ENTREPRENEURSHIP AND INNOVATION IN BANKING POST COVID-19: A CONCEPTUAL ANALYSIS OF FINTECH'S ROLE

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Abstract
The operational concept, philosophy, logic and end goal of both entrepreneurship and Banking innovation could best be describe as a deliberate concept geared towards ensuring ease of doing banking business in the most economical manner. The emphasis of such concept among other things are primarily concerned with the level of satisfaction a customer is expected to attain through its numerous services which add value to human lives whether commercially or otherwise. This paper examines entrepreneurship and innovation in banking Post Covid-19: A conceptual analysis of Fintech's role. It aims to determine the effectiveness of the study model in serving as a way-out to the country`s socio-economic challenges brought about by Covid-19 pandemic, particularly in the Nigeria Banking sector. The study also evaluated the impact of covid pandemic on banking business and services as well as unravelled the connection between the growth of FinTech activity and bank stock return on investments (ROI) using action research methodology. Five relevant theories were reviewed having their roots from economics, psychology, sociology, anthropology, opportunistic and resources-based management. Findings showed a decrease in banks loan-to-deposit ratio of the banks from 63% before the pandemic to 58.96% during the pandemic. However, banks' liquidity before the pandemic stood at (49.8900) was higher than the liquidity position during the pandemic at (45.0540). Banking automation remained the most efficient, convenient and accessible platforms suitable at all times. Empirical studies are hereby recommended for more holistic idea in the relationship between entrepreneurship & Banking innovation.

Key words: *Entrepreneurship, Innovation, Covid-19, Banking Sector, FinTech.*

Introduction

The operational concept, philosophy, logic and end goal of both entrepreneurship and Banking innovation could best be describe as almost the same, having similar emphasis over the level of satisfaction one is expected to attain through its numerous services which add meaningful value to human lives whether commercially or otherwise. This

is no doubt as both terms are geared towards improving the lives of people and the entire economy through innovative ideas (Otache and Mahmood, 2015). However, entrepreneurship as an innovative ideology becomes necessary under a given circumstances that warrant an introduction of alternative means that facilitates access of goods or services in ensuring operational sustainability as well as serving as a true source of national competitive advantage particularly in the financial sector (Baumol, 2002).

Entrepreneurship combined with innovation and creativity had been adopted by many nations, regions, states, and institutions of learning including policy makers to stimulate innovation by entrepreneurial firms, in the hope of facilitating socio-economic growth. For instance, in the words of (Grimaldi, et al., 2011; Autio, et al., 2014; Ranjan, 2019; Garba, Lubuma & Tsanou, 2020; IFC, 2020) opined that innovation through the application of ICT has for a very long time proven to play a vital role as an essential drive for steady economic growth and a mechanism through which companies and other entities gained competitive advantage for possible market survival.

Problem Statement

Entrepreneurship and innovation in the banking sector have become necessary in Nigeria and the world at large if we truly wish to compete globally. For instance, the cost of movement in Nigeria is influenced by a range of challenges that affect both individuals and businesses, while fuel subsidies partially exist, the actual cost of fuel can fluctuate significantly due to policy changes, global oil prices, and distribution inefficiencies. Periodic fuel shortages cause price spikes and increase transportation costs, impacting the cost of goods and services; High rates of road accidents due to poor road conditions and reckless driving increase costs related to health, insurance, and vehicle repairs security concerns, particularly in certain regions, necessitate additional expenses for security measures and can deter movement, affecting commerce and personal travel.

With more than 300 million confirmed cases and about 6 million related deaths (as at December 2021), the destructive effect of COVID-19 pandemic has literally been experienced by practically every nook and cranny of the world (WHO, 2022). According to a study by Paterson et al. (2024) COVID-19 pandemic disrupted nations significantly, notwithstanding rather differently, as both public and private entities had to either shut down operations or downsize their workforce. However, across global financial markets, the effects of COVID-19 pandemic on investors' wealth also took varied shapes and sizes. Zhang, Hu and Ji (2020) observed that stock markets in Europe, Asia and North America alone were severely hit by the pandemic, while stock markets in Africa were mildly impacted (Topcu & Gulal, 2020).

Sequel to the above-mentioned menaces, businesses need to strive and remain abreast only with the adoption and careful application of entrepreneurship and innovation particular in the banking sector with the influence of FinTech.

Hitherto, these study aims to:

1. Critically evaluate the impact of the Covid 19 pandemic on banking business and services

2. Identify ways of holistic engagement in the search to create a more feasible ways of producing goods and services to reach-out to her target market and customers at ease.

3. To unravel the connection between the growth of FinTech activity and bank stock return on investments (ROI).

4. To investigate the role of FinTech in curbing common menace in the banking sector.

5. To determine the impact of banking innovation on customer satisfaction.

Literature Review

Fundamental Principles of Entrepreneurship

The fundamental principles of Entrepreneurship from a broader view have always been at the heart of firm and industrial dynamics extolling its influence on both micro and macro level. Such principles and concepts may include: Innovative; Conversion of Ideas through Business digitalization; Solution provider; Risk taking; Pro-activeness; Visionary; Accountable; Emergence of new actors; broader sources of Finance; Adding value to human lives etc., as opined by (Otache & Mahmood, 2015). Entrepreneurship being one of the driving forces responsible for periodic job creation, influencing business innovation, ensuring green and inclusive socio-economic growth where development cooperation's seeks viable ways to support entrepreneurs and MSMEs in developing and emerging economies. In a majority of those emerging economies, MSMEs account for a large share of diverse national economic activities with lots of valuable potentials to access (Rebernik, et al., 2017). Furthermore, a nucleus attribute of entrepreneurship is the ability to develop and utilize business opportunities (Shane & Venkataraman, 2000). Some have gone as far as claiming that in today's complex and ever-changing financial and business environments, venture opportunities and the ability to recognize and seize them are more vital to success than the

entrepreneurs/manager's personal characteristics or the firm's efficiency itself. One remarkable reference in this milieu is the MacMillan and McGrath's book on strategic management (2000), which states that the central weapon in the strategic arsenal of business organizations is the ability to create and exploit new venture opportunities.

However, there are three fundamental ideas that explain the facade of entrepreneurial activity. The first focuses on the individual, in other words, entrepreneurial action is conceived as a human attribute, such as the willingness to face uncertainty by accepting risks, the need for achievement (Cunningham & Lischeron, 1991), which differentiate entrepreneurs from other society. The second fundamental idea emphasizes economic, environmental factors that motivate and enable entrepreneurial activity to excel such as the dimension of markets, the dynamism of technological components (Tushman & Anderson**,** 1986) structure of the market–normative, the demographic base as well as the industrial dynamism (Acs & Audretsch, 1990). The third factor is linked to the functioning of institutions, culture and societal values. These approaches are not exclusive (Eckhardt & Shane, 2003), given that entrepreneurial activity is also a human activity and does not spontaneously occur solely due to the economic environment or technological, normative or demographic changes.

The Concept of Innovation

It has become crucial for businesses of all sizes and in all sectors to manage innovation in the complex and dynamic business environment of today, particularly in the banking sector. Innovation refers to the introduction of new or considerably enhanced products, services, processes, marketing strategies, or organizational structures for the workplace or external relations. Companies' ability to thrive in a cutthroat climate depends in large part on innovation (Wang & Voss, 2016). Nwachukwu (2018), postulates that innovation is a comprehensive strategy for refreshing and expanding a company's selection of goods, services, and markets through the use of fresh approaches or modifications to recent ones. A multifaceted term, innovation includes different types such as product, process, service, and marketing among others.

Service Innovation

In order to survive in a fiercely competitive market, businesses must create novel consumer interface designs, distribution channels, service delivery technologies, and organizational and management strategies. It is debatable whether a business will have devoted customers and get a competitive advantage if it produces unique items to fulfil the wants of its clients. The business's capacity to offer items that are specifically designed to fulfil the needs of its clients is the key to keeping competitive and thriving in the market. It might be argued that the success of service innovation implementation

determines the degree of client happiness. Although service innovation is crucial for improving customer happiness, business performance and manufacturing continues to be the focus of most innovation (McDermott & Prajogo, 2012). The first three years after presenting innovations to the market require special care. However, innovation increases a company's capacity to serve customers by better meeting their needs as at when due.

Empirical study looked at customer happiness and service innovation in Ghanaian mobile telecommunications companies. Customer satisfaction has been seen to increase as a result of service innovation in delivering customer value. They came to the conclusion that customer happiness will increase when innovative services match the functional, social, and emotional value expectations of customers. Bellingkrodt and Wallenburg (2015) gathered information from 778 service providers through an online survey. Final results used structural equation modelling for analysis. They came to the conclusion that close customer relationships in terms of innovation increase consumer happiness. However, businesses in the service (Like Banking) sector that prioritize service innovation do better financially than those that do not. The research makes clear that service innovation raises customer satisfaction levels and effectiveness. I contend that companies in Nigeria that implement service innovations would have happy clients. According to a survey of the literature on service innovation, there is a contextual gap that this study aims to solve. Prior research cantered on communications companies, agriculture for recreation, cultural attractions, and logistical service suppliers. These studies differ from the existing research in terms of context.

Process Innovation

O'Sullivan and Dooley (2010), a process entails connecting a number of actions intended to transform input into output that is made available to the user. It might be argued that process innovation tends to increase a firm's operational effectiveness and efficiency. Omachonu and Einspruch (2010), process innovation entails using new machinery, procedures, and software to execute enhanced service delivery system. According to Polder et al. (2010), process innovation strives to enhance auxiliary tasks including computing, accounting/finance, buying, and maintenance. It might be argued that process innovation touches on a number of daily corporate operations, including finance, human resources, production, sales, management, and technical design. According to some academics, technical innovations in service organizations are linked to process innovation. Therefore, prolonged consumer loyalty and support will result in higher sales, a larger market share, a better public image, and improved corporate performance. By producing and delivering items to clients at greater values, in a more flexible style, faster, and for less cost, businesses may compete in the mature market

(Klingenberg & Marugán-Lobón, 2013). Additionally, businesses can defend their competitive advantage by adopting process improvements to make it more difficult for rivals to enter the market (Porter, 2015). Similarly, a significant and positive link was also established in a study conducted by Bowen et al. (2022) between Nigerian telecoms company's performance and innovative initiatives. Therefore, Process innovation and organizational performance were found to be linearly related. Empirically, according to the research findings by Chepchieng, and Kithae, (2020) looked at how market innovation affects Nigerian telecommunications businesses' performance. They came to the conclusion that telecommunications companies with stronger process innovation have higher profitability chances than those with weaker process. It is clear from the literature that research on process innovations and customer satisfaction is not sufficient enough as only a few amongst researchers engages in such area.

Marketing Innovation

Businesses can employ marketing innovations to better serve customers, create new markets or position their product in the marketplace in order to increase their competitive edge while maintaining distance. Innovative marketing techniques according to Zuniga-Collazos and Castillo-Palacio (2016) can enhance client happiness and company's reputation for high-quality goods and services. The extent of business participation in marketing innovation depends on the actions companies and the sectors in which they work. Even so, service sector businesses are more likely to employ marketing innovation than manufacturing-based businesses. Marketing innovation studies, according to Wang, et al. (2016), are primarily concerned with three different topics: marketing innovation as a source of competitive advantages, the connections between marketing innovations and other innovation dimensions, and the traits of businesses that employ marketing innovations.

However, entrepreneurship in banking refers to the development of innovative and entrepreneurial initiatives within the traditional and conventional banking industry. It involves the application of entrepreneurial principles, strategies, and innovative practices to identify new opportunities, improve existing banking services, and create value for customers and stakeholders in line with government policies. Similarly, such concepts do not only discover new banking opportunities but it also ensures sustainability in its operation.

The Philosophy of Banking Innovation

Innovation generally is a multifaceted concept that refers to the process of introducing new ideas, methods, products, or services that create value, solve problems, or drive positive change. It is a fundamental driver of economic growth, technological

advancement, and societal progress especially in the banking and financial sectors. According to Babaeva, & Grigorieva (2020); Innovation processes management means management of research and development and has been considered as one of the systems constantly demanded by customers for faster, efficient and more convenient way of banking (Tashtamirov, 2023). This concept will no doubt assist both customers and banks in carrying out banking services at ease even without constant coming into contact with either customers or the banks themselves.

Cost Effectiveness Concept

Cost effectiveness in banking refers to the efficient use of resources to deliver financial products and services to customers while maintaining or improving the quality of service at minimum cost. However, efficiency in financial institutions implies improved profitability, channel more funds at better prices, and quality service for consumers in this competitive business environment (Ulla, Majeed & Popp, 2023). More so, a sustained banking services innovation is crucial for firm survival as competition grows day by day within the banking sector.

Theoretical Underpinning

Five different theories have been put forward by this paper to explicate the field of entrepreneurship. These theories have their roots in economics, psychology, sociology, anthropology, opportunistic and resources-based management (Simpeh, 2011). The multidisciplinary nature of entrepreneurship is given a close examination in this piece. Theoretically, entrepreneurship scholars have argued that entrepreneurial activities within existing business organizations are a source of restoration that gives organizations (micro or macro) competitive edges over rivals, which, in turn, contributes to enhanced organizational performance and growth (Kuratko et al., 2004). In addition, existing literature acknowledges that organizational-level entrepreneurship is related to return on turn-over, profitability, growth, strategic renewal, market share, wealth creation, and overall performance in the business venture as opined by (Antoncic & Hisrich, 2004; Kuratko et al., 2004; Mohamad et al., 2011). However, considering the lager scope of entrepreneurship and the number of contributors in the area of academics and business environment, the study intends to make a brief discuss regarding entrepreneurship theories with a review of some selected literature.

Economic Entrepreneurship Theories

The economic entrepreneurship theory could best be described as the Ricardo and Smith model whose roots is directly associated with the classical and neoclassical theories of economics as well as the Austrian market process (AMP). These theories gained great acceptance by exploring the economic factors that boost entrepreneurial performance. However, David Ricardo (1817) and Adam Smith (1776) championed this theory inscribing the virtues of free trade, specialization, and competition as classical economist. According to Say (1803) cited in Simpeh (2011) that, the economic theory emerged as a result of the Britain`s industrial revolution that occurred between mid-1700 and 1830s, emphasising the success and directing role of entrepreneurship from the viewpoint of goods production and distribution in a competitive market environment. Relatively, Murphy, Liao and Welsch (2006) argue that since the theory relied on just three model of production (Land, Capital & Labour) it failed to clarify the existing dynamism of controversy generated by entrepreneurs during the industrial era.

Neo-classical Theory

The neo-classical model came into being from the criticisms of the classical model and indicated that economic phenomena could be relegated to instances of pure exchange, reflect an optimal ratio, and transpire in an economic system that was basically closed. In order words, neoclassical entrepreneurship theories were born out of the prerequisite to elucidate the dynamics of rational decision-making in firms (Roche, 2018). The major criticism made was that aggregate demand ignores the uniqueness of individual-level entrepreneurial endeavour because entrepreneurial activity is destructive to the order of an economic system (Simphe, 2011).

Austrian Market Process Model [AMP]

According to the Austrian school, entrepreneurship only exists in the market process, and at the same time, it also drives the operation of the market process. Without a market process there is no entrepreneurship likewise without entrepreneurship, there is no market process. Similarly, Murphy et al. (2006) argued that the movement offered a logical dynamic reality, because in the background of the market process, the entrepreneurship can get more realistic economic analysis through market information. Under this theory, the two obvious inseparable concepts are entrepreneurship and market processes. In the process of constantly changing market variables, profit driven entrepreneurs bear uncertainty and compete for profit maximisation (Peng, 2019). Contrary to the neoclassical viewpoint, AMP refuses to go with the assumptions that in economic system outcomes usually remain the same due to the repeated nature of market circumstances. Relatively, it held the view that entrepreneurs are incentivized

to use innovative knowledge through coordinated process in order to generate more value (Peng, 2019; Garba, 2020).

Anthropological Entrepreneurship Theory

This theory attempts to relates entrepreneurship success with man`s origin, customs, beliefs, tradition and development. According to Mitchell et al., (2002) and Lee & Baskerville (2003) societal culture, behaviour, social, political and ecological attributes is directly proportional towards entrepreneurial success through periodic innovation of business ideas. Similarly, the model was of the view that the success recorded through the creation of new ventures that add value to human lives is a response from the community`s ethnic and cultural settings. In a related literature (Aldrich & Waldinger, 1990; Chaudhry & Crick 2004) argue that ethnic entrepreneurs make use of extensive networks of identity, family and community resources to acquire first hand business information and knowledge of market opportunities.

Opportunity-Based Entrepreneurship Theory

The opportunity-based approach recognises the vital role of the entrepreneur in the formation of, and the decision to, pursue entrepreneurial opportunities at all times. It is a concept which considers the opportunity one could access once there is existence of business activities. An opportunity-based approach provides a wide-ranging conceptual framework for entrepreneurship research (Fiet, 2002; Shane, 2000). It is almost a platitude in entrepreneurship research that the entrepreneurial Opportunity based theory is a process that begins mainly with the discovery of opportunities (Shane & Venkataraman, 2000). However, Endres and Woods (2007) had argued for a more "subjectivist" orientation to understand the process of opportunity creation. A subjectivist orientation can draw on Lachmann, an Austrian economist who stated that social phenomena are the outcome of human action guided by plans and prompted by mental acts (Lachmann, 1986: 22-23). According to Lachmann (1990), the entrepreneur creates, by assumption and reasoned imagination, an imagined future that, though unknown is not unimaginable (Lachmann, 1976: 59). Apparently, Drucker's opportunity construct is that entrepreneurs have an eye more for possibilities created by change than the problems itself. Stevenson (1990) extends Drucker's opportunity-based construct to include resourcefulness. This is based on research to determine the differences between entrepreneurial management and administrative management.

Unfortunately, the fragility level of the pandemic on the Nigeria economy cannot be over emphasised due to the country`s level of importation as well as her over dependence on oil (IFC, 2020). Seth et al. (2020) argues that though the epidemic has

affected the entire economy sector by sector in one way or the other, with small and medium scale enterprises being most affected of all. Furthermore, an estimated livelihood threats caused by the pandemic according to IFC report (2020) stood at about 85.2 million people living in poverty most of which depends on a daily income through various labour services engagement. Nevertheless, in an attempt to providing solution in mitigating the effects of the pandemic in the business environment in particular and the society at large, stakeholders concerned have been seeking for all alternative ways to connect people with different markets and their respective financial institutions most especially during strict conditions like lockdown.

Banking and Technology Innovation

Offei and Nuamah-Gyambrah (2016) Opined that, the Banking sector had made several innovative services and more windows such as the E-banking which offers easy access for customers from their respective homes into their accounts which has significantly reduced under-the table practices by the bank officers. According to Ohiani (2021) Entrepreneurship in the Banking sector has made it easier and more convenient for customers to monitor and make transactions in their bank accounts and how they carry out transactions on daily basis irrespective of their location thereby reducing the risk of getting infected from any existing Virus or infections. Asisi and Egessa (2023) explored the impact of market innovation and commercial banks competitiveness in Kenya and proved a significant relationship between market innovation and competitiveness of Commercial Banks in Kenya using the Principal Component Analysis approach to test for construct validity.

Technology is the deliberate application of innovative solutions that will meet the currents and existing requirements in the conduct of services at different level. However, this accomplishment was made through new but effective products, services, processes, technologies, ideas that are readily available to markets, society and the governments. recently, the technological innovation is considered as one of the most important tools that can greatly influence the banking sector services and the economic sector at large. Similarly, technological innovations and development will certainly alter the replicas used in delivering and developing services in banks and it will be replaced with new and inventive ideologies (Thomas & Bella, 2023). Therefore, banks should develop and adopt the new technological innovation to perform in this highly competitive environment. For the past few years for instance, the Indian banking sector has witnessed a lot of variations. Information technology has proven to be helpful to the banking and financial industries for new innovations in the product designing and their delivery. Result from a study conducted by Paramasivan and Ravichandiran (2022), shows that technology is one of the major aspects of banking sector which directly influenced the quality and effectiveness of banking services world-wide.

Inclusive banking services to un banked people will be possible only with the help of innovative business practices. With this assessment, this section will provide an output to understanding the impact of innovative business practices of banking with respect to socio-economic development through technological discovery and applications. The latest technologies offer a chance for banks to build a new system that address a wide range of customer needs and wants at all time (Thomas & Bella, 2023).

The Role of Fintech on Banking Services

Financial establishments have greatly benefited from recent developments in the application of financial technology for service delivery. The application of technological facilities in banking service delivery has made their operations more efficient, effective with less error (Churchill et al., 2024). Apart of other financial institutions, banks could best be described as the major beneficiaries to the adoption and use of financial technology. According to Dorfletner et al. (2017), financial technology may simply be viewed as the modernization of financial services by businesses entities or their associated agents through the use of cutting-edge technology. Furthermore, FINTECH was made possible for easy services delivery by careful application of financial technology (FinTech Weekly, 2016). For instance, more Banking supports have been received by FINTECH in the aspect of major account opening, deposit and withdrawal processes, online account statements, clearing and settlement, cash transfers, capital raising, credit processing, financial inclusion, card services and lots (Thomas & Bella, 2023). From the above emphasis, one may come to terms that such application makes it easier to handle personnel records, services assessments, audit evaluations and other internal control (Churchill et al., 2024). Financial technology helps banks in a variety of ways including quick service delivery, consumer convenience, higher profitability and increased market share.

Entrepreneurship, Fintech and Banking Growth

In an attempt to blend technology and finance, banking entrepreneurship has considered Fintech as a mechanism which encompasses diverse range of services, including digital payments, peer-to-peer lending, robot-advisors, blockchain-based solutions, mobile banking applications and beyond. These innovations have not only revolutionized the customer experience but have also stimulated a seismic shift in the operational frameworks of financial institutions (Josyula, 2021).

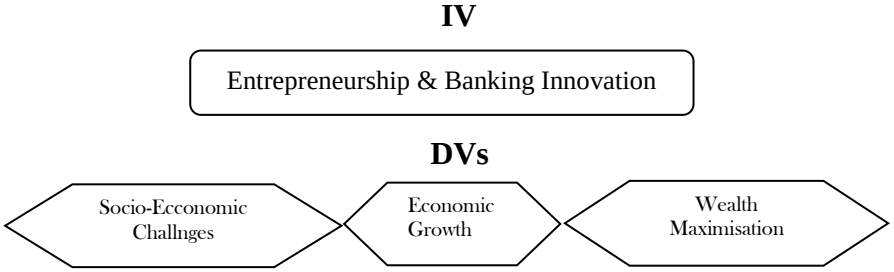
According to Cheng and Qu (2020), one of many ways fintech could have an effect on banking services is through the use of technology in interactions between banks and fintech as well as among banks and companies outside of the fintech industry. De Roure

et al. (2021) highlighted the competitive nature of FinTech and traditional financial institutions and underlined how these factors affected the risk-taking, innovation, and success of the latter. Regulatory concerns were initially brought up in the study by Buchak et al. (2018) on the impact of FinTech loans on bank performance. Chen et al. (2019) demonstrates how FinTech can enhance financial services by encouraging low-cost transactions, extending business models, and raising the quality of service. Fintech may be able to aid commercial banks in their efforts to diversify.

According to Li, et al. (2017), there is a connection between the growth of FinTech activity and bank stock return on investments (ROI). Customer demand as well as disruptive innovation have so far been taken into account. The banking sector may be impacted by the growth of fintech. Based on the consumer demand idea, new financial institutions will be replaced when FinTech satisfies consumer need. On the other side, the disruptive-innovation theory suggests that new market entrants acquire cutting-edge technology and use them to provide services that are easily accessible and affordably priced (Vu, et al., 2022). The customer hypothesis, according to Yudaruddin (2022), explains how FinTech businesses replace outdated banking services to satisfy client demand. According to the disruptive innovation idea, FinTech businesses compete aggressively with traditional banks by generating revenue from innovative technologies designed to give customers quick and affordable access to services. According to Juengerkes (2016), collaborating with FinTech firms can benefit banks by improving their ability to handle disruptive innovation and promote client confidence which in-turn influences banking growth.

Conceptual Framework

Conceptual framework is an assemblage of far-reaching ideologies adapted from relevant fields of study and utilized such to structure a subsequent exhibition. In other words, the concept could be seen as an expression either graphically or otherwise of the study in question. However, it entails a comprehensive presentation of study variables; dependent, independent, and at times, superseding or control variables with a clear relationship between them (Miles et al., 2014 and Salawu, et al., 2023). Below is the conceptual framework, showing a clear relationship between independent and dependent variables.



Discussion of Findings

This study found that the pandemic affected most business severely at the early stages of its occurrence especially the banking sector due to government policy, restricting unnecessary movements with the aim of minimising its spread. For instance, there was a decrease in the loan-to-deposit ratio of the banks from 63% before the pandemic to 58.96% during the pandemic (Uche, et al., 2024). However, results show that banks' liquidity before the pandemic (49.8900) was much higher than the liquidity position during and even after the pandemic at (45.0540) though seems insignificant but yet affected by the pandemic. Contrarily, the study also found that the introduction of digital infrastructure (Hope, et al., 2020) and FinTech has enhanced financial services in the banking sector by encouraging low-cost transaction, rising the quality of financial services (Cheng, et al., 2019 & Vu, 2022).

Furthermore, banking innovation through automation services has brought much customer satisfaction as well as increase in access to banking services and products globally. According to Sharma (2022) core banking automation has led to a super win-win for all stakeholders in the banking sector world-wide. These studies found that entrepreneurship and innovation in the Banking sector has made it easier and more convenient for customers to monitor and make transactions in their bank accounts irrespective of their location thereby reducing the risk of getting infected from any existing Virus or infections through automated platforms (Ohiani, 2021)

Conclusion and Recommendations

We must adopt the application of financial technology in our daily endeavours as the cost of movement in Nigeria and other developing economy is influenced by a range of challenges that affect both individuals and businesses. The effectiveness of service automation in banking as a way-out to the country`s socio-economic challenges brought about by Covid-19 pandemic could not be overemphasis, particularly in the Nigeria financial sector, due to its significance to the economy. It is therefore inevitable for all critical sectors to automate her operations to avoid unnecessary disruptions from any unwanted pandemic or barriers from movement which might cause great economic challenges as in the case of covid-19 pandemic era. The study evaluated the impact of covid pandemic on banking business and services as well as the connection between the growth of FinTech activity and bank stock return on investments (ROI) using action research methodology. Similarly, the study has made it possible for us to see how innovation and entrepreneurship in the Banking sector has made it easier and more convenient for customers to monitor and make transactions in their bank accounts and how they carry out transactions on daily basis irrespective of their location thereby

reducing the risk of getting infected from any existing Virus or infections. These innovations have not only revolutionized the customer experience but have also stimulated a seismic shift in the operational frameworks of financial institutions.

Finally, more research is hereby recommended particularly empirical studies in other to have a more holistic idea in the relationship between entrepreneurship, fintech, Banking innovation and customer satisfaction covering the entire west Africa or beyond, using a different methodology.

References

Acs, Z.J., & Audretsch, D.B. (1990). *Innovation and Small Firms*. Cambridge, MA: MIT Press.

Aldrich, H. E., & Waldinger, R. (1990). Ethnicity and entrepreneurship. *Annual review of sociology*, *16*(1), 111-135.

Antončič, B., Auer Antončič, J., & Juričič, D. (2015) Družinsko podjetništvo: značilnosti v Sloveniji. Ljubljana: EY.

Asisi, G. I., & Egessa, R. (2023). Market Innovation and Competitiveness of Commercial Banks in Kenya. *African Journal of Empirical Research*, *4*(2), 144-156.

Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2011) Entrepreneurial innovation: The importance of context. Research Policy; [Online] **43**(7) 1097-1108 [Accessed 12th March, 2025] Available at: https://www.sciencedirect.com/science/article/abs/pii/S0048733314000717#preview-section-cited-by

Babaeva, A. A., & Grigorieva, E. V. (2020). Principles of innovation processes management. In *IOP Conference Series: Materials Science and Engineering* (Vol. 753, No. 5, p. 052064). IOP Publishing.

Baumol, W. (2002) *The Free-Market Innovation Machine*: Analysing the Growth-Miracle of Capitalism. Princeton University Press, Princeton.

Bellingkrodt, S., & Wallenburg, C. M. (2015). The role of customer relations for innovativeness and customer satisfaction: A comparison of service industries. *The International Journal of Logistics Management*, *26*(2), 254-274.

Bowen, L. I., Jing, M. E. N. G., & Juan, L. I. (2022). SOI technology and industry development research. *Information and Communications Technology and Policy*, *48*(4), 57.

Buchak, G., Matvos, G., Piskorski, T., & Seru, A. (2018). Fintech, regulatory arbitrage, and the rise of shadow banks. *Journal of financial economics*, *130*(3), 453-483.

Chaudhry, S., & Crick, D. (2004). Understanding practices at the "ethnic" marketing/entrepreneurship interface: A case study of Kirit Pathak. *Qualitative Market Research: An International Journal*, *7*(3), 183-193.

Chaudhry, S., & Crick, D. (2013). An exploratory study of UK based, family-owned, Asian firms' motives for internationalizing. *Journal of Small Business and Enterprise Development*, *20*(3), 526-547.

Cheng, M., & Qu, Y. (2020). Does bank FinTech reduce credit risk? Evidence from China. *Pacific-Basin Finance Journal*, *63*, 101398.

Chepchieng, D. B., & Kithae, P. P. (2020). Technological innovations and entrepreneurial growth in developing countries. *International Journal of Management and Leadership Studies*, *2*(1), 88-94.

Churchill, R., Apps, T., Batt, J., Beckman, K., Grainger, P., Holloway, J., ... & Shaw, K. (2024). *Teaching: Making a difference*. John Wiley & Sons.

Cunningham, J. B., & Lischeron, J. (1991). Defining entrepreneurship. *Journal of small business management*, *29*(1).

Dorfleitner, G., Hornuf, L., Schmitt, M., Weber, M., Dorfleitner, G., Hornuf, L., ... & Weber, M. (2017). *The fintech market in Germany* (pp. 13-46). Springer International Publishing.

Eckhardt, J.T., & Shane, S.A. (2003). Opportunities and entrepreneurship. *Journal of Management, 2(9)*, 333-349.

Endres, A. M., & Woods, C. R. (2007). The case for more "subjectivist" research on how entrepreneurs create opportunities. *International Journal of Entrepreneurial Behavior & Research*, *13*(4), 222-234.

Fiet, J. (2002). Time, space and entrepreneurship. Routledge.

Garba, S.M., Lubuma, J-S.M., & Tsanou, B. (2020) "Modeling the transmission dynamics of the COVID-19 Pandemic in South Africa": *Mathematical Biosciences* [Online] [Accessed 17th February, 2025] Available at: https://www.sciencedirect.com/science/article/pii/S0025556420301061

Grimaldi, R., Kenney, M., & Siegel, D.S. (2011) 30 Years after Bayh-Dole: Reassessing Academic Entrepreneurship. *Open Journal of Social Sciences*, Vol.5 No.6, June 28, 2017 *Research Policy*, 40, 1045-1057.

Hope, M. D., Raptis, C. A., Shah, A., Hammer, M. M., & Henry, T. S. (2020). A role for CT in COVID-19? What data really tell us so far. *The Lancet*, *395*(10231), 1189-1190.

Josyula, S. S., Suresh, M., & Raghu Raman, R. (2023). How to make intelligent automation projects agile? Identification of success factors and an assessment approach. *International Journal of Organizational Analysis*, *31*(5), 1461-1491.

International Finance Corporation (2020) COVID-19 RAPID Assessment: impact on the Nigerian private sector and perspectives on accelerating the recovery: *Supplement to the Country Private Sector Diagnostic on Nigeria.*

International Finance Corporation (2020) Promoting Digital and Innovative SME Financing: SME Finance Forum, 2020. [Online] [Accessed 20th December, 2024] Available at:www.worldbank.org.

Juengerkes, B. E. (2016). FinTechs and Banks–Collaboration is Key. *The FinTech book: The financial technology handbook for investors, entrepreneurs and visionaries*, 179-182.

Klingenberg, C. P., & Marugán-Lobón, J. (2013). Evolutionary covariation in geometric morphometric data: analyzing integration, modularity, and allometry in a phylogenetic context. *Systematic biology*, *62*(4), 591-610.

Kuratko, D. F. (2004, January). Entrepreneurship education in the 21st century: From legitimization to leadership. In *USASBE National Conference* (Vol. 16, pp. 43-48).

Lachmann, P. J., & Walport, M. J. (1986). Genetic deficiency diseases of the complement system. In *Immunobiology of the complement system* (pp. 237-261). Academic Press.

Lachmann, R. (1990). Class formation without class struggle: An elite conflict theory of the transition to capitalism. *American Sociological Review*, 398-414.

Lee, A. S., & Baskerville, R. L. (2003). Generalizing generalizability in information systems research. *Information systems research*, *14*(3), 221-243.

Li, H., Liu, H., Ji, X., Li, G., & Shi, L. (2017). Cifar10-dvs: an event-stream dataset for object classification. *Frontiers in neuroscience*, *11*, 309

McDermott, C. M., & Prajogo, D. I. (2012). Service innovation and performance in SMEs. *International Journal of Operations & Production Management*, *32*(2), 216-237.

Miles, A. (2015). The (re) genesis of values: Examining the importance of values for action. *American sociological review*, *80*(4), 680-704.

Mitchell, R., Busenitz, L.W., Lnat, T., & McDougall-Covin, P.P. (2002). Toward a theory of entrepreneurial cognition: rethinking the people side of entrepreneurship research. *Entrepreneurship Theory and Practice* [Online] 27(2) [Accessed 2nd September, 2024] Available at: https://www.researchgate.net/publication/313102673_Toward_a_theory_of_entrepreneurial_cognition_rethinking_the_people_side_of_entrepreneurship_research

Mohamad, M., Abdullah, A. R., & Mokhlis, S. (2012). Tourists' evaluations of destination image and future behavioral intention: the case of Malaysia. *J. Mgmt. & Sustainability*, *2*, 181.

Murphy, P.J., Liao, J., Welsch, H (2005) *A Conceptual History of Entrepreneurial Thought*. Academy of Management Best Papers Proceedings, 65th Annual Meeting, Honolulu, Ha, 2005, Available at SSRN: https://ssrn.com/abstract=818604 or http://dx.doi.org/10.2139/ssrn.818604

Nwachukwu, C., Chládková, H., & Fadeyi, O. (2018). Strategy Formulation Process and Innovation Performance Nexus. *International Journal for Quality Research*, *12*(1).

Offei, M.O., & Nuamah-Gyambrah, K. (2016), "The contribution of electronic banking to customer satisfaction: a case of GCB bank Limited-Koforidua", *International Journal of Managing Information Technology*, Vol. 8 No. 1, pp. 1-11.

Ohiani, A.S. (2021) Technology innovation in the Nigerian banking system: prospects and challenges. *Rajagiri Management Journal* 15(1), 2-15 Emerald Publishing Limited e-ISSN: 2633-0091 p-ISSN: 0972-9968DOI 10.1108/RAMJ-05-2020-0018

Omachonu, V. K., & Einspruch, N. G. (2010). Innovation in healthcare delivery systems: a conceptual framework. *The Innovation Journal: The Public Sector Innovation Journal*, *15*(1), 1-20.

O'Sullivan, D., & Dooley, L. (2010). Collaborative innovation for the management of information technology resources. *International Journal of Human Capital and Information Technology Professionals (IJHCITP)*, *1*(1), 16-30.

Otache, I., and Mahmood, I. (2015) Entrepreneurial Orientation and Performance of Nigerian Banks: The Mediating Effect of Teamwork. *Mediterranean Journal of Social Sciences MCSER Publishing, Rome-Italy*.

Paramasivan, C., & Ravichandiran, G. (2022). Financial Performance of Commercial Banks in India. *Journal of the Oriental Institute MS University of Baroda*, *71*(02).

Paterson, A.H. (2024) Genome organization and botanical diversity, *The Plant Cell*, [Online] **36**(5) pp.1186–1204[Accessed 9th January, 2025] Available at:https://doi.org/10.1093/plcell/koae045

Peng, X. (2019**)** Entrepreneurship in Market Process. *Scientific Research Publishing: Modern Economy***,** [Online] 10, **575-585** [Accessed 14th December, 2024] Available at**:** http://www.scirp.org/journal/me ISSN Online: 2152-7261 ISSN Print: 2152-7245. College of Economics, Jinan University, Guangzhou, China: Agency for promotion of entrepreneurship of the Republic of Macedonia.

Polder, M., Van Leeuwen, G., Mohnen, P., & Raymond, W. (2010). Product, process and organizational innovation: drivers, complementarity and productivity effects.

Porter, J. (2015). *Vertical mosaic: An analysis of social class and power in Canada*. University of Toronto Press.

Radanliev, P., De Roure, D., Van Kleek, M., Santos, O., & Ani, U. (2021). Artificial intelligence in cyber physical systems. *AI & society*, *36*(3), 783-796.

Ranjan, A. (2019) The Role of Entrepreneurship in Economic Development: *American Journal of Management Science and Engineering.* [Online] **4**(6): 87-90 [Accessed 12th December, 2024] Available at:http://www.sciencepublishinggroup.com/j/ajmse doi: 10.11648/j.ajmse.20190406.11 ISSN: 2575-193X (Print); ISSN: 2575-1379

Rebernik, L., Wegner, A., Benson, S., Spreitzer, I., Jäger, M., Schedlowski, M., ... & Engler, H. (2017). Sex differences in the pro-inflammatory cytokine response to endotoxin unfold in vivo but not ex vivo in healthy humans. *Innate Immunity*, *23*(5), 432-439.

Ricardo, D. (1895). *The first six chapters of the principles of political economy and taxation of David Ricardo, 1817*. Macmillan and Company.

Roche, G.G. (2018) Neoclassical Entrepreneurship Theory: Limits and Insights for a Heterodox Approach; Finance, Economics, and Law Department. Champagne School of Management. 217 avenue Pierre Brossolette, 10002, Troyes – France. 32 Pages Posted: [Online] [Accessed 10th December, 2024] Available at:https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2908067. NEOMA Business School.

Salawu, R., Shamsuddin, A., Bolatitio, S., & Masibo, S. (2023). Theoretical and conceptual frameworks in research: Conceptual clarification. *European Chemical Bulletin*, *12*(12), 2103-2117.

Say, J. B. (1803). Of National Debt. In *The History of Taxation Vol 3* (pp. 265-288).

Routledge.

Seth, R., Messersmith, H., Kaur, V., Kirkwood, J. M., Kudchadkar, R., McQuade, J. L., ... & Funchain, P. (2020). Systemic therapy for melanoma: ASCO guideline. *Journal of Clinical Oncology*, *38*(33), 3947-3970.

Shane, S., & Venkataraman, S., (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review* 25 (1), 217– 226.

Sharma, R. (2022) A Study on Innovation in Banking and its Impact on Customer Satisfaction. *Integrated Journal for Research in Arts and Humanities* [Online] **2**(3)PP. 67-72 [Accessed 20th March, 2025] Available afile:///C:/Users/user/Downloads/A_Study_on_Innovation_in_Banking_and_its_Impact_on.pdf

Simphe, K.N. (2011) Entrepreneurship theories and Empirical research: *European Journal of Business and Management;* A Summary Review of the Literature [Online] 3(6) 2222-2839 [Accessed 11th December, 2024] Available at:///C:/Users/user/Downloads/531-1359-1-SM.pdf

Smith, A. (1937). *The wealth of nations [1776]* (Vol. 11937). na.

Stevenson, L. (1990). Some methodological problems associated with researching women entrepreneurs. *Journal of business ethics*, *9*(4), 439-446.

Tashtamirov, M. (2023). Financial Innovation and Digital Technology in the Banking System: An Institutional Perspective. In *SHS Web of Conferences* (Vol. 172, p. 02004). EDP Sciences.

Thomas, T., & Bella, K. M. J. (2023). Promoting financial inclusion and sustainability: empowering migrant workers for a better future. *International Journal of Scientific Research in Modern Science and Technology*, *2*(6), 36-41.

Topcu, M., & Gulal, O. S. (2020). The impact of COVID-19 on emerging stock markets. *Finance research letters*, *36*, 101691.

Tushman, M.L. & Anderson, P. (1986). Technological discontinuities and organizational environments. *Administrative Science Quarterly, 31*, 439-465.

Uche1, O.O., Ezioma, I.G., & Chukwuebuka, U.C. (2024) Unveiling the Effects of Covid-19 on the Efficiency of Nigerian Banks: *African Journal of Accounting and Financial Research* [Online] ISSN: 2682-6690 Volume 7, Issue 2, 2024 (pp. 181-196) [Accessed 15th March, 2025] Available at: file:///C:/Users/user/Downloads/Unveiling_the_Effects_of_COVID-19_on_the_Efficienc-1.pdf

Ullah, S., Majeed, A., & Popp, J. (2023). Determinants of bank's efficiency in an emerging economy: A data envelopment analysis approach. *Plos one*, *18*(3), e0281663.

Vu, T. V., Vo-Thanh, T., Nguyen, N. P., Van Nguyen, D., & Chi, H. (2022). The COVID-19 pandemic: Workplace safety management practices, job insecurity, and employees' organizational citizenship behavior. *Safety science*, *145*, 105527.

Wang, Q., Zhao, X., & Voss, C. (2016). Customer orientation and innovation: A comparative study of manufacturing and service firms. *International Journal of Production Economics*, *171*, 221-230.

Wang, S., Fan, J., Zhao, D., & Wang, S. (2016). Regional innovation environment and innovation efficiency: the Chinese case. *Technology Analysis & Strategic Management*, *28*(4), 396-410.

WHO (2019) Archived: WHO Timeline - COVID-19. https://www.who.int/news-room/detail/29-06-2020-covidtimeline

Yudaruddin, R. (2022). Bank concentration and stability in Central Asia: The effect of capital regulation and financial freedom. *Journal of Eastern European and Central Asian Research (JEECAR)*, *9*(2), 206-216.

Zhang, Y., & Zhang, X. (2012). The effect of entrepreneurial orientation on business performance: A role of network capabilities in China. *Journal of Chinese Entrepreneurship*, ***4***(2), 132–142. doi:10.1108/17561391211242744.

Zuñiga-Collazos, A., & Castillo-Palacio, M. (2016). Impact of image and satisfaction on marketing innovation. *Journal of technology management & innovation*, *11*(2), 70-75.