developing the sector.

To verify these hypotheses and carry out our work, we adopted a research methodology with a dual methodological approach: an exploratory approach to the literature (initially) to understand the theoretical backgrounds of the Algerian tourism sector; and we also conducted a prospective study that allowed us to define various variables that enter into the framework of the development of the tourism by 2030, primarily relying on the structural analysis method MICMAC.

Concepts about Tourism

Tourism plays a major role in the social and economic development of remote areas, but it faced serious challenges due to the Covid-19 pandemic. To solve these problems, theoretical research and new approaches in tourism marketing, management and development must be relied upon (Putkaradze, Michalski, & Abuselidze, 2022, p. 29).Tourism is often associated with pleasant experiences like trips and new adventures, yet it demands significant effort and specialized skills. For students, mastering these skills can lead to success in an industry that employs 7.6% of the global workforce. By 2020, the World Trade Organization predicted that tourism would account for nearly 10% of global exports and involve one in every 11 workers (Lubov, 2018, p. 327).

Definition of Tourism

The definition of the World Tourism Organization (W.T.O) is as follows: "Tourism is the activities of a traveler to a place outside his familiar environment for a certain period not exceeding one year without interruption for rest or other purposes" (Pupion & Leroux, 2014, p. 23), and the International Academy of Tourism (A.I.T) defines it as: "Tourism is a term that refers to pleasure travel; it is a group of human activities that work to achieve this type of travel" (Zian, 2016, p. 137), while the German Guyer Freuler states that tourism "is a phenomenon of the era that arises from the increasing need to obtain rest and recreation, and to feel and taste the beauty of nature, and to feel joy and pleasure from staying in areas of a special nature" (Houidi , 2014, pp. 212-213).

Tourism is a subject of pleasure and individual interaction with the changing conditions of modernity, with implications for nations, citizenship, consumption, cosmopolitanism, and globalization. Tourism is an economic activity of global importance that transcends traditional sectors of the economy and attracts the attention of governments, organizations, and academics. There is no single structure that represents the tourism industry; places vary in content, some focusing on food, some on mountains, some on beaches, others on education, and so on (Sanjeev et al., 2022, p. 2). Economic growth, represented by increased GDP, net national income, and foreign direct investment, contributes to enhancing financial resources, raising productivity in all economic sectors, and improving human capital. Therefore, increasing these economic indicators, along with appropriate and effective tourism policies that encourage the arrival of tourists, enhances the growth of the tourism sector and supports its sustainability(Qin , 2023, p. 19327).

Foundations of Tourism

Tourism, like other sciences, is built on a set of foundations that complement each other to establish this activity. These foundations include the following:

Tourism Demand: Definitions of tourist demand vary based on different perspectives. Economists view demand as the quantity that individuals are willing and able to purchase of a product, whether a good, service, or idea, at a given price within a range of possible prices over a specific period. Psychologists approach demand from the perspective of motivations and behavior. Geographers define tourist demand as the total number of people who travel or wish to travel and use tourism facilities and services in places far from their workplaces and residences (Al-Taie & Al-Alaq, 2013, pp. 59-60).

Tourism offer and tourism product:Supply is defined as the producer's willingness to offer goods and services for sale in the markets at a specific price and time (Al-Hawri & Al-Dabbagh, 2013, p. 54). It is also described as all the facilities and services that tourist destinations must provide to their current and potential visitors, in addition to all the goods and services that might attract individuals to visit a particular country (Muwaffaq, 2013, p. 78).

Tourism revenues and expenditures: Revenues are the total income that a country generates from various tourism activities, whether these revenues are direct or indirect. Expenditures refer to the total amount of money spent by tourists on tourism and hotel services, purchases, and transportation during their visit. This also includes fees for visiting tourist attractions (Bachiri , 2022, p. 4).

Tourism Marketing: It involves the administrative and technical activities carried out by agencies and institutions within and outside the country to identify current and potential tourism markets and influence them to develop inbound tourism (Farah & Budala , 2012, p. 106).

Pillars of Tourism

Every tourism activity requires a set of pillars that increase its attractiveness to tourists. These pillars are:

- **Transportation:** Tourism is closely linked to the transportation sector. Tourism cannot thrive without the development of transportation means and the provision of transportation routes and services (Bashiri , 2022, p. 18).
- **Accommodation:** When a tourist arrives in a country or place, he/she first looks for a suitable place to stay. Therefore, there is no tourism without accommodation, which includes hotels, tourist apartments, and camps (Hamidatou, 2015, p. 13).

- **Tourism Programs:** Successful tourism depends on specific entertainment programs that the tourist can enjoy, whether he/she has booked them in advance or upon arrival. These programs include visiting museums, archaeological and historical sites, entertainment venues, in addition to markets, shops, and resorts (Kawash, 2007, p. 56).
- **Tourism Infrastructure:** This encompasses the essential services necessary for any tourism project or area, such as water networks, healthcare services, roads, and banks. Without this infrastructure, no tourism project can fully deliver its services (Maher, 1971, p. 14).
- **Superstructure:** Includes accommodation facilities such as hotels, tourist services, tourist reception projects, tourist information offices, and travel agents. The quality and availability of these services vary from one country to another based on the level of development (Muqabala, 2007, p. 28).

Algeria's Tourism Qualifications

Algerian tourism is characterized by a set of qualifications that can be mentioned as follows:

Geography: Algeria spans an area of 2,381,741 square kilometers, occupying a strategic global position as it overlooks the Mediterranean Sea, making it a gateway to Africa and a bridge between the African and European continents in the north, extending into the depths of the Sahara Desert in the south. Algeria boasts numerous prominent tourist attractions, including El Kala National Park, Tassili National Park, the Casbah, Notre Dame d'Afrique in Algiers, the Bardo Museum, and the Botanical Garden of Hamma (Ben Amar, 2022, p. 396).

Historical and Archaeological Sites:Algeria contains historical and archaeological sites classified as UNESCO World Heritage Sites, such as the Beni Hammad Fort, Djemila, Tassili n'Ajjer, Tipasa, the M'zab Valley, Constantine, and the site of Timgad (Ben Sharif & Wakli , 2020, pp. 20-22).

Coastline and Climate: The Algerian coastline stretches 1200 kilometers, characterized by a mild Mediterranean climate. Algeria spans three climatic regions from north to south: the Mediterranean region, the Tell region, and the Saharan region (Mansour & Ben Turki , 2022, p. 150).

Southern Algeria: Represented by the Saharan Atlas, it contains oases, palm groves, sand dunes, stone plains, and rocky plateaus. Tourism in these areas could significantly contribute to the state's treasury, if properly invested (Ben Amar, 2022, p. 396).

Tourism Development Laws and Institutions: Numerous laws and plans have been issued aimed at developing the tourism sector, including the establishment of many institutions concerned with organizing and structuring this sector, such as the law on tourism expansion areas and tourist sites. Since 2003, a Ministry of Tourism and Traditional Industries has been established, as well as the National Institute for Tourism Studies and the National Committee for Facilitating Tourism Activities (Qalash & Khantar., 2019, p. 204).

Infrastructure: Algeria is connected to the Sahel countries via the "Unity Road" that crosses the Sahara, extending 2,344 kilometers. The East-West Highway, which is 1,216 kilometers long, has been established. The country has a railway network extending 4,200 kilometers, an air fleet of 63 planes transporting 3.6 million passengers annually, and 55 airports, including 16 international airports (Tunisian & Shakhar , 2022, p. 80).

Indicators of the Algerian Tourism Sector

The tourism sector in Algeria is considered one of the important sectors that can contribute to enhancing economic growth. However, tourism revenues in Algeria are still much lower than in neighboring countries, which requires greater development of tourism infrastructure and improvement of the quality of services.

Accommodation Capacity

Accommodation services are considered one of the essential elements that tourists cannot do without, as they contribute to providing security, stability, and comfort after a long day of touring various available sites. Therefore, it is necessary to pay attention to the quality of accommodation places, whether they are tourist hotels or any other type of lodging. These should be subject to continuous supervision to ensure healthy and satisfactory hotel services for tourists. By doing so, these hotels or other accommodations can become attractive destinations for tourists annually (Kadi & Bilal, 2017).

Table no. 1 – Development of tourist accommodation capacity in Algeria (2016-2022)

Year	2016	2017	2018	2019	2020	2021	2022
Number of hotel establishments	1231	1289	1368	1417	1449	1502	1567
Number of beds	107420	112264	119155	125676	127614	132266	145526

Source: Prepared by the researchers based on documents from the Ministry of Tourism and Traditional Industry. Retrieved from https://www.mta.gov.dz on July 7, 2024, at 10:27.

Hotels and accommodation facilities are an essential element in tourism activity, as they cater to the needs of tourists and travelers by providing lodging and accommodation services, in addition to offering a variety of amenities and essential services. Table 1 shows a significant growth in absorptive capacity during the period under consideration, with a positive annual growth rate. Capacity doubled by 35% between 2016 and 2022, rising from 107, 420 beds in 2016 to 145, 526 beds in 2022, representing an increase of 38, 106 beds. In addition, the number of hotel establishments also saw a rise, rising from 1,231 in 2016 to 1,567 in 2022, reflecting a 27.40% growth. This development is due to the new government policy implemented since 2013, which has begun to yield positive results.

Table no. 2 –Distribution of hotel and similar establishment capacity by category (2016-2022)

Year	**2018**	**2019**	**2020**	**2021**	**2022**
Hotel 5*	6734	7234	7345	7613	8559
Hotel 4*	4746	6161	6824	7935	10223
Hotel 3*	5886	6427	6861	7707	9083
Hotel 2*	5185	5381	5995	7935	10403
Hotel 1*	11684	12612	12724	13027	14075
Unclassifiedhotel	8590	9456	9456	9456	9456
Tourist accommodation 2*	384	384	384	384	384
Tourist accommodation 1*	313	313	313	313	806
MotelRoad Inn 2*	93	93	93	93	152
MotelRoad Inn 1*	30	86	86	148	168
Country Inn 2*	16	16	16	16	16
Country Inn 1*	20	20	20	20	20
Holiday Village 3*	274	274	274	274	434
Holiday Village 1*	0	0	0	0	616
Furnished Inn "Single Class"	91	205	205	205	205
Family Inn "Single Class"	426	426	426	426	426
Other Hotel-oriented Structures	9786	9984	9984	9984	9984
Rest Station "Single Class"	170	170	170	170	170
Total Classified Establishments	54428	59242	61176	65706	75180
Hotel Establishments in the Process of Classification	64727	66434	66438	66560	70346
Total	119155	125676	127614	132266	145526

Source: Prepared by the researchers based on documents from the Ministry of Tourism and Traditional Industry. Retrieved from https://www.mta.gov.dz on July 7, 2024, at 13:10.

From Table 2, we note that the number of beds has increased from 119,155 beds in 2018 to 145,526 beds in 2022, with a difference estimated at: 26,371 beds. The number of hotel establishments of various types has also increased by 63.42% in 2022, estimated at

1,614 hotels, which reflects the efforts made by the authorities to promote this sector, but this remains insufficient in view of the fierce competition from neighboring countries. The delay recorded in establishing tourism projects can be explained by a weakness in financial resources as a result of the decline in state revenues from oil tax revenues starting in 2014, as well as the ineffectiveness of plans and programs dedicated to promoting and developing tourism activity.

Development of the number of incoming tourists

From Table 3, it is evident that foreign tourists make up a significant portion of the total tourist arrivals, accounting for 54.17%. This is a promising indicator that Algeria is well-positioned to become a premier international tourist destination. Notably, between 2021 and 2022, there was a remarkable growth rate of 1030.50% in foreign tourist arrivals. Conversely, the period between 2019 and 2021 witnessed a decline in foreign tourist numbers due to the suspension of flights and the imposition of stringent health measures, such as mandatory vaccinations, as the global pandemic took hold. Algerian expatriates, on the other hand, constituted 45.83% of tourists and experienced a substantial growth rate of 999.99% between 2021 and 2022.

Table no. 4 – Development of the number of tourists (2110-2022)

Year	**Algerians living abroad**		**Foreign tourists**		**Total tourists**	
	Number	**Growth rate %**	**Number**	**Growth rate %**	**Number**	**Growth rate %**
2010	1 415 509	12,73	654 987	-0,13	2 070 496	8,32
2011	1 493 245	5,49	901 642	37,66	2 394 887	15,67
2012	1 652 101	10,64	981 955	8,91	2 634 056	9,99
2013	1 768 578	7,05	964 153	-1,81	2 732 731	3,75
2014	1 361 248	-23,03	940 125	-2,49	2 301 373	-15,78
2015	626 873	-53,95	1 083 121	15,21	1 709 994	-25,70
2016	716 732	14,33	1 322 712	22,12	2 039 444	19,27
2017	742 410	3,58	1 708 375	29,16	2 450 785	20,17
2018	638 360	-14,02	2 018 753	18,17	2 657 113	8,42
2019	437 278	-31,50	1 933 778	-4,21	2 371 056	-10,77
2020	81295	-81.41	509736	-73.64	591031	-75.07
2021	58243	-28.36	66995	-86.86	125238	-78.81
2022	640668	999.99	757380	1030.50	1398048	1016.3

Source: Prepared by the researchers based on documents from the Ministry of Tourism and Traditional Industry. Retrieved from https://www.mta.gov.dz on July 8, 2024, at 9:15.

Share of the Tourism Sector in the Gross Domestic Product

The tourism sector is considered a component of the Gross Domestic Product (GDP), especially in many developed and developing countriesalike. According to Table 4, the contribution of tourism revenues to Algeria's GDP is quite weak during the period 2015-2020, with an average of only 1.8%. The highest percentage was recorded in 2019 at 1.8%, while the lowest was 1.4% in 2021. Analyzing the statistics in the Table further, the reason for this decline can be attributed to the low level of tourism revenues in the country and its heavy reliance on hydrocarbon revenues.

Table no. 4 – Development of the share of the tourism sector in the Gross Domestic Product (2015-2020)

Year	2015	2016	2017	2018	2019	2020	2021*
Tourism share in GDP (%)	1.3	1.4	1.6	1.7	1.8	1.1	1.4

Source: Prepared by the researchers based on documents from the Ministry of Tourism and Traditional Industry. Retrieved from https://www.mta.gov.dz on July 8, 2024

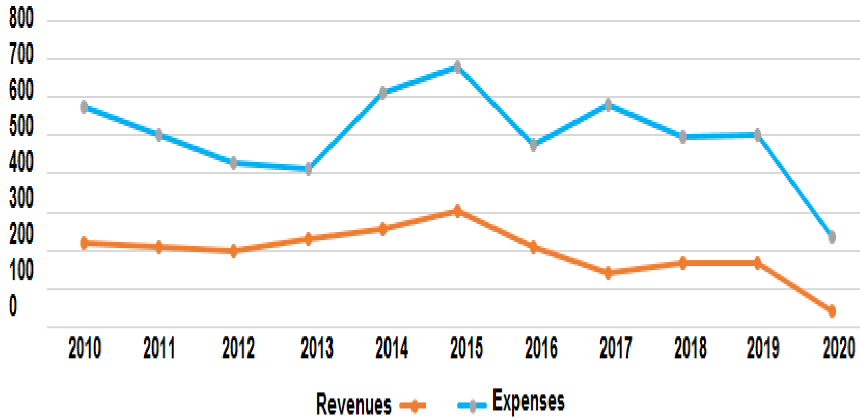
Statista: * Contribution share of the travel and tourism industry to the gross domestic product (GDP) in Algeria from 2019 to 2021; https://www.statista.com/statistics/1329743/tourism-sector-as-a-share-of-gdp-in-algeria/on July 8, 2024

Note: * Gross Domestic Product excluding the hydrocarbon sector

Development of the Balance of Payments - Travel item

A comparison of tourism spending reveals that the amount of foreign currency spent by citizens abroad exceeds that of foreign currency generated by non-resident tourist inflows. It's worth noting that tourism revenues from travel expenditures do not encompass all tourism earnings, as a significant portion of transactions occurs in the parallel foreign exchange market, particularly by Algerian expatriates (Industry, Ministry of Tourism and Traditional). Figure (1) shows that the tourism sector does not contribute significantly to the balance of payments, since tourism revenues have been consistently low, despite some improvement between 2018 and 2019, but they declined again in 2020. The balance of payments on the travel account has recorded a persistent deficit from 2010 to 2020. In contrast, Morocco generates substantial tourism revenues, estimated at an average of $7 billion annually. The excess of tourism spending over revenues is because the amount of foreign currency spent by citizens abroad surpasses the foreign currency generated by foreign tourist inflows.

Figure no. 1 Balance of payments - travel item (2010-2020)



Source: Prepared by the researchers based on documents from the Ministry of Tourism and Traditional Industry. Retrieved from https://www.mta.gov.dz on July 10, 2024, at 12:27.

Employment in the tourism sector

Table 5 shows a gradual increase in the number of workers in Algeria's tourism sector between 2010 and 2019. The number of employees rose from 213,000 in 2010 to 320,000 in 2019, representing an increase of 107,000 employees, or a growth rate of 30.34%. However, this number is considered small compared to Algeria's vast tourism potential and the significant resources allocated to developing this sector as a better alternative to the rentier economy. However, the year 2019 saw a decrease in the number of workers, reaching 257,142.9 workers, with a decrease rate of 19.64%. This number increased in 2021 to 285,714.3 workers, with an increase rate of 10%

Table no. 5 – Employment in the tourism sector (hotels, cafes, restaurants)

Year	**2010**	**2011**	**2012**	**2013**	**2014**	2015
Number of Workers	213000	220000	224028	256775	261289	265803
Year	**2016**	**2017**	**2018**	**2019**	**2020***	**2021***
Number of Workers	270317	300000	308027	320000	257142.9	285714.3

Source: Prepared by the researchers based on documents from the Ministry of Tourism and Traditional Industry. Retrieved from https://www.mta.gov.dz on July 7, 2024, at 17:30.

* Statista; Employment in the tourism industry as a percentage of total employment in Algeria from 2019 to 2021; https://www.statista.com/statistics/1320699/employment-in-the-tourism-industry-as-share-of-total-employment-in-algeria/

Algerian Tourism Prospects 2035

The Tourism Development Master Plan (SDAT 2030) represents the fundamental strategic framework for Algeria's tourism policy. It is the document that the state uses to announce its future tourism project until 2030 to all stakeholders, sectors, and regions. This plan reflects the state's desire to exploit and valorize the country's natural, cultural, and historical resources to serve the tourism sector in Algeria.

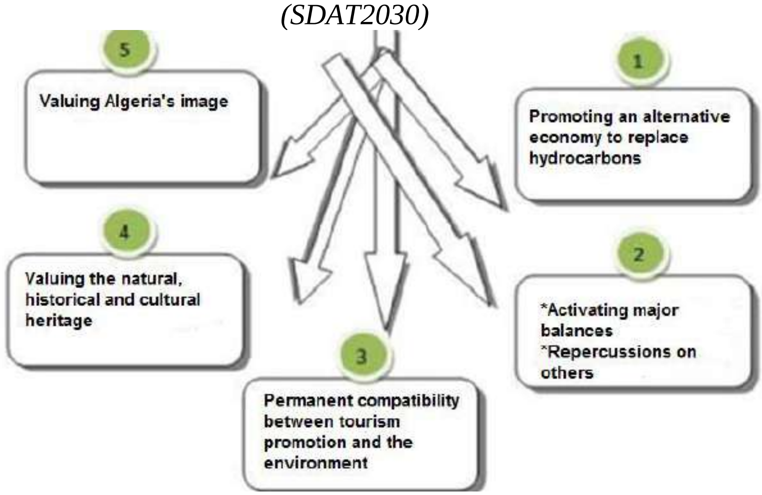
Definition of the Master Plan for Tourism Development (SDAT2030)

This plan is an official document through which the state announces its tourism vision for the horizons of 2030 to all actors, sectors and regions. The plan aims to valorize Algeria's natural, cultural and historical capabilities, and put them at the service of tourism to achieve the required growth and make tourism a national priority. This plan is part of the National Plan for Territorial Development (SNAT), and was prepared in 2007 in collaboration with the French Committee (ODIT-France), and includes Algeria's vision for tourism development in the short-term 2009, medium-term 2015, and long-term 2030 (Sahrawi & Sabti , 2017, p. 60).

Objectives of the Master Plan for Tourism Development (SDAT2030)

The general objectives can be summarized in the following figure:

Figure no. 1 The five objectives of the Master Plan for Tourism Development (SDAT2030)



Source: Ministry of Planning, Territory, Environment and Tourism. (2008). Master Plan for Tourism Development, Book No. 02: Diagnosis and Examination of Algerian Tourism (p. 18).

The material objectives for the 2008-2015 stage can be summarized in Table 6.

Table no. 6 – Material objectives for the 2008-2015

Year	2007	2015
Number of tourists	1.7 million	2.5 million
Number of beds	84869 rehabilitated	75000 luxury beds
Contribution to GDP	1.7%	3%
Revenues (million dollars)	250	1500 to 2000
Direct and indirect jobs	200000	400000
Formation of pedagogical seats	51200	91600

Source: Ministry of Planning, Territory, Environment and Tourism. (2008). Master Plan for Tourism Development, Book No. 02: Diagnosis and Examination of Algerian Tourism (p. 18).

Stages of preparing the SDAT2030 Tourism Development Master Plan

Preparing the SDAT2030 Tourism Development Master Plan is a comprehensive process based on an in-depth diagnosis of the tourism sector in Algeria. This diagnosis includes the effective contribution of discussions at local, regional and national forums, which allows to highlight and explain the major challenges facing tourism, in addition to its major problems and trends at the national and international levels. Preparing the master plan comprises several stages, including (Mushtar & Aouinan , 2019, p. 368):

Phase 1: Diagnosing global trends to identify major problems and stakes.

Phase 2: Setting strategic directions to achieve tourism development goals.

Phase 3: Developing priority action programs to implement the strategies set.

Phase 4: Implementing and monitoring progress according to a specific strategy to ensure achieving the desired goals.

Structural Analysis of The Algerian Tourism Sector Using MICMAC Technique.

We will attempt to define the study's objective and the variables that influence the tourism sector in Algeria. A set of variables that directly and indirectly affect the development of this sector will be extracted by 2030.

MICMAC technique methodology

The MICMAC software has been developed by The Institute for Computer Innovation for Enterprises, under the supervision of their creators, Laboratory for investigation in Prospective Strategy and Organization. This corresponds to the structural analysis where the structure is defined as a reality that is studied as a system, and the elements keep interdependencies, at the same time it allows the consideration of qualitative variables and exploring multiple and uncertain futures. The method starts from the problem definition, then a list of internal and external variables is identified. It proceeds to analyze the relationship between the variables that the system is made, weighing that relationship according to the degree of mobility and dependence between existing variables. These variables are weighted according to the following qualification: if the degree of influence is non-existent, low, medium or high, a scale that can be 0, 1, 2, and 3 or 0, 1, 3 and 5 is used. This matrix entry is generally qualitative, so it is possible to adjust the intensities of the relationships (0 = non-existent, 1 = weak, 2 = medium, 3 = strong, P = potential). The qualifying result identifies the key variables: direct and indirect classification. Analyses of mobility (Influence) and dependence are obtained by the location of the indicator of the variable in the quadrant, resulting in a variable that can be power variable, autonomous, of conflict or output variable, according to their degree of influence and dependence (Arias , Castañeda, & Alejandro Valencia, 2016, p. 13).

Examination and selection of variables

After identifying the internal and external variables that affect the Algerian tourism sector and consulting with experts and professors specialized in tourism, we obtained 24 variablesThen we coded them to facilitate the entry process in the MICMAC program (Appendix 01).

Comment on the Results of the Study

After identifying the influential relationships between the variables by measuring the degree of influence of each variable on the rest of the system variables and in consultation with experts and professors specialized in tourism, a direct effects matrix was built. The degrees of influence were classified as follows: 0 = No influence, 1 = Weak influence, 2 = Medium influence, 3 = Strong influence, and P = Very strong influence (Appendix 02).

Characteristics of the Direct Effects Matrix MID: After entering the matrix in Appendix 02 into the MICMAC program, we obtained a matrix with the characteristics shown in Table 7.

Table no. 7 – Characteristics of the structural analysis matrix

Indicator	Value
Matrix size	24
Number of iterations	2
Number of zeros	412
Number of ones	38
Number of twos	81

Indicator	Value
Number of threes	38
Number of P	7
Total	164
Fillrate	28.47222%

Source: MICMAC program outputs

Both Michel Godet and Philippe Durance determined a good filling rate ranging between 15% and 25% depending on the size of the matrix (Godet, 2007, p. 43). In our case, the filling rate of the matrix was 28.47%, which represents the percentage of cells filled with P, 3, 2, 1. Referring to the experts, it is acceptable and expressive in terms of the number of variables, which confirms the existence of relationships between most of the study variables.

Stability of the direct effects matrix MID: We notice from Table08 that the matrix tends towards stability (100%) starting from the second iteration, where the rates of influence and importance are very high. The MICMAC program suggests stability at the fifth iteration, and the real meaning of stability is that the order of the variables reached according to the degree of influence and correlation will not change after the fifth iteration because we have discovered all the direct and indirect influence relationships of the variables.

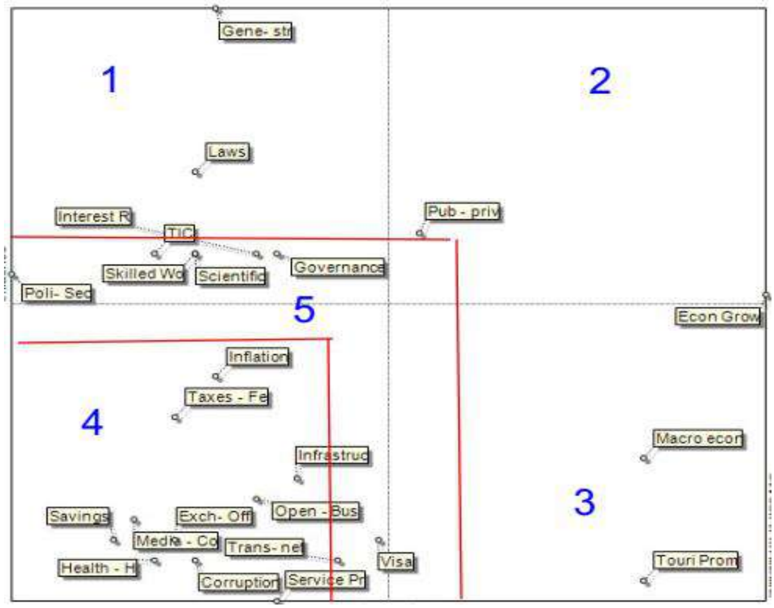
Table no. 8 – Stability of the matrix

Iteration	Influence	Dependence
1	80 %	92 %
2	103 %	100 %

Source: MICMAC program outputs

Direct effects and correlations diagram: Figure02 shows the classification of variables based on their total scores in the columns and rows, which is an illustrative representation of the relationships between them. This classification enables us to differentiate variables based on their nature, as shown in the figure divided into five sections:

Figure no.2 Direct effects/correlations diagram



Source: MICMAC program outputs after entering the direct effects matrix.

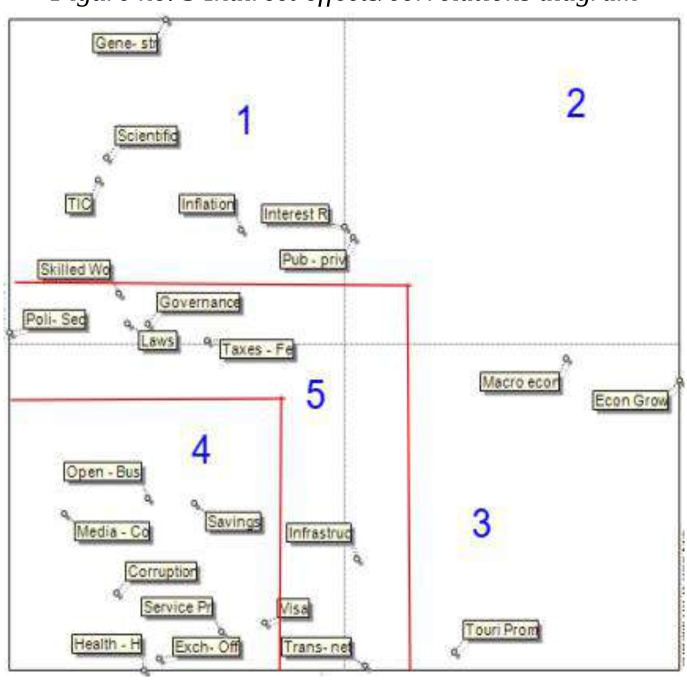
- **Category 01:(Entry variables)** These variables have a strong influence but are weakly correlated. These variables represent the factors influencing the Algerian tourism sector, such as: the general strategy of the state (Gene str), the laws governing the tourism sector (Laws), and the interest rate (Interest R).
- **Category 02: (Dependent variables)** these variables have a strong influence and are also strongly correlated. Any change in them will affect the tourism sector as a whole. These include: public and private investment spending (pub priv), which represent the stakes of the tourism sector.
- **Category 03: (Resulting variables)** these variables have a weak influence but are strongly correlated. These variables can be explained through entry variables and dependent variables, including: economic growth (Econ Grow), favorable macroeconomic framework (Macro econ), tourism promotion (Touri Prom).
- **Category 04:(Excluded Variables)** The effect of these variables is weak, and their correlation is also weak. They do not play a significant role in the development of the tourism sector. However, they are not without importance; rather, they are obvious variables in the studied system and are not really significant for understanding it. Therefore, they are likely to be ignored later. They include: health and hygiene (Health H), savings (Savings), exchange offices (Exch Offi), media and communication (Media Co), corruption (Corruption),

taxes and fees (Taxes Fe), inflation (Inflation), business openness (Open Bus), service prices (Service Pr).

- **Category 05: (Pivotal variables)** These variables have a moderate influence and correlation and combine with all other variables and when analyzed together they play an important role in the dynamics of the tourism sector. These variables include: Information and Communication Technology (lCT), Political, Security and Economic Stability (Poli-Sec), Skilled Workforce (Skilled Wo), Scientific and Technological Level (Scientific), Governance (Governance), Visa (Visa), Transport Network (Trans net).

Indirect Impact Matrix MII: By filling out the Direct Impact Matrix (DIM), only direct relationships were considered when preparing it, but variables can follow different behavior. Variable A may have an effect on variable B by mediating variable C. Therefore, this type of indirect relationships between variables must be taken into account. This matrix, formed by multiplying the DIM matrix by itself, creates a new structure for variables in rows and columns. The main objective of this matrix is to work on indirect effects that were not prominent in the DIM matrix, but have important indirect effects on the dynamics of the system under study (the tourism sector).

Figure no. 3 Indirect effects/correlations diagram



Source: MICMAC program outputs after entering the direct effects matrix.

Through Figure 3, we notice a change in the locations of some variables as a result of taking into account the indirect influence relationships. Through this diagram, the hidden variables in the system can be extracted. These hidden variables in the renewable energy sector are classified as follows:

Category 1: The most influential variables with the least dependency or impact, which are essentially the explanatory variables of the system contributing to its overall dynamic control. With regard to the system being studied, related to "tourism", it is clear that the variables of Category 1 are represented in the general strategy of the state (Gene str), the interest rate (Interest R), the scientific and technological level (Scientific), Information and Communication Technology (ICT), and inflation (Inflation).

Category 2: These variables are characterized by their instability as they are highly influenced and highly influential at the same time. Any change in any of them causes impacts on the rest of the variables. They are affected by changes in others at a later time, leading to deep adjustments in the dynamics of the system under study. These variables are represented by public and Private Investment Expenditure (Pub-priv).

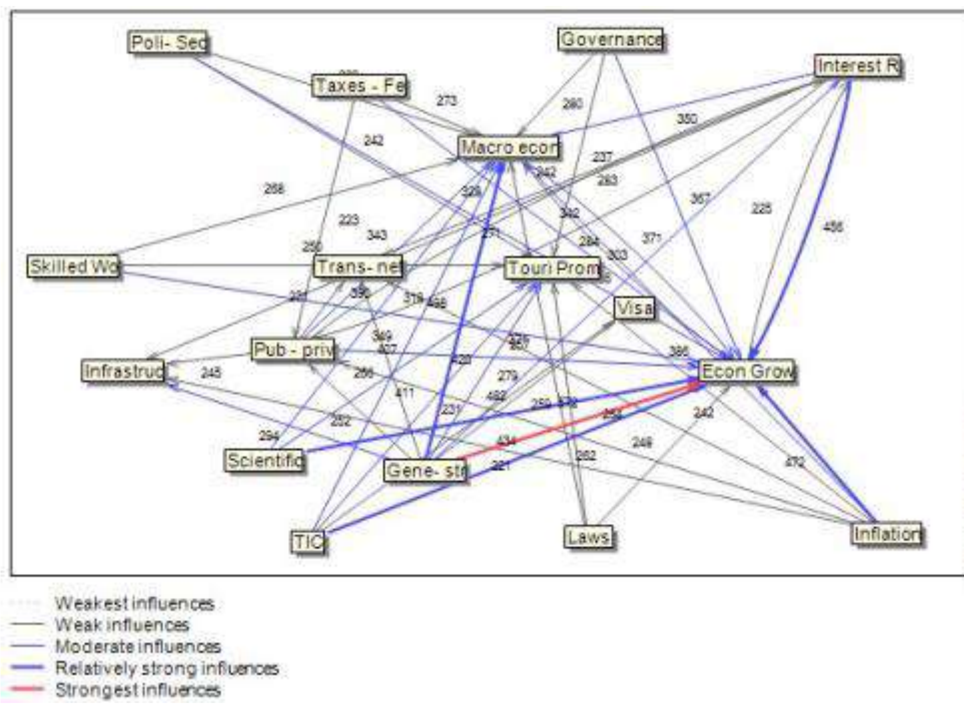
Category 3: These variables are characterized by having a weak influence and being strongly affected, or in other words, they have high dependency. The evolution of these variables is explained by the influences coming from other variables, especially those of category 1 and category 2. In the studied system, we find these variables in the following: economic growth (Econ-Grow), favorable macroeconomic framework (Macro-econ), and tourism promotion (Touri-Prom).

Category 4: These variables are characterized by having a weak influence and being weakly affected, having a limited impact on the studied system. This is either because they are sluggish variables whose inertia does not affect the dynamics of the system, or they may have a weak relationship with the studied system. The performance of these variables evolves somewhat independently of the system, thus allowing us to exclude them from the analysis without affecting the system. These variables are: health and hygiene (Health-H), savings, exchange offices (Exch-Offi), media and communication (Media-Co), corruption, business openness (Open-Bus), and service prices (Service Pr).

Category 5: These variables cannot be initially judged in terms of their influence on and by the system. Consequently, we cannot provide an initial estimate or conclusion regarding their role in the system. These variables include: political, security, and economic stability (Poli-Sec), skilled labor (Skilled Wo), governance, visa, transportation network (Trans-net), tourism laws, taxes and fees (Taxes-Fe), and infrastructure (Infrastruc).

The diagram of indirect effects shown in Figure 4, which is determined from the Indirect Impact Matrix (IIM), allows us to better visualize the indirect effects. Through the diagram, we observe that the variables connected by the red line are the most influential indirect variables, as the general state strategy (Gene-str) has a significant impact on economic growth (Econ-Grow). The blue arrows indicate the presence of relatively strong indirect effects, where each of Information and Communication Technology (ICT), scientific and technological level (Scientific), inflation (Inflation), and interest rate (Interest-R) has a relatively strong impact on economic growth (Econ-Grow). Additionally, there is a relatively strong impact of the general state strategy (Gene-str) on the suitable macroeconomic framework (Macro-econ).

Figure no. 4 A graph of the indirect effects/links diagram



Source: MICMAC program outputs after entering the direct impact matrix.

After studying and analyzing the results of the program "MICMAC" and considering the theoretical framework of the subject of tourism in Algeria, the study reached the stage of identifying the key variables (fundamental, main) that control the future of the system and clarifying all the links between the variables of developing the tourism sector in Algeria. This made it easy to identify the key variables affecting this system, namely:

- **Laws governing the tourism sector:** Focus on establishing a set of laws that regulate investment in renewable energy projects from the beginning of the project activity until its completion.
- **Infrastructure:**it is necessary to develop and improve the tourism infrastructure, including transportation, accommodation, and tourism services, to ensure a comfortable and safe experience for tourists.
- **Qualified workforce:** To invest in training and qualifying human cadres working in the tourism sector to ensure the provision of high-quality services and create a distinctive tourism experience for tourists.
- **Governance:** Relying on governance principles and mandating their implementation in both the public and private sectors as they contribute to business openness.
- **Scientific and technological level**: Adopting advanced information and communication technologies to enhance tourism promotion and provide electronic services that facilitate tourists in planning their trips and booking tourism services.
- **General state strategy:** Ensuring the development of a long-term strategy that is periodically evaluated. This strategy should include a well-defined action plan with a specific timeframe, allowing for the optimal utilization of the available potential in the renewable energy sector.
- **Public and private investment spending:** Aligning government and private spending with the requirements of the tourism sector; private investment should also be encouraged, especially in expansion areas and tourist sites with significant potential.
- **Tourism promotion:** Strengthening marketing and promotional efforts to attract tourists from international markets and focusing on presenting a positive image of Algeria as a distinctive tourist destination.

Conclusion

The tourism sector is considered a vital sector that plays a leading role in many countries around the world. It contributes to generating financial flows, creating job opportunities, and driving economic development. It also enhances security and political stability. However, the development of this sector requires providing a suitable tourism environment. Although Algeria has available tourism potential, it has not achieved the expected efficiency in terms of revenue, job opportunities, and contribution to the national product. The government must exert greater efforts to exploit these potentials by adopting a clear-objective government strategy aimed at giving a qualitative leap to the sector so that it can play its effective role. It is also possible to benefit from the experiences of neighboring countries as a successful model. Moreover, the Tourism Development Plan (SDAT 2030), which was launched in 2008, faced many obstacles that prevented it from achieving the desired goals. Therefore, great attention must be paid to the tourism sector in order to find solutions and alternatives that revitalize it to become an effective contributor to the national economy and one of the alternative sectors to the hydrocarbon sector in Algeria.

In terms of foresight, we concluded that the most important factors that the Algerian state should target to develop in the tourism sector by 2030 are:

- The efficiency of the workforce and its ability to keep pace with technology and modern techniques.
- The widespread use of technologies.
- Encouraging foreign investors to invest in the tourism sector.
- Working to achieve the state's general strategy, which in turn will contribute to developing the tourism sector.

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Appendices

Appendix no. 1-List of variables forming the studied system

N°	Long label	Short label	Description
1	General strategy of the state	Gene- str	It is the long-term goal that the state wants to achieve by developing a strategy with clear goals, features and method of implementation.
2	Public and private investment spending	Pub - priv	It represents the spending made by both the government and the private sector to finance investment in tourism projects.
3	Laws governing the tourism sector	Laws	A set of laws regulating investment in tourism projects
4	Transportation network	Trans- net	It is represented by the land, sea and air transport network.
5	Taxes and fees	Taxes - Fe	It is represented by taxes related to investment in tourism.
6	Corruption	Corruption	Investors in developing countries face several obstacles including administrative bureaucracy, bribery and corruption.
7	Infrastructure	Infrastruc	The structures necessary for the comfort of the tourist.
8	Information and communication technology	lCT	Allows facilitating commercial, administrative and financial transactions.
9	Skilled labor force	Skilled Wo	A workforce with appropriate training, whether from universities or training centers.
10	Governance	Governance	Relying on the foundations of governance in managing projects and institutions, whether in the public or private sector, to facilitate openness and open the door to partnership.
11	Openness of business	Open - Bus	The degree of openness to international business and the ease of access for foreign investors.
12	Political, security and economic stability	Poli- Sec	The degree of stability of the political, economic and security situation, which allows for the provision of a suitable climate for investment.
13	Savings	Savings	It refers to the amounts of money saved by individuals in banks.
14	Appropriate macroeconomic framework	Macro econ	Which combines the level of growth, inflation, unemployment, etc.
15	Inflation	Inflation	The general level of prices.
16	Media and communication	Media - Co	The media and communication play a major role in raising awareness of any important issue from an economic, social and environmental perspective.
17	Interest rate	Interest R	Reducing the interest rate granted by banks may play a role in encouraging investment in tourism projects.

18	Tourism promotion	Touri Prom	The extent of promotion of the country's tourism potential.
19	Economic growth	Econ Grow	Tourism contributes to increasing the gross domestic product in most developing economies, which leads to economic growth in them.
20	Visa	Visa	How easy it is to get a visa
21	Health and hygiene	Health - H	How developed is the health system
22	Scientific and technological level	Scientific	Reflects the level of service provided to the tourist.
23	Exchange offices	Exch- Offi	Facilitating the exchange process.
24	Service prices	Service Pr	The competitiveness of the prices of the services provided.

Source: Prepared by the student based on a group of experts and actors in the tourism sector.

Appendix no 2 - Direct Impact Matrix

	1 : Gene- str	2 : Pub - priv	3 : Laws	4 : Trans- net	5 : Taxes - Fe	6 : Corruption	7 : Infrastruc	8 : TIC	9 : Skilled Wo	10 : Governance	11 : Open - Bus	12 : Poli- Sec	13 : Savings	14 : Macro econ	15 : Inflation	16 : Media - Co	17 : Interest R	18 : Touri Prom	19 : Econ Grow	20 : Visa	21 : Health - H	22 : Scientific	23 : Exch- Offi	24 : Service Pr
1 : Gene- str	0	3	P	2	2	2	2	2	2	3	2	0	0	0	0	0	2	1	1	2	1	1	2	2
2 : Pub - priv	0	0	0	3	0	0	3	1	1	0	0	0	0	3	2	0	2	1	2	0	1	1	0	1
3 : Laws	0	0	0	0	0	2	1	0	2	3	3	0	0	1	1	0	0	3	0	3	1	0	2	2
4 : Trans- net	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
5 : Taxes - Fe	0	3	0	0	0	0	0	0	0	0	1	0	0	2	2	0	1	0	3	0	0	0	0	0
6 : Corruption	P	0	P	0	0	0	0	0	0	P	2	0	0	1	0	0	0	0	2	0	0	0	0	0
7 : Infrastruc	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0	0	1	3	0	0	0	0	0
8 : TIC	2	0	2	0	0	0	0	0	2	3	2	0	0	0	0	3	0	3	0	1	0	2	0	0
9 : Skilled Wo	0	0	0	2	0	2	0	2	0	2	0	0	0	2	0	1	0	2	2	0	2	2	0	1
10 : Governance	P	0	3	0	0	3	0	0	0	0	2	0	0	3	0	0	0	2	3	0	1	1	2	0
11 : Open - Bus	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	3	0	0	0	0	0
12 : Poli- Sec	2	2	0	2	0	0	2	0	0	0	0	0	0	2	0	0	0	3	2	2	0	0	0	2
13 : Savings	0	2	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	0	0	0
14 : Macro econ	2	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0
15 : Inflation	2	3	0	0	2	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	0	0	0
16 : Media - Co	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	P	1	2	0	2	0	0
17 : Interest R	0	3	0	2	2	0	2	0	0	0	0	0	3	2	3	0	0	0	3	0	0	0	0	0
18 : Touri Prom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0
19 : Econ Grow	0	P	0	2	0	0	3	0	0	0	0	0	2	3	1	0	3	1	0	0	1	0	1	1
20 : Visa	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0
21 : Health - H	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	0	0	0	0
22 : Scientific	2	0	2	0	0	0	0	2	2	2	0	0	0	2	0	2	0	3	2	0	0	0	0	1
23 : Exch- Offi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0	0	0	1
24 : Service Pr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0

Source: Prepared by the student based on a group of experts and actors in the tourism sector.

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THE ROLE OF MEDIA IN SHAPING EARNINGS QUALITY: INITIAL PERSPECTIVES

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Abstract

This study examines the relationship between media coverage and earnings quality, providing an initial exploration using Taiwanese stock market data from firms listed on the Taiwan Stock Exchange from 1996 to 2020. Emphasizing how media scrutiny can improve transparency and mitigate information risk, the study delves into the theoretical implications for asset pricing and corporate governance. This preliminary analysis aims to guide future empirical research in this field, prompting scholars to further investigate the impact of media coverage on earnings quality and financial markets.

Keywords: *Corporate Governance; Media Coverage; Earnings Quality.*
JEL Codes: *G30, G34, L82*

Introduction

In today's economy and society, the significance of digital technologies is continually increasing (Kyurova, Zlateva, Koyundzhiyska-Davidkova, Vladov & Mierlus-Mazilu, 2023). Over recent decades, globalization has intensified, and the digitization of many societal processes has made electronic communication a vital tool, effectively removing distance as an obstacle to both informal and formal interpersonal interactions (Antova, 2023). This advancement has also fueled the growth of mass media.

The influence of mass media as a significant conduit of information on investors' trading activities and capital market asset pricing has been well-documented in the literature (Chan, 2003; Tetlock, 2007; Tetlock, Saar-Tsechansky, & Macskassy, 2008;

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Fang & Peress, 2009; Wu & Lin, 2017; Turner, Ye, & Walker, 2018; Ko, Lin, Wang, & Nguyen, 2023). The seminal work by Fang & Peress (2009) within asset pricing theory introduces two pivotal hypotheses - the impediments-to-trade and the investor recognition hypotheses - which offer insights into the observed low media coverage premium. These hypotheses suggest that stocks receiving little to no media attention may yield higher future abnormal returns compared to their high-coverage counterparts.

Empirical evidence from recent studies continues to validate the media coverage anomaly, highlighting that stocks with limited media exposure tend to outperform those with extensive media coverage in terms of future returns (Turner, Ye, & Walker, 2018; Huang & Zhang, 2022). However, the precise mechanisms through which media coverage influences future returns remain an area of active investigation and have not been fully understood yet.

The corporate governance literature increasingly explores the impact related to earnings manipulation and the overall quality of corporate earnings. For example, in the aviation industry, fuel hedging practices are subject to strict scrutiny (Zhen, 2021). Additionally, the influence of media coverage on managerial behavior has also garnered widespread attention. Chen, Cheng, Li, and Zhao (2021) recently demonstrated a significant inverse relationship between media attention and earnings manipulation, aligning with earlier metrics of earnings quality (Francis, LaFond, Olsson, and Schipper, 2003; Hribar & Craig Nichols, 2007; Lo, 2008). This suggests that media scrutiny serves as an external control mechanism, reducing managers' tendencies to engage in opportunistic earnings management.

Supporting this notion, previous studies have highlighted the media's role in early detection of corporate fraud, thus reinforcing its governance function (Miller, 2006; Dyck, Volchkova, & Zingales, 2008; Dyck, Morse, & Zingales, 2010). Consequently, firms with extensive media coverage tend to report higher quality earnings compared to those with minimal media exposure (Kim, Zhang, Li, & Tian, 2014). This implies that greater media visibility can enhance the transparency and accuracy of financial reporting and disclosure. Of particular interest is the potential role of earnings quality as a rational risk-based mechanism through which media coverage inversely predicts future stock returns, an area that has not been thoroughly explored. This study aims to fill that gap, driven by two main motivations.

Firstly, asset pricing literature has long debated whether return anomalies are the result of behavioral mispricing or whether they reflect compensation for identifiable systematic risks. Numerous studies have sought to address this debate across various anomalies. For example, research has explored the risk versus mispricing dichotomy in the contexts of the accrual anomaly (Hirshleifer, Hou, & Teoh, 2012), the low-volatility anomaly (Li, Sullivan, & Garcia-Feijóo, 2016), the MAX effect (Zhong & Gray, 2016), the R&D anomaly (Leung, Evans, & Mazouz, 2020), the illiquidity premium (Su, Lyu, & Yin, 2022), and the D&O insurance anomaly (Su, 2023), among others.

Secondly, influential studies have posited that firm-specific characteristics associated with average returns may serve as proxies for sensitivity to common, undiversifiable risk factors (Fama& French, 1993; Cochrane, 2011; Kelly, Pruitt, & Su, 2019). This perspective suggests that variables tied to earnings quality might also reflect exposure to these shared risk factors, thus offering a potential explanation for the inverse relationship between media coverage and future stock returns. Building on the two aforementioned propositions, numerous scholars have extensively explored the significance of information risk in the context of asset pricing by meticulously examining earnings quality as a critical firm-specific attribute. Earnings quality, which is often quantified through the precision and reliability of accruals, has been consistently identified as a systematic information risk factor with profound implications on the pricing kernel (Ecker, Francis, Kim, Olsson & Schipper, 2006; Lambert, Leuz &Verrecchia, 2007; Kim & Qi, 2010; Ogneva, 2012; Ma, 2017; Zhang & Wilson, 2018).

The main goal of this study is to investigate how mass media coverage can enhance the quality of corporate earnings and decrease a firm's exposure to information risk associated with earnings quality. By impacting the media coverage premium, these initiatives can provide benefits to market participants, paving the way for further exploration of this intriguing topic by future scholars.

Media Coverage and Earnings Quality

Particularly noteworthy are the contributions by Francis et al. (2005) and Zhang and Wilson (2018), who underscore the importance of accruals quality as a fundamental construct in assessing information risk related to cash flows, distinguishing it from other earnings attributes. Their research introduces a mimicking factor specifically tied to accruals quality, which serves as a proxy for the information risk associated with earnings quality. This factor captures the nuances of how accruals quality reflects the broader dimensions of information risk within financial statements.

This extensive body of research robustly supports the rational asset-pricing framework by demonstrating that earnings quality encompasses an undiversifiable information risk factor. This risk factor is inherent and cannot be mitigated through diversification, thus playing a crucial role in the asset pricing model. As a consequence, firms that exhibit lower earnings quality are often subject to higher costs when accessing debt and equity markets. This relationship underscores the economic significance of earnings quality, as it directly influences a firm's cost of capital and, consequently, its valuation and financial stability.

The findings from the studies by Francis et al. (2005) and Zhang and Wilson (2018) align with the broader theoretical discourse on how information asymmetry and quality impact investor behavior and market outcomes. By establishing a clear link between earnings quality and systematic information risk, these scholars provide a compelling explanation for the observed variations in financing costs among firms with differing levels of earnings quality. The integration of accruals quality into the asset-pricing model not only enriches our understanding of information risk but also offers practical insights for investors, analysts, and policymakers aiming to assess and mitigate financial risks.

The rigorous investigation into earnings quality as a measure of information risk has significantly advanced the field of asset pricing. The evidence presented by Francis et al. (2005), Zhang and Wilson (2018), among others, highlights the critical role of accruals quality in capturing undiversifiable risk, thereby influencing the cost structures and financial strategies of firms. This body of work not only bridges the gap between theoretical asset pricing models and empirical financial practices but also reinforces the importance of high-quality financial reporting in promoting market efficiency and investor confidence.

By leveraging the theoretical and empirical insights that suggest firms with less media coverage exhibit poorer earnings quality, reflecting on non-diversifiable information risk within asset pricing, we can derive a testable hypothesis regarding the covariance risk explanation. Specifically, the future return patterns observed in portfolios balanced by media-coverage characteristics may be influenced by earnings quality-linked information risk factor loadings.

In support of the external monitoring governance hypothesis (Miller, 2006; Dyck, Morse, & Zingales, 2010; Chen, Cheng, Li, & Zhao, 2021), we propose that firms with lower media coverage generally have inferior earnings quality compared to those with higher media coverage. This discrepancy in earnings quality is anticipated to correspond to different levels of exposure to systematic information risk. Consequently, if the covariance risk explanation for the low-media-coverage premium is accurate, stocks with lower media coverage should exhibit higher loadings on some earnings quality-linked mimicking risk factor, resulting in higher average future returns. Conversely, stocks with higher media coverage should have lower loadings on this risk factor, leading to lower average future returns.

This hypothesis is grounded in the notion that media coverage serves as an external monitoring mechanism, enhancing the transparency and earnings quality of firms. Lower media coverage implies less scrutiny and thus higher information risk, which is captured in the earnings quality of the firm. As such, the varying degrees of media coverage and the associated earnings quality impact the systematic information risk loadings, influencing the average returns of these stocks.

Testing this hypothesis involves analyzing the return patterns of portfolios sorted by media coverage and examining the relationship between media coverage, earnings quality, and the earnings quality-linked risk factor loadings. If the covariance risk explanation holds, we would observe a consistent pattern where lower media coverage correlates with higher earnings quality-linked risk factor loadings and, subsequently, higher future returns, and vice versa for higher media coverage stocks.

Drawing on the methodological foundations laid out in asset pricing research by Pastor & Stambaugh (2003), Chen and Petkova (2012), and Su (2016), a comprehensive understanding of the low-media-coverage premium, rooted in systematic earnings quality-linked information risk, must undergo rigorous testing across four critical dimensions: (1) Identification of a viable earnings quality-linked information risk factor impacting the pricing kernel; (2) Validation of market pricing for exposure to this identified risk factor; (3) Confirmation of significant differences in risk factor loadings between low- and high-media-coverage stocks; and (4) Establishment of the magnitude of these loading differences to account for return differentials between the two groups.

The media coverage anomaly in financial literature has often been linked to behavioral mispricing by investors (Gadarowski, 2002; Fang & Peress, 2009; Chen, Pantzalis & Park, 2013). However, there remains a lack of consensus regarding the systematic risk associated with stock media exposure. Our research advocates a novel approach by focusing on the concept of rational risk (Francis, LaFond, Olsson, & Schipper, 2005; Ecker, Francis, Kim, Olsson, & Schipper, 2006; Lambert, Leuz, & Verrecchia, 2007; Kim & Qi, 2010; Ogneva, 2012; Ma, 2017; Zhang & Wilson, 2018).

Data Source and Summary Statistics

Our study sample consists of stocks from TWSE and TPEx firms that are common across multiple datasets, including the Taiwan Economic Journal (TEJ) Company DB newspapers file, the TEJ Equity monthly return file, the TEJ IFRS financial report annual file, and the TEJ Company Governance file. Data collection spans from January 1996 to June 2021, with the commencement of firm-specific media coverage data in 1996. Firms in financial industries identified by two-digit industrial codes 28, 58, and 60 are excluded to ensure regulatory and accounting consistency. The TEJ database serves as our primary data source, facilitating the integration of information extracted from these diverse datasets. The final sample comprises around 34,278 firm-year observations spanning from 1996 to 2020. Detailed definitions of the variables utilized in our analyses can be found in the subsequent subsection.

Measuring Media Coverage

Our approach to quantifying firm-year media coverage, as per Chen, Cheng, Li, and Zhao (2021), involves capturing the total count of newspaper articles related to a specific stock published within a year, denoted as MEDIA. To create this metric, we systematically scour the TEJ database for references to our sample firms in prominent Taiwan newspapers and mass media outlets, including DigiTimes, Wealth Magazine, Economic Daily News, Commercial Times, and MoneyDJ. From January 1, 1996, to December 31, 2020, we identified and retrieved 1,251,087 articles pertaining to TWSE/TPEx listed firms, resulting in 34,278 firm-year MEDIA observations. In instances where no media coverage has been detected for a firm-year, the MEDIA value is recorded as zero.

Summary Statistics

Table 1 presents descriptive statistics for the variable MEDIA (media coverage) across different years for TWSE/TPEx-listed firms. The table includes the number of observations (N), the mean, and the standard deviation (STD) for each five-year period from 1996 to 2020.

Table no. 1 - Descriptive Statistics of MEDIA from Taiwan

Year	**N**	**Mean**	**STD**
1996-2000	4481	33.94	50.658
2001-2005	6067	53.142	73.476
2006-2010	6976	42.212	50.792
2011-2015	8080	30.704	36.216
2015-2020	8674	23.71	19.976
1996-2000	34278	36.7416	46.2236

Source: The data is sourced from the Taiwan Economic Journal (TEJ) database, covering TWSE and TPEx listed companies from January 1996 to June 2021, excluding financial industries.

Based on the data provided in Table 1, it is evident that there are fluctuations in media coverage over the years for TWSE/TPEx-listed firms. The mean media coverage ranges from a high of 53.142 during 2001-2005 to a low of 23.71 in the period 2015-2020. These statistics indicate varying levels of media attention received by the firms over time, with some periods experiencing higher coverage than others.

Moreover, the standard deviation values show the dispersion of media coverage data around the mean for each period. For instance, the standard deviation is highest during 2001-2005 (73.476), indicating a wider range of media coverage values during that period compared to others. In contrast, the standard deviation is lowest in the 2015-2020 period (19.976), suggesting a more concentrated distribution of media coverage values during those years.

Overall, Table 1 provides valuable insights into the changing patterns of media coverage for TWSE/TPEx-listed firms across different five-year intervals, highlighting the variability and trends in media attention received by these companies over the years.

Conclusion

This study has explored the intricate relationship between media coverage and earnings quality. Our analysis has revealed that media coverage plays a critical role in shaping the quality of corporate earnings by serving as an external monitoring mechanism. This, in turn, influences the systematic information risk associated with earnings quality.

Key findings suggest that lower media coverage is associated with poorer earnings quality, reflecting higher information risk. This heightened risk can have significant implications for asset pricing, as it affects the cost of capital and the overall financial stability of firms. Conversely, higher media coverage tends to enhance earnings transparency and quality, thereby reducing information risk and promoting market efficiency.

Despite the robust theoretical and empirical foundations established in previous studies, the precise mechanisms through which media coverage impacts future stock returns and the role of earnings quality as a rational risk-based factor remain areas ripe for further investigation. Future research should focus on empirically testing these hypotheses, particularly the covariance risk explanation, which posits that differences in media coverage correlate with varying degrees of exposure to systematic risk factors tied to earnings quality.

In conclusion, this study underscores the importance of media coverage in enhancing earnings quality and reducing information risk. By doing so, it provides a valuable framework for future empirical research aimed at validating these theoretical propositions and further elucidating the complex dynamics between media coverage, earnings quality, and financial market behavior.

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NOSTALGIA AND DESTINATION CHOICE AMONG GENERATIONS

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Abstract

It is the first time in history of humanity that five generations with so different preferences are living together in today's challenging world. Travel habits and tastes are shaped by nostalgia, which has a significant impact on destination selections for all age groups. This study looks at how Baby Boomers, Generation X, Millennials, and Generation Z and Alpha Generation choose their travel destinations based on sentimental longings for the past.

Tthe aim of this paper is to research the common attitudes and differences in the preferences of travel destinations among Baby Boomer, X, Y, Z, and Alpha Generation and the role that nostalgia plays. Knowing these subtle differences across generations makes it easier to customize tourism marketing methods, making sure that tourist locations emotionally connect with visitors and eventually increasing their happiness and loyalty.

Keywords: *nostalgia; generations; travel destinations; travel preferences; baby boomer; generation X.*

JEL Codes: *Z30, Z32, J10.*

Introduction

Across generations, nostalgia has a significant impact on travel habits and destination preferences. The draw of going back to locations associated with treasured memories and nontangible goods can be overwhelming for many people. People of all ages are drawn to places that remind them of their family or personal past and provide a reassuring sense of belonging (Russell, 2008, pp. 105-106). Travel decisions motivated by nostalgia vary between generations, reflecting broader socioeconomic shifts and advances in technology. Destinations that provide a feeling of continuity with their history, like historical monuments or places they spent their childhood vacations, may appeal to older generations. Younger generations, on the other hand, might be just as nostalgic but also look for new experiences, so they would travel to places that combine historical relevance

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with contemporary conveniences. According to Yuleva, at the heart of this is, the tourist business which delivers value on the market and applies creative approaches and innovation in meeting the needs and solving the problems of younger consumers (Yuleva, 2019, p.71). The way nostalgia and modern travel styles interact shows how different generations are connecting to their past in different ways through the destinations they choose to visit.

Literature review

Belonging to a generation

A generation is a cohort-group whose limits are set by peer personality and whose length roughly corresponds to the duration of a stage of life. This definition given by Strauss and Howe has the basic elements of the length of a generational cohort-group, and second, its peer personality (1991, p.60). The explanation about the duration of a generational group varies among scientists – some think that the duration should be based on the average age of parenthood, others on the 22 years length of a phase of life in terms of central social roles (Strauss & Howe, 1991, p.60), while over 150 American sociologists say they oppose not labeling generations (Todorov, 2024, p.1). According to the author, the duration is based on a certain historical period that has common economic, technological and socio-political characteristics. For the research aim of this study, the author follows the categorization made by Strauss ans Howe (1991), and Sima (2016, pp. 471-472).

Table no 1- Generational Categorization

	GENERATION	BIRTHYEARS	AGE IN 1991	AGE IN 2013	AGE IN 2024
1.	***Missionary***	1860-1882	109 +	(not alive)	(not alive)
2.	***Los***	1883-1900	91-108	(not alive)	(not alive)
3.	***G.I.***	1901-1924	67-90	89-112	100+
4.	***Silent***	1925-1942	49-66	71-88	82-99
5.	***Baby Boomers***	1943-1960	31-48	53-70	81-64
6.	***Thirteenth (X)***	1961-1980	11-30	33-52	44-63
7.	***Millennial (Y)***	1981-2000	0-10	13-32	24-43
8.	***Generation Z***	2001- 2009	(not born)	4-12	15-23
9.	***Generation Alpha (A)***	2010-2021	(not born)	0-3	3-14
10.	***Pre-war III Gen***	2022-ongoing	(not born)	(not born)	0-3

Source: Strauss, W., & Howe, N. (1991)/ Sima, C. (2016)/ McCrindle, M., & Wolfinger, E. (2010)/ Modified by the author (2024).

Table 1 shows the generations typology by timeframe with average 17,3 years per period. The start of the war in Ukraine on February 2022, continuing with the Israel-Palestinian war on October 2023, the tensions in Middle East till today, as well as the bank collapse, the ongoing challenges posed by inflation, the volatile stock markets, lead the author to name the generation from 2022 and on as *"Pre-war III Generation"*. This is based on identifying common geopolitical and economic characteristics with the period before II World War.

Different generations have different education, family experience, money dealing (Patterson, 2012, p.1), work ethic, communication styles, business focus, leadership style, training, development and values. Many researches on shifts and variations in values have been published, drawing on the extensive international value surveys, like World Values Survey and European Values Study (Slagsvold & Hansen, 2021, p.158). Age, gender, education and income are some of the variables that influence people's value priorities (Schwartz, 2007, p. 162) and educational institution's role to establish favorable and stimulating environments for learning is equally significant as students' motivation and personal talents (Chahinez & Meriem, 2023, p.3). Involvement of universities as well in training and supporting student entrepreneurs represents a key opportunity to foster innovation and knowledge transfer to the new generations (Bilal, Moussa & Farid, 2024, p.67).

Nostalgia

The word *"nostalgia"* comes from the French word "nostalgie" (Consciousness, 2022). The word was designed in Neo-Latin, in 1688, by the Swiss Johannes Hofer, wanting to convey the German word *Heimweh (Heim = home, Weh = pain),* the feeling of mental pain felt by the German or Swiss mercenaries who plowed Europe away from their special homeland. Hofer used the Greek building words, *nostos (νόστος=returning home) and algos (ἄλγος =pain*), but in Greek the word *"nostalgia"* did not appear until the 19th century (Sarantakos, 2023, p.1). In terms of the existing literature, nostalgia has received most attention from folklore, psychoanalytic psychologists and sociologists with interests in trends in culture and society (Brown, Humphreys, 2002, p.6).

According to Russell (2008, p. 104) there are two types of nostalgic tourists: real and historical. The first tourist is the one who seeks to revisit their cultural environment from past period and live again old experiences. The second type of tourist is one who travels to witness an idealized cultural setting that they have only heard about or read about indirectly (via books, movies, or stories, for example). The first type is associalized ore with the Silent Generation, Baby Boomers and Generation X, while the second one with the Y, Z and A.

More specifically, the Silent Generation (Jõesalu, 2018, p.2-3) and the Baby Boomers go back to places associated with their early years in an effort to relive special moments Furno-Lamude, 1994, p.130). Travel preferences of Generation X exhibit a blend of nostalgia and novelty for places that they have already been (Sieler, 2017, p.10).

Millennials are drawn to places that are highlighted in popular media or that remind them of their childhood because they are motivated by a combination of digital culture and nostalgia (Sofronov, 2018, p. 112-113). As about Generation Z and A digital culture and media have a bigger impact (Kamboj & Sharma, 2016, p.76-77), despite of the fact that these generations are losing ground regarding press independence (Wilberg, 2022, p.18).

In relevance with the generation in the research that follows there would be examine the correlation of nostalgia with the preference for destinations with historical or personal significance.

Methodology

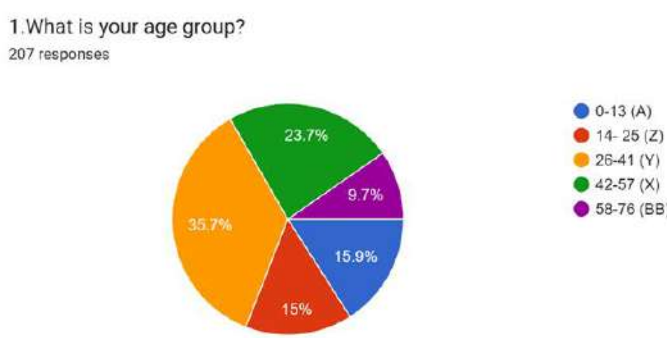
For the purposes of the research, a quantitative study was conducted among Baby Boomers, X, Y, Z, and people from Alpha Generation in order to identify common attitudes and differences in the preferences of travel destinations based on sentimental longings for the past. The research was conducted in the period March-June 2024, using an online anonymous questionnaire via Google forms, having 207 respondents. The hypotheses that were set about "Nostalgia and destination choice" are:

- H1: Nostalgia plays a more significant role in travel destination choice for older generations (X, BB).
- H2: Preference for relaxation and leisure is more common among older generations (X, BB), while younger generations (A, Z, Y) prefer more adventurous and physically demanding activities.

Research Analysis and Discussion

Regarding the respondent's age, about 1/3 of them belong to the age of group 26-41 while almost 25% of the participants belong to the age group 42-57.

Figure no. 1 Age group

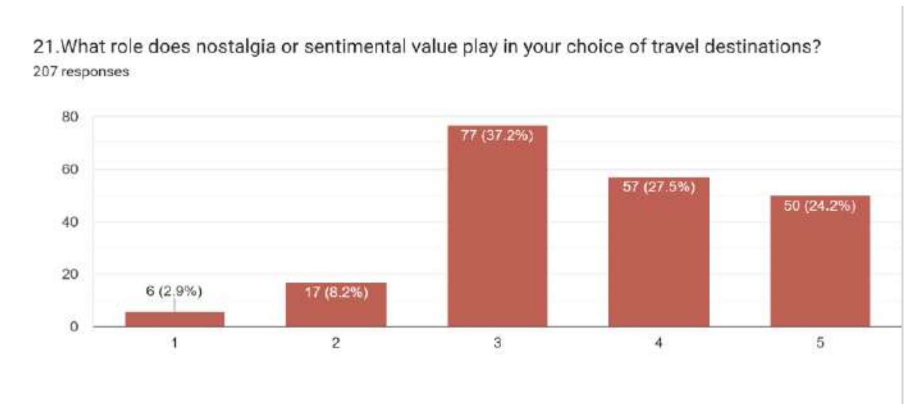


Source: Author's research (2024)

They are followed by participants who state that they belong to the age group of 0-13 (15.9%) and 14-25 (15%) respectively. Finally, the minority of the sample belongs to the age group of 58-76.

Based on the percentages of responses in Figure 2, it appears that the majority of people (52%) somewhat or completely agree that nostalgia or sentimental value plays a role in the choice of travel destinations. 1/3 of people in the sample agree to a moderate degree. When examine the ages of responders the majority is part of the Baby Boomers and Generation X. The small percentage (11%), which do not agree or only slightly agree with the question's statement belongs to Gen Z and Alpha. The hypothesis made that nostalgia plays a more significant role in travel destination choice for older generations is confirmed.

Figure no. 2 Role of nostalgia or sentimental value in the choice of travel destination



Source: Author's research (2024)

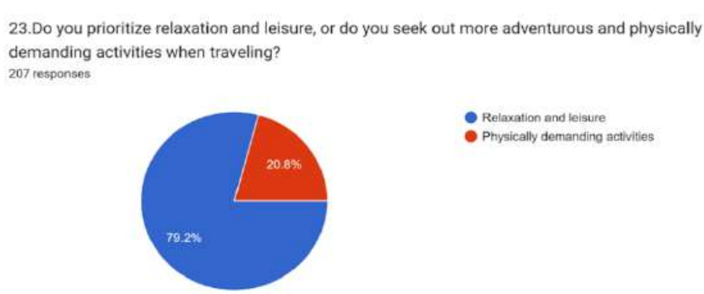
The following question relates to the adaptability of travelers to changes due to unexpected events. About 1/5 of respondents answered that they remain calm and adaptable in the changes, which is the highest percentage (19,3%) in the sample. Next is the 15% of respondents who keep essential documents and contact information easily accessible in case of emergencies. Then, with almost the same percentage is the answer in which respondents consult with locals or hotel staff for recommendations on alternative activities or routes. This is followed by 2 groups of respondents with exactly the same percentage (11.1%), where the first group is preparing to change accommodation or transportation options if necessary and the second group are those who are open to embracing unexpected changes and turning them into new opportunities for exploration or discovery. The Baby Boomers, representatives of Generations X and Y gave the biggest part of answers until here. A few only use technology to stay connected and informed about changing circumstances, from whom Generation Alpha representatives are the majority. A smaller percentage (7.2 %) is considering alternative modes of transportation in case of disruptions to flights or trains, here we can see a vatiety of generations. Then, follow who take advantage of travel insurance policies that offer coverage for trip interruptions or cancellations (12 respondents), most of them are from the Silent Generation. Reaching the even smaller percentages –the Baby Boomers and Silent Generation, there are those who said they collaborate with travel companions to make collective decisions and adjustments to plants and those who have a contingency fund available for unexpected expenses related to travel disruptions.

Figure no. 3 Readyness for adaptation in travel changing circumstances

Source: Author's research (2024*)*

Based on the percentages of responses presented in Figure 3, it appears that an overwhelming majority, namely 4/5 of the total sample, is in need of relaxation and leisure and gives priority to this part, while only 1/5 of the respondents prefer to seek out more adventurous and physically demanding activities.

Figure no. 4 Relaxation orphysically demanding activities?



Source: Author's research (2024)

According to the research's data the hypothesis made that preference for relaxation and leisure is more common among older generations -Silent, X, and Baby Boomers, while younger generations -A, Z and Y prefer more adventurous and physically demanding activities is confirmed.

Conclusion and Recommendations

Generational differences in choices for destinations are largely due to nostalgia, with each generation displaying particular preferences based on their own historical and cultural backgrounds. Baby Boomers frequently look for travel destinations that let them re-establish ties to their past, going to locations that conjure special recollections or momentous historical occurrences from their early years. This generation is inclined to return to locations where they have important life experiences because they value the emotional comfort and familiarity that nostalgia travel destinations offer. They love travel locations that have both fresh experiences and nostalgic appeal. This generation looks for fresh travel destinations that provide their own families with distinctive cultural and recreational experiences, but they also frequently return to family holiday spots from their youth. The combination of the ancient and the new speaks to their need for development and continuity, which is appropriate given their position as a bridge between two periods. Millennials combine nostalgia with the need for experiences worthy of social media, which is why they frequently select locations that are praised in the media or that bring back childhood memories.

Despite being the generation least affected by nostalgia, Generation Z nevertheless has a tendency toward vintage fashion and vacation choices that are shaped by family. Their travel decisions are frequently influenced by a blend of traditional tales and modern fads. Travelers' stronger ties and loyalty are fostered by the travel industry's ability to create customized marketing tactics that meet their emotional and experiential demands based on an understanding of these generational preferences.

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THE ROLE OF ARTIFICIAL INTELLIGENCE IN THE TRANSFORMATION OF MARKETING COMMUNICATIONS

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Abstract

In the modern digital era, artificial intelligence (AI) is emerging as a major driver of innovation in various fields, including marketing. The development of AI technologies is transforming traditional marketing approaches by providing new opportunities for personalization, automation, and analysis of large volumes of data. This allows companies not only to optimize their campaigns, but also to create deeper connections with consumers, adapting to their needs and preferences in real time. Despite the significant advantages, integrating AI into marketing requires overcoming a number of challenges, including ethical issues, personal data protection, and the need for changes in organizational structures. This article examines the role of artificial intelligence in digital marketing, its key applications, and its potential to shape the future of the industry.

Keywords: *artificial intelligence; digital marketing; personalization; automation; data analytics.*

JEL Codes: *M20, M21, M29*

Introduction

It is inevitable that the artificial intelligence (AI) is not the future anymore, but it is the present. It has been an object of interest since 1950s (Seth, 2024). However, scientific research on the topic, software products development and applications of the AI in everyday life have been taking a significant share. The Artificial Intelligence Index Report 2024 draws the attention to the fact that software products related to AI have been

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increasing significantly since 2011 – from 845 to 1.8 million in 2023 (Maslej et al., 2024) Various applications of AI find their place in different area including communication, visualization, education, medicine, research, economy, business, etc. AI is becoming one of the factors for competitiveness of the companies, but it should be taken into consideration that even concerning the introduction of information and communication technologies (ICTs) the enterprises are at very different stage of development. We believe that examination of the AI's potential in the business should be a constant process as the AI itself is something in a process of evolution. Thus, currently every examination of AI's role in the entrepreneurship is an up-to-date topic. AI is not just a trend it seems that its utilization can lead to significant transformation of business and economy on global level. (Soni, Sharma, Singh, & Kapoor, 2020)

AI in Business and in Marketing in particular

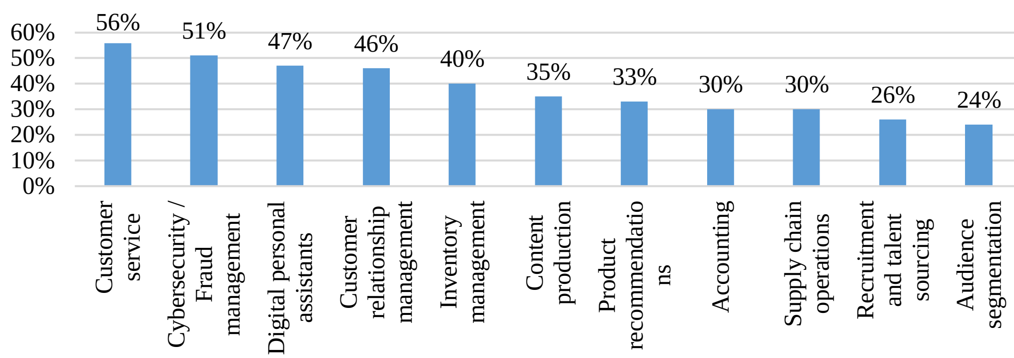
There is an enormous quantity of literature on the topic of AI in last years. Some of the studies can be classified based on the area of implementation of AI in business (Heath, 2023; Alareeni & Elgedawy, 2024a; Alareeni & Elgedawy, 2024b) and others according to the studied region (Horák, J & Turková, 2023; Alareeni & Elgedawy, 2024a; Alareeni & Elgedawy, 2024b). Fields such as accounting, sales, marketing, and cybersecurity are just a few examples of where its potential can be seen (Kempton, 2024). As for the marketing in particular, some of the possible applications are related to managing customers, improving customer services, suggestion of new products, audiences segmentation, customers' satisfaction identification, etc. (Bharadiya, Thomas, & Ahmed, 2023)

Some authors divide the AI impacts into first-order and second-order effects (Enholm, Papagiannidis, & Mikalef, 2022; Tairov, Stefanova, Aleksandrova & Aleksandrov, 2024). The first-order effects associated with the use of AI concern the changes it brings to organizational processes, while the second-order effects relate to the impact on the organization itself, stemming from the application of AI in various operations. (Enholm, Papagiannidis & Mikalef, 2022)

However, AI application depends on a number of factors and the general context is related to trust. Similarly to its importance in interpersonal relations the trustworthiness of AI is a basic requirement for its introduction. Without trust, we are left with uncertainty, suspicion, hesitation, and fear, as its fragile nature makes it difficult, if not impossible, to restore once broken (Bell, 2024). Furthermore, AI utilization in companies is related to ethical issues regarding privacy and even security challenges. This requires introduction of regulation concerning data protection, cyber security, information and limitations on AI use. The most effective and efficient application of AI is a supporting tool, mostly when analyzing vast amount of data concerning the business activities (Uzialko, 2024; Zhao, Richards & Kumar). Furthermore, the constant improvement and even evolution of AI leads to precision of classification and forecasting when analyzing data without the so-called guided learning (Chui, Manyika & Miremadi, 2018).

In 2023 Forbes Advisor (Hann & Watts, 2023) published a study on the application of AI in business as it has positive impact on efficiency, time and costs. 600 companies participated in the survey and some of their results are presented on the following figures.

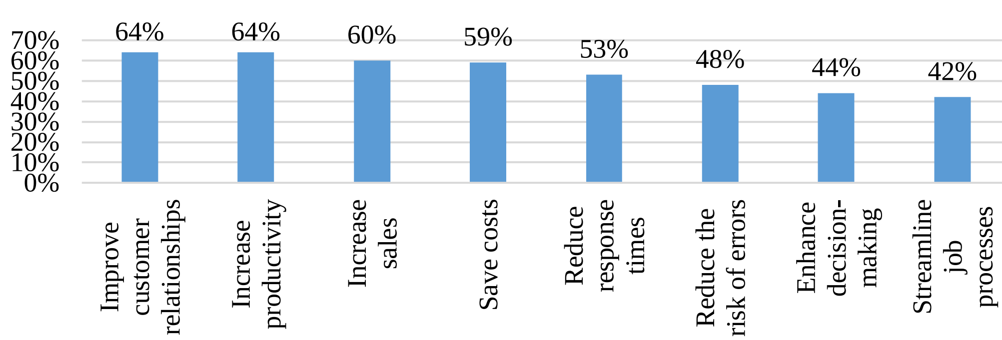
Figure no. 1 Top Ways Business Owners Use Artificial Intelligence



Source: Hann, K. & Watts, R. (2023) How Businesses Are Using Artificial Intelligence In 2024, https://www.forbes.com/advisor/business/software/ai-in-business/

Figure 1 illustrates the main areas in which businesses are implementing artificial intelligence. The greatest emphasis is placed on automation, improving customer relationships and data analysis, which shows the broad application of AI in business process optimization.

Figure no. 2 The Positive Impact Business Owners Expect from AI

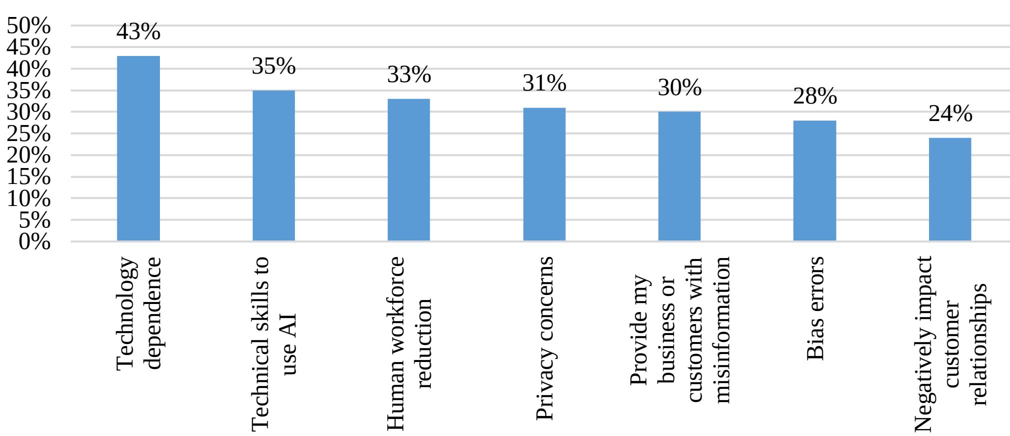


Source: Hann, K. & Watts, R. (2023) How Businesses Are Using Artificial Intelligence In 2024, https://www.forbes.com/advisor/business/software/ai-in-business/

As can be seen on Figure 2, the expected benefits of using artificial intelligence in business cover a wide range. The most frequently noted are increased efficiency, reduced operating costs and improved accuracy of decision-making.

From the analysis of the presented figures, it is clear that the predominant responses in this study are focused on the field of marketing, with a special emphasis on customer relationship management. This trend highlights the importance of marketing strategies for engaging and retaining customers in the context of the modern business environment. The choice of marketing as the main focus reflects the need for personalized approaches and effective use of tools that help understand consumer needs and create long-term relationships with customers. In this regard, the results highlight the critical role of marketing initiatives for business competitiveness and for increasing customer satisfaction in a dynamic market.

Figure no. 3 Business Owner's Concerns of Using Artificial Intelligence

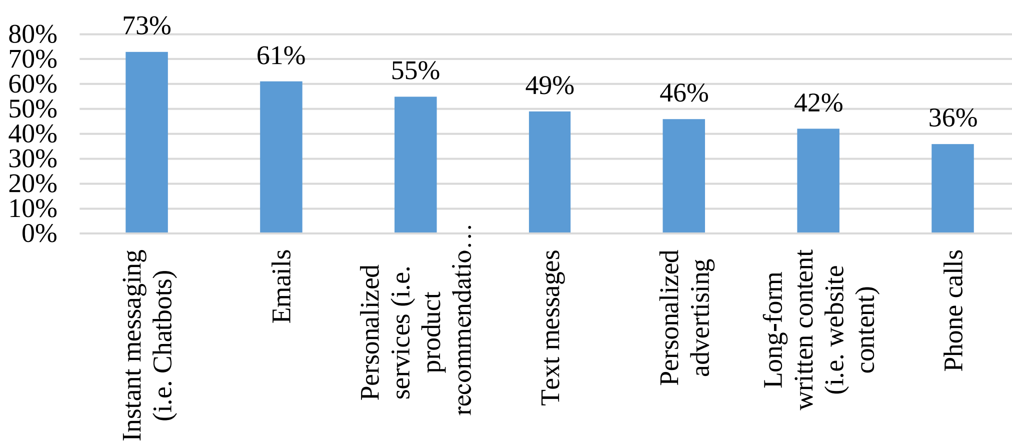


Source: Hann, K. & Watts, R. (2023) How Businesses Are Using Artificial Intelligence In 2024, https://www.forbes.com/advisor/business/software/ai-in-business/

Any innovation, including the implementation of artificial intelligence (AI) in business, is associated not only with expectations of improvements, but also with a number of concerns that may limit the speed and scale of its implementation (Figure 3). The most common concerns focus on cybersecurity issues, which include potential risks of data misuse, breaches in information protection and increased vulnerability of business processes (European Commission, 2024a). In addition, ethical aspects of the use of AI are causing serious debates, such as questions about the transparency of algorithms, discriminatory practices and the liability for decision-making by automated systems

(European Parliament, 2022). In addition, the lack of trust in new technologies is proving to be a key barrier to their widespread adoption. This distrust often stems from insufficient awareness about the functionality and safety of AI, as well as the lack of standard regulations to ensure the reliability of these technologies (European Commission, 2024b). Thus, despite the potential of AI to transform business processes, these concerns require attention and active action from developers, businesses, and regulators to minimize risks and facilitate the adaptation of innovations into practice.

Figure no. 4 Ways AI is Improving the Customer Experience



Source: Hann, K. & Watts, R. (2023) How Businesses Are Using Artificial Intelligence In 2024, https://www.forbes.com/advisor/business/software/ai-in-business/

The examined literature definitely demonstrates that one of the areas, in which AI can improve the functioning of the companies is the marketing (Alareeni & Elgedawy, 2024a; Alareeni & Elgedawy, 2024b). First of all, it is the relationships with the customer (Hann & Watts, 2023; Correira & Venciute, 2024), and they can be improved by analyzing the customers behavior (including social media), making predictions and suggesting personalized (Abraham & Edelman, 2024) approaches. AI can test different approaches, make predictions and suggest the most effective ones, making the digital marketing more successful (Gupta & Katoch, 2023). Another effect of the AI concerning the competitiveness of the companies in the contemporary curcimstances is related to the sustainable consumption (Khan & Mahmood, 2024; Dimitrova, Ilieva & Angelova, 2022).

Alongside with our traditional literature review, we decided to ask ChatGPT for top five competitive advantages, which AI gives to the business. According to it they are enhanced decision-making, improved customer experience and personalization, operational efficiency and automation, better risk management and fraud detection, innovation and product development. As concerns the marketing ChatGPT suggests that AI can be a competitive advantage in the following areas: personalized customer experiences, predictive analytics for targeted campaigns, dynamic pricing strategies, automated customer interactions with chatbots, enhanced content creation and curation, social media listening and sentiment analysis, optimized ad targeting and spending, customer retention and loyalty programs. According to the AI itself "Using AI in these ways enables businesses to reach the right audiences, personalize interactions, improve efficiency, and adapt to market changes swiftly. Together, these capabilities create a significant competitive advantage by maximizing marketing impact and enhancing customer satisfaction". (OpenAI, 2024)

The role of AI in digital marketing

In the modern business world, entrepreneurs are faced with the complex task of developing effective marketing strategies that reach target audiences and generate leads. Their main goal is to achieve results through innovative and effective approaches, but they often face limitations related to the availability of resources and time. (Coonecto, 2023) In this context, artificial intelligence (AI) plays a transformative role, providing powerful tools to address these challenges and optimize marketing processes. Algorithms increasingly manage and control communication and interaction processes. (Gentsch, 2019, p.81) In marketing automation, the algorithm derives its suggestions according to what the user has performed as an action in the past. (Mueller&Massaron, 2018, p.134) Modern consumers are technologically savvy and constantly looking for new suggestions and innovative solutions. The emergence of the digital market has fundamentally transformed business, challenging marketing to adapt its approaches to changing consumer habits. This includes developing creative strategies for reaching audiences and effectively managing customer relationships. In addition, marketing is increasingly taking advantage of the consumer potential to co-develop solutions and implement automation in sales processes. (Stavrova et al., 2021)

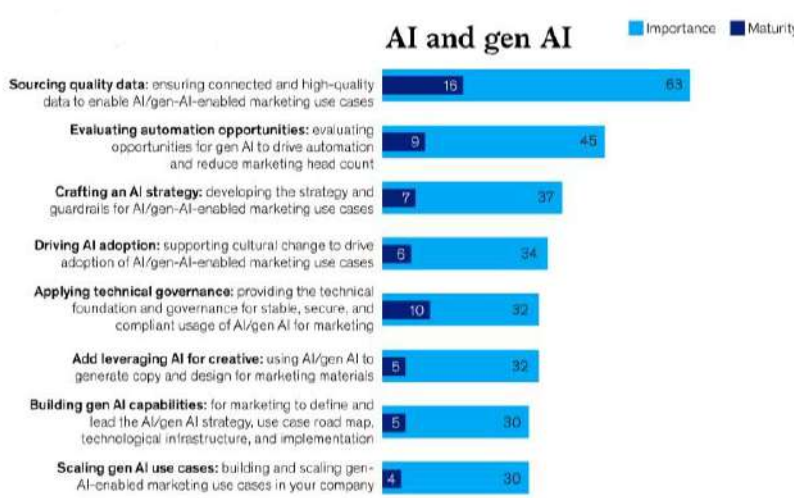
Personalization is the process of adapting marketing messages, products, and services to individual needs, preferences, and attitudes based on the digital footprints left by consumers. As Gartner (2023) notes, "Artificial intelligence will allow us to create highly personalized experiences for each customer, using data about their behavior and preferences". By using artificial intelligence, personalization reaches a high level of accuracy and efficiency by analyzing vast amounts of data in real time and offering appropriate solutions to personal expectations. By analyzing large volumes of data, AI can identify specific patterns and trends, which leads to more effective marketing strategies

(Brill, Munoz, & Miller, 2019, p.1401). AI's ability to process information from various sources such as pop-ups, website visits, and social networks allows for a more detailed profile of each customer, allowing companies to make more precise offers that are tailored to the individual needs of customers. (Gupta&Khan, 2024, p.5)

As we mentioned, AI offers products and services that are based on previous interactions and customer behavior. For example, platforms such as Amazon and Netflix use such systems to provide personalized offers to their users. (Brill et al., 2019, p. 1405) Thanks to AI, platforms adapt the content of sites, emails and advertisements depending on the preferences and interests of users, which leads to higher engagement and customer satisfaction. (Senyapar & Nurgul, 2024, p. 10)

According to a McKinsey & Company survey of 100 marketing leaders in North America and Europe looking for opportunities to drive growth, businesses are currently navigating complex and expansive environments and need to adopt a more connected and adaptive way of working. Special attention is paid to marketing technology, which is related to powering and accelerating initiatives through detailed, data-driven, and personalized campaigns. Respondents see the AI as the new answer to increasing productivity and speed, as well as increasing content creation and campaign execution. (McKinsey & Company, 2024)

Figure no. 5 Importance and maturity of AI and generative AI (gen AI) capabilities, % of marketing leaders



Source: McKinley&Company. (2024). Connecting for growth: A makeover for your marketing operating model, Retrieved November 16, 2024, from https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/connecting-for-growth-a-makeover-for-your-marketing-operating-model

Figure 5 shows the perception and application of artificial intelligence (AI) and next-generation AI in marketing strategies. The data analysis shows that their importance for achieving company growth is highly appreciated. However, the pace of implementation is slow. This shows that companies, even if they understand the potential of AI, are still in the early stages of integrating it into their marketing activities. The biggest advantages that respondents point to are that it provides high-quality data, which is the basis for any successful AI strategy. They also see the great potential of AI for automating routine tasks and optimizing processes. Developing a clear and well-defined strategy is key to the successful implementation of AI. During the process of implementing full business digitalization, it is essential to restructure the organizational management framework and design or adapt a new business model tailored to the companies' unique characteristics. (Zavrazhnyi, K., 2020, p.74)

According to Coonecto (2023), AI is a key player in digital marketing for businesses. They refer to the main advantages that AI provides, which are the possibilities for *automation*: increased productivity; reduced human errors; resource optimization; better data management and improved customer service. Another important emphasis is placed *on creating content* with artificial intelligence, which is an innovation in digital marketing for small businesses. In addition to content generation, more and more companies are using the *opportunity to combine video content and artificial intelligence in marketing*. Another important advantage is the *possibility of optimizing paid ads* with artificial intelligence, which will increase the return on investment. A special place is also given to ChatGPT in GOOGLE Ads/PPC: for optimizing and personalizing advertising campaigns. *Competitive analysis* is also important for successful business, and in modern conditions this is possible by gaining an advantage through business intelligence provided by artificial intelligence.

Trends in digital marketing communications

According to recent forecasts, the global digital advertising and marketing market will reach a value of $786.2 billion by 2026, which represents a significant growth compared to the current level of the industry. This rapid growth is the result of the increasing importance of digital platforms in the modern business environment, as well as innovations in technology that offer new opportunities for engaging with consumers and optimizing marketing strategies. (GlobeNewswire, 2022)

Reasons for the growing importance of digital advertising

- *The shift to digital*: With the rise of internet usage and mobile technologies, traditional advertising formats are beginning to give way to digital platforms, while consumers are spending more time online, creating new opportunities for marketers.

According to statistics, over 60% of global advertising spending will be directed to digital channels by 2026 (GlobalData, 2023).

- *Consumer focus on personalization*: With the development of AI and machine learning, advertisers can analyze user data and offer personalized marketing messages, leading to greater engagement and better results from advertising campaigns. Content personalization has been shown to increase purchases by up to 20% in digital channels (Criteo, 2023).

- *The expansion of mobile marketing*: Mobile platforms and applications are becoming increasingly important channels for reaching consumers, with more than 50% of advertising spending expected to be directed to mobile devices by 2024 (Forrester, 2023).

Role of Social Media in Digital Advertising

Social media is playing a leading role in the growing importance of digital marketing. Forecasts show that advertising spending on social platforms such as Facebook, Instagram, and TikTok will grow significantly in the coming years, with TikTok establishing itself as a key advertising platform. The ability to target specific audiences and the high level of engagement of users on social media are major factors leading to increased advertising spending (Statista, 2023).

Forecasted growth trends in the global digital advertising market

Video advertising and mobile platforms: With the increasing use of mobile devices and video content, video advertising is predicted to grow by about 25% by 2026. Platforms such as YouTube and TikTok will continue to gather large audiences and establish themselves as major channels for video advertising (eMarketer, 2023).

Voice technologies and advertising: With the development of voice assistants such as Amazon Alexa and Google Assistant, advertising integrated into these platforms is expected to grow by 20% annually over the next 5 years. This will open up new opportunities for interaction with consumers (GlobalData, 2023).

Artificial intelligence and automation: AI technologies will continue to play a central role in digital marketing, enabling automation of advertising campaigns and better personalization of content. Marketing automation is expected to grow by 18% over the next 5 years (Forrester, 2023).

Regional differences and global growth

While digital advertising will continue to grow globally, the largest growth is expected in the Asia-Pacific region, where internet penetration in emerging markets such as India and China continues to grow. According to forecasts, these regions will see an increase of over 30% in digital advertising spending by 2026 (GlobalData, 2023). Europe and North America are expected to see steady growth, with significant investments in new technologies such as voice assistants and personalized ad formats.

Conclusion and Recommendations

Artificial intelligence (AI) has been playing a key role in the transformation of digital marketing by providing innovative tools for automation, personalization and analysis of large volumes of data. AI-based technologies allow companies to create personalized marketing strategies that improve user experience and increase campaign effectiveness. Despite significant benefits, the implementation of AI is accompanied by a number of challenges, including issues of privacy, ethical aspects and lack of trust in new technologies. Nevertheless, companies that successfully integrate AI into their business models achieve competitive advantage through faster decision-making, resource optimization and greater productivity. With forecasts of significant growth in digital marketing fueled by AI, it is clear that this technology will be an integral part of the future of marketing, providing innovative opportunities to reach and engage audiences in a dynamic business environment.

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