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Technology and Market Development in Nigerian Banking Industry: An Empirical Review of Selected Nigerian Banks

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Abstract:

This study reviewed how Nigerian banking organisations use technology to implement the intensive strategy of market development, especially by introducing their existing products to new market segments, creating new channels of distribution and by promoting alternate uses of their current products in their present and new markets. The research design was a descriptive survey of 5 selected banks representing about 20% of the 25 money deposit banks in Nigeria. Personal interviews were used as the primary data source, while documentary sources constituted secondary data for this study. The interviews and the documentary sources focused on the selected bank's specific technology deployments in implementing some of their market development strategies. The data collected were presented and discussed with illustrative narration of technology-driven market development strategies. The findings based on interviews and documentary sources indicated that technology remains a significant tool in implementing and achieving market development in the Nigerian banking industry. It confirmed that technology is deployed by banks in getting their existing products and services to new market segments, creating new channels of distribution and promoting alternate uses of their existing products in both present and new markets. In conclusion, this study construes that technology has a direct positive relationship with intensive market development strategies in the Nigerian banking industry. Therefore, the implication is that banks make adequate investments in technology to enable them to fully implement market development and other strategies to remain competitive and profitable.

Keywords: Technology, market development, existing products, new markets

1. Introduction

Technology encompasses the knowledge, products, processes, tools and systems applied in creating goods or providing services (Trott, 2017). The application of technology transforms organisational processes leading to newer, faster and more efficient ways of doing things. According to Sibanda and Ramrathan (2017), technology is increasingly impacting the ways and manner in which organisations conduct their businesses and, as such, making it a pivotal element in overall organisational strategy. Today, technology strategy has become a key factor in devising business strategies and sustaining competitive advantage (Mahmood et al., 2013). For organisations, technology has become a critical enabler and driver to achieving long-term business goals (Dennis & Walsh, 2015); and an essential tool for achieving competitive advantage (Nikoloski, 2014)

Technology impacts all aspects of business organisations. In concurrence with this, Serrat (2021) affirmed that technology rapidly applies scientific advances in products, services and processes, leading to innovations in organisations and the emergence of knowledge-intensive industries and services. Through technology, a lot of innovation has been brought into organisational strategy development processes. Confirming this development, Kihara, Bwisa, and Kihoro (2016) had earlier maintained that technology helps an organisation to develop products, services and capabilities needed to give it strategic advantages over competitors in the marketplace. Today, technology has become a key factor in devising business strategies and sustaining competitive advantage (Mahmood, Amir, Javied & Zafar, 2013).

With respect to the banking sector, technology developments and applications have transformed virtually every aspect of banking activities and functions, including banking administration, operations, marketing and risk management processes and services. There is no doubt that the trends and developments in the area of technology have revolutionized and transformed the business of banking. Affirming this transformational impact of technology on banking, Lay (2020) held that the banking industry is currently being disrupted by the changes brought about by modern digital technology. According to him, these impacts are evidenced in the new banking technologies and the electronic banking culture facilitated by new technologies.

Stressing the disruptive changes of technology in the banking sector, Gupta (2008) held that electronic banking is changing the banking and financial sector in terms of the nature of core products or services and the way these are packaged, suggested, delivered and consumed. Electronic banking (e-banking) has brought a total swap pattern on the

bank's performance and on service delivery in the banking sector (Abubakar & Rasmaini, 2012). Thus, technology has become a powerful and invaluable weapon bringing about innovation, improved processes and increased growth (Kamel, 2005); and has continued to drive increasing customer satisfaction and competitiveness (Gichana, Nyakundi & Muturi, 2016).

Explaining this in simple terms, Chaarani and Abiad (2019) said that using technology in banking organisations leads to delivering high-quality services with less effort and enhances banking performance. For instance, new technologies arising from the advent of computer technology, the internet and the emergence of electronic and various mobile banking services have aided the conduct of banking transactions on an online real-time basis. In the same vein, the introduction of card technology, automated teller machines, point of sales (PoS) terminals and numerous other technological devices are some of the technological innovations that have digitalised the banking industry in Nigeria.

In terms of strategy implementation in the banking industry, the impact and relevance of technology is even more significant. Technology applications have been used by banks to implement various organisational strategies. Obviously, technology and innovation have continued to drive strategy implementation and business success for organisations to remain competitive (Durmaz & Ilhan, 2015). According to Hoffman (2022), new technologies enable the development of new marketing strategies and strategic frameworks. Following this position, technology plays a key role in the implementation of the intensive market development strategies of banks, among others. For Idigo and Onwudiwe (2022), technologies are deployed, among other purposes, to implement intensive strategies of market penetration, market development and product development strategies of organisations. The market development strategies are accomplished by the organisation's use of technology infrastructure, devices and platforms to:

- Improve sales,
- Introduce products into new markets,
- Develop new channels of distribution to reach wider markets, and
- Develop new products for their current markets.

Thus, Market development as a growth strategy identifies and develops new market segments for an organisation's current products. It is a strategy for taking new products to targeted markets by organisations.

Consequently, technology plays a significant role in implementing organisational market development and other growth strategies to remain competitive. This is more so in the banking industry, which is fast-changing and highly competitive and thus requires using the latest technology application in their services and delivery systems to survive. Therefore, this paper discusses the deployment of appropriate technology applications to implement and achieve product development strategies in the Nigerian banking industry, focusing specifically on selected Nigerian banking organisations.

2. Literature Review

2.1. Technology

The concept of technology refers to the knowledge and understanding of facts, information and skills acquired through learning experiences (Wikipedia, 2020). Generally, technology encompasses the tools which refer to the necessary objects, items or implements used for performing or completing specific tasks. In this light, White and Brutton (2011) described technology as simply the use of knowledge to perform work. Thamhain (2013) summed up the concept of technology as the practical implantation of learning and knowledge by individuals and organisations to achieve the human endeavour. This means that technology has to do with both the comprehension and know-how or skill that can be applied to achieve some tasks. In essence, technology encompasses the totality of the techniques, skills, methods and processes used to achieve goals. Consequently, technology derives from the availability and depth of knowledge that can be deployed to achieve a given task. In furtherance to that, Trott (2017) sees technology as encompassing the knowledge, products, processes, tools and systems used to create goods or provide services.

Historically, technology has evolved over the years. Its earliest forms were the basic stone tools early days of mankind. However, the various stages of civilization and the growth of scientific knowledge have led to the discovery of technological tools and devices used to perform tasks in today's modern society. Kihara et al. (2016) noted that in today's contemporary world, almost everything is driven by computers, machines and information and communication technology. Taking this further, Pearce & Robinson (2015) and Sirimanne et al. (2018) listed some of the key factors and variables in the technology environment, which include automation, mechanization, advances in transportation and distribution, technological advances in medical sciences, computer and internet technology, cryptography, 3D technology, mobile and telecom technology, artificial intelligence; big data, blockchain technology, nanotechnology, renewable energy, satellites and drones. According to them, these variables shape the fast-changing technology environment that exerts a significant impact on modern society.

Resultantly, technology is not only important to the society at large but also to organisations. Its importance to organisations cannot be overemphasized. Tallon (2007) pointed out that technology influences an organisation, its processes and the strategies put in place to ensure the success of the organization. As part of its influence on organisations, technology plays pervasive and significant roles in various organisational functions. For instance, technology facilitates the promotion of marketing functions in organisations and helps organisations to gain a competitive advantage in the marketplace. With technology, organisational managers can access and share real-time information from the operating environment, resulting in improved and faster decision-making and quicker responses to changes in the external environment. It is also used to create new business models, products and services, enhance existing offerings and create deeper, more rewarding customer experiences (Cox, 2006). For Lv et al. (2019), technological advancement has

brought down the price of goods that use new technologies intensively. Technology also has an impact on competition and market structure. It reduces barriers for new organisations in many areas. New technologies have changed how consumers search for and compare product prices and these customers benefit from increased price transparency and comparability.

2.2. Technology and Market Development

Technology and technology applications play significant roles in market development strategies. Market development as a strategy focuses on introducing an organisation's existing products to new markets. It involves the growth and development of new markets and new channels of distribution for the current products and services of an organisation. As a strategy, market development determines new usage areas for an organisation's products (Kocoglu, 2012) and for spreading new products to targeted markets. Achieving market development is made possible in various ways. It can be achieved by entering new market segments, such as new geographical and new demographic markets. Secondly, it can also be done by creating new distribution channels to make the services and products of an organisation more accessible to a wider range of customers. Finally, finding and promoting alternate uses for the existing products remains an integral aspect of market development. In essence, market development creates new market divisions for an organisation's current business products (Timothy et al., 2013). Dagguh (2018) proffered three fundamental uses of market development. According to him, market development strategies are used when a regional business wants to expand, or when new markets are opening up, or when a new use is found for an existing product of an organisation. Therefore, market development enables an organisation to expand and grow its sales by taking its product into new markets. However, Johnson et al. (2008) advised that the organisation's products and services must meet the critical success factors of the new markets for market development to be successful.

2.2.1. Technology and Creation of New Markets

Technology is used to access new markets. This has also enabled the achievement of regional expansion plans as part of an organisation's market development strategy. This is made possible because technology has no defined geographic boundaries or borders. Through online markets, organisations can reach new and wider markets even far beyond their territorial precincts. Social media, the creation of a robust organisational website and the use of email marketing are veritable technological tools and channels by which organisations can reach wider and geographically-distant markets to achieve business growth. Besides new geographic markets, technology has also been used very effectively by organisations in reaching such new demographic markets, especially within the youthful population of the market. Electronic social media is a potent technological tool that has been used to reach new market segments. Technology can also be used by organisations to identify opportunities to sell their existing products in previously unexplored markets. For example, a company that produces cell phones and sells them to customers in Nigeria may decide to start advertising and selling the same cell phones in other West African countries to reach new customers. Generally, by using technology to take their products into new markets, organisations can increase their sales and make more profits.

2.2.2. Technology and Creation of New Channels of Distribution

Besides, technology assists organisations in creating market development strategies that help them grow and develop their markets by deploying technology to create new distribution channels for their products. For instance, the evolution of banking technology has witnessed new banking distribution channels, as can be seen by card technology, automated teller machines (ATMs), point of sales (PoS) terminals, tele-banking, mobile and internet banking (Chang, 2003) which are some of the technology elements and innovation that have created new and wider channels for banking operations and processes as well as channels for the distribution and delivery of banking products and services.

2.2.3. Technology and New Uses of Existing Products

Technology is also used to find and promote new and alternate uses for the existing products of organisations, including banks. Thus, market development extends into finding and promoting new ways customers can use an organisation's current products and services or by promoting new uses for the same old products of an organisation (Slott, 2020). For instance, the internet and mobile banking applications have enabled multiple uses and the carrying out of various types of transactions ranging from personal account management, third-party transfers, bill payments, etc. Technology is also used to survey and track other markets to find out what other possible uses that existing products can be put to.

3. Methodology

This study was conducted using a basic exploratory research design. Basic research is fact-finding research that explores a situation of study or phenomenon to understand it (Asika, 2008). In this regard, this study focuses on finding out how banking organisations have used technology in implementing and achieving market development. It provides empirical information and a qualitative narrative of how banks deploy technology to grow and develop new markets and new channels of distribution for their current products and services and discover and promote new and alternate uses for their existing products and services for their current and new markets.

A judgmental sample of five selected banking organisations was used for this study. The banks are: Access Bank, Fidelity Bank, First Bank, Guaranty Trust Bank and Zenith Bank. The five banks represent about 20% of Nigeria's 25 money deposit banks. The selected banking organisations are mainly Nigeria's Tier-1 banks pioneering major

technological shifts and innovations in the Nigerian banking industry and are most likely to provide the requisite data and information whose inputs can be generalized and applied to the entire target market (Dixon-Ogbechie, 2002).

Primary and secondary sources of data were employed in the conduct of this study. The primary source of data was from personal interviews. Semi-structured interviews were used to explore and collect information on lived experiences and understand variables and relationships that may not have been explicitly defined because of the lack of empirical backing (Sibanda & Ramrathan, 2017). The interview sessions were arranged with two officers of each of the five banks, with one of the officers coming from the information technology or related department, such as electronic banking, and the other from any of the business divisions of the banks. All the officers interviewed are of manager cadre and above. The interview meetings centered on how banks use technology to create new markets, develop new marketing channels and alternate uses for their existing products. Data from secondary sources were researched and obtained to complement the information gathered from the interviews. The secondary sources of data include the annual reports of the selected banks, academic and professional journals, journals and publications of the Central Bank of Nigeria (CBN), Nigeria Deposit Insurance Corporation (NDIC), Chartered Institute of Bankers of Nigeria (CIBN), research reports, seminar papers, textbooks, the internet and other relevant materials.

4. Presentation and Discussion of Findings

4.1. Technology and New Market Development

This study finds out that technology plays a significant role in the process of introducing and extending banking industry products to new market segments. Nigerian banks deploy various technology tools to extend and expand their banking products and services to reach new markets and enter new market segments, including new geographic and demographic markets. This was revealed and affirmed during the interview meetings and supported by findings from various documentary sources. For instance, the use of technology and electronic-based internet/online banking solutions and applications are tools that have enabled the creation and growth of new markets for the banking products of banking organisations and to reach various segments of the banking public and markets, including public sector institutional markets for the purposes of registration payments, bills payments, licensing payments, etc. Empirical evidence shows that banks use the avalanche of their various technology-driven digital banking solutions to drive market development and growth, especially in the banking retail market segment. For instance, Zenith Bank attributed its success in the growth of its retail banking market share to the strength of its digital banking solutions (Amangbo, 2019), while for GTB, at the centre of its retail growth strategy is an unwavering goal to digitalise financial services on the continent (Agbaje, 2018).

In another development, the increasing penetration of telecommunication and internet technology has enabled banking organizations to successfully implement their strategies for market growth and market development. In this instance, banking organisations have used both telecommunication and internet technology as tools to reach wide and varied segments of the market and significantly grow their customer base. One such way is the use of Unstructured Supplementary Service Data (USSD) technology to enable customers who do not own a smartphone and internet/data connection to undertake a wide variety of mobile banking services such as new account opening, funds transfers, checking of account balance, generating account statement, etc. The USSD is one of the best available communications technologies to extend and deliver mobile financial services to low-income customers who may not afford the requisite technological devices or other internet-enabled mobile devices. These developments are in line with the views of Dangolani S. K. (2011) that information technology has opened up new markets, new products, new services and efficient delivery channels for the banking industry, of which online electronics banking, mobile banking and internet banking are just a few examples. This implies that with technology, banking organisations can expand and grow their markets without necessarily growing in physical size. Furthermore, this study finds that banks use technology to introduce new distribution channels to make their services and products more accessible to a wider range of customers. Both the interview sessions and documentary and empirical evidence support this finding. For instance, technology-driven agency banking is a technological channel used to extend and offer banking services and products to geographically-remote markets and locations where banks cannot easily open physical branches. Thus, agency banking remains a major strategy for market development in the Nigerian banking industry. For instance, with over 55,000 agents across the country, First Bank's agency banking initiative, First Monie, was designed to take banking towards people and to bridge the gap between the banked and unbanked. It serves as the channel through which many banking sports like account opening, price range transfer, invoice payments, call credit recharge offerings, etc., can be done (Ezirim, 2019). Peter Amangbo (2019) stated that Zenith Bank strongly grew its agency banking network with over 1,000 agents across the country, especially for the unbanked in locations where there is no banking presence, using major retailers to offer financial services and bringing in more customers to the bank. The same agency banking initiative was applicable to Access Bank, whose Access Closa initiative created 'micro branches' across the country in the form of booths placed in local neighbourhoods. Like Mobile Money offerings, the initiative aims to make financial services accessible to all (Bajomo, 2020). The booths are more approachable than branches, meaning banking agents are more available to customers and can tailor their services to the specific needs of the community where they operate. The use of new distribution channels in enhancing market development in the banking industry was recognised and confirmed by Chang (2003) that the evolution of banking technology has witnessed new banking distribution channels, as can be seen by card technology, automated teller machines (ATMs), point of sales (PoS) terminals, tele-banking, mobile and internet banking. This implies that technology is a potent weapon to drive and achieve financial inclusion and reach the unbanked or underbanked.

Finally, it was also the finding of this study that banks use technology to find and promote new and alternate uses for their existing banking products in their present and new markets. This is also a strategy for the growth of market development in the banking industry. This finding was disclosed and stated during the interview meetings. It also found support from other documentary sources. The development of alternate use of existing banking products for the existing banking industry and new markets finds illustration in the use of the internet and mobile banking products, which, apart from offering basic transfer and bills payments, enable other multiple uses and the carrying out of various types of transactions ranging from personal account management, third party transfers, bills payments, etc. The payment card product, which is one of the most-widely used electronic banking technology products and an instrument for cash withdrawals, can perform such alternate tasks as non-cash payments and bill payments. It can also further be used for various other transactions such as personal account management, digital loan origination and other banking transactions. Another empirical example of using technology to develop alternate uses for banking products is the improvement of automated teller machines (ATM) debit cards which originally were meant for dispensing or withdrawal of cash but can now serve a range of other uses ranging from cash deposits, cash transfers, bills payments, checking of account balances and other uses. The use of technology to innovate and develop alternative uses of existing product lines was acknowledged by Bajomo (2020), who stated that Access Bank has always found innovative ways of using mobile technology to create innovative products for the largely unbanked population to access financial services. Fidelity Bank also acknowledged using technology to innovate their banking products, services and solutions to grow their market and better serve their customers (Okonkwo, 2020). All these find support in the works of Baumgartner (2005), who stated that finding innovative uses for successful products and services can clearly increase market size and, consequently, sales. Further support is also found in Abofaeid (2017) that innovation of products and services enables the achievement of a competitive edge by organisations. This finding implies that technology drives innovation that can enhance the multi-value nature of banking products.

5. Summary, Conclusion and Recommendations

5.1. Summary

The outcome and findings of this study confirm that technology impacts and enhances market development strategies in the Nigerian banking industry. Nigerian banks extensively use technology to implement and achieve market development strategies by introducing their existing products to new market segments, creating new channels of distribution and by promoting alternate uses of their current products in their present and new markets. The policy implication of this is that increased application of technology triggers intensive market development competition in the Nigerian banking industry.

5.2. Conclusion

This study concludes that technology has a direct positive relationship with intensive market development strategies in the Nigerian banking industry. It also concludes that technology is becoming an indispensable variable in the competitive activities of banking organisations.

5.3. Recommendations

This study recommends that banking organisations need to continuously invest in technology to remain competitive in their markets. It is also recommended that managers of banking organisations should formulate policies that will facilitate the development of new and evolving technologies in the banking industry.

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