TRANSLATING BUSINESS INTELLIGENCE INSIGHTS INTO GROWTH: A FRAMEWORK FOR BANK PRODUCT MANAGERS

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Business intelligence insights, banking industry, growth, digital channels, Nigeria

Abstract

This study explores how business intelligence insights contribute to business growth in the Nigerian commercial banking sector. Business intelligence is increasingly adopted by Nigerian banks to gain a competitive edge; however, many financial institutions struggle to fully leverage their business intelligence systems due to technological and operational challenges. This study adopted a qualitative research design to examine how business intelligence insights influence key growth indicators, including customer satisfaction, customer loyalty, and internal process efficiency for bank product managers using a hybrid of technology organisation environment and dynamic capability theory. A thematic analysis method was used to analyse the information gathered from respondents and it was found that customers and employees sometimes experience issues when using the digital banking channels provided by the Nigerian banks. Also, there is no effective use of the information provided to the bank by consumers

This study concludes that consumers and employees of Nigerian banks can have better experiences when using the digital banking channels provided if there can be improvement in operational activities through the use of predictive analysis to get real time information.

This study contributes to previous research in business intelligence by examining not just the adoption of business intelligence tools but the use of business intelligence tools for building better relationship with consumers and enhancing operational effectiveness in the Nigerian banking industry. It was recommended that banks should have a single profile that analyse the information gotten from consumers, develop young talents to solve their technological issues, make use of predictive analytics to examine customers profile and provide personalised information tailored to customer needs.

1.0 Introduction

Business intelligence is a crucial technology system that allows organisations translate raw data into useful insights for strategic decision making (Niu, Ying, Yang, Bao & Sivaparthipan, 2021). These insights are essential for gaining competitive advantage, improving operational efficiency, and strengthening customer relationships (Al-Okaily, Al-Okaily, Teoh & Al-Debei, 2023; Ajah & Nweke, 2019) and to enhance performance of corporate organisations (Al-Okaily, Al-Okaily &Teoh, 2023). Through careful examination of business intelligence process, organizations use operational models to create business value (Loock & Hinnen, 2015; Roden, Nucciarelli, Li and Graham, 2017; Trieu, 2017).

In addition, business intelligence translates massive volumes of data into actionable insights for easy, accurate, fast, and relevant decision-making to boost a bank's productivity and profitability (Hamad, Yassin, Shaban & Amoush 2023; Yaseen, 2022; Nithya & Kiruthika, 2021). It facilitates banking sector growth by assisting institutions in optimising processes, providing personalised customer experiences and successful risk management (Horani, Khatibi, Al-Soud, Tham, & Al-Adwan, 2023).

In the data intensive sector, business intelligence facilitates firm performance, business value, innovation, organizational knowledge management, banking and financial decisions (Akter, Wamba, Gunasekaran, Dubey & Childe, 2016; Gupta & George, 2016; Côrte-Real, Ruivo & Oliveira, 2020; Seddon, Constantinidis, Tamm & Dod, 2016; Ghasemaghaei & Calic, 2020; Côrte-Real, Ruivo & Oliveira, 2017; Shollo & Galliers, 2015; Moro, Cortez & Rita, 2015).

Likewise, it helps product managers think, plan, forecast, solve issues, design goods or services matched with customer wants, identify competition, enhance revenue management, increase sales, grow client segments (Al-Okaily & Al-Okaily, 2022) create and achieve business goals (Aws, Ping, & Al-Okaily, 2021) drive accurate and fact-based decision making (Shollo & Galliers, 2016). Most studies consider the effectiveness of business intelligence in driving firm performance in the banking sector but do not consider the strategic use of information gotten from the use of these tools (Nithya & Kiruthika, 2021; Mortezaei, Sangari, Nazari-Shirkouhi & Razmi, 2018; Bany Mohammad, Al-Okaily, Al-Majali, & Masa'deh, 2022; Bany Mohammed, Al-Okaily, Qasim & Al-Majali, 2024). The need to examine how product managers can use business intelligence insights to drive firm growth.

1.2 Statement of the Problem

Globalisation led to the emergence of developing markets, changes in legislation, and technological innovation, forcing organisations to reassess their strategy to survive in the competitive business environment (Yoshikuni, Dwivedi, Zhou & Wamba, 2023; Kar & Varsha, 2023; Qasim, Bany Mohammed & Li˜n´an, 2018). The banking sector helps a country's economic success, yet it faces considerable problems, particularly in developing nations (Pakur´ ar, Haddad, Nagy, Popp & Ol´ah, 2019; Al-Adwan & Yaseen, 2023).

Banks implement new technologies, practices, and applications that enable them analyse data and improve their performance (Acheampong & Moyaid, 2016; Ain, Vaia, DeLone & Waheed, 2019). This is evidenced in their widespread adoption of digital channels such as mobile banking, automated teller machine etc, however, the sector still faces significant infrastructure hurdles, including inconsistent power supply and internet connectivity (Al-Majali, Al-Okaily & Majali

2023; Al-Okaily et al., 2023; Bany Mohammad et al., 2022).

This makes the translation of business intelligence insights into tangible business growth a significant area of research. Existing literature has examined factors affecting business intelligence adoption (Bany Mohammed et al., 2024) its impact on general firm performance (Fosso-Wamba, Gunasekaran, Akter, Dubey & Childe, 2017) and operational value (Fink, Yogev, and Even, 2017). However, there is a notable gap in research specifically in exploring how the insights derived from the use of business intelligence tools drive specific growth outcomes in the unique Nigerian context.

Considering the fact that the adoption of business intelligence in different regions is peculiar due to the diverse technological organizational environment as suggested by Hmoud, Al-Adwan, Horani, Yaseen & Al Zoubi (2023) that technological organization environmental factors affect the utilization of new technologies. In addition, the adoption of a technology does not directly lead to growth but the ability to transform available resources in to meaningful insights for decision making. This study explored what influences the use of business intelligence insights in the Nigerian commercial banks and drive growth. It addresses the gap in literature by focusing on how business intelligence insights influence growth factors such as customer satisfaction, loyalty, and internal business process efficiency.

1.2. Objectives of the study

The main objective of this study is to explore how business intelligence insights contribute to bank growth in the Nigerian banking sector. The underlisted are the specific objectives.

i. To identify specific technological and infrastructural challenges that impede the full utilization of business intelligence insights in the Nigerian banking industry

ii. To investigate how business intelligence insights influenced the effectiveness and efficiency of banks internal business process

iii. Explore how between business intelligence insights influence customer satisfaction and loyalty

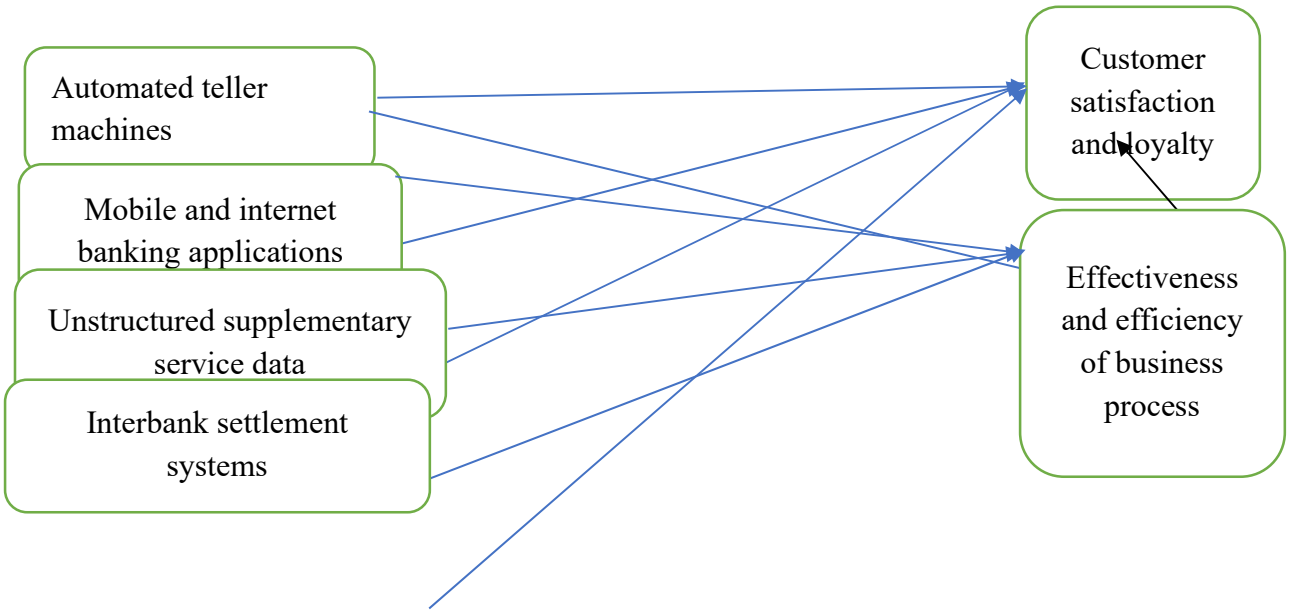
1.3 Justification of the Study

This study is critical for providing valuable, context-specific insights to Nigerian banking institutions. While banks have invested heavily in business intelligence technology, the full potential of these systems is often limited by ineffective use and a persistent reliance on traditional banking methods by some segments of the population. This research moves beyond a simple examination of technology adoption to focus on the strategic use of the knowledge and information gained from business intelligence systems. By understanding how banks can better manage and leverage their data to improve internal processes and customer relationships, this study can inform strategies to overcome these challenges and achieve sustainable growth.

2.0. Literature Review

Conceptual Framework

Figure 1: The influence of business intelligence tools on business growth indicators.



Source; Authors conceptualization.

2.1. Conceptual Review

2.1.1. Business intelligence

Business intelligence provides interactive processing and transformation of data to create relevant and valuable information that support business managers in making decisions and produces numerous reports to help management make decisions (Ain et al., 2019; Wixom, Watson, & Werner, 2011). However, comprehensive strategies help to fully realise the benefits of using business intelligence (Nithya & Kiruthika, 2021).

In the banking sector, employees are trained for seamless service delivery. Trained workers promote the usage of business intelligence tools, while work experience influences acceptance and favourable technology use to ensure ease of use of platform (Alkhwaldi, Abdulmuhsin, Alqudah & Al-Okaily, 2023; Dwivedi, Nerur & Balijepally, 2023). Complex business intelligence systems have a negative effect on users' experience and affect adoption (Eriksson & Ferwerda, 2021). The adoption of a product, practice or tool allows for its consistent use while consistency in product use allows for business growth.

Banks are big consumers of modern technology, software, and solutions that enhance business activity, increase productivity, or provide a competitive edge. Business intelligence allows banks to get deeper insights, provide precise analysis, enhance the operational and management levels of data and analysis, which may lead to increased profitability (Moro, Cortez, & Rita, 2015).

Data is a large-scale local need, a driver of innovation, an asset for banks and helps in the development of products. Businesses can obtain real-time information, analyse data, analyse competitive markets and process resources to develop products. Relevant and accurate data benefits data compatibility with business intelligence engine (Al-Bashayreh, Almajali, Altamimi, Masa'deh, & Al-Okaily,

2022). It plays an important role in bank performance, product marketing, promotion techniques, risk management, customer acquisition and retention. In addition, it helps to forecast present and manage future market trends, customer needs, and potential opportunities, enabling informed decision making and growth (Rao & Kumar, 2011**)**. The business intelligence tools and platforms used in the Nigerian banking industry are automated teller machine, mobile and internet banking applications, unstructured supplementary service data, and interbank settlement systems. Customers of financial institutions can use the automated teller machines which is an electronic device to perform different banking transactions without the intervention of bank employee.

Mobile and internet banking allow customers to execute transactions and manage their accounts through a dedicated application provided by the bank on a mobile device while internet banking is a service that allows one to access bank account and perform transactions through bank's secure website on a computer or mobile device.

Data-related infrastructure capabilities is an important technology resource that enables the efficient deployment and application of business intelligence (Teoh, Al-Okaily, Iranmanesh & Al-Betar 2023).

Unstructured supplementary service data is a real time session-based communication protocol used by Global System for mobile communication to interact with a mobile network quick code and Interbank settlement systems are mechanisms and platforms that facilitate the transfer of funds between different banks and financial institutions ensuring that payments are processed securely, and efficiently.

2.2. Theoretical framework

The technology-organization-environment (TOE) framework investigates how technology, organisation, and the environment affect how banks embrace and use business intelligence. It was used by Rouhani, Ashrafi, Ravasan & Afshari (2018) in their study on business intelligence adoption. Mohammad, Al-Okaily, Al-Majali & Masa'deh (2022) expanded the framework by including additional elements when examining business intelligence in the banking sector.

The TOE framework explains technology adoption in organizations (Mortezaei, Sangari, Nazari-Shirkouhi & Razmi, 2018; Sun, Cegielski, Jia & Hall, 2018; Verma & Bhattacharyya, 2017). It looks more into an organization as a whole (Awa, Ukoha, & Emecheta, 2016) and provides a detailed understanding of technology use and adoption (Teoh & Al-Okaily, 2023; Al-Khatib et al., 2023; Teoh et al., 2023). It has been used to examine different concepts such as organizational adoption, use of new technologies, information technology innovation at the organisational level, with a focus on the technological, organisational in the banking industry (Mortezai et al., 2018; Al-Okaily, 2023; Mohammed, 2021; Srouji, Hamdallah, Al-Hamadeen, Al-Okaily, & Elamer, 2023; Bayraktar, Tatoglu, Aydiner & Delen, 2023; Al-Fraihat et al., 2022; Ramanathan et al., 2017; Alqudah et al., 2023; Sakas et al., 2023; Bany Mohammad et al., 2022).

Compared to traditional systems, business intelligence has significant features that make it an appealing alternative for banks looking to keep ahead of the competition (Awan et al., 2021). It is superior for improving corporate performance (Alt, Beck, & Smits, 2018; Stjepi'c et al., 2021).

To meet the computational needs of modern analytics algorithms, banks need strong computing resources (Usman, Mehmood, Katib & Albeshri, 2022) while to reap the most benefits from business intelligence, data must be reliable, current, relevant, consistent, and exact. Data quality is critical for informed decision-making (Shamim, Zeng, Shariq & Khan, 2019). However, assuring data quality needs a consistent effort to gain meaningful edge (Hujran et al., 2021; Shamim et al., 2019). Research has emphasised the relevance of these components in defining the general culture and environment of an organisation, which influences the use of business intelligence. (Malladi & Krishnan, 2013).

Top management support facilitates effective business intelligence implementation and use (Malladi & Krishnan, 2013). It is also a major hurdle to implementing business intelligence technologies. Business and information technology experts are critical for effective and successful execution of business intelligence (Larson & Chang, 2016). This is because they possess the requisite skills to properly realise the promise of business intelligence tools (Luftman, Derksen, Dwivedi, Santana, Zadeh & Rigoni, 2015).

An organization's use of business information depends on its environmental setting (Malladi & Krishnan, 2013). Banks use business intelligence to improve their ability. A bank might need external support to implement and effectively utilize a technology-based solution (Puklavec, Oliveira & Popovi˘ c, 2018). However, employee work experience is significant to determining their perception. Positive user and work experience have a substantial impact on behaviours (Zardari, Hussain, Arain, Rizvi & Vighio, 2021) while employees' possession of extensive knowledge makes tools productive and efficient (Nam, Lee & Lee 2019).

Technology-Organization-Environment explains technological, organizational, and environmental factors influence adoption and implementation but cannot explain how business intelligence insights drive growth.

Business intelligence can be a key resource that drives growth by providing insights that inform strategic decisions. Dynamic capabilities theory emphasizes the importance of dynamic capabilities in adapting to changing environments. Business intelligence helps organizations develop dynamic capabilities by providing real-time insights that inform strategic decisions.

According to the dynamic capability's theory, a firm's capacity to integrate, create, and reconfigure its internal and external resources (business intelligence-derived knowledge and information) is critical for gaining and maintaining a competitive advantage in a changing market. An organizations use of business intelligence tools to sense and analyse market trends, competitor activities, and customer needs provide real-time data on competitor strategies, performance, helps to identify new growth areas. Through the use of data analytics, threats and new opportunities can be identified. Identified opportunities inform strategic decision making. It helps the mobility of resources to take decisive action, capture value, and provides the evidence needed to make informed choices, such as launching a new product, optimizing a business process and management of resources in the light of allocation of technological resources to the most promising opportunities for strategic execution which will lead to adaptation thus allowing for reorganizing processes, changing operational routines, achieving long-term growth and sustained competitive advantage.

A hybrid of the dynamic capability theory and technology organization environment is suitable to explore how Nigerian banks can leverage business intelligence insights to

develop, adapt their capabilities, respond to changing market conditions, and achieve sustainable growth. It is relevant for the dynamic Nigerian banking sector, which faces constant shifts in technology, regulation, and customer expectations. It moves beyond simply having and using a business intelligence technology and focuses on how a bank's strategic processes turn that technology into tangible growth and a sustainable competitive advantage.

2.3. Empirical review

Previous studies examined business intelligence in different sectors/industries and regions. Studies that examined the direct effects of business intelligence are examined below;

Bany Mohammad et al (2022) examined business intelligence and analytics use in the banking industry. Their study explored the factors that influence business intelligence use in the banking sector. They made use of the TOE framework, analysed data collected from 120 employees of Jordan Arab bank and found that the existence of data, technology infrastructure and management of human resources support and capabilities is critical.

Bany Mohammed et al. (2024) investigated the factors influencing the use of business intelligence and analytics, and the moderating influence of employees' work experience within Jordanian commercial banks. They used the TOE framework and analysed data obtained from 277 Jordanian banks using the partial least squares structural equation modelling approach to test their hypotheses and discovered a strong positive effect of the TOE variables on the adoption of business intelligence. They also noted that employee work experience moderates the links between technological and organisational characteristics and business intelligence usage, but it has no effect on the correlations between environmental factors and business intelligence use in commercial banks.

Bordeleau, Mosconi, and de Santa Eulalia (2019) investigated business intelligence and value creation in industry 4.0 manufacturing medium enterprises and discovered that enterprise resources and capabilities are insufficient to predict business value, while organisational learning and culture have a significant impact on medium enterprise value creation.

Their review of business intelligence revealed nine performance indicators for measuring business intelligence and analytics to include cost reduction, quality rate, efficiency rate, uptime rate, yield, time to market, productivity, overall equipment effectiveness and energy consumption.

Aversa, Cabantous and Haefliger (2018) found that business intelligence support had a beneficial influence on decision-making, whereas Mikalef et al. (2019) claimed that business intelligence strengthened innovation capabilities and Sharma et al (2014) was of the opinion that business intelligence supports business value.

Some studies considered the indirect effects of business intelligence. While some examined moderating factors, others examined mediating factors;

Business strategy and information technology moderate the relationship between business intelligence use and business value (Côrte-Real, Ruivo and Oliveira, 2019; Urbinati et al., 2019), whereas organisational learning and ambidextrous organisational culture moderate the relationship (Bordeleau et al., 2019). Similarly, company strategy and business intelligence analytics influence the link between business intelligence usage and firm success (Akter et al., 2016).

However, Audzeyeva and Hudson, (2015) stated that deep organizational structure moderates the link between the utilisation of business intelligence and the strategy results.

On the other hand, Popovic, Hackney, Coelho and Jaklic (2012) investigated the moderating influence of organisational preparation and design elements in the link between business intelligence utilisation and business value. Also, Grover, Chiang, Liang and Zhang (2018) examined the impact of information system business intelligence infrastructure expenditure on the link between business intelligence utilisation and value objectives. Chen, Preston and Swink (2015) also investigated the moderating function of environmental dynamism on the impact of business intelligence usage and value generation.

Finally, Fosso-Wamba et al. (2017) investigated the mediating effect of dynamic capabilities in the link between business intelligence utilisation and company performance, discovering a positive and substantial association.

3.0 Methodology

This study adopted a qualitative research design to explore how business intelligence insights influence bank growth. This approach is best suited for gaining an in-depth understanding of the experiences, challenges, perceptions of bank employees and customers (Ahmed, 2024).

3.1. Population and sample of the study

The target population for this study is employees and customers of major commercial banks in Nigeria. This is because commercial banks have a larger consumer base due to their physical presence in every city in Nigeria. They are the first generation of banks, before the microfinance and fintech banks were introduced in Nigeria and most Nigerians use the commercial banks for large transactions because of the trust they have built over time.

A purposive sampling strategy was used to select a sample of participants who can provide rich, relevant information. The sample consist of 30 participants who are bank employees and customers; 20 employees and 10 customers from selected commercial banks took part in this study. This sample size is appropriate for a qualitative, in-depth interview study focused on gaining detailed perspectives rather than statistical generalization. Customer perspectives were sought to provide a balanced view on service delivery. The banks will be chosen based on their strategic approach to and early adoption of business intelligence technologies. Four top commercial banks were chosen; First bank for being the first bank in Nigeria, the first to make use of the SAS risk management software in 2009 and deploy a humanoid robot assistant in 2023, Wema bank was chosen for adopting digital banking platform early (ALAT) and monitoring transactions in real time. Other banks such as United bank for Africa (Leo), and Access bank (Tama) etc make use of AI chatbots that use natural language processing to enhance customer experience and satisfaction.

3.2. Data Collection methods

The sampling frame for this study was employees and customers of selected commercial banks.

Data was collected through semi-structured interviews. An interview guide with open-ended questions was developed to explore participants' experiences and perceptions related to business intelligence insights, customer satisfaction, and operational efficiency. The use of semi-structured interviews allowed for flexibility to probe deeper into specific issues raised by participants while ensuring consistency across all interviews. The information provided by participants during the interview was noted and later analysed.

The acquired data was analysed using thematic analysis approach. This approach

includes rigorously categorising interview transcripts to discover recurrent themes, patterns, and insights relevant to this study objectives. This provided a full knowledge of how business intelligence insights are interpreted and applied in the Nigerian banking sector.

3.3. Validity and Reliability Test

Credibility was enhanced by comparing the perspectives of both employees and customers. Because data was gathered from both employees and consumers, it allowed for credibility of the data. Transferability was accomplished by providing a full explanation of the research environment and technique, allowing other researchers to assess if the findings are relevant to diverse situations and consistent over time.

4.0. Discussion of Results

Theme 1: *Transactional data and customer experience.*

This theme addresses the first objective: To identify technological and infrastructural challenges that impede the full utilization of business intelligence insights in the Nigerian banking industry.

Seven out of ten customers noted 'I sometimes have to go inside the bank to deposit cash, while ‘five customers said ‘the ATM does not always dispense cash and when it does, the queue is always long. A particular customer further said it's frustrating because I thought technology was supposed to make things faster.

Subtheme 1: *Operational and service improvement issues*

When there is a high number of ATM withdrawal or deposit failure due to network downtime, customers face frustration and long queues, eroding their trust and loyalty. This gives a customer a bad service experience. When service provision is not assessed, it is impossible to know if a service is provided glitch free. Assessment of service helps to identify areas for improvement (Suman & Bolia, 2019). Through service tracking, issues can be identified and resolved before they become major complaints (Levin & Hopkins, 2014; Shuja, Awan & Saleem, 2023). For instance, a delay in customer's transfer can be quickly identified by the system, and an SMS update can be automatically sent to the customer providing reassurance and reducing the need for the customer to call a support line. Likewise, if customers prefer using the mobile app for bill payments but the ATM for cash withdrawals. The bank can focus its resources on improving the mobile app's bill payment interface and ensure a higher uptime for its ATMs. The data collected from transactions carried out on ATMs, mobile apps, and USSD platforms influence customer experience, when used effectively can enhance services (Soetan, & Mogaji, 2024).

Subtheme 2: Consumer behaviour analysis

Consumers have different needs. When customer behaviour is not understood, a bank can design services that do not meet user needs. By analysing transactional data, a bank can create a detailed profile of a customer's habits, most-used services, and preferred channels and the information gotten from this allows for the provision of services tailored to consumer needs.

Theme 2: *Operational bottlenecks and efficiency.*

This theme discusses objective 2. It investigates how business intelligence insights have influenced the effectiveness and efficiency of banks internal business process

Subtheme1: *Impact of digital channel failure on customer experience*

Some customers stated that the bank's digital channels are unreliable, forcing them to seek alternatives. Consumers perceive bad experience as a failure of the bank's technology (Ammari, Hsouna, Benabdallah, Yousaf & Mishra, 2022; Abikari, Öhman & Yazdanfar, 2023; Iman, Nugroho, Junarsin, & Pelawi, 2023). This is because when a bank's network is down, it disrupts customers transactions and forces them to change their plans. This prevents them from accessing their funds, leading to delays, missed payments, and frustration.

Subtheme 2: *The operational burden on bank employees and internal processes*

An employee stated that "when the network goes down, real-time data becomes useless. We lose the ability to track transactions and quickly resolve issues because the system is not live." The inability to access real-time data makes it difficult to manage customer inquiries and troubleshoot problems efficiently (Tien, 2017; Saabye, Kristensen & Wæhrens, 2020), as employees have to rely on manual processes or wait for the system to recover. These operational issues create a significant and often unmanageable workload for the employee. The time and resources spent on resolving problems that could have been prevented represent a major loss in efficiency. When digital channel fail, the burden shifts to the employees in the physical branches. Teller officers are overwhelmed by a surge of customers seeking to make deposits or withdrawals that their self-service machines cannot handle. Similarly, customer service representatives are inundated with calls and complaints about failed transactions and network issues, diverting their attention from other, more strategic tasks. This slow down core internal processes. The lack of ATM deposit functionality means that tellers will be used to process deposits, a task that could be automated. This slows down the entire system, from cash reconciliation to customer flow, impacting the bank's ability to serve other clients efficiently.

Theme 3: *The Untapped Potential of Business Intelligent (BI) insights for customer loyalty*

This theme directly addresses the third objective which explored how business intelligence insights influence customer satisfaction and loyalty.

Sub theme 1: *Proactive personalized product and service recommendation*

Most Nigerian banks use a one-size-fits-all approach. They do not directly consider individual customer needs and behaviours. Participants suggest that BI could analyse a customer's transaction history to recommend relevant products. For example, if a customer frequently saves money, the bank's BI system could identify this and suggest a high-interest savings account. In addition, from a customer's perspective, 'we have entrusted the bank with our financial data, but the bank is not using it to their benefit. This creates a sense of detachment, making it easy to switch to competitors, particularly fintech that excel at personalized engagement'.

By analysing a customer's income and expenses, a bank will identify the peculiarities of each customer. The bank can send a helpful, non-intrusive notification, or offer a tool to help consumers track their spending. This moves the bank from being just a service provider to a trusted financial partner. The study participants highlighted that most Nigerian banks currently fail to implement these personalized strategies. The absence of personalized services means that bank communication remains generic (Wang, Cho & Denton, 2017). This is because it makes customers receive mass-market emails and SMS messages that are irrelevant to their needs. This lack of tailored engagement makes customers feel like a number which does little

to build an emotional connection with the brand.

Sub theme 2: Enhancing customer loyalty through targeted rewards

A product manager could use customers saving character to create targeted marketing campaigns. In addition, BI insights can identify the specific customer's that should get a reward for their saving habits. If a customer often uses their card at a specific grocery store, the bank could send them a coupon or a cashback offer for that store. This shows the customer that the bank understands their lifestyle and values their patronage, which directly contributes to loyalty.

5.0. Conclusion, Recommendation and Limitation

Conclusion

Business intelligence is a crucial tool for banks worldwide. Some studies examine the use of business intelligence in driving firm performance (Popovič, Puklavec & Oliveira, 2019; Torres, Sidorova & Jones, 2018). For this study, the use of business intelligence insights was examined considering the theory of dynamic capability and technology organisation environment.

The research findings suggest that Nigerian banks, while having the resources (BI systems), lack the dynamic capabilities to truly leverage them for growth. It further show that banks are using BI to track transactions, but fail to translate this raw data into meaningful insights. Banks have the data to tailor offers to customers but are not using this opportunity to build loyalty. Instead, they stick to generic, mass-market approaches. This indicates a gap between having the BI tool and having the strategic and operational ability. In addition, both human and technological capabilities of the bank are not being reconfigured effectively. The reliance on manual processes and the high workload on employees is a result of the banks' failure to transform their operational routines to fully integrate BI. It suggests that the banks are not using the insights from their data to reorganize their processes and invest in more efficient technologies to prevent future issues.

In a highly competitive market like Nigeria, where fintechs are constantly innovating, the failure to use BI for personalization puts commercial banks at a disadvantage. Competitors can attract customers by offering smarter, more intuitive, and personalized experiences, leaving commercial banks behind. The untapped potential of BI represents a significant threat to long-term market position and profitability.

Majorly, the findings in this study highlight significant technological issues: network downtime, limited functionality of systems etc. These are fundamental flaws in the technological infrastructure that prevent banks from fully leveraging their BI systems. This supports the findings of Hmoud et al (2023) who opined that technology adoption is not always compatible with the environmental realities. In addition, the fact that employees are overwhelmed by customer complaints and manually processing transactions points to a lack of organizational readiness.

Furthermore, the limited use of BI for personalization suggests a lack of strategic management support and failure to integrate BI insights into core business functions suggests a weakness in transformative capability. In the study conducted by Mohammad et al (2022) on business intelligence in the banking sector, data infrastructure, data-management capabilities and technology-supporting infrastructure have significant effect on the extent to which business intelligence is used. This lends credence to the findings in this study.

Recommendations

The human resources and internal processes are not sufficiently adapted to the technological tools. To solve this issue in the long run, it is important that the bank develops young talents to ensure that its technological capability is properly managed.

In addition, product managers in Nigerian banks can use BI dashboards to monitor real-time transaction data (Shubho, Tumpa, Dipto, & Alam, 2022; Fedushko, Ustyianovych, & Gregus, 2020). This is crucial for informing targeted maintenance schedules or justifying investments in more robust local infrastructure.

Likewise, developed countries adoption of technology in firms allows for strategic decision making and growth (Qasim et al., 2018). This is particularly vital in the Nigerian business environment. The effective use of business information is a strategy for improving corporate performance and competitiveness (Yoshikuni & Albertin, 2018; Djalic, Nikolic, Bakator & Erceg, 2021). By integrating data from all channels (ATMs, mobile, USSD) into a single BI platform, Nigerian banks can gain a holistic view of customer journey.

The use of predictive analytics can help forecast when and where network failures are likely to occur to perform proactive maintenance and ensure uninterrupted service (Daily & Peterson, 2016). This would be useful to the provision of good customer experience.

Considering the fact that the issue of data privacy is critical (Pramanik, Lau, Hossain, Rahoman, Debnath, Rashed & Uddin, 2021; Chen, Ramanathan & Alazab, 2021). It is important for Nigerian banks to ensure that they not only comply with local and internal rules but also gain customer consent, and build secure systems to prevent misuse of data.

Lastly, product managers need to work with information technology to create a unified customer profile that combines transactional data with demographic information and service history. This allows them to move beyond generic offers to highly personalized ones. By setting up an automated BI-driven triggers, issues can be easily resolved. For instance, if a customer's account has been dormant for a period, a personalized message could be sent with a special offer. Similarly, if a customer makes a large deposit, an alert could be sent to a customer relationship manager to follow up with a personalized investment opportunity. This proactive approach uses BI to deepen customer relationships and build long-term loyalty.

Limitations

First, the population of the study sampled was examined using an interview method and a small sample size. A combination of both qualitative and quantitative method can provide a robust analysis and a better understanding of the concepts understudied in the Nigerian banking industry.

Second, business intelligence systems keep evolving with the advancement of business intelligence by different organizations, therefore, the information provided by this study is a point in time information

Lastly, there is a need to consider other sectors in Nigeria apart from the banking industry and also the use of business intelligence across sectors over time.

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