

Impact of Digital Innovation on the Growth of Small and Medium Enterprises in Katsina State, Nigeria

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ABSTRACT

This study examined the impact of digital innovation on the growth of SMEs in Katsina State. Digital innovation indicators include product innovation, automated operations and business model innovation while SME growth was measured using multi-items scale with the following constructs: enterprises productivity, sale growth, asset growth. The study used survey research design to examine how digital innovations affect SMEs growth. Primary data collected was analyzed using regression analysis via E-views. The findings revealed that digital innovations have a significant positive effect on SMEs (productivity, sale and asset growth) in Katsina State. The study suggests that governments should prioritize the development of digital innovation towards SMEs growth. Furthermore, the government should enhance productivity of enterprises and position SMEs to effectively lead in the drive towards industrializing the Nigerian economy.

Keywords: Digital Innovation; Small and Medium Enterprises; Growth, Automated Operations; Productivity.

1. INTRODUCTION

Small and Medium Enterprises serve as a key engine for propelling economic growth and fostering development across a wide range of economies, from emerging to established (Duru, et al. 2018). The development of the SMEs sector is one approach that could help the government to attain the objective of promoting entrepreneurship as a vehicle for driving rapid industrialization, solving the problem of unemployment and overall economic growth. The contribution of the SMEs sector to the Nigerian economy shows that it is a strategic engine for economic growth and development. Constituting a significant portion of the Nigerian economy, Micro, Small and Medium Enterprises (MSMEs) are credited with employing a substantial share, approximately 84.02%, of the nation's workforce. Furthermore, MSMEs represent a dominant presence within the business landscape, accounting for roughly 96% of all operational businesses in Nigeria. Their economic impact is noteworthy as well, contributing nearly 48.47% to the country's Gross Domestic Product (GDP) SMEDAN (2013).

As a result, Small and medium-sized businesses (SMEs) are crucial to most economies, especially those in emerging nations (Zarrouk, et al. 2020). Small and medium-sized enterprises (SMEs) make up most firms globally and play a significant role in employment creation and global economic development (Hossain & Asheq, 2019). They account for more than 50% of all jobs globally and roughly 90% of all enterprises. Formal SMEs in emerging economies can generate up to 40% of the country's income (GDP). When informal SMEs are considered, these figures are substantially higher (Paiola&Prencipe, 2020). To accommodate the expanding global workforce, it is predicted that 600 million jobs would be required by 2030. As a result, several governments around the world place high importance on SME development. (Yu, et. al. 2021).

Therefore, numerous scholarly works have recognized the transformative potential of small and medium-sized enterprises (SMEs) in generating wealth, alleviating poverty, creating employment opportunities, and driving economic growth (Pratono& Muhammed, 2015; SMEDAN, 2013). Thus, in today's globally connected world, digital innovation has become a critical driver for business growth. With rapid technology development, small and medium enterprises(SMEs)have succeeded in adopting change by digital technologies to allow big market changes, such as growing customer loyalty and interaction, streamlining processes and developing new business models, or to risk destruction by rivals that do so (Caroli, Colombo & Rossi-Lamastra, 2019).Technology plays a vital role in controlling the climate for increased

creativity, and business model growth. Firms are attempting to respond to emerging technology developments and have instituted expenditure optimization processes to meet new business opportunities Agostini, Galati and Gastaldi (2020).

Furthermore, innovation is the creation or introduction, assimilation, and utilization of value-added novelty in the social and economic fields; the transformation and extension of goods, services, and markets; the invention of modern methods of production; and the creation of new management structures (Bahrini & Qaffas, 2019). However, digital innovation is an innovation made possible by or caused by technology (Pramukil & Kusumawati, 2020). Recent developments in technology such as cloud, computing Internet-of-things, smartphones, social networking, and market analytics enable companies to have unparalleled potential to innovate (Svensson & Taghavianfar, 2015), but companies are also not immune to innovation failures. In addition, emerging technology advancement requires multiple and overlapping adaptations of infrastructure, staffing, community, decision-making, connectivity, and incentive processes (Carr, 2003).

Therefore, innovation has changed the business landscape. In the past, the first Internet shopping pages were mostly bad versions of written mail-order catalogs. E-commerce has also grown, widening the scope of digital business creativity. Online stores, such as Amazon and Zappos today provide more than comfort and affordable items; by selling suggested solutions as well as brands, they provide genuinely innovative consumer goods. Investments in online digital technology have also allowed mainstream businesses, such as taxi companies and grocery store chains, to achieve a strategic competitive edge (Kane et. al., 2017). Digital innovation may also be described as creativity incorporating digital and physical components to produce a new product. As such, the present study aims to investigate the impact of digital innovations on the growth of SMEs in Katsina, Nigeria.

1.2 Statement of the Problem

Small and Medium Enterprises in the Nigerian economy is said to make tremendous contributions to important economic indicators as well as household incomes which impacts positively to its growth (Kane et. al., 2017). Empirical evidence has shown that digitalization has a great impact on small and medium enterprises in Nigeria as it automates the product and process because of which both quality and production increases. The basic idea of digitalization

is to make complete use of Information and communication technology facilities for accessing worldwide resources and beneficial for society simultaneously (Naimi-Sadighet al., 2022). The Small and Medium Enterprises play a very significant role in employment of citizens in the economy, and this enables the startups to take advantage of growth opportunities in the digitalization process. Despite the recognized potential of digital innovation to propel SME growth, empirical studies on the subject are insufficient in developing economy or completely missing in Katsina state, Nigeria.

Furthermore, despite having a high potential for future growth, the small and medium enterprises in Nigeria are said to experience some challenges such as lack of digital strategy trainings, lack of usage of digital technology for business purposes and lack of safe cyber security intelligence among others (Kane et. al., 2017). Equally, emphasis made on impact of digitalization to boost productivity and performance of SMEs can be considered as a great issue of concern to entrepreneurs, scholars, and practitioners in a developing economy like Nigeria. However, the impact of digitalization on growth of SMEs in Katsina Nigeria has not been largely explored and this is because attention has been focused more on ICT Investment in SMEs. In addition, plethora of studies on the subject in developed economy has adopted different indicators of digital innovation to examine enterprises growth. To the best of our knowledge no known research have studied digital innovation from the perspective of product innovation, automated operation and business models innovation and their impact on SMEs growth (productivity, sale growth and asset growth). Hence, this study attempts to investigate the impact of digital innovation on SMEs growth. Digital innovation indicators include product innovation, automated operations and business model innovation while SME growth was measured using multi-items scale with the aid of the following constructs: enterprises productivity, sale growth, and asset growth.

1.3 Research Questions.

- i. To what extent does product innovation impact SMEs growth in Katsina state?
- ii. To what extent do automated operations impact SMEs growth in Katsina state?
- iii. To what extent does business models innovation impact SMEs growth in Katsina state?

1.4 Research Objectives.

- i. To examine the impact of product innovation on SMEs growth in Katsina state.
- ii. To explore the impact of automated operations on SMEs growth in Katsina state.
- iii. To determine the impact of business models innovation on SMEs growth in Katsina state.

1.5 Research Hypotheses

- i. Product innovation does not significantly impact SMEs growth in Katsina state.
- ii. Automated operation does not significantly impact SMEs growth in Katsina state.
- iii. Business models innovation does not significantly impact SMEs growth in Katsina state.

2. LITERATURE REVIEW

Literatures relevant to this study are reviewed under three sub-sections: conceptual review, empirical review and theoretical framework.

2.1 Concept of SMEs Growth

Small and medium enterprises (SMEs) are considered the backbone of economic growth in all countries (Rajesh, Suresh & Deshmukh, 2008). They play an important role in Nigerian's economic growth, as they constitute 97.2% of the companies in Nigeria (NBS, 2007). They also contribute to national development by positively influencing the distribution of income in both functional and nominal terms (Uzor, 2004). In emphasizing the importance of SMEs, Rogers (2002) stated that: they enhance capacity building as they serve as entrepreneurial training avenues; they create more employment opportunities per unit of investment because of their labour intensive operations; they achieve a much more relative high value added operations because they are propelled by basic economic activities that depend mostly on locally sourced raw materials; they provide feeder industry services as they serve as major suppliers of intermediate goods and components to large-scale industries as well as major agents for the distribution of final products of such industries; they provide opportunities for the development of local skills and technology acquisition through adaptation.

Generally, the term “business growth” is used to refer to various things, such as increase in total sales volume, increase in production capacity, increase in employment, increase in production volume, increase in the use of raw material and power. Business growth is typically defined and

measured using absolute or relative changes in sales, assets, employment, productivity, profits and profit margins. Delmar, Davidson and Gartner (2003) posited that various scholars use growth indicators such as assets, market share, physical output and profits to measure business performance.

Evidence from review of literature reveals that there is a diversity of measures for firm growth: sales turnover, employment, profits, assets, market share, and physical output. Therefore, Davidson (1989) suggested that composite measures using multiple indicators should be considered given that no universally superior growth indicator seems to exist. Another important aspect is the choice of absolute or relative growth. Using multiple measures may therefore better capture the underlying processes of growth and give a better overall picture of the relationships and a way to test the robustness of any theoretical model to misspecifications in the dependent variable. Consequently, productive, sales growth and assets growth constitute important measures of enterprises growth adopted for this study.

2.2 Concept of Digital Innovation

There is no uniform definition of the term “digital innovation” to date. Digital innovation refers to the fundamental reimagining and restructuring of business processes, products, and services through the strategic adoption and integration of digital technologies (Naimi-Sadighet *al.*, 2022). These technologies encompass a broad spectrum; including but not limited to artificial intelligence, data analytics, cloud computing, Internet of Things (IoT), and block chain. Digital transformation aims to enhance operational efficiency, improve customer experiences, and unlock new revenue streams by leveraging the capabilities of emerging digital tools and platforms (Matarazzo *et al.*, 2021).

According to Agostini, Galati and Gastaldi (2020), digital innovation is the use of technology to radically improve the performance or reach of an organization. In a digitally transformed business, digital technologies enable improved processes, engaged talent, and new business models. Alloui and Mourdi (2023) define digital innovation as the strategic adoption of digital technologies. It's used to improve processes and productivity, deliver better customer and employee experiences, manage business risk, and control costs. Digital transformation represents myriad tools, solutions, and processes. An effective strategy is one that's customized for each unique organization. It encompasses the application of digital technologies to enterprise

processes, products and assets to enhance customer value, uncover new monetization opportunities, improve efficiencies and manage risk across the enterprise (Kane et al., 2017). Digital innovation is no longer just the business of software companies. As software is a key differentiating component and an innovation enabler in most products, processes, or services of today, digital innovation is now practiced by an increasing number of companies (Svensson & Taghavian far 2015; Yoo et al. 2012). For many companies, it is a particular challenge to move away from just regarding IT as a commodity like Carr framed it in his well-known essay "IT doesn't matter" (Carr, 2003) or as a machinery to keep the business running. Rather, they have to find a way to align the mandate of providing a stable and predictable IT environment for their current business with the exploration of new opportunities offered by a fast-changing digital and economic environment. However, this study defines digital innovation as innovating products, processes, or business models using digital technology platforms as a means or end within and across organizations.

2.3 Review of Empirical Studies

Pramukil and Kusumawati (2020) explored the influence of digital marketing on firms performance. The study found that digital marketing is able to strengthen the relationship of product innovation in improving SMI marketing performance. The study recommended that the role of competitive advantage and digital marketing is important for product innovation to enhance marketing performance.

In Nigeria, Is-haq (2019) analyzed the effect of digital marketing with sales improvement of SMEs in Nigeria. The results of the analysis showed that adoptions of digital marketing tools such as e-mails, pay per click and online advertising significantly improve sales of SMEs. However, the result further suggests that there is need to apply more than one digital tools as marketing strategies in order to improve SMEs performance.

The effects of digital transformation on business efficiency are studied by Caroli, Colombo, and Rossi-Lamastra (2019). The authors analyze data from a survey of Italian manufacturing firms and find that digital transformation positively affects both financial and non-financial performance measures. They also find that the impact of digital transformation is stronger for firms that engage in complementary organizational changes and for firms that operate in more dynamic environments. The paper highlights the importance of understanding the mechanisms

through which digital technologies create value and the need for firms to develop a comprehensive digital strategy that takes into account both technological and organizational aspects.

The effects of digital transformation on the expansion of SMEs in Nigeria were the subject of research by Danjuma and Sani (2020). They found that SMEs that adopted digital technologies were more likely to experience growth in terms of revenue, productivity, and market share. The study also identified challenges faced by SMEs in Nigeria with regards to digital transformation, such as lack of awareness and access to digital infrastructure.

The effects of digital transformation on the organizational effectiveness of SMEs in Nigeria are analysed by Akanbi and Abdulraheem (2021). The authors used a survey questionnaire to collect information from 200 small and medium-sized enterprises (SMEs) in Nigeria for their quantitative research study. Structured equation modelling (SEM) was used to analyse the data and determine if there is a correlation between digital transformation and business success. Researchers found that small and medium-sized enterprises (SMEs) in Nigeria benefited greatly from embracing digital transformation. The authors conclude that SMEs that embrace digital transformation can enhance their operational efficiency, customer satisfaction, and competitive advantage, leading to improved organizational performance.

The effects of digitalization on creativity are explored by Paiola and Prencipe (2020). The authors assert that the advent of new means of communication, storage, and processing is fueling innovation. They also highlight the importance of organizational agility and flexibility in fostering innovation in the digital age. The authors conclude by suggesting that firms need to embrace digital transformation as a strategic imperative to remain competitive and innovative in today's fast-paced business environment.

Furthermore, Bahrini and Qaffas (2019) used a panel Generalized Method of Moment (GMM) growth model to examine the impact of information and communications technology (ICT) on economic growth in developing countries in the Middle East and North Africa (MENA) and Sub-Saharan Africa (SSA) regions between 2007 and 2016. Their study spanned the years 2007 to 2016. They concluded that the availability of mobile phones benefits economic growth. However, mobile phones have a much greater and more significant impact in SSA countries, where they have completely replaced the use of fixed telephone lines. Other factors include the percentage of people who use the internet and the number of people who subscribe to fixed

broadband services per 100 inhabitants, have a positive and significant effect on economic expansion.

In developing nations, Mohammad, Shehnaz, and Horne (2021) explored the impact of entrepreneurial innovativeness on SMEs' performances. The study concluded that there was a significant positive influence of entrepreneurial innovativeness on business performances in Malaysia.

2.4 Theoretical Framework

This study consults a few theories that could be relevant to the study; however it emphasis the network theory as a connecting factor based on the possibilities of exploring digital innovation strategies and resources critical to a sustainable growth of SMEs. A well incorporated digital innovation strategies help grow business by creating the needed awareness to attract new customers, retain existing ones and improve sale and asset growth together with enterprises productivity.

A network's worth is said to rise with its user base, according to the theory behind network effects. Each new user adds to the network's overall value, creating a positive feedback loop that promotes further acceptance and expansion (Katz & Shapiro, 1985). The Network Theory can be applied to various digital platforms, such as social media, e-commerce, and online marketplaces. For example, social media platforms like Facebook, Twitter, and Instagram have grown rapidly due to their ability to leverage the network effects. As more users join these platforms, the value of the platform to each user increases, leading to a positive feedback loop that further encourages user adoption and network growth. The larger the network, the more valuable the platform becomes, making it harder for competitors to enter the market and succeed (Hagiu & Wright, 2020).

Similarly, e-commerce platforms like Amazon have leveraged the network effects to become dominant players in their respective markets. The more buyers and sellers that join the platform, the more valuable it becomes to each participant, leading to a positive feedback loop that further encourages user adoption and network growth. This creates a self-reinforcing cycle that makes it harder for competitors to enter the market and succeed (Eisenmann et al., 2006).

Moreover, online marketplaces like Uber and Airbnb have also benefited from the network effects. The more drivers and riders that join Uber, for instance, the more valuable the platform

becomes to each participant, leading to a positive feedback loop that further encourages user adoption and network growth. As the network grows, it becomes more difficult for competitors to enter the market and succeed (Rochet & Tirole, 2003).

3. METHODOLOGY

The study adopted a survey design which sought to investigate the impact of digital innovation on SMEs growth in Katsina State of Nigeria. The population of the study consisted of 190 top managers of small and medium enterprises Krecie and Morgan (2016). A sample of one hundred and twenty (120) managers was drawn from the sample frame. Simple random sampling procedure was employed in the selection of the respondents to ensure fair representation from the enterprises. The main instrument for data collection was a structured questionnaire designed in a 5-point Likert scale of strongly agrees to strongly disagree. The instrument has 17-item subscale to measure the digital innovation and 13-item subscale to measure SMEs growth adapted from previous studies.

Content validity was determined through the review of the instrument by management scholars and pilot test was conducted to ensure clarity and understandability of the questionnaire. The reliability of the instrument was determined through Croubach Alpha method by distributing 15 copies of the instrument to managers of the enterprises in Katsina town and a repeat administration was done to same managers within a period of one week in order to ascertain consistence of the instrument. One hundred and ninety (190) copies of the data collection instrument were self-administered and one hundred and twenty (120) were retrieved from the respondents. The data collected were analyzed using descriptive statistics of mean and standard deviation for the research questions while regression analysis was employed to test the hypothesis postulated in the study.

4. DATA PRESENTATION AND ANALYSIS

4.1 Descriptive Analysis of Dependent and Independent Variables

Table 4.1 depicts the mean and standard deviation between the study variables. The total sample selected for this study consists one hundred and twenty (120). The dependent and independent variables are SMEs growth and digital innovation (product innovation, automated operations and business model innovation). Growth had a mean of 23.7 with a standard deviation of 4.90. This

signifies a fairly high increase in productivity, sale and assets growth. The standard deviation of 4.90 shows a low variability to the growth average of sample firms. This implies that SMEs growth mean is a good representation of sample data. Digital innovation, in terms of product innovation, automated operations and business model innovation, had mean of 9.19, 8.13 & 7.59 and standard deviation of 3.40, 2.59 and 1.60 respectively. This signifies fairly adoption of product innovation, automated operations and business model innovation adoption by the SMEs.

Table 4.1 Mean and Standard Deviation of Study Variables

	Mean	Std. Deviation	N
SMEs Growth	23.7	4.903	120
Product Innovation	9.19	3.407	120
Automated Operations	8.13	2.597	120
Business Innovation	7.59	1.608	120

4.2 Test of Hypothesis

Based on the result of the regression analysis, study hypotheses were rejected in favor of the alternate that digital innovation has a significant positive effect on the growth of small and medium enterprises in Katsina, Nigeria as indicated by the following: $B = 0.241, 0.107 \text{ \& } 0.197$, $t = 3.170, 2.526 \text{ \& } 1.519$, $p = 0.000$. The regression equation is presented thus when all the other variables are held constant: $\text{SMEs Growth} = 0.045 + 0.14 \text{ product innovation} + 0.72 \text{ automated operations} + 0.310 \text{ business innovation model}$.

Table 4.2 Regression Coefficients of SMEs Growth and Predictors

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	0.045	1.982		1.560	.000		
	Product	0.14	.054	.241	3.170	.000	.743	1.346
	Automated	0.72	.215	.107	2.526	.000	.778	1.286
	Business	0.310	.202	.197	1.519	.125	.875	1.143

a. Dependent Variable: Growth

5. CONCLUSION AND RECOMMENDATIONS

In reference to the research question on the impact of digital innovation on the growth of small and medium scale-enterprises, digital innovation can have a crucial impact on SMEs. By nature or manner of operations, most SMEs have a challenge of limited resources, hence employs a lot

of creativity and objectivity in the conduct of their business activities, with particular reference to productivity, sale and asset growth projections. The study, therefore, concludes that digital innovation (product innovation, automated operations and business model innovation) has a positive impact on the growth performance of SMEs in Katsina state, increases the productivity of the enterprises, boosts sale growth and also provides business opportunities to increase assets growth. In view of the above conclusion the following recommendations were made:

- i. Digital innovation adoption should be highly encouraged among SMEs as it tends to enhance business growth. On the other hand, for the impact of product innovation to be felt on the productivity of the enterprises, the cost of adoption of the innovation should be reduced through assistance in the form of grants, subsidies, tax exemption, tax holidays, and loans at reduced interest rate should be provided by the authorities and stakeholders to encourage SMEs to adopt digital technology in their businesses.
- ii. SMEs owners/managers should always adopt newer technologies for their automated operations innovations with a view to increase their sales growth.
- iii. SMEs need to improve on the strategies made in the process of business model innovation inclusion in their business operations. In this respect, SMEs in Nigeria are seriously lagging behind the best practices as adopted by other countries across the globe.
- iv. SMEs should regularly evaluate their digital innovation strategies as its implementation and deployment will help enterprises to grow and achieve success in Nigeria.
- v. Finally, government should come up with policy that will support and facilitate introduction of technological innovations in SMEs in Nigeria.

REFERENCES

- Agostini, L., Galati, F. & Gastaldi, L., (2020). The digitalization of the innovation process: Challenges and opportunities from a management perspective. *European journal of innovation management*, 23(1), pp.1-12.
- Allioui, H. and Mourdi, Y., (2023). Unleashing the potential of AI: Investigating cutting-edge technologies that are transforming businesses. *International Journal of Computer Engineering and Data Science (IJCEDS)*, 3(2), pp.1-12.

- Akanbi, A. A. A, Abdulraheem, R. A. (2021) Digital transformation and organizational performance of Nigerian SMEs: A conceptual framework, *International Journal of Emerging Technologies in Learning*; 16(3):152-167.
- Bahrini, R., & Qaffas, A. A. (2019). Impact of information and communication technology on economic growth: Evidence from developing countries. *Economies*, 7(1), 21. doi: <https://doi.org/10.3390/economies7010021>.
- Carr, N. G. (2003). IT doesn't matter. *Educause Review*, 38, 24-38.
- Caroli F, Colombo M, Rossi-Lamastra C. (2019) The impact of digital transformation on firm performance: A literature review and future research agenda. *The International Journal of Management Reviews*, 21(1):67-83.
- Danjuma, I. L & Sani MB. (2020) Digital transformation and SMEs growth in Nigeria: A study of the mobile banking sector. *Journal of Research in Emerging Markets*. 2020; 2(3):45-60.
- Davidsson, P. (1989). "Entrepreneurship and small firm growth." Dissertation, Stockholm School of Economics/The Economic Research Institute, Stockholm.
- Delmar, F., P. Davidsson & W. Gartner (2003). Arriving at the high-growth Firm. *Journal of Business Venturing*. 18(2), 189.
- Duru, I. U., Ehidihamhen, P. O., & Chijioke, A. N. J. (2018). Role of entrepreneurial orientation in the performance of small and medium enterprises: Evidence from Federal Capital Territory, Abuja, Nigeria. *Asian Journal of Economics, Business and Accounting*, 6(1), 1-21.
- Eisenmann T, Parker G, Van Alstyne M. (2006) Strategies for two-sided markets. *Harvard business review*, 84(10):92-101.
- Hossain, M. U., & Al Asheq, A. (2019). The role of entrepreneurial orientation to SME Performance in Bangladesh. *International Journal of Entrepreneurship*, 23(1), 1-6
- Hagiu A, Wright J. (2020) Multi-sided platforms. MIT Press.
- Is-haq, H.O, (2019). Effect of digital marketing and sales improvement of small and medium enterprises in Nigeria. *International Journal of Innovation and Research in Educational Sciences* Volume 6, Issue 6.
- Kane, G., Palmer, D., Phillips, A., & Kiron, D. (2017). Winning the digital war for talent. *MIT Sloan Management Review*, 58(2), 17-19.
- Katz ML, Shapiro C. (1985) Network externalities, competition, and compatibility. *American Economic Review*; 75(3):424-440.
- Matarazzo, M., Penco, L., Profumo, G. and Quaglia, R., 2021. Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective. *Journal of Business Research*, 123, pp.642-656.
- Mohammad, F, Shehnaz, T and Horne, C.N, (2021). Entrepreneurial innovativeness and its impact on smes' performances. *International Journal of Entrepreneurship*, 22, (3) 20181 1528-2678-22-3-169.
- Naimi-Sadigh, A., Asgari, T. and Rabiei, M., (2022) Digital transformation in the value chain disruption of banking services. *Journal of the Knowledge Economy*, 13(2), pp.1212-1242.
- National Bureau of Statistics (2007). Small and Medium Enterprises in Nigeria.
- Paiola M, Prencipe A. (2020) Digital transformation and innovation: A review and future directions, *Journal of Business Research*. 2020; 118:493-501.
- Pramuki1, W. A and Kusumawati, P. A, (2020). The influence of product innovation, digital marketing and competitive advantage in improving the marketing performance of small

- and medium industries in bali. *Advances in Economics, Business and Management Research*, 175.
- Pratono A. H. & Mahmood R. (2015). Mediating effect of marketing capability and reward philosophy in the relationship between entrepreneurial orientation and firm performance. *Journal of Global Entrepreneurship Research*. 2015;1-12.
- Rajesh, K. S., Suresh, K. G., & Deshmukh, S. G. (2008). Strategy development by SMEs for competitiveness: a review. *Benchmarking: An International Journal*, 15(5): 525-547.
- Rochet JC, Tirole J. (2003) Platform competition in two-sided markets. *Journal of the European Economic Association*. 2003; 1(4):990-1029.
- Rogers, B.A. (2002). Funding of SMEs: Sourcing of Funds and Problems Limiting Access, *ICAN journal. Nigerian Accountant* Vol. 35 No. 1 January/March.
- SMEDAN (2013). SMEDAN and National Bureau of Statistics collaborative survey: Selected Findings. Abuja: Small and Medium Enterprises Development Agency of Nigeria; 2013
- Svensson RB, Taghavianfar M (2015) Selecting creativity techniques for creative requirements: an evaluation of four techniques using creativity workshops. In: *Requirements Engineering Conference (RE), 2015 IEEE 23rd International. IEEE*, pp 66–75
- Uzor, O.O. (2004). Small and Medium Scale Enterprises Cluster Development in South- Eastern Region of Nigeria. *Institute for World Economics and International Management*, 5-15.
- Yoo Y, Boland Jr RJ, Lyytinen K, Majchrzak A (2012) Organizing for innovation in the digitized world. *Organization Science* 23(5):1398–1408.
- Yu, W., Wiklund, J., & Pérez-Luño, A. (2021). ADHD symptoms, entrepreneurial orientation (EO), and firm performance. *Entrepreneurship Theory and Practice*, 45(1), 92-117.
- Zarrouk, H., Sherif, M., Galloway, L., & El Ghak, T. (2020). Entrepreneurial orientation, access to financial resources and SMEs' business performance: The case of the United Arab Emirates. *The Journal of Asian Finance, Economics and Business*, 7(12), 465-474.