

Research Article**ENTREPRENEURSHIP AND INNOVATION IN THE DIGITAL AGE*****Danzaria Yusuf, Nnenna N. Chukwuma, Abdullahi S. Araga and Sanusi Usman**

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Abstract

This research investigates the impact of various factors on entrepreneurship development, focusing on the correlation between technological advancement, strategies, creativity and innovation, resources, and government/management support. The study found that technology advancement and strategies significantly contribute to entrepreneurship development and economic growth, while resources negatively impact this development. The findings highlight the importance of considering critical factors that either propel or hinder entrepreneurship development, emphasizing the need for policy support and a comprehensive framework. Recommendations include embracing the Schumpeterian concept of innovation and incorporating government/management support, resources, and culture for economic success. The study also suggests future research to explore additional variables such as culture. The implications stress the necessity of integrating innovation theory in economic agendas to foster creativity and enhance entrepreneurship globally. Robust regression methods and ANOVA tests were used to validate the findings, underscoring the importance of government policy, resources, and strategy in entrepreneurship development.

Keywords: Entrepreneurship Development, Technological Advancement, Strategies, Creativity and Innovation, Resources, Government/Management Support, Economic Growth, Schumpeterian Innovation, Policy Support, Economic Success.

INTRODUCTION

Creativity and innovation are crucial topics in research, particularly because they are essential for creating competitive advantage. Innovation is almost mandatory in today's global business environment, regardless of a company's market reach. Drawing on more than a decade of OECD research (Box, 2019), this report provides a general overview of effective policy approaches for innovation. It also discusses recent developments in innovation processes and patterns, highlights increasing internationalization, and presents early thoughts on the role of innovation in addressing global environmental concerns. This is because the new reality extends every company's rivalry well beyond its local market. Entrepreneurs and companies that recognize this early on bring innovation to the market. Innovation is the key to entrepreneurship and the productive development of competitive edge. Creativity is the foundation of innovation. While creativity is necessary for innovation, it is not always sufficient; the implementation of creative inspiration is what constitutes innovation. In some industries, the capacity to generate continuous innovation has become not only a key success factor but also a requirement for survival. The importance of creativity and innovation lies in developing new ways to improve an existing product or service to maximize profits. This also encourages entrepreneurs to think outside the box and seek non-standard solutions. Through this process, new, intriguing, potentially lucrative, and adaptable ideas emerge. Additionally, it supports the sustainability and long-term performance of all types of companies (Baykal, 2018). The economic and social consequences of today's global challenges affect societies worldwide. Many governmental and philanthropic efforts fail to achieve the social change that communities around the world demand, and key social sector institutions are frequently considered inefficient in resolving social concerns (Fields, 2018).

Although many entrepreneurs regard creativity and innovation as critical elements, there is still a lack of understanding of the factors that affect these elements and how to manage the relevant processes (Finkle, 2017). Recently, there has been an economic transition, shifting away from knowledge-based activities towards those that require creativity, innovation, entrepreneurship, and imagination (Fillis and Rentschler, 2016). Increased globalization and technological advancements have created more business opportunities but also resulted in a more crowded marketplace and increased competition (Jain, 2019; Edralin *et al.*, 2019). Creativity enables entrepreneurs to act on these opportunities in ways that give their companies a competitive advantage. It serves as a foundation for creativity and business development and positively impacts society (Ballor and Claar, 2019). Entrepreneurship exists in all forms and sizes of businesses, from small local ventures to multinational corporations. Entrepreneurship, as described by Clow (2020), involves mobilizing and sacrificing resources (land, capital, and human resources) to seize business opportunities or execute ideas that meet society's needs for products and services, create employment, and benefit the venture's owner. Both new and established businesses engage in this process, often focusing on new products or services and new businesses. Therefore, for a country to prosper and experience continued economic growth, creativity and innovation must be integrated into the entrepreneurship development agenda. Creativity and innovation can also extend to generating business ideas, identifying investment opportunities, deciding how to capitalize on those opportunities, setting corporate goals and objectives, and conducting market research in both urban and rural areas. This includes creating an enterprise, initiating business operations, selling and promoting products and services, managing human and material resources to achieve the enterprise's goals, managing risks and uncertainties, fostering creativity, and pursuing diversification (Gontur *et al.*, 2016). The situation in Nigeria is different. Many Nigerian entrepreneurs today need practical ways to combine necessary resources and

opportunities. Their level of creativity is not as high as in the Western world. They often fail to engage in adequate preparation, scheduling, staffing, managing, and directing, and do not take commensurate risks with their capital and other resources in new business projects from which they anticipate significant rewards. Most small and medium businesses in Nigeria lack prudent management decisions, originality, and foresight regarding what to produce, when to produce it, and how best to produce it to satisfy customers and make a profit. These issues could be improved if the entire management team adopted sound creativity and innovation practices. Supporting this, innovation has been defined by Garba et al. (2021) as adding something new to an existing product or process that has already been built and proven to work well. Their study established a positive relationship between creativity, innovation, competitive advantage, and entrepreneurship growth in Nigeria. Creativity can be viewed as the creation of raw material, while the invention process transforms and develops that material into something concrete, such as a process or product. The relationship between creativity and innovation is neither simple nor straightforward. This complexity may lead to non-optimal process management of both. This uncertainty causes ambivalence among researchers and practitioners and confusion about the conditions that promote creativity and innovation and the effects of established practices on individuals and the environment. Efficiency in these processes is a key competitive advantage in industries that demand constant creativity and innovation from their employees. Continuous innovation in companies deemed creative is particularly interesting, given some fundamental paradoxes such as the routine/creativity couple (Fillis, 2016). According to Byers (2017), generating innovative and potentially useful ideas can be applied to several strategic business areas, such as products, services, processes, and procedures. Ideas are considered innovative if they are distinct from other ideas currently available in the industry and useful if they have potential benefits for the business in the short or long term (Barroso-Tanoira, 2017).

This means that creativity involves producing and applying ideas or transforming ideas into specific organizational elements, such as products or methods. Byers (2017) successfully demonstrated the causal relationship between creativity and innovation, describing creativity as generating ideas used in the innovation process as they are selected, assembled, rearranged, and synthesized to emerge as output or novelty. Innovation can be radical or gradual and can manifest as a product or process. The degree of radicalization depends on previously used methods, both in creativity factors and structuring mechanisms (Roopsing and Nokphromph, 2017). This suggests that creativity and innovation are mutually dependent and intertwined. Typically, resulting innovation is associated with a new or improved product or process (Antonites and Van Vuuren, 2019). These resources, facilitating factors, transformation mechanisms, tensions, and results differ in each case. However, the outcomes of the creative process serve as essential tools for the innovation process. These two concepts are used to achieve distinct but complementary goals. Creativity generates ideas, which are then structured and concretized as part of the innovation process to become tools for solving technical issues and increasing productivity while adding value to products (Juliana et al., 2021). The challenge is not about strategic thinking and injecting innovative ideas to secure a competitive advantage within the business environment, which translates into

developing the entrepreneurial sector and boosting economic growth. Literature indicates that a lack of corporate innovation is the most basic and logical cause of Nigeria's slow entrepreneurial development (Garba et al., 2021). Lack of trust, apprehension, and anxiety, environmental factors, poor management, overreliance on self-ability, lack of preparation and organization in terms of technical and innovative capabilities, and creativity all contribute to Nigeria's slow rate of innovation and creativity. This research aims to investigate how creativity and innovation can help Nigerian entrepreneurs develop their businesses. The changing business environment requires innovative, strategic, and entrepreneurial minds to bridge the business gap. Innovativeness and creative thinking will help meet the needs, tastes, and preferences of the market environment. Addressing the failure of many businesses in Nigeria due to poor market analysis, lack of creative thinking, over-concentration on a few markets for finished goods, lack of succession planning, inexperience, poor bookkeeping, lack of proper records, insufficient resources, lack of technology, and poor management support are impediments to entrepreneurship development in Nigeria. These issues require thorough investigation and testing to establish facts, as stated in the literature (Juliana, 2021). Despite government efforts to promote entrepreneurship, Nigerians have been unable to contribute significantly to the country's entrepreneurship development (Onuselogu and Zita, 2018). Entrepreneurship growth has been sluggish, with frequent failures and business closures. This contrasts sharply with the unprecedented entrepreneurial growth seen in Europe, Asia, and the United States. Further literature by Oke et al. (2019) suggested that a lack of corporate innovation is the most fundamental and rational cause of Nigeria's slow entrepreneurial development. The study aimed to investigate new practices—the intentional use of creative interventions in organizations to sustain cohesion and well-being. The empirical research focused on understanding the impacts of creativity and innovation on entrepreneurship development.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The concept of entrepreneurship and innovative creativity

Entrepreneurship: In recent times, entrepreneurship has emerged as one of the most vital mechanisms for economic growth in developing economies. Entrepreneurs create value in various ways, such as offering goods and services to customers, creating jobs for the unemployed, and expanding the government's tax base. According to Vuković et al. (2022), entrepreneurship has become a dynamic force for promoting economic growth and has contributed significantly to manpower development, innovation, and revenue generation. Amundam (2019) posits that Nigeria has experienced vital economic transformation due to the rise of entrepreneurial activities. Entrepreneurship involves designing, launching, and running a new business, which is often initially a small enterprise. The individuals who create these businesses are known as entrepreneurs. Entrepreneurship is defined as the "capacity and willingness to develop, organize, and manage a business venture along with any of its risks to make a profit" (Yetisen, 2015). While definitions of entrepreneurship typically focus on launching and managing businesses, the high risks associated with starting a new venture result in many start-ups closing due to factors such as "lack of funding, bad business decisions, an economic crisis, lack of market demand, or a combination of all of these" (Belicove, 2021).

A broader definition sometimes used in economics describes an entrepreneur as an entity with the ability to find and act upon opportunities to translate inventions or technologies into products and services. The entrepreneur recognizes the commercial potential of an invention and organizes the capital, talent, and resources needed to turn it into a commercially viable innovation (Albert, 2022). Thus, "entrepreneurship" also encompasses innovative activities by established firms as well as new businesses. According to Aydin (2017), an entrepreneur is a risk-taker who buys goods at a certain price and sells them at a different price. In earlier times, farmers, merchants, craftsmen, and sole proprietors exemplified entrepreneurs. By the 18th century, entrepreneurs were seen as venture capitalists. This view shifted somewhat in the 19th and 20th centuries when entrepreneurship was primarily perceived through the lens of economics and was not differentiated from management. Consequently, an entrepreneur was described as someone who operates and manages a business for personal benefit, paying for materials, property, resources, and services used by the business, while accepting the risk of profit or loss due to uncontrollable circumstances (Gholami and Karimi, 2020). The element of innovation became central to the concept of entrepreneurship in the 20th and 21st centuries. Today, entrepreneurs are viewed as individuals with the potential to revolutionize production patterns through innovation (Antonites and Van Vuuren, 2019). An entrepreneur starts, develops, and manages a business enterprise for profit. Similarly, Fedorowicz et al. (2018) define an entrepreneur as a person who uses attributes such as risk-taking, creativity, innovation, and organizational skills to put ideas into action to achieve specific goals.

Innovative Creativity: Creativity and innovation are at the heart and soul of enterprise. They involve attempting to perform tasks in unique ways or conducting various activities to provide the entrepreneur with a unique mix of value. Creativity and innovation enable state entrepreneurship to seek out opportunities to do new things or to do old things in innovative ways. This adaptability, driven by market conditions and consumer desires, guides organizational operations and delights customers, benefiting all stakeholders (Korsgaard and Anderson, 2019). Innovation is the implementation of creative inspiration, forming a competitive advantage for businesses to thrive by anticipating and satisfying consumer needs and leveraging technology. Information from new connections, experiences from other disciplines, and active networks foster innovation. The philosophy of innovation, as the application of an idea to produce a new commercial product or service, drives new demand and wealth creation, disrupting established markets and creating new ones (Schumpeter, 1934). Creativity results in new ideas and technology (Klein, 2018). It is the ability to invent or bring something new into being, whether it's a new approach, method, device, or form of art. Sart (2016) describes creativity as unique and useful, an act of seeing familiar things in new ways. Creativity involves moving from the familiar to the unfamiliar. Weigel *et al.* (2019) note that culture can impact creativity. Economics and structure define key entrepreneurial characteristics: risk-taking, innovating, and launching new ventures for profit. Entrepreneurship is multi-dimensional, prompting scholars to consider it from various perspectives. Its definition has evolved over time, from managing large production projects (Belanger *et al.*, 2016) to handling projects with limited resources and taking risks for profit.

Historically, entrepreneurs oversaw large architectural projects such as fortifications and public buildings. In the 21st century, entrepreneurship involved risk-taking and profit/loss from government contracts.

Transformation of business in the digital age : The magic of entrepreneurship lies in providing equal opportunities for those willing to learn and develop necessary skills. Entrepreneurs must be initiative-driven, drawing up short- and long-term plans and strategies, assessing risks, and making informed decisions. Successful entrepreneurs learn from mistakes and experiences, identifying business opportunities that can revolutionize the market. Essential qualities include visionary thinking, perseverance, curiosity, creativity, and self-motivation (Bejinaru *et al.*, 2018). Digitalization in business is becoming crucial for profitability and survival. Business leaders recognize the need for digital integration, which saves resources and enhances efficiency (Li, 2018; Ziółkowska, 2020). Strategic actions are recommended to measure key business values in the digital environment, such as user activity and engagement, reflecting market demand. Venture capital and private equity firms, like DFJ and Andreessen Horowitz, use specific metrics to analyze digital traction in potential investments (Balocco *et al.*, 2019; World Economic Forum, 2021).

Compelling factors of entrepreneurship development and mitigating of challenges

Several compelling factors influence entrepreneurship and innovation, aiding in solving entrepreneurial issues. Entrepreneurship is characterized by managerial action and a management strategy that seeks opportunities regardless of risk or resources. Five essential dimensions of business practice: technology, strategy, resources, culture, and management support define entrepreneurship. These aspects involve various actions that influence entrepreneurial management. Entrepreneurs are seen as promoters, confident in capitalizing on opportunities despite limited resources, and as trustees prioritizing effective resource use.

Strategies: According to Acs and Audretsch (2005), entrepreneurship involves strategic planning. Entrepreneurs are viewed as promoters, strategists, and opportunity-oriented individuals driven by the potential of existing opportunities to create and execute ideas using available resources. They are opportunistic, creative, and innovative, adopting new strategies due to diminishing opportunity sources and rapid technological changes. Entrepreneurs are committed to actively pursuing opportunities, earning reputations as gamblers and risk-takers (Acs and Audretsch, 2005).

Resources: Multi-stage resource commitment is crucial for successful entrepreneurship. Ballor and Claar (2019) state that entrepreneurship involves determining the resources needed to explore specific opportunities while balancing capital investment and potential return. Entrepreneurs aim to minimize resource use to maximize value creation, driven by factors such as social needs, unpredictable resource demands, personal risk management, international demands, and managerial turnover (Ballor and Claar, 2019).

Technology: Technology is the main driver of entrepreneurship, fueling employment, economic growth, and

productivity. Technology influences entrepreneurial mindsets, values, and actions, with each breakthrough leading to new entrepreneurs and start-ups. The availability and transmission of technology and infrastructure supporting entrepreneurial efforts shape entrepreneurial activity (Edralin *et al.*, 2019; Acs and Audretsch, 2005).

Management Support: Corporate entrepreneurship is supported by leaders' and managers' supervisory styles and support (Phan *et al.*, 2015). Companies that do not promote entrepreneurship face inevitable disruption. Promoting entrepreneurial environments within firms ensures growth, productivity, and sustainability (Okpara, 2007; Onuselogu and Zita, 2018). Organizational support, such as promoting innovative ideas and rewarding good ones, is crucial for entrepreneurship (Phan *et al.*, 2015; Vetillart, 2014).

Culture: Culture significantly affects entrepreneurship, as revealed by Institutional Economic Theory. Culture defines societal behavior and influences corporate actions. Social institutions, norms, and culture impact how individuals perceive entrepreneurs and develop motivation for entrepreneurship. Entrepreneurial activity is responsive to social cues (Amabile, 1988).

Hypotheses

The following null hypotheses were tested to establish their significance in the study:

- Hypothesis one:** Government policy doesn't support entrepreneurship development
- Hypothesis two:** Technological advancement has no influence on entrepreneurship development
- Hypothesis three:** Creativity and innovation mean nothing to entrepreneurship development
- Hypothesis four:** Available resources have no influence on entrepreneurship development
- Hypothesis five:** Strategy does not influence entrepreneurship development

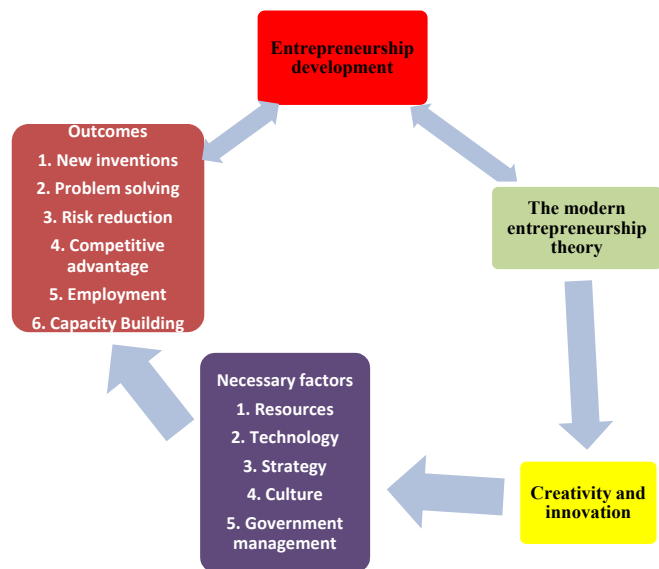


Figure 1. Conceptual framework (Author's construct, 2023)

METHODOLOGY

This sections discussed the research methods used in terms of research design, study population, survey and sampling methodology, instrumentation used in data collection, data collection, interpretation, and statistical analysis. This segment usually responds to the issue of "How" the study was done. Since it is the foundation of the research, any research process is reliant on this portion.

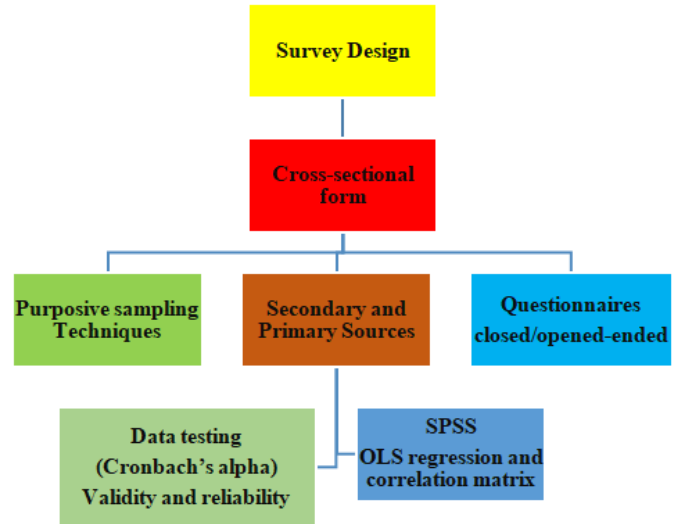


Figure 2. The graphical representation of research framework, 2023

Research design

A survey research design was adopted for this research work. This method of research was preferred over other methods due to its several advantages. It will provide fast, efficient, and precise ways and means of arriving at information regarding the target population of the study. It is much desired and suitable where secondary data is deficient. Having realized that secondary data on creative thinking and innovative ability in the entrepreneurship sector in the Eastern Region may not be available. Hence, using this research approach by surveying to gain much information that will be necessary for the study (Barnett-Page and Thomas, 2019). This approach is meant to elicit the opinions and perceptions of entrepreneurs and managers.

Population

The population of the study consists of all the existing thirty two (32) SMEs from Akko LGA and eighteen (18) SMEs from Yamaltu Deba LGA totaled Fifty (50) Small and Medium Enterprises listed on the list of registered SMEs with the SMEs Directorate of Gombe State Ministry of Commerce and Industry as at April 15th, 2023 that engage in manufacturing/production activities only. However, out of the estimated sample size of 44 enterprises, 42 valid responses were used in the data analysis were gotten from Gombe central constituency of Gombe state in Nigeria.

Sample size determination

Taro Yamane sample size determination techniques was used in determining sample size of this research work. As cited in Mathias (2023), the Taro Yamane is determine through the relation;

$$n = \frac{N}{1 + Ne^2}$$

Where;

n means the desired sample size

N means total population

1 is a constant

e is a margin of error preferably 5% i.e. 95% confidence interval

Sampling techniques

A fraction of the population was studied. A sample is a subset of a population that is analyzed to conclude the entire population. As a result, sampling can be described as the process of selecting a subset of a population or universe to represent the entire population or universe. The ultimate aim of sampling is to reflect the population that the study is intended to serve (Juliana et al 2021). As a result, sampling saves resources, labor, and time while allowing for a higher overall degree of accuracy. The purposive sampling technique under the Simple random sampling method was much more desired for this research to derive an appropriate sample size of 44 out of the estimated sample population of 50. In clear terms, the purposive sampling technique depicted the population to be studied that has much information on creativity and innovation and entrepreneurship development. This permitted an accuracy of information desired for the research.

Methods of collection of data

The data for this work comprises both primary and secondary data, while the primary data will be used to a greater extent. Data on creative thinking and innovative ability of entrepreneurial activities, journals, articles, books, magazines, newsletters, and the internet will constitute secondary sources of data because the information already exists before the conduct of this research work. But more importantly, to produce the necessary data on this research the primary data will be much preferred. The researcher administered questionnaires as survey instruments in a form of a closed-ended set before the study using the Likert scale.

Sources and type of data collection

The data source for this study were published and unpublished and are both quantitative and qualitative in nature.

Research instrument description

Validity: The researcher ensured validity by first framing up the items in the instruments after reading and studying various existing and related literature. This was to ensure that the items are drawn from and in line with the broad and specific objectives of the study. Secondly, the researcher gave the draft of the questionnaire to experts in the field of social sciences for their inputs on the adequacy and appropriateness of the items included in the main instruments. Finally, corrections and observations that were suggested were fully implemented before the instruments were administered.

Reliability: In order to determine the consistency of the instrument for data collection, a pilot study was conducted. The researcher pre-tested twelve (12) copies of the

questionnaire randomly to SMEs in Gombe LGA, Gombe state.

The reliability of the instruments was tested using Cronbach Alpha correlation formula, which is expressed as follows:

$$\alpha = \left(\frac{n}{n-1} \left(1 - \frac{\sum v_i}{v_{test}} \right) \right)$$

Where n = number of questions

v_i = variance of scores on each question

v_{test} = total variance of overall scores (not %'s) on the entire test

The reliability is 89%

Method of data analysis

According to Juliana (2023), SPSS is the best tool for analyzing data, creating tables and graphs, and determining relationships between the variables. As a result, data were generated and analyzed using SPSS version 26.0. To get nice and colorful charts for data presentation, we then backed it up with Micro soft Excel. In this research, the descriptive statistics method for presenting and summarizing bio-data was adopted. But more importantly, a statistical or numerical instrument that was used in this research analysis was primarily inferential statistics, precisely OLS regression analysis, and correlation matrix. This statistical method aided the researchers to comprehend and appreciate large quantities of data and effectively communicate their significance in the research. Descriptive modules were used to analyze the data. This method permitted the researcher to group the data and organize them into thematic areas and patterns for easy interpretation as espoused by (Saunders *et al.*, 2019). The main goal was to identify the current state of creativity and innovation in Nigeria, as well as the development of entrepreneurship. The results about creativity and innovation has effects on business enterprises and recommendations for business growth and sustenance in the North- Eastern region of Nigeria have been presented in the form of narratives.

Model specification

This paper scrutinizes the causal relationship between creativity and innovation on entrepreneurship development in Gombe state, Nigeria. The analysis in this paper followed an established pattern in using the Ordinary Least Squares (OLS) model after estimating the descriptive statistics covering six (6) variables; Government Policy Support, Creativity and Innovation, Technological Advancement, Resources, Strategies, Entrepreneurship Development.

$$ED = \alpha_0 + \beta_1 GPS + \beta_2 CI + \beta_3 TA + \beta_4 R + \beta_5 S + \varepsilon$$

where;

GPS = Government policy support

α = Constant

β = Change in variable

CI = Creativity and Innovation

TA = Technological Advancement

R = Resources

S = Strategies

ED = Entrepreneurship Development

ε = error of term

RESULTS AND DISCUSSION

Results and Interpretation

Table 1. Demographic Statistics of Respondents

Variables	Categories	Frequencies	Percent
SME's Location	Akko	17	40.5
	Yamaltu Deba	25	59.5
	Total	42	100.0
Gender	Male	19	45.2
	Female	23	54.8
	Total	42	100.0
Age Valid	20-30	4	9.5
	31-40	7	16.7
	41-50	17	40.5
	51-60	9	21.4
	60 +	5	11.9
	Total	42	100.0
Marital Status Valid	Single	13	31.0
	Married	20	47.6
	Divorced	3	7.1
	Widowed	6	14.3
	Total	42	100.0
	Educational level Valid	Non	7
Basic education		8	19.0
Secondary education		16	38.1
Tertiary education		11	26.2
Total		42	100.0
Type of business Valid		Food and beverages	5
	Non-metallic products	3	7.1
	Printing/paper products	6	14.3
	Metal and aluminum products	7	16.7
	Wood & wood products	8	19.0
	Farm products	13	31.0
	Total	42	100.0

Source: Field Survey, 2021

Results in table 1 shows that 17(40.5%) of the respondents were from Akko LGA, while the remaining 25(59.9%) are from Yamaltu Deba LGA. Also the result indicated that majority of the respondents 25(54.8%) were females while 19(45.9%) were of male gender. However, it can be deduced from table 1 that majority of the respondents 17(40.5%) were between the ages 41 – 50 years, 9(21.4%) between the 51 – 60 years, 7(16.7%) between 31 – 40 years, 5(11.9%) 60 and above years while 4(9.5%) between 20 – 30 years. Similarly, the table above depicted that 13 respondents representing 31.0% were single, 20 respondents representing 47.6% were married, 3 respondents representing 7.1% were divorced while 6 respondents representing 14.3% were widowed. In terms of educational levels, the table 1 above indicated that 16(38.1%) respondents were secondary school certificate holders, 11(26.2%) respondents were holders of tertiary certificates, 8(19.0%) respondents were holders of basic education certificates and 7(16.7%) respondents had non-formal education. Finally, table 1 also shows that majority of the respondents 13(31.0%) ventured into farm product business, 8(19.0%) wood and wood product business, 7(16.7%) metal and aluminum product business, 6(14.3%) printing/paper product business, 5(11.9%) food and beverages business while 3(7.1%) non-metallic products business.

It can be deduced from table 2 below that the response variable (ED) only positively correlated with the predictable variables TA and S with correlation coefficients (r) 0.414 and 0.471 associated with significance levels 0.006 and 0.002 respectively.

Table 2. Correlation matrix between research variables

		GPS	CI	TA	R	S	ED
GPS	Pearson	1	-	.556**	.911**	-	-.075
	Correlation		.801**			.758**	
	Sig. (2-tailed)		.000	.000	.000	.000	.637
CI	N	42	42	42	42	42	42
	Pearson		1	-	-	.546**	-.021
	Correlation		.801**	.579**	.868**		
TA	Sig. (2-tailed)		.000	.000	.000	.000	.893
	N	42	42	42	42	42	42
	Pearson		.556**	1	.571**	.046	.414**
R	Correlation		.579**			.771	.006
	Sig. (2-tailed)		.000		.000	.771	.002
	N	42	42	42	42	42	42
S	Pearson		-.546**	.046	-	1	.471**
	Correlation		.758**		.672**		
	Sig. (2-tailed)		.000	.000	.000	.000	.326
ED	N	42	42	42	42	42	42
	Pearson		-.075	-.021	.414**	-.155	.471**
	Correlation		.637	.893	.006	.326	.002
	Sig. (2-tailed)		.637	.893	.006	.326	.002
	N	42	42	42	42	42	42

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

Table 3. Model Summary

Model	R	R ²	AR ²	SE	Statistics				
					▲ R ²	F ▲	df1	df2	Sig. F
1	.723 ^a	.522	.456	1.084	.522	7.872	5	36 ^a	.000

a. Predictors: (Constant), S, TA, CI, R, GPS

It can be deduce from table 3 above that the predictable variables are strong enough in influencing the response variable positively or negatively by 72.3% correlated (R value) and it is affirmed by Sig. F (0.000) < 0.05 and this means only 27.7% variations are caused by other factors other than the predictors included in the model. However, the adjusted R² value 0.456 implies that 45.6% variation in the outcome of the response variable is determined by the predictable variables.

Table 4. ANOVA Test

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	46.222	5	9.244	7.872	.000 ^b
Residual	42.278	36	1.174		
Total	88.500	41			

a. Dependent Variable: ED

b. Predictors: (Constant), S, TA, CI, R, GPS

Table 4 above reaffirmed by demonstrating that the independent variable has a statistically important relationship with the dependent variables, sig. (0.000) < 0.05 (the regression model is a good fit for the data). Hence, the ability to influence the dependent variable. Therefore, the test conditions determine the favorability or un-favorability for predicting the market outcome, the person (the entrepreneur) will assume the risk of making a profit or losing money due to unexpected and uncontrollable circumstances.

The table 5 illustrate the estimation of the independent variable over the dependent one. The test values indicated that GPS and S are positively and R negatively significant on ED at 95% confidence interval since sig.(0.022) < 0.05, sig.(0.06) < 0.05, and sig.(0.021) < 0.05 for GPS, S, and R respectively. However, the influencing variables CI and TA are not significant on ED due to sig. (0.078) > 0.05 and sig. (0.776) > 0.05 also at 95% confidence interval.

Table 5. A Robust Estimation of the variables using OLS Regression

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.611	2.217		.276	.784
GPS	1.114	.465	1.092	2.396	.022
CI	-.410	.225	-.432	-1.817	.078
TA	.076	.267	.083	.287	.776
R	-.974	.335	-.992	-2.906	.006
S	1.028	.426	.864	2.415	.021

a. Dependent Variable: ED

The below model was formulated from the above table;

$$ED = 0.611 + 1.114GPS - 0.410CI + 0.76TA - 0.974R + 1.028S + \varepsilon$$

DISCUSSION

This section discusses the major findings of the research, leading to the acceptance or rejection of the five formulated hypotheses. The discussion relates the findings to the theoretical framework and literature reviewed in this study. Firstly, the study found that Technology Advancement (TA) and Strategies (S) correlated with the response variable Entrepreneurship Development (ED) with $r = 0.414$ and 0.471 (Table 2). This indicates that Technology Advancement and Strategies are crucial elements in entrepreneurship development, propelling economic growth (Juliana 2022; Ballor and Claar 2019). Conversely, the t-statistics in Table 5 indicate a negative correlation between ED and Creativity and Innovation (CI), Resources (R) with t-values of -1.817 and -2.906 , respectively. This suggests that resources, as an explanatory variable, negatively impact the dependent variable (entrepreneurship development), serving as an impediment. The results imply that entrepreneurs must consider critical factors that either propel or hinder entrepreneurship development in their startups and the potential to revolutionize production patterns by leveraging innovation.

Recommendations, Implications and Conclusion

Recommendation

Based on the analysis results, it is recommended that the entrepreneurial and business sectors embrace the original Schumpeterian concept of innovation, which refers to fundamental uniqueness in all its forms and expands beyond its focus on high-tech industrial sectors. While the concepts of entrepreneurship and innovation set the tone for creating new things, technology, and strategy to facilitate entrepreneurship development and economic growth are key. However, economic success cannot be achieved without combining other elements such as government/management support, resources, and culture, which are pertinent to economic growth. Therefore, this research has established a strong relationship between technological advancement and strategy on entrepreneurship development, calling for policy support and frameworks not only for Nigeria but for any country striving for economic success. Future research could estimate and test other explanatory variables that were not significant or included, such as culture, to establish their impact on entrepreneurship development. Since not all estimated variables were statistically significant, the entrepreneurship

sector needs more attention in terms of research contributions and its replicative effect on economic growth and prosperity.

Implications

Reflecting on Schumpeter's perspectives regarding innovation and entrepreneurship theory, it is prudent to incorporate this knowledge in pursuing an economic agenda to propel entrepreneurs to be creative and innovative in their economic activities. However, this can be effective by considering necessary factors such as resources, technology, strategy, culture, and government/management support. The outcome of this intervention will foster new inventions, problem-solving, risk reduction, competitive advantage, empowerment, and building the capacity of most businesses. This will ease business failures and enhance entrepreneurship development globally, advocating the adoption of the theory and practice. The study aims to establish an argument and support policy in the entrepreneurial sector to sustain and ease the failure of most enterprises due to the inability of entrepreneurs to inject innovative practices into their businesses. This will help Nigeria reap economic benefits, making it a research area of interest for policy formation, focusing on its impact on entrepreneurship development.

Conclusion

Innovation and entrepreneurship development remain critical areas needing more research and practical solutions to avert the sector's slow growth (Onusologu & Zita, 2018). Schumpeterian views on creativity as a criterion of entrepreneurship, characterized by the ability to do new things, cannot be realized without considering technological advancement and strategies to bring innovation into existence. Therefore, it is imperative to adequately assess variables that have positive and negative effects on entrepreneurship development. To check the robustness of the findings, the researcher used OLS as the baseline regression and other advanced methods such as the ANOVA Test to enhance the credibility of the study results. The test values of coefficients indicate that government/management policy support, resources, and strategy positively impact entrepreneurship development. The test results show that government/management policy support, resources, and strategy are necessary and influential factors in developing the entrepreneurial sector. Other variables (CI and TA) tested were statistically not significant, indicating that creativity and innovation and technological advancements impact entrepreneurship development insignificantly. This can be seen as an empirical reason for failed enterprises not only in Nigeria. Interestingly, the correlation matrix performed showed that creativity and innovation correlated strongly with technological advancement, indicating that technological advancement supports creativity and innovation. However, its direct effect on entrepreneurship development was not significantly estimated, warranting further investigation to ascertain reality.

In summary, the researcher concludes the following findings from the study:

- Government policy supports entrepreneurship development.
- Technological advancement has no influence on entrepreneurship development.

- Creativity and innovation mean nothing to entrepreneurship development.
- Available resources influence entrepreneurship development.
- Strategy influences entrepreneurship development.

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