Financial Technology Innovation and Business Growth of Small and Medium-Scale Enterprises in Port Harcourt, Rivers State, Nigeria

Godwin Poi (PhD. FCA)

Director, Centre for Entrepreneurship and Innovation/Department of Business Administration, Faculty of Social and Management Sciences, University of Africa, Toru-Orua, Bayelsa State, Nigeria

ABSTRACT: This study empirically examined the relationship between financial technology (FinTech - proxied by Internet Banking and Mobile Payment) innovation and business growth (proxied by productivity and operational efficiency) of Small and Medium-Scale Enterprises (SMEs) in Port Harcourt. The study was underpinned by the theory of Technology Acceptance Model (TAM) and the Diffusion of Innovation Theory (DIT). The study adopted a cross-sectional research design and the population was the 1016 registered SMEs in Port Harcourt with a sample size of 287. Spearman's Rank Correlation and Partial Correlation were used to test the five hypotheses that guided the study. The findings showed a positive and significant relationship exists between financial technology innovation and business growth. Based on these findings, the research concluded that financial technology innovation is a business solution and a formidable management strategy that SMEs can deploy to improve their business growth. It recommends therefore that SMEs who want to improve their business growth should invest more in FinTech innovations such as Internet banking and mobile payment, as these digital solutions have a significant impact in improving productivity and operational efficiency (business growth).

KEYWORDS: Financial Technology Innovation, Internet Banking, Mobile Payment, Operational Efficiency, Productivity

INTRODUCTION

Small and Medium Enterprises (SMEs) are the pillars of most economies in the world. In Nigeria, they contribute significantly to employment, economic growth, and poverty alleviation. According to SMEDAN (2021), National Bureau of Statistics (2021) and Mohammed *et al.* (2022), SMEs account for over 84% of the Nigerian workforce and contribute about 48% to the country's Gross Domestic Product (GDP). SMEDAN (2021) also defines SMEs as firms with fewer than 300 employees and assets less than N500 million. The SME sector in Nigeria is dominated by micro-enterprises, which account for about 99% of all businesses in the country (SMEDAN, 2021). They operate in various sectors of the economy, including agriculture, manufacturing, construction and the services sector. However, most SMEs tend to operate in the informal sector, with limited access to formal finance, training, and business support services.

SMEs play a critical role in employment generation since they account for over 84% of all jobs in Nigeria (SMEDAN, 2021). They are also a vital source of innovation, driving economic growth and diversification. According to the International Finance Corporation (IFC, 2020), the SME sector in Nigeria has the potential to create up to 20 million more jobs and contribute up to $1.7 trillion to the country's GDP by 2030 if adequately supported (IFC, 2020). One of the key drivers of the growth of SMEs in Nigeria is financial technology (FinTech) innovations deployed to make access to funds to be easier and affordable. It has been argued that innovations in the FinTech industry is on the increase, thus impacting positively on the business growth of SMEs in Nigeria (Fuster, Plosser, Schnabl and Vickery, 2019).

The Nigerian financial services sector has undergone significant transformation over the past decade, primarily due to the advent of financial technology innovations, or FinTech. FinTech is an emerging industry that applies technology to financial services to make them more efficient, accessible, and cost-effective. It encompasses a broad range of technologies, including mobile payments, peer-to-peer lending, crowd funding, block chain, and artificial intelligence. FinTech has been the turning point for the Nigerian financial services sector, which has historically been characterized by limited access to banking services and low

levels of financial inclusion. According to a report by Enhancing Financial Innovation and Access (EFInA), only 39.7% of Nigerian adults have access to formal financial services, and just 2.9% have access to credit from formal financial institutions (EFInA, 2018). FinTech has helped to bridge this gap by providing innovative solutions that enable individuals and businesses to access financial services more easily and at lower cost.

According to PwC (2020), the FinTech industry in Nigeria has expanded over the past decade, driven by a combination of factors, including the rapid expansion of mobile phone and Internet penetration, increasing demand for financial services, and the emergence of a new generation of tech-savvy entrepreneurs. In the case of payment platforms, FinTech startups assist businesses and other start-ups, ranging from store owners and shops to importers, exporters, and forex traders in improving their bottom line with accessible capabilities that enable them to reach new markets and new customers. These platforms enable secure, multi-currency, and crypto-currency payments across global markets (Steeves, 2016).

The first FinTech company in Nigeria was Interswitch, which was founded in 2002 (Wikipedia, 2024) and is now one of the leading payment processors in Africa. Interswitch pioneered the development of the Verve card, a local debit card that has gained wide acceptance in Nigeria and other African countries. The company also launched Quickteller, a platform that allows customers to make payments, buy airtime, and perform other financial transactions using their mobile phones. Since the launch of Interswitch, several other FinTech companies have emerged in Nigeria, offering a wide range of financial services. Some of the most notable players in the Nigerian FinTech ecosystem include Paystack, Flutterwave, Paga, and Carbon (formerly known as Paylater).

FinTech innovations enable SMEs to operate in many ways, such as deposit and withdrawals, clearing and settlement, credit processing, online statements of accounts, accounts opening, funds transfer, capital raising, cards services, staff records, appraisal exercise and auditing. Many studies have also confirmed that the automation of these services enhance speed of service delivery, convenient transaction for customers, increased cost effectiveness, profitability and market share, among others (Dorfleitner et al., 2017a, 2017b; Tafadzwa et al., 2012; Xavier, 2017).

To further demonstrate the strategic importance of financial technology in improving SMEs performance and survival, Deposit Money Banks (DMBs) in Nigerian banking industry have invested heavily in IT products and services. According to Central Bank of Nigeria (CBN, 2012), DMBs FinTech investment accounts for about 70% of the industry's total investment cost and expenditure of 46% organizational information technology in Nigeria. FinTech success hinges on high capital investment and deliberate commitments. SMEs growth in Nigeria from 2005 to 2021 showed encouraging growth (NDIC reports for 2005 - 2021). For instance, the industry records revealed that the Return on Assets (ROA) was 1.85% in 2005 and grew to 3.95% in 2008 representing a tremendous increase of 113.5%. It however declined steadily until 2019 and 2020 when it rose again to 2.3% and 2.66% respectively, representing an increase of 15.65 %. Return on Equity (ROE) as a performance measure of SMEs growth witnessed an increase from 22.01% to 57.65% from 2005 to 2010 representing an exponential increase of 162%.

Although, extant literature reviews have shown evidences as to the effect of FinTech innovations on SMEs growth, this research is deemed necessary to further explore the relationship between FinTech innovations and the growth of SMEs by adopting alternative sub-variables of FinTech innovations such as Internet banking and Mobile Payment. The purpose is to investigate their relationship with particular reference to productivity and operational efficiency in Port Harcourt. Another area of departure from extant studies is the introduction of technology orientation into the framework as a moderating variable.

LITERATURE REVIEW
Theoretical Framework
Technology Acceptance Model

The Technology Acceptance Model (TAM) is the baseline theory that is used in this research. TAM was introduced by Davis (1985) to describe the usage behaviour of new technologies. According to Rauniar, Rawski Yang and Johnson (2014), two theoretical constructs were found useful in conceptualizing TAM viz: Perceived Usefulness (PU) and Perceived Ease-Of-Use (PEOU). These constructs were examined with respect to new innovation, which explains the intention to use a new technology. PU can be described as the extent to which a user trusts that by using a particular system, it would improve his or her job performance while PEOU is the extent to which a user trusts that by using a particular technology, it would be free from effort (Cheung & Thadani, 2012).

TAM assumes that the individual behaviour is volitional. However, the theory does not include behavioural control construct, which means that behaviour is directly at the discretion of oneself. In other words, this model does not explain cases where consumers are not able to perform transactions due to insufficient money, even though there is an intention to do so (Loh,

2011). It is important to state that customer satisfaction is likely to have a stronger impact on customer adaptation and intention to use Internet banking.

Diffusion of Innovation Theory (DIT)

The diffusion of innovation theory looks at the rate at which, how and why new development and new advancement are spreading so as to explore the variables influencing the selection of new data innovation development both at individual and SME levels, (Oliveira and Martins, 2011). The different elements to be investigated along these lines are appended to both firm and individual's job in adjusting to new innovation. This diffusion theory is relevant to the study since it provides an explanation as to why SMEs embrace technological innovations. Chief among this is the relevant advantage they enjoy compared to their counterparts. Therefore, SMEs that adopt financial technologies and its innovation have comparatively superior market access as opposed to those that do not. Their study concluded that over 78% of the SME traders agreed that through the use of FinTech, they had experienced increase in sales, increase in customer base, market share, revenue thus growth of their business, (Oliveira and Martins, 2011).

Conceptual Framework
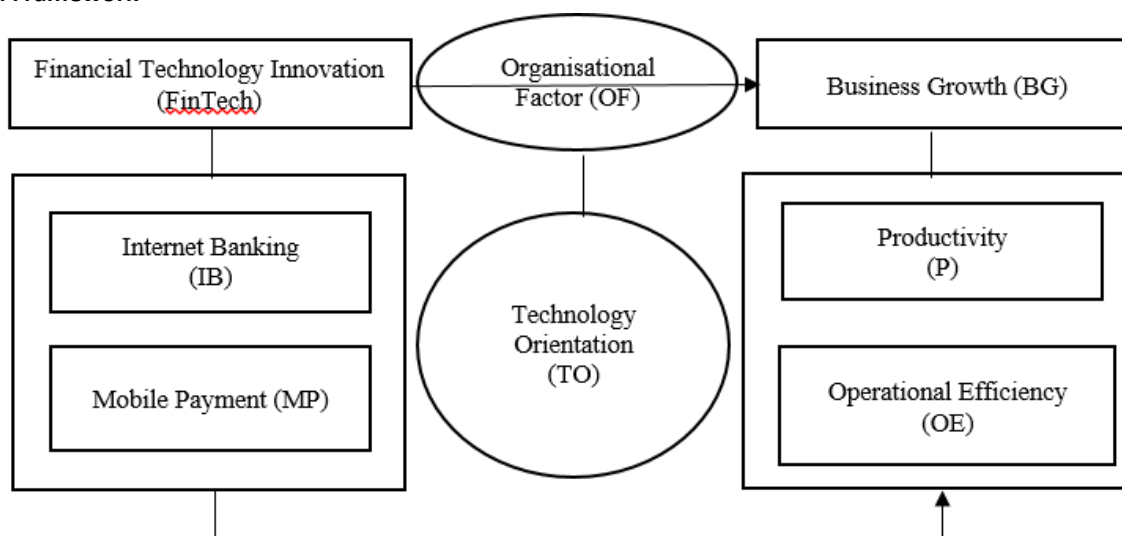

Figure 1: Conceptual framework of the Study
Source: Tafadzwa, Kerina, Petronella, & Tinovimbanashe, 2012.

Concept of Financial Technology (FinTech) Innovation

Financial technology (FinTech) refers to computer software and other technology employed to support banking and financial service delivery (Schueffel, 2016). It is a technology-based innovation that has led to the emergence of new business models, processes, applications and products that have significant influence on the financial market and services (Dorfleitner *et al*., 2017a). FinTech innovation is simply the improvement and application of financial technologies in the financial industry to improve financial activities (Schueffel, 2016). FinTech companies comprise both start-ups and established companies that are aiming to replace or at least improve the use of financial services provided by incumbent financial companies. They operate in three segments of the financial market, viz; finance, asset management, and payment.

Fundamentally, FinTech innovation refers to firms that premise their financial services on a sound technology platform in a bid to invent new financial products and services which can reach a wider variety of entities, corporate and individual customers alike (Kagan, 2024, Mlanga, 2019).

FinTech has gained ground by reason of its use by startup firms gaining entry into the market as they try to change the traditional method of doing things by leveraging on cutting edge technological channels in areas of asset management and money transfer (Truong, 2016). One remarkable feature of FinTech is its ability to ensure efficiency within the market and at same time keep transaction costs very low. Also, Kim, Park, Choi and Yeon (2015) described FinTech as a platform which provides for the intersection of technology and finance. Lee & Kim, (2015) refer to it as a combination of information technology and provision of financial services.

Financial technology can be viewed as technologically enabled innovation within the financial system that can lead to the formation of new services, business models, products, processes and even institutions covering a wide assortment of financial

Financial Technology Innovation and Business Growth of Small and Medium-Scale Enterprises in Port Harcourt, Rivers State, Nigeria

innovations (FSB, 2017). These products and services which range from crowdfunding to E-Trading as well as block-chain technology, and they account for the visible change in the world of finance across the world. In the financial sector, financial technology companies provide financing services to individuals and corporations in a number of ways including crowd funding and crowd lending. In crowd funding, financial technology facilities consist of face-to-face lending between individuals or companies. In the case of crowd lending, financial technology platforms connect companies that are seeking capital with investors who are willing to lend directly to businesses. One of the benefits of using this platform is that fundraising can be easily set up online to quickly market products and at the same time obtain feedback relating to the product (Augustine, 2015). Similarly, the use of crowd-funding to raise funds helps to remove marketing costs that users incur for hiring consultants and other support organisations (Conrad, 2012).

Internet Banking (IB)
Internet banking involves the conduct of conventional banking activities on the Internet which means that global network of computer does not depend on any "brick and mortar" office building or location. It offers financial services that are accessed through the Internet's World Wide Web (www) by reducing the overhead expenses of traditional banks. Internet banks in theory can offer clients better interest rates on deposits than that of traditional banking rates. According to Gomber, Koch and Siering (2017), banks often rely on the Internet to convey information about financial products to the general public replacing business conducted at the branch offices, which do away with the need to put up new branches, and to serve clients more efficiently. Internet banking sites present the prospect of more suitable means of managing customer finances, and such activities such as paying bills on-line, searching for mortgage or automobile loans, applying for credit cards, and finding the nearest ATM or branch office. Several Internet banks also offer 24-hour telephone support, so clients can discuss their needs with bank service representatives directly. However, Internet Banking has some disadvantages which include risks of greater exposure to Internet fraud, network down time and breakdown as well as virus infections (Hiba and Faisal, 2018).

Mobile Payments (MP)
Mobile payment applications and gateways are amongst the most prevalent uses of FinTech because they allow users to carry out banking activities without physically visiting a bank building, (Barbesino, Camerani and Gaudino, 2005). This is a wireless Internet application of banking. It involves the working together of the Internet and mobile phone communication for banking activities. This innovation offers the customer services such as SMS Banking that provides instant transaction notification which helps to keep a watch on account with around the clock services and top-ups of mobile phone credits. The customer is also able to perform other services such as account enquiries, request for cheque book. For example, FinTechs, like Venmo and Interac, allow customers to send and receive money through Smartphones at minimal transaction costs.

Business Growth (BG)
Business growth can be viewed as an increased presence in existing and new markets (Omaye, 2019). The competitive edge of a business begins to expand locally and globally when it is growing. According to Edomehen and Elai (2018), the growth of an enterprise is synonymous with its reputation and competitive ability on all fronts, both at home and in the international market. A business can grow through expanding its customer base, increases revenue, or produces more products or services. Business growth can also be achieved by boosting the top line or revenue of the business with greater product sales or service income or by increasing the bottom line or profitability through cost minimization or through doing both. (Faloyinu, 2019).

Financial Technology (FinTech) Innovation and Business Growth (BG)
The extent of growth of SMEs in relation to FinTech can be measured through the effect of FinTech on their operations and activities. For example, mobile financial transactions lead to increased efficiency in SMEs according to Bangens and Soderberg (2008). They studied the impact of mobile money technology on growth of SMEs and found that mobile financial transactions help save time while conducting business transactions. They also found that mobile technology can be utilized in reaching more customers and enable decision-making and exchange of information.

Jack and Suri (2010) found that the launch of M-PESA in Kenya by the telecommunications company, Safaricom, enabled SMEs to expand and develop. This is because the service offered them effective and simpler ways to pay and collect payments for goods and services, thereby promoting their trading activities. M-PESA also enabled users to withdrawal, save and deposit money into their accounts as well as send money using SMS technology, (Chogi, 2006). Therefore, mobile financial transactions provide SMEs with a means through which they can lower their operating costs and at the same time increase their capability to grow their business networks and in so doing enabling them to improve their performance. Higgins *at el*, (2012), reported on mobile money

Financial Technology Innovation and Business Growth of Small and Medium-Scale Enterprises in Port Harcourt, Rivers State, Nigeria

use patterns by SMEs following their findings that most SMEs find mobile phone financial transactions easier than bank-based financial transactions. This is because they help consumers reduce travel costs since payments are made and received online.

Furthermore, Chogi (2006), postulated that Kenya's small and medium-sized enterprises (SMEs) viewed mobile financial transactions and their technologies as instruments that can mediate their activities by turning their goals into results, affecting their productivity and profitability. According to (Higgins *at el*, 2012), continuous financial transactions which may involve large amounts or long distances are despised by SMEs. Mobile phone money transactions, in effect, allow them to reduce costs and save time with affordable and more efficient ways of carrying out financial transactions. Chogi (2006), investigated the effect and adoption of mobile phone technologies on SMEs in Nigeria. The study showed that most SMEs thought that their profits were positively affected by the use of cell phones for financial transactions. In addition, the study also showed that most SMEs thought that Mobile Payment allowed them to reduce their operating costs.

Similarly, Donner and Escobari (2010) assessed the use of mobile phones by SMEs for financial services in developing countries. They found that mobile phones enabled SMEs to become more profitable and raise revenues, thus enhancing their financial results and development. Wambari (2009), carried out a contextual study in Kenya to assess the effect of M-banking in developing countries. The results showed that Mobile Payment had a positive impact on the financial transactions of small and medium-sized businesses. The study also showed that the adoption of Mobile Payment allowed SMEs to boost their sales, resulting in improved financial performance.

Technology Orientation as a Moderating Influence on Financial Technology Innovation and Business Growth

A strategic technological orientation is culture-based and firm-specific consisting of complex capabilities, which guide decision-making (Zhou, Yim and Tse, 2005). Built upon Resource Based Value (RBV) of the firm, a corporate/business level technology-based strategic orientation which comprises of hard to imitate, hard to substitute, rare and valuable capabilities may provide competitiveness and superior performance as expected from a strategic orientation. In order to be competitive and stand out in the market, an organization requires a wide range of capabilities, which technology today, is among the viable ones. However, prioritization and a right combination of technology capabilities which are parallel to strategic direction can provide sustainable competitive advantage for organisations. Therefore, capabilities and skills decide the dimensions of a technological orientation. These capabilities and skills are interconnected and inter-relate. It is expected that technology-oriented firms incorporate these capabilities and skills within its mission and vision that guide their strategies and processes.

Therefore, when considering the strategic direction of a business, top management should decide whether to develop technology internally or acquire from outside or a combination of both. They should also decide to what extent to invest on R&D; to compete or to cooperate with their rivals; which alternative way is best for the firm now and in the future (Zhou et al, 2005). It is important to ensure that the firm's operations are executed and equipped with up-to-date technologies and to decide on R&D investment amounts and directions, considering possible future projections are also management's responsibility (Antoniou & Ansoff, 2004). Panda & Ramanathan (1996) defined technological capability as a set of functional abilities, reflected in the firm's performance through various technological activities and whose ultimate purpose is firm level value management by developing difficult-to-copy organizational abilities. Technology resources are in the centre of competitive advantage because specific technology resource combinations provide hard to imitate and unique positions (Voudouris, et al, 2012). The strength of technological capability depends on how effective those resource combinations of the capability have been bundled. Learning is the mechanism that makes resources turn into valuable, rare, inimitable and non-substitutable capabilities by experiences and repetition (Acar & Zehir, 2009). Merely adopting a strategic orientation will not, by itself, lead to higher performance, Instead, they need to implant the value and belief system throughout the organization (Zhou, et al., 2005). They further claimed that dissemination and acceptance of such a strong belief system could be a result of effective tool, such as organizational learning.

Empirical Review

Dauda and Akingbade (2011) studied technology innovation and the performance of Nigeria banks. They assessed the responses from customer and employees of Nigerian banks. On the customers side, one thousand nine hundred and twelve (1912) questionnaires were distributed to customers of which one thousand six hundred and thirty-four (1634, 85%) were returned. On the employee side, one thousand four hundred and fifty-eight (1458) questionnaires were distributed to selected banks employees of which one thousand two hundred and twenty-three (1223, 84%) were returned. Pearson correlation coefficient was used to test the hypotheses. The findings affirmed that technological innovation was a significant determinant of DMBs employee performance, customer engagement and DMBs profitability.

Gibson (2015) examined FinTech impact on FinServ industry in Ireland. The study involved six (6) interviews from industry experts within the financial service industry. Using qualitative method, the results proved that FinTech is changing the traditional

Financial Technology Innovation and Business Growth of Small and Medium-Scale Enterprises in Port Harcourt, Rivers State, Nigeria

financial services model and impacting positively on the existing provider's bottom line. Also, Agufa (2016) studied the effect of digital finance on FinTech in the banking industry using a sample of thirteen (13) of the forty-four (44) banks in Kenya. Regression and correlation models were used to test the effect of digital finance on financial inclusion. The result showed that digital finance did not have any correlation on financial inclusion in banking sector in Kenya.

Kemboi (2018) examined the effect of financial technology on the performance of commercial banks in Kenya. The population was all the forty-four (44) banks in Kenya. The study employed the multiple regression model for analysis. The findings showed that FinTech impacted DMBs performance positively. Maja (2018) was a comparative study of the negative effects of FinTech on the FinServ sector in the European Union, India and the United States of America. The study was a historical analysis with findings, interestingly, showed that FinTech was inappropriate in the region which led to negative effect on FinServ sector.

Mustapha (2018) examined the e-payment technology effect on bank performances in an emerging economy such as Nigeria. The study was a review of secondary data that analysed data using time dimensional, panel least square models and sortinoindex. The study affirmed that the emphasis should be on current and not previous banks performances. Kshitika, Meena, Vinutha and Kavitha (2019) examined FinTech innovative impact on DMBs profitability. Past year profits of HDFC bank, ICICI bank, Axix bank, Kotak Mahindra bank, IDBI bank, Canara bank, Industrial bank, Bank of Maharashtra and Federal bank to assess the effect on profitability after collaboration with FinTech firms. The study also used secondary data. Paired t-test and test of normality were adopted for analysis. The results showed that HDFC bank, Federal bank, Kotak Mahindra bank, IndusInd bank, showed a positive profit trend. However, ICICI bank, Axis bank, IDBI bank, Bank of India, State bank of India, Canara bank and Bank of Maharashtra showed a negative trend in their profits.

Purnomo and Khalda (2019) assessed the influence of financial technology on national financial institutions using descriptive methods and gathering information/data from the Internet. Their findings showed that financial technology could hamper the development of banking. Aduaka and Awolusi (2020) evaluated electronic banking impact on Nigerian banking industry profitability. Primary and secondary data were collected through questionnaires and audited financial reports of the banks. Using multiple regression, they found that bank cards play a significant role more than other channels. This was closely followed by ATM. It also found that e-banking channels contributed to banks' profitability. Ibekwe (2021) conducted a study on financial innovation and DMBs performance in Nigeria. Using CBN data and the Augmented Dickey Fuller Test for unit roots and the OLS-regression, the study found that ATM, POS, Mobile Payment and Internet banking had positive effects on DMBs performances.

Furthermore, Andrew and Malinga (2011) examined the factors that influenced consumer adoption of Internet banking service as well as examined the relationship between Internet banking service, customer adoption and customer satisfaction. A structured questionnaires was the instrument for the data collection. The data was collated and organised using a 5-point Likert scale. The study established that there was a significantly positive relationship between Internet banking and customer satisfaction which is consistent with the findings of Al-Hawari and Ward (2005). The study recommended that more emphasis and efforts should be placed on targeting individual clients. In addition, Internet banking service providers ought to look out for indicators of innovative ways of creating awareness about their services through participation in trade organizations, exhibitions as well as adoption of new technologies such as Internet banking.

The Pallab, Amresh and Munish (2015) study considered a five-factor model toward online banking adoption in the context of banking customers in India. The findings validated their proposed model and the authors were able to validate the factors on the overall satisfaction of customers and the performance of businesses. The five-factor online banking adoption model was tested for reliability and validity by confirmatory factor analysis. A structural equation modelling was adopted for determining the contribution of factors toward overall satisfaction level of banking customers. Four explanatory variables were used to assess the overall satisfaction level of online banking users. A structured questionnaire incorporating variables identified from literature was also used as survey instrument for the study. The sample size was 280 banking customers. The findings revealed that trust, usage constraint, ease of use, accessibility and intention to use were the determining factors for Internet banking adoption among customers in India. Accessibility, usage constraints, intention to use portrayed strong and significant relationship with overall customer satisfaction. Trust and ease of use were relatively weaker and insignificant contributors toward overall customer satisfaction.

Hiba and Faisal (2018) examined how the adoption decision of the Internet banking in North Cyprus would be affected based on the dimensions of (i) the technology features, (ii) the personal characteristics, (iii) the social environment and (iv) the expected risk. A self-administered survey was conducted with 291 responses. The partial least square approach of the structural equation modelling (PLS-SEM) was employed to investigate the direct effects of the proposed factors on the adoption decision. Additionally, the mediation test was used to examine indirect effects. Findings showed that although the respondents appreciated

Financial Technology Innovation and Business Growth of Small and Medium-Scale Enterprises in Port Harcourt, Rivers State, Nigeria

the benefits of the online banking as the perceived usefulness factor exerts the greatest direct effect, they would rather use clear and easy-to-use websites. Also, their assessments of the usefulness of these services were significantly influenced by the surrounding people's views and prior experience. This was demonstrated by the total effects of the perceived ease of use and the subjective norm factors, which were greater than the direct effect of the perceived usefulness factor since both of these factors had significant direct and indirect effects mediated by the perceived usefulness factor. The negative impact of the perceived risk factor was weak compared to the previous factors. The personal innovativeness factor showed the weakest effect among the proposed factors.

Popoola (2013) investigated the effect of trust in adoption of Internet banking on 18 deposit money banks in Nigeria. The study found that bank customers who were non-users of Internet banking lacked trust in Internet banking and the users of Internet banking had only partial trust. The reason for this lack of trust was due to lack of security, bad reputation of banks, poor technology and lack of assuring policy or guarantee. The finding indicated that some customers - both users and non-users of Internet banking do not have total trust in the security system.

Shidrokh, Mohammad, Seyed and Nastaran (2013) reviewed extant literature to examine the effect of trust in adoption of Internet banking. Their findings showed that all the important factors had a decreasing or increasing level of trust in Internet banking adoption. The trust factors were identified based on the previous works with a particular focus on trust and Internet banking adoption.

The following hypotheses were postulated to guide this study and tested at 0.05 level of significance:

Ho$_1$: There is no significant relationship between Internet banking and productivity of SMEs in Port Harcourt.

Ho$_2$: There is no significant relationship between Internet banking and operational efficiency of SMEs in Port Harcourt.

Ho$_3$: There is no significant relationship between mobile payment platforms and productivity of SMEs in Port Harcourt.

Ho$_4$: There is no significant relationship between mobile payment platforms and operational efficiency of SMEs in Port Harcourt.

Ho$_5$: There is no significant moderating influence of technology orientation on the relationship between financial technology innovation and business growth of SMEs in Port Harcourt.

METHODOLOGY

This study adopted the descriptive research design because it seeks to understand the characteristics of particular groups or individuals Kothari, (2011). The population of this research consisted of the 1016 registered SMEs operating in Port Harcourt as recorded in the Nigerian Directory of Businesses (2024). The sample size was determined as 287 using the Taro Yamen formula. Two copies of questionnaire were administered to owner-managers and marketing and sales representatives in each of these SMEs giving a total of five hundred and seventy-four (574) respondents. These selected respondents were drawn conveniently across the firms involved. These respondents were selected based on their in-depth knowledge about the phenomenon or subject under review. The reliability of the instrument for data collection was subjected to review using the Cronbach Alpha test to determine the reliability of the instruments. An alpha score of 70% (0.7) or above is considered as reliable (Okeafor, 2012) as shown below:

Table 1: Reliability Results

Variables Entered	Cronbach Alpha Scores
Internet Banking (IB)	0.778
Mobile Payment (MP)	0.712
Productivity (P)	0.798
Operational Efficiency (OP)	0.701
Technology Orientation (TO)	0.756

Source: Researcher's Field Survey, 2024.

Data for this study were analysed using Excel version 2020 for descriptive statistics and Spearman's Rank Order Correlation Co-efficient and Partial Correlation Coefficient for testing the various hypotheses with the aid of Statistical Package for Social Sciences (SPSS) version 23.0.

Financial Technology Innovation and Business Growth of Small and Medium-Scale Enterprises in Port Harcourt, Rivers State, Nigeria

DATA ANALYSIS AND RESULTS

Response Rate

Table 2: Questionnaire Distribution and Retrieval

Questionnaire	Frequency	Percentage (%)
Distributed	574	100%
Retrieved	508	88.5%
Not retrieved	66	11.5%
Retrieved usable	466	91.7%
Retrieved not usable	42	8.3%

Source: Researcher's Field Desk, 2024 (SPSS output)

Table 2 shows that five hundred and seventy-four (574) questionnaires were distributed of which five hundred and eight (508 representing 88.5%) were retrieved while sixty-six (66 representing 11.5%) were not retrieved. Four hundred and sixty-six (466 representing 91.7%) of the retrieved questionnaires were usable while forty-two (42 representing 8.3%), were not usable either because they were blank or contained incomplete information.

Testing of hypotheses

Table 3: Conditions for Decision Rule

Details	Conditions	Decisions
Null Hypotheses (Ho)	Pv>0.05	Accept
Null Hypotheses (Ho)	Pv<0.05	Reject
Negative strength	-0.1 to -0.3	weak relationship
Negative strength	-0.4 to -0.6	moderate relationship
Negative strength	-0.7 to -0.9	strong relationship
Negative strength	-1	perfect relationship
Positive strength	+0.1 to +0.3	weak relationship
Positive strength	+0.4 to +0.6	moderate relationship
Positive strength	+0.7 to +0.9	strong relationship
Positive strength	+1	perfect relationship

Source: Research Desk, 2024.

Accept the null hypotheses (Ho) and reject the alternate hypotheses (Ha) if the significant probability value (PV) > 0.05, that is, no significant coefficient exists. Reject the null hypotheses (Ho) and accept the alternate hypotheses (Ha) if the significant probability value (PV) < 0.05, that is, a significant coefficient exists. The strength of the influence is decided thus; -0.1 to -0.3 (weak negative influence), -0.4 to -0.6 (moderate negative influence), -0.7 to -0.9 (strong negative influence), -1 (perfect negative influence); +0.1 to +0.3 (weak positive influence), +0.5 to +0.6 (moderate positive influence), +0.7 to +0.9 (strong positive influence), +1 (perfect positive influence).

Table 4: Correlation Analysis showing the Relationship between Internet Banking and Productivity, Operational Efficiency

			Internet Banking	Productivity	Operational Efficiency
Spearman's rho	Internet Banking	Correlation Coefficient	1.000	.908**	.814**
		Sig. (2-tailed)	.	.000	.000
		N	466	466	466
	Productivity	Correlation Coefficient	.908**	1.000	.855**
		Sig. (2-tailed)	.000	.	.000
		N	466	466	466
		Correlation Coefficient	.814**	.855**	1.000

Operational Efficiency	Sig. (2-tailed)		.000	.000	.
	N		466	466	466

Source: Field Survey Data, 2024, SPSS (Output)

Test of Hypotheses One (H$_{01}$) - *There is no significant relationship between Internet banking and productivity of SMEs in Port Harcourt.*

Table 4 reveals that Internet Banking has a very strong significant relationship and positively correlates with productivity at a Rho = 0.908 and a Pv = 0.000. Thus, an increase in Internet Banking leads to an increase in productivity. Hence, Internet banking has a significant and positive relationship with business growth of SMEs in Port Harcourt. Therefore, the null hypothesis that Internet Banking has no significant relationship with productivity of SMEs in Port Harcourt is rejected and the alternative is accepted because the Pv (0.000) is less than the level of significance at 95% (0.05).

Test of Hypotheses Two (H$_{02}$) - *There is no significant relationship between Internet banking and operational efficiency of SMEs in Port Harcourt.*

Table 4 above also reveals that Internet Banking has a very strong significant relationship and positively correlates with operational efficiency at a Rho = 0.814 and a Pv = 0.000. Thus, an increase in Internet Banking leads to an increase in operational efficiency. Hence, Internet banking has a significant and positive relationship with business growth of SMEs in Port Harcourt. Therefore, the null hypothesis that Internet Banking has no significant relationship with operational efficiency of SMEs in Port Harcourt is rejected and the alternative is accepted because the Pv (0.000) is less than the level of significance at 95% (0.05).

Table 5: Correlation Analysis showing the Relationship between Mobile Payment and Productivity, Operational Efficiency

			Mobile Banking	Productivity	Operational Efficiency
Spearman's rho	Mobile Payment	Correlation Coefficient	1.000	.911**	.901**
		Sig. (2-tailed)	.	.000	.000
		N	466	466	466
	Productivity	Correlation Coefficient	.911**	1.000	.855**
		Sig. (2-tailed)	.000	.	.000
		N	466	466	466
	Operational Efficiency	Correlation Coefficient	.901**	.855**	1.000
		Sig. (2-tailed)	.000	.000	.
		N	466	466	466

Source: Field Survey Data, 2024, SPSS (Output)

Test of Hypotheses Three (H$_{03}$) - *There is no significant relationship between mobile payment platforms and productivity of SMEs in Port Harcourt.*

Table 5 shows that mobile payment has a strong significant relationship and positively correlates with productivity at a Rho = 0.901 and a Pv = 0.000. Thus, an increase in mobile payment leads to an increase in operational efficiency. Hence, mobile payment has a significant and positive relationship with business growth of SMEs in Port Harcourt. Therefore, the null hypothesis that mobile payment has no significant relationship with productivity of SMEs in Port Harcourt is rejected and the alternative is accepted because the Pv (0.000) is less than the level of significance at 95% (0.05).

Test of Hypotheses Four (H$_{04}$) - *There is no significant relationship between mobile payment platforms and operational efficiency of SMEs in Port Harcourt.*

Table 5 also shows that mobile payment has a very strong significant relationship and positively correlates with operational efficiency at a Rho = 0.901 and a Pv = 0.000. Thus, an increase in mobile payment leads to an increase in operational efficiency. Hence, mobile payment has a significant and positive relationship with business growth of SMEs in Port Harcourt. Therefore, the

Financial Technology Innovation and Business Growth of Small and Medium-Scale Enterprises in Port Harcourt, Rivers State, Nigeria

null hypothesis that mobile payment has no significant relationship with operational efficiency of SMEs in Port Harcourt is rejected and the alternative is accepted because the Pv (0.000) is less than the level of significance at 95% (0.05).

Table 6 Correlation Analysis showing the moderating influence of Orientation on the relationship between FinTech Innovation and Business Growth of SMEs in Port Harcourt

			FinTech Innovation	Business Growth
Spearman's rho	FinTech	Correlation Coefficient	1.000	.556**
	Innovation	Sig. (2-tailed)	.	.000
Technology		N	215	215
Orientation	Business	Correlation Coefficient	.556*	1.000
	Growth	Sig. (2-tailed)	.000	.
		N	215	215

**. Correlation is significant at the 0.05 level (2-tailed).
Source: Field Survey Data, 2024, SPSS 23 Output

Test of Hypothesis Five (H$_{O5}$) - *There is no significant moderating influence of technology orientation on the relationship between financial technology innovation and business growth of SMEs in Port Harcourt.*
Table 6 shows that Fintech Orientation has a moderate and significant influence on the relationship between FinTech and also positively correlates with Business Growth at a Rho = 0.556 and a Pv = 0.000. Thus, an increase in FinTech Orientation leads to an increase in the influence of Orientation on the relationship between FinTech and Business Growth. Hence, FinTech Orientation has a significant and positive influence in the relationship between FinTech and business growth of SMEs in Port Harcourt. Therefore, the null hypothesis that FinTech Orientation has no significantly moderating influence on the relationship between financial technology innovation and business growth of SMEs in Port Harcourt is rejected and the alternative is accepted because the Pv (0.000) is less than the level of significant at 95% (0.05).

DISCUSSION OF FINDINGS

The findings in this study show that there is a significantly strong and positive relationship between Financial Technology (FinTech) and the business growth of SMEs in Port Harcourt, Rivers State of Nigeria. Using the dimensions of Internet Banking and Mobile Payments platforms as proxies for FinTech and Productivity and Operational Efficiency for business growth of SMEs in Port Harcourt, the study showed conclusively that increases in the use of FinTech platforms translated to positive increases in the business growth of the SMEs. Previous studies had shown that FinTech had a significant impact on the bottom line of SMEs. Bangens and Soderberg (2008) study had shown that mobile financial transactions lead to increased efficiency in SMEs and helped to save time while conducting business transactions. They also assisted SMEs to reach more customers. This meant that FinTech improved both productivity and operational efficiency thereby improving the bottom line as well as increasing the customer base (business growth). This study therefore supports the findings of their study.

Similarly, Jack and Suri (2010) and Chogi (2006), found that FinTech enabled SMEs to expand and develop as well as lowered their operating costs and also increased their capability to grow their business networks and, in so doing, enabled them to improve their performance. This study corroborates the findings in the above studies and affirms that FinTech is correlated with SME growth. The findings here are also in line with those by Donner & Escobari (2010) and Wambari (2009) suggestive that FinTech had a positive impact on the financial transactions of small and medium-sized businesses. They all showed that the adoption of FinTech allowed SMEs to boost their sales, resulting in improved financial performance (Business growth).

With regard to Technology Orientation as a moderating influence on Financial Technology Innovation and Business Growth, the importance of the finding that its moderating influence is significant is that it concurs with the results of the study by Zhou et al, (2005), Antoniou & Ansoff, (2004) and Panda & Ramanathan (1996) that strategic technological orientation is important in effectively implementing FinTech in order for SMEs to achieve business growth. Whilst the empirical review of extant literature showed that the concentration of the findings was in the banking and financial services sector, it is not surprising as both the platforms of Internet banking and mobile payment relate to the services that they render. The implications of the findings though can be found both within the financial services sector as well as in the wider SMEs sector.

Financial Technology Innovation and Business Growth of Small and Medium-Scale Enterprises in Port Harcourt, Rivers State, Nigeria

CONCLUSIONS AND RECOMMENDATIONS

The study concludes that SMEs who want to expand in business by improving productivity and operational efficiency should pay more attention to new channels of innovative online transactions like mobile payment and Internet banking. The findings of this study show that if SMEs explore FinTech innovations as a means of building competitive advantage, they will be better positioned to improve business growth. They should ensure that the issue of security and customer privacy is taking seriously, because this is one of the strategic ways of building customer trust in online transactions. More so, it was revealed that acquisition and deployment of FinTech innovation improves financial growth and development towards facilitating quick transaction, reducing delay in transfer and other business transaction activities.

Based on the foregoing, the study recommends for SMEs to improve their business growth, they should invest more in FinTech; particularly Internet banking and mobile payment, as these digital solutions have a significant impact in improving productivity and operational efficiency leading to business growth of SMEs in Port Harcourt.

REFERENCES

1) Acar, A. Z., & Zehir, C. (2009). Development and validation of a multidimensional business capabilities measurement instrument. *Journal of Transnational Management*, *14*(3), 215-240.
2) Aduaka, U., & Awolusi, O. D. (2020). Electronic banking and profitability in the Nigerian banking industry. *Information management and Business review*, *12*(2 (I)), 20-37.
3) Agufa, M. M. (2016). The effect of digital finance on financial inclusion in the banking industry in Kenya (*Doctoral dissertation, University of Nairobi*). Available: http://erepository.uonbi.ac.ke/handle/11295/98616
4) Al-Hawari, M., Ward., A (2005). The influence of Internet banking and teller service quality on customer retention : a comparison study. *CQUniversity. Conference contribution*. Available: https://hdl.handle.net/10018/24360
5) Andrew, M. and Malinga, R. (2011) Internet banking, consumer adoption and customer satisfaction. *African Journal of Marketing Management*, 3(10), 261-269
6) Antoniou, P. H., & Ansoff, H. I. (2004). Strategic management of technology. *Technology Analysis & Strategic Management*, *16*(2), 275-291.
7) Asiegbu, I. F. (2012). Research methodology (Handbook), Port Harcourt: Prosper Nigeria Limited
8) Augustine, A. (2015): "FinTech: Changing the Way We Save and Invest" [ONLINE]. Available: https://www.bbvaresearch.com/wpcontent/uploads/2015/05/150521_US_EW_FinTech1.pdf.
9) Bangens, L., & Soderberg, B. (2008). Mobile Payment-Financial Services for the Unbanked. KISTA, the Swedish Program for ICT in Developing Regions.
10) Barbesino, R. Camerani, A. Gaudino (2015). Digital finance in Europe: Competitive dynamics and online behaviour. *Journal of Financial Services Marketing,* 9(4), 329-343.
11) Central Bank of Nigeria (CBN) (2012), Central Bank of Nigeria Annual Report—2012. https://nairametrics.com/wp-content/uploads/2013/11/2012-Annual-Report.pdf
12) Central Bank of Nigeria, (CBN) (2009). Banking Supervision. http://www.cenbank.org/AboutCentralBankofNigeria/Dir-FSS.asp#bsd.
13) Central Bank of Nigeria, (CBN) (2021). List of commercial banks in Nigeria, Abuja, Nigeria.
14) Cheung, C. M. K., & Thadani, D. R. (2012). The Impact of Electronic Word-of-Mouth Communication: A Literature Analysis and Integrative Model. *Decision Support Systems, Elsevier* 54(1) 461-470.https://doi.org/10.1016/j.dss.2012.06.008
15) Chogi, B. (2006). The Impact of Mobile Phone Technologies on Small and Medium. Enterprises.
16) Conrad, R. (2012). Crowdfunding. *Bee Culture*, 140 (11), 65-66
17) Dauda, Y. A., & Akingbade, W. A. (2011). Technology innovation and Nigeria banks performance: The assessment of employee's and customer's responses. *American Journal of Social and Management Sciences*, *2*(3), 329-340.
18) Davis, F. D. (1985). *A technology acceptance model for empirically testing new end-user information systems: Theory and results* (Doctoral dissertation, Massachusetts Institute of Technology).
19) Donner, J., & Escobari, M., (2010). A Review of Evidence on Mobile use by Small and Micro Enterprises in Developing Countries. *Journal of International Development,* 22, 641-658.
20) Dorfleitner, G., Hornuf, L., ... & Weber, M. (2017a). *The FinTech market in Germany* (pp. 13-46). Springer International Publishing.
21) Dorfleitner, G., Hornuf, L., & Weber, M. (2017b). Definition of FinTech and description of the FinTech industry. *FinTech in Germany*, 5-10.
22) Edomehen, I. H., & Elai, D. S., (2018). The variables of macro and microeconomic growth of a nation. *Entrepreneurship Review* 3(1), 78-89.

23) EFInA (2018). Access to Financial Services in Nigeria 2018 Survey Report https://efina.org.ng/wp-content/uploads/2021/10/A2F-2018-Final-Report.pdf

24) Faloyinu, K. S., (2019). What to measure in economic growth? *Journal of Economic Development,* 8(5), 113-121.

25) Financial Stability Board (FSB), (2017). Financial Stability Implications from FinTech Supervisory and Regulatory Issues that Merit Authorities' Attention. Available: https://www.fsb.org/wp-content/uploads/R270617.pdf

26) FinTech Futures (2018): "FinTech Start-Ups Acquired by Banks – CB Insights" [ONLINE]. Available: https://www.bankingtech.com/2018/02/FinTech-start-ups-acquired-by-banks-cb-insights/

27) FinTech Weekly (2016). FinTech Definitions. Available from https://www.FinTechweekly.com/FinTech-definition.

28) Fuster, A., Plosser, M., Schnabl, P., Vickery, J. (2019). The role of technology in mortgage lending. *Review of Financial Studies*, 32 (5), 1854–1899.

29) Gbandi, E. C., & Amissah, G. (2014). Financing options for small and medium enterprises (SMEs) in Nigeria. *European Scientific Journal*, *10*(1), 327-340.

30) Gibson, J. (2015). The impact FinTech is having on the financial services industry in Ireland (*Doctoral dissertation, Dublin Business School*).

31) Gomber, J.A. Koch, M. Siering (2017). Digital finance and FinTech: Current research and future research directions. *Journal of Business Economics*, 67(5), 537-580.

32) Hiba, A. and Faisal, F. (2018). Factors influencing the Internet banking adoption decision in North Cyprus: An evidence from the partial least square approach of the structural equation modeling. *Alhassany and Faisal Financial Innovation,* 6, 45-56.

33) Higgins, D., & Kendall, J., & Lyon, B., (2012). Mobile Money Usage Patterns of Kenyan SMEs. *Innovation, Technology, Governance and Globalization,* 7, 67- 81.

34) IFC Report (2020) – Highlights from the IFC ANNUAL REPORT. LONG-TERM INVESTMENT. Financial Performance Summary 120 of the **IFC 2020** Annual Report. https://www.ifc.org/content/dam/ifc/doc/mgrt/ifc-ar20-highlights-en.pdf

35) Jack, W. & Suri, T. (2010). Bowen at el (2009) of M-PESA. Nairobi, Central Bank of Kenya.

36) Kagan, J (2024). Financial Technology (FinTech): Its Uses and Impact on Our Lives. *Investopedia*. Available from https://www.investopedia.com/terms/f/FinTech.asp

37) Kemboi, B. J. (2018). Effect of financial technology on the financial performance of commercial banks in Kenya *(Doctoral dissertation, university of Nairobi*). Available: http://erepository.uonbi.ac.ke/handle/11295/105104

38) Kim, Y., Park, Y. J., Choi, J., & Yeon, J. (2015). An empirical study on the adoption of "FinTech" service: Focused on mobile payment services. *Advanced Science and Technology Letters*, *114*(26), 136-140.

39) Kothari, C. R. (2011). Research methodology: methods and techniques. New Delhi: New Age International Ltd.

40) Desai, K. R., Meena, V., Vinutha, V., & Jayakumar, K. (2019). Fintech innovations and its impact on the profitability of selected banks. *International Journal of Business and Management Invention*, *8*(01), 41-45.

41) Lee, T. H., & Kim, H. W. (2015, August). An exploratory study on FinTech industry in Korea: Crowdfunding case. In *2nd Int'l conf. on Innovative Engineering Technologies* (pp. 58-64).

42) Loh, A. (2011). A Study on Influence of Trust, Social identity, Perceived Risk and EWOM on Consumer Decision-Making Process in the context of Social Network Sites (Dissertation). Blekinge Institute of Technology, School of Management. Available from https://urn.kb.se/resolve?urn=urn:nbn:se:bth-4458

43) Mlanga, S. (2019). Implications of Financial Technology for Professionals in Financial Services in Nigeria. International Research Journal of Finance and Economics, ISSN 1450 2887 Issue 172

44) Mohammed, S. D., Hashim, A. A., Sulaiman, B. A., Adam, A. D., & Usman, M. H. (2022). Micro, Small and Medium Enterprises in Nigeria: Trend Analyses of Growth, Contributions and Challenges using SMEDAN and NBS Survey Reports. *Baze University Journal of Entrepreneurship and Interdisciplinary Studies*, *1*(1). 116-127.

45) Mustapha, S. A. (2018). E-Payment technology effect on bank performance in emerging economies–evidence from Nigeria. *Journal of Open Innovation: Technology, Market, and Complexity*, *4*(4), 43.

46) National Bureau of Statistics (2021). Micro, Small and Medium Enterprises Survey Report. Retrieved from https://nigerianstat.gov.ng/elibrary/read/966Ogbuji, C. N. (2013). Marketing research, Port Harcourt*: African Entrepreneurship and Leadership Initiative (AELI).*

47) Okeafor, J. (2012). *Marketing research and project writing guide, Revised Edition.* Owerri: Spring Field Publishers Ltd.

48) Oliveira, T., & Martins, M. F. (2011). Literature review of information technology adoption models at firm level. *Electronic journal of information systems evaluation*, *14*(1), pp110-121.

49) Omaye, R. S., (2019). Critical success factors for entrepreneurship growth in Nigeria. *Journal of Management Studies,* 3(2), 114-125.

50) Pallab, S., Amresh, K., & Munish M., (2015). Online banking adoption: A factor validation and satisfaction causation study in the context of Indian banking customers. *International Journal of Bank Marketing*, *33*(6), 760-785. Emerald Publishing Limited

51) Panda, H., & Ramanathan, K. (1996). Technological capability assessment of a firm in the electricity sector. *Technovation*, *16*(10), 561-588.

52) Popoola, N. (2013). The effect of trust in adoption of Internet banking: A case study of Nigeria. *International Journal of Economic and Business Management*, *1*(2), 19-24.

53) Purnomo, H., & Khalda, S. (2019, November). Influence of Financial Technology on National Financial Institutions. In *IOP Conference Series: Materials Science and Engineering* (Vol. 662, No. 2, p. 022037). IOP Publishing.

54) PwC Report (2020) Changing Competitive landscape - FinTech-banking-sector-nigeria. https://www.pwc.com/ng/en/assets/pdf/FinTech-banking-sector-nigeria.pdf

55) Rauniar, R., Rawski, G. Yang, J., & Johnson, B. (2014). Technology acceptance model (TAM) and social media usage: an empirical study on Facebook. *Journal of Enterprise Information Management*, 27 (1), 6-30, https://doi.org/10.1108/JEIM-04-2012-0011.

56) Schueffel, P. (2016). Taming the beast: A scientific definition of FinTech. *Journal of Innovation Management*, *4*(4), 32-54.

57) Shidrokh, G., Mohammad, N., Seyed, A., Nastaran, M. (2013). Impact of Trust on Internet Banking Adoption. *Australia Journal of Basic and Applied Sciences*, *7*(7), 334-347.

58) SMEDAN (2021). Micro, small and medium enterprise survey report. Retrieved from https://smedan.gov.ng/wpcontent/uploads/2022/03/2021-MSME-Survey-Report_1.pdf.

59) Steeves, D. (2016). The social impact of FinTech in Nigeria. *The FinTech book: the financial technology handbook for investors, entrepreneurs and visionaries*, 78-80.

60) Tafadzwa, Z., Ngonidzashe, Z., Kerina, C., Elijah, C., Petronella, M., & Tinovimbanashe, M. (2012). An Evaluation of the Effectiveness of E-banking Security Strategies in Zimbabwe: A Case Study of Zimbabwean Commercial Banks.

61) Truong, O. (2016). How fintech industry is changing the world. Thesis. Centria University of Applied Sciences Degree Programme in Business Management. Available: https://core.ac.uk/download/pdf/80995188.pdf

62) Voudouris, I., Lioukas, S., Iatrelli, M., & Caloghirou, Y. (2012). Effectiveness of technology investment: Impact of internal technological capability, networking and investment's strategic importance. *Technovation*, *32*(6), 400-414.

63) Wambari, A. (2009). Mobile Payment in Developing Countries-A Case Study on Kenya. Information Technology, University of Applied Sciences.

64) Wikipedia, Available from https://en.wikipedia.org/wiki/Interswitch

65) Xavier, V. (2017). The Impact of FinTech on Banking. *European Economy, Banks, Regulation, and the Real Sector*. 2, 97-105.

66) Zhou, K. Z., Yim, C. K., & Tse, D. K. (2005). The effects of strategic orientations on technology-and market-based breakthrough innovations. *Journal of Marketing*, *69*(2), 42-60.