



Assessing Financial Technology as An Alternative to Enhancing Conventional Banking Way in Ghana: A Case Study of Etranzact Ghana Limited

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ABSTRACT

The aim of this study was primarily to assess Financial Technology as an alternative enhancement to conventional banking methods in Ghana while highlighting some challenges that Fintech companies face using Etranzact Ghana as the case selected. In assessing this, 400 customers were selected altogether from GCB and BOA who are partner banks of the selected case which is a Fintech firm. In addition, 10 managers from the case were also queried on their view on the challenges of Fintech firm. Random and Purposive sampling were used to achieve this and to analyze the data collected using questionnaire, descriptive statistics and multiple regression analysis was employed. From the results, Fintech influence in the on conventional banking ways is how the enable customer retention and their impact on customer satisfaction and customer service delivery. The conclusion of the study recommended, intense practice of information security policies to mitigate some of their challenges as well evolving with their innovations. It also recommended the further improvement in Customer Relationship Management (CRM)

Keywords: Financial Technology, Conventional Banking

1.1 Introduction to the Study

During the last few years, technology has triggered the reshaping of the financial services sector, with emerging innovations providing tremendous potential for global expansion of those services. Advanced technology and business strategies have reduced transaction costs dramatically, helping to support customers having no accessibility to banking resources before this point. In addition to this simple convenience advantage, these new technologies may provide cost effective and timely money transaction reliability, propelling economic development and alleviating Earnings disparity. Financial Technologies (Fintech), recognize the application of technology to deliver financial or retail services (Pessanha, 2019). Conventional banking practices have improved significantly since the implementation of Financial Technologies into the banking business. The use of the internet and cell phones has contributed immensely to the manner in which companies communicate with consumers, whilst the advancement of technology in the banking sector has brought about gradual improvements in their service delivery (Molnár, 2018).

Fintech (Financial Technology) is already being acknowledged as the forum for the banking sector to develop in this 21st century. Many worldwide have known it as the engine of financial institutions that will successfully bring about fair competition throughout the sector (Wonglimpiyarat, 2017). Knowing that, policymakers across the world have placed in policies to promote Fintech technologies. Global capital invested has risen dramatically since 2015 in excess of US\$ 12 billion, and gross project spending in the global Fintech market in 2016 was US\$ 13.6 billion (KPMG, 2017). Traditional bank market models are being updated, so they hope to change. In this regard, major banks undertake substantial investments in Fintech innovations; some of which have collaborated with Fintech companies to help provide them with specialized services that can improve deliverables whilst others have even established financial technology divisions inside their individual entities (European Central Bank, 2018). In light of the above, they can be identified as mainly based businesses which use technologies that helps them to engage with financial firms narrowing this research to banks.

Vast work has been carried out on the relationship between financial technologies and banks in the world's emerging economies where the need for a collaboration between banks and Fintech has evolved. Fintech start-ups and even major IT firms are joining the finance market, winning ground and capturing clients that have historically been served by well-established businesses (Milian et al., 2019). In recent years, financial technology (Fintech) firms have expanded exponentially, with about twelve thousand businesses worldwide estimated (Drummer et al., 2016). Other innovations of Fintech(s) have introduced groundbreaking advancements such as electronic payments, online banking just to mention a few. Banks have been slowly looking to purchase Fintech firms to reduce their spending, sell new commercial products or boost current systems, mitigate security risks and tackle many other technological challenges. Moreover, much of the latest developments happened beyond the banking sector, with firms including PayPal and Google offering payment solutions globally. Banks and other financial companies have seen the challenge they will faced by the operation of Fintech and non-

bank businesses in a highly competitive environment; thus, many have opted to partner Fintech in order to keep ahead of rivals and be leading in technology of financial services (Al-Halawani, 2019).

Fintech has the potential to intensify and improve substantial advancements in financial growth achieved in sub-Saharan Africa over the last two decades. Economic reform, monetary policy frameworks and resources supervision, and corporate environment improvements have made a major impact to banking growth. Nevertheless, the use of mobile payments in many countries has grown robustly due to the launch of PAN-African banks, there are still some concerns in Sub-Saharan African context with finance institutions. These examples are the number of restrictions and financial inclusion that is very restricted and eventually restricts the likelihood of further progress in economic development (Maino et al., 2019).

One field that is profoundly influenced by the ever-changing dynamics of doing business is the world of payment methods. Ghana is a country with a developing economy of which there has been trends of research into the area of technology and finance. Because of the establishment Fintech developments, banks in Ghana have seen fewer lengths of queues and an increase in banking comfort. Such success has contributed to the reducing systemic problems in the banking industry. Mawuli (2019) points out that the contribution to Fintech started in 1997 when the former Social Security Bank (SSB) launched the 'Sika Card' into the banking industry in Ghana. The main goal was to cut back on the use of vast quantities of tangible cash for purchases. Fintech should not be limited to payment networks and single implementations. Fintech, for example, helps you to order and receive a bank statement on your computer or mobile device, and banks actually own smartphone applications that encourage customers to do banking transactions. May other research works on technology in the financial world in Ghana have mostly delved in e-payment and largely has been biased to the banking sector and the organizational advantages of such payment systems within the region. It was noted that not much is known of private Fintech firms who support government attempts to move Ghana into the cashless economy. This research aims to assess their innovations which enhances traditional banking as well their constraints.

1.2 Research Problem

Latest findings have emphasized the fact that Fintech's advances are the alternative to the old banking style. KPMG (2017), Alt et al (2018), Nair and Menon (2017), Molnár (2018), Wonglimpiyarat (2017), Skvarciany and Jurevičienė (2017) and Chen et al (2017) all concentrate on Fintech developments and how important their influence on the 21st century banking sector was. Such proofs from the time of this research review were limited to the comparison system for other countries. These researches have pointed out financial technology innovations and their future prospects.

In another view other researchers have also highlighted financial technology as threats to banks. They highlight the challenge posed by Fintech and non-bank firms in the viciously competitive industry, all of which still choose to engage in Fintech in order to stay on top of demand and to be at the frontline of innovations in financial services (Al-Halawani, 2019). It is important to note the threat from Fintech often aims to hit some of the most profitable financial services markets. Goldman Sachs predicted that the total income from the mainstream financial services companies would reach \$4.7 trillion. They push other financial institutions to look for agreements as well as acquisition opportunities as a stop-gap measure; moreover, only recently, Goldman Sachs actually gained attention for heavy investment in Fintech (Wingard, 2019). Ghana progresses online with its economy taking a major step further towards reforming the payment system for the nation. With the passing of the Payment and Services Act earlier in March 2019, this will allow the Bank of Ghana to license Fintechs to create an ecosystem that would promote the security of transactional banking. Ghana's financial technology market can be seen as lively in terms of the different channels available but is also a long way from being considered a major player on the continent. That is not only in regards to the number of participating service providers, but also because some of the channels are approved for foreign transactions (Mawuli, 2019).

Though government has passed the act which is a good step, it is still not enough as a lot of research has not gone into projecting their core impact in the country as well as their constraints. With this being done there would be the need to ascertain their relevance in order to come out with policies that will provide a better environment and a very supportive ecosystem. In addition, Fintech firms do not possess any preferential status and therefore don't have any clear incentives under tax law, while the government is thinking a lot about digitizing the payment services market and building a cashless economy (News Desk, 2020). A thorough review of current literature of reveals a gap which talks about the area of financial technology and how they enhance conventional transactional banking services in Ghana. Very little has been done to bring Fintech to the limelight in Ghana though the country has a vision of growing their cashless economy. This paper seeks to bridge the gap by looking at their impact in the e-payment system space and to what extent it has induced innovation in Ghana's banking sector using Etranzact Ghana Limited as a case study.

1.3 Objectives of the Study

The study's main objective is to assess Financial Technology as an alternate enhancement to banking methods in Ghana: A specific case study of Etranzact Ghana Limited. In achieving this, the following specific objectives have been set:

- To assess Financial Technologies as an enhancement to conventional transactional banking services on customers at Etranzact Ghana Limited
- To ascertain the prospect of Fintechs being a solution to the problems of traditional banking for customers by their innovations at Etranzact Ghana Limited
- To identify the challenges facing Financial Technologies at Etranzact Ghana Limited

- To examine the relevance of Fintechs enhancing conventional transactional banking services at Etranzact Ghana Limited

LITERATURE REVIEW

2.0 Theory of Fintech

Financial technology (or Fintech) has been seen in recent years as one of the innovations that will revolutionize the financial services industry. The word "Fintech" involves technology-enabled applications and solutions using automated IT technologies. In the modern age of the financial industry, Fintech payment innovations deliver a new environment. Fintech also offers a forum to enable cross-network transactions and payment processing for banks and non-banks (Thompson, 2017; Shim and Shin, 2017).

Most advisors deny only the necessary technical technologies to be modified and embraced. Another side points out that, other consultants overly rely on tech for their companies thinking they will cruise while they do all the work alongside the machines (Kruger, 2020). This overdependence on technology will undermine consumer relationships without even the counselor realizing it. Indeed, in all this, advisors are of the view that, tech overdependence may not be catastrophic but can be harmful to the client ties (Kruger, 2020). A new survey by PwC showed that whereas 40 percent of high net worth individuals use self-directed investing platforms in all markets and age ranges, only 25 percent of asset managers provide digital networks outside email; Capgemini's 20th annual Global Wealth Report (WWR) found that more than half (55 per cent) of investment managers are not completely happy with the digital capability of their business (Kruger, 2020). The study showed that 81% of investment managers want new technology solutions with a richer interface, including improved client engagement (86%), the opportunity to further exploit consumer data to find growth opportunities (82%) and even time saves by decreased paperwork time (82%) (Kruger, 2020). When the tool belt of an analyst lets them optimize their market and focus entirely on their customers, this perhaps shows the amount of innovation that's appropriate. (Kruger, 2020).

2.1 Classification of Fintech innovations

Fintech is characterized as technology-enhanced financial disruption by the Financial Stability Board (FSB), which may contribute to new business structures, systems, frameworks, or services with major financial impacts across the entire financial sector. (Thakor, 2020). According to Favaretti et al. (2017), the areas addressed by Fintech may commonly be referred to as: services of banking, deposit and raising capital; transfer, clearing, and transaction systems, including digital monies. The Basel Banking Supervision Committee (BCBS) has listed Fintech technology, the current evidence of which remains.

2.2 Fintech Innovations in the Ghanaian banking sector

Banks in Ghana have seen a reduction in queues, and an increase in banking satisfaction thanks to the developments of Fintech. This advancement has caused low rate in systemic difficulties in the banking sector (Frimpong, 2010). These innovations aid banks deliver to corporate clients a variety of commercial banking products and services including domestic and foreign transfers, international trade finance and depository, custody and other financial services. These cover investment accounting, economic banking and corporate finance. By doing so, it enhances and optimize our customers' company practices on all their corporate activities. With the restructuring of the market, personalized customer support and regulatory enforcement bring complications and modifications to the overall conventional banking and payment systems, they also give the innovative company the chance to take the strategic lead. In addition, the innovation have provided all the features required to banks and other financial institutions to solve their core problems and achieve greater competitiveness through its creative financial services products and solutions.

3.0 RESEARCH METHODOLOGY

This thesis would use a quantitative and qualitative research method. The rationale behind the choice of this method is due to the complexity of the data which will be collected from the field and also be able to meaning out of it by simple summing up the results. Data would be collected through two sources namely Primary and Secondary. For the purpose of this study, interviewing eligible applicants as well as source documents from the selected case must obtain the primary source, while the secondary source will be accessible to published papers and journals. We will finally use the google form response charts and The Statistical Package for Service Solutions (SPSS) in analyzing the data as well as coming out with conclusions.

4.0 RESULTS AND DISCUSSION

Research question one: What is the impact of Fintech on customers in the e-payment space in the relation to conventional transactional banking Etranzact Ghana Limited?

Table

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000 ^a	1.000	1.000	9.082

a. Predictors: (Constant), Customer service survey, Customer satisfaction

Table 4.2

Coefficients^a

Model	Unstandardized Coefficients		Standardized	t	Sig.	
	B	Std. Error	Coefficients			
			Beta			
	(Constant)	-29.451	5.460		-5.394	.033
1	Customer satisfaction	.404	.025	.621	16.297	.004
	Customer service survey	.304	.030	.383	10.063	.010

a. Dependent Variable: Customer retention

The value of $R=1.000$ and the coefficient of determination (Rsquare) = 1.000 which suggests that customer retention can be influenced by 100% of customer satisfaction and customer service delivery. To satisfy the question above, it is seen that the impact of Fintech on customers is the ability to enable customers' continual transaction with the bank (customer retention). This is also shown in figure 4.4 which shows 62.97% of respondents from the survey agreeing to continuously transact with the bank due to the Fintech services provided by the bank.

Research question two: To what extent has Fintech induced innovation in Ghanaian banking sector at Etranzact Ghana Limited?

The descriptive statistics were employed to answer question two where we see 80.4% from the survey having a positive perception of the Fintech services provided by the bank. Looking at table 4.3.4 we see the maximum number of respondents which represents 84.8% having extensive knowledge of the Fintech service provided by the bank. This alone goes to satisfy the enquiry on the extent to which Fintech has induced innovation in the Ghanaian banking sector.

Table 4.3

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation	percentage
Yes	4	254	382	1286	321.50	58.563	80.4%
No	4	1	12	26	6.50	4.655	4.3%
Maybe	4	17	138	288	72.00	54.973	18%
Valid N (listwise)	4						

Source: Field Data, 2020

Research Question three: What are the challenges facing Fintech at Etranzact Ghana Limited?

Ten (10) managers from the selected case were interviewed on what challenges the company faced as a Fintech firm of which the dominant challenge was regulation. This answers the question, as per the other literatures, all issues in table 4.3.5 were outlined.

Table 4.4

Fintech challenges	Frequency
Regulation	6
System downtimes	2
Integration challenges	2
Risk management	1

Source: Field Data, 2020

Lee and Shin (2018) discovered that, since Fintech is such a new technology, there is also a lack of studies on Fintech's social, regulatory, technical, and management facets. It makes it very difficult to make educated choices on the investment in Fintech ventures for financial institutions.

4.4 Discussion of results

Partnerships of Fintech with banks have been established with the results in this study to be the best initiative in the continual transaction of customers with the banks (customer retention). The results also proved that, majority of customers have embraced Fintech innovations and prefer them to the traditional banking way. In addition, Fintech further improves the quality of conventional banking methods and has shown an effort in evaluating quality service and customer satisfaction. Despite all the challenges Fintech face, there is still enough proof from other researchers concerning their influence in the banking sector.

Berger (2003) explores technical developments and their influences on the banking sector. According to him, the banks are in a position of dominance in the usage of IT and financial technology and therefore have a vast amount of data accessible which could be beneficial for the total knowledge of the impacts of technology advancement. His work indicates increases in diverse areas of the banking sector and advantages for customers. He indicates major

efficiency gains in financial products as regards greater quality and variety. However, he says that advanced technologies have undoubtedly managed to improve this services industry.

Adu (2018) shares that, speed, usability, availability and accessibility are primary factors in the financial services sector for customers worldwide since the early 2000's. Across Africa, the market for comfort banking has been otherwise restricted to a particular group of middle-class people living in capital city thus Accra, Lagos, and Nairobi etc. However, the current population is changing faster therefore economically disadvantaged African customers have actively campaigned and have been properly acknowledged as major users of financial products that need to be reliable, creative and available 24/7. He further shares that, the new generation of the African market choose not to wait in long queues in the physical banking halls, but instead using cell phones, portable electronic devices to access their banking services. In light of this, Fintech in Ghana must take the opportunity of the embrace of their technology by consumers and intensify their quality of service and satisfy them.

The challenges Fintech firms face from the results falls in line of other literatures which have been highlighted in the literature review. Regulatory challenges form a major part. In 2019, the Bank of Ghana in a notice to financial technology companies revised the licensing and authorization of payment service providers. It was announced that the advent of current payment sources, organizations like finance technology firms as well as the public adoption of digital payments included the implementation of the Payment Systems and Services Act, 2019 (Act 987) calling for legislative and regulatory arrangements System for structured operation of the payment system. The Bank of Ghana specifies the minimum capital requirements, allowable operations and fees for all types of financial technology firms in order to implement Act 987. Although Fintech offers a range of exciting possibilities, banks still deal with the obstacles it faces. Banks have to deals with other challenges Fintech firms face as well which may disrupt their daily operations. As they partner with Fintech there are also some considerations they need to make. The banks and Fintech must both ensure that they comply with the regulatory standards to avoid paying heavy penalties or loss of customers. Operationally, standard mechanisms must be implemented by Fintech firms to avoid daily disruptions of services which may lead to non-usage of the services by consumers. Carstens (2018) highlights on the challenge which is the potential risks of financial stability. Furthermore, large Money Market Funds may face structural threats, because they may be prone to shareholder attacks in the case of lack of credit or term. Therefore, because major tech companies invest consumer funds directly with banks, if they establish a counter financial network that the central bank does not adequately regulate, it may actually threaten financial stability and protect transfers from oversight by regulators who guard against criminal conduct, such as financial fraud (Carstens, 2018).

5.2 Conclusion and Recommendation

This research helps to boost the understanding of Fintech and their influence on conventional banking, by looking at how it impacts customer retention, customer satisfaction, customer service delivery and also bring awareness to the challenges faced by Fintech firms. Firstly, the research traces the incredible variety in Fintech literature yet relatively vague in the field of science which has generated strong empirical expertise. There seem not to be extent research works on financial technology in Ghana. However, in investigating the topic of Fintech's as an alternative enhancement to conventional banking ways, it was discovered that majority appreciated the innovations provided by the banks as a result of their partnership.

The researcher believes Etranzact as a Fintech company should understand and deal with active inertia so they are not taken by surprise. They should not be stuck in their past successes but rather build on them by providing more quality products and services. As time evolves, these innovations should be able to adapt to the system.

To banks, it is wise to embrace the idea that consumer expectations should be merged into the provided services or goods. Financially, this is smart because it is easier to satisfy and build stronger relationships with clients than to draw new ones, as the buyers retained produce even more revenue than new clients do as Kotler and Keller (2006) noted. In support of this, Banks and Fintech companies in partnership should fuse in customers' expectation when designing their products or upgrading them. There should be an avenue created to receive more feedbacks from customers on products and services as this would help produce what will delight the customer.

Fintech companies should intensify their training of staff in information security to aid protect the clients as well as the business. According to Bauer and Bernroider (2017), the existing digital market world suffers from numerous challenges to organizational records, technological infrastructure, and system software. A significant proportion of such security accidents originate from within the bank and therefore can be traced to human, unwelcome actions with the capacity to negatively impact the organization's sensitive information systems and properties. In this sense, information security is seen as a vital way of maintaining the quality, secrecy and credibility of an organization's information and associated properties and thus helps deter organizational failure incidents. In order for the Banks to still remain ahead in the competitive markets, there is the need for them to partner with the financial technology firms. Chan (2018) shares that, traditionally banks do everything for their consumers. What we are clearly seeing with technological development is that a lot of these Fintech firms are really focused on one issue statement which is to solve client issues thereby throwing all their resources towards addressing this that one issue. Fintech will also theoretically have a safer alternative, above all the Solution customer experience, than a bank can (Wubbe, 2018). The Government of Ghana should also create a supportive ecosystem for the Fintech firms. They however need to recognize them as an essential service provider and this would further forward the government digitalization agenda. In addition, Fintech companies have to expand operations and partners with newbies in order to accomplish their next milestone.

References

Adu, F., 2018. Why Fintech must work in Africa. *Development Finance Agenda (DEFA)*, 4(1), pp.16-19.

Agency Banking solution | Agency Banking services - JMR Infotech (2020). Available at: <https://www.jmrinfotech.com/products/banking/channel-banking/jmr-agency-banking/> (Accessed: 2 May 2020).

Al-Halawani, O., (2019). *The Impact of Fintech M&A on Financial Institutions' Post-Acquisition Performance*.

Alt, Rainer & Beck, Roman & Smits, Martin. (2018). *Fintech and the transformation of the financial industry*. *Electronic Markets*. 28. 1-9. 10.1007/s12525-018-0310-9.

Barba Navaretti, G., Calzolari, G. and Pozzolo, A., 2017. Fintech and Banking. Friends or Foes?. *European Economy—Banks Regulation and the Real Sector*, 2, pp.9-30.

Basias, N. and Pollalis, Y., 2018. Quantitative and qualitative research in business & technology: Justifying a suitable research methodology. *Review of Integrative Business and Economics Research*, 7, pp.91-105.

Bauer, S. and Bernroider, E.W., 2017. From information security awareness to reasoned compliant action: analyzing information security policy compliance in a large banking organization. *ACM SIGMIS Database: the DATABASE for Advances in Information Systems*, 48(3), pp.44-68.

BCBS, B., o. BS (2017). *Sound Practices: Implications of Fintech developments for banks and bank supervisors*.

Berger, A.N., 2003. The economic effects of technological progress: Evidence from the banking industry. *Journal of Money, credit and Banking*, pp.141-176.

Chen, M.A., Wu, Q. and Yang, B., 2019. How valuable is Fintech innovation?. *The Review of Financial Studies*, 32(5), pp.2062-2106.

Chen, Z., Li, Y., Wu, Y. and Luo, J. (2017). The transition from traditional banking to mobile internet finance: an organizational innovation perspective - a comparative study of Citibank and ICBC. *Financial Innovation*, [online] 3(1), p.12. Available at: <https://jfin-swufe.springeropen.com/articles/10.1186/s40854-017-0062-0> [Accessed 15 Oct. 2019].

Chen, Z., Li, Y., Wu, Y. and Luo, J. (2017). The transition from traditional banking to mobile internet finance: an organizational innovation perspective - a comparative study of Citibank and ICBC. *Financial Innovation*, [online] 3(1), p.12. Available at: <https://jfin-swufe.springeropen.com/articles/10.1186/s40854-017-0062-0> [Accessed 15 Oct. 2019].

Cia.gov. 2020. *Africa :: Ghana — The World Factbook - Central Intelligence Agency*. [online] Available at: https://www.cia.gov/library/publications/the-world-factbook/geos/print_gh.html [Accessed 17 May 2020].

Collis, J. and Hussey, R., 2003. *Business Research Pal grave Macmillan: Basingstoke*.

Coughlan, M., Cronin, P. and Ryan, F., 2009. Survey research: Process and limitations. *International Journal of Therapy and Rehabilitation*, 16(1), pp.9-15.

Das, S., 2019. Opportunities and challenges of Fintech. *Keynote Address Delivered at NITI Aayog's Fin-Tech Conclave, New Delhi*, 25(3), p.2019.

Drummer, D.; Jerez, A.; Siebelt, P. & Thaten, M. (2016) *Fintech—Challenges and Opportunities: How Digitization is Transforming the Financial Sector*. Dusseldorf: McKinsey.

Etikan, I., Musa, S.A. and Alkassim, R.S., 2016. Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, 5(1), pp.1-4.

Frimpong, J.M. (2010). 'Investigating efficiency of Ghana banks: A non-parametric approach', *American Journal of Scientific Research*, vol. 7, pp. 64–76.

Hankin, D.G., 1984. Multistage sampling designs in fisheries research: applications in small streams. *Canadian Journal of Fisheries and Aquatic Sciences*, 41(11), pp.1575-1591.

Hayashi, Y., 2016. CFPB fines Fintech firm Dwolla over data-security practices. *The Wall Street Journal*, p.C4.

Hu, Z., Ding, S., Li, S., Chen, L. and Yang, S., 2019. Adoption intention of Fintech services for bank users: An empirical examination with an extended Technology Acceptance Model. *Symmetry*, 11(3), p.340.

Igbaria, M., Guimaraes, T. and Davis, G.B., 1995. Testing the determinants of microcomputer usage via a structural equation model. *Journal of management information systems*, 11(4), pp.87-114.

Kazdin, A.E., 2016. *Methodological issues and strategies in clinical research*. American Psychological Association.

Kotler, P. and Keller, L., 2006. K.(2006). *Marketing management*, 12.

KPMG (2017), *The Pulse of Fintech Q4 2016 Global Analysis of Investment in Fintech*, KPMG, Amstelveen.

KPMG. 2018b. Global Fintech investment soars to record US\$57B in first half of 2018. *The Pulse of Fintech* 2018, July 30.

-
- Kruger, P. (2020) *The Goldilocks Theory of Fintech | Moonstone, Moonstone.co.za*. Available at: <https://www.moonstone.co.za/the-goldilocks-theory-of-fintech/> (Accessed: 29 April 2020).
- Lee, I. and Shin, Y.J., 2018. Fintech: Ecosystem, business models, investment decisions, and challenges. *Business Horizons*, 61(1), pp.35-46.
- Lee, M.C., 2009. Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic commerce research and applications*, 8(3), pp.130-141.
- Singh, Y.K., 2006. *Fundamental of research methodology and statistics*. New Age International.
- Venkatesh, V. and Davis, F.D., 2000. A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science*, 46(2), pp.186-204.
- Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D., 2003. User acceptance of information technology: Toward a unified view. *MIS quarterly*, pp.425-478.
- Wingard, L. (2019) *Top 10 Banking Industry Challenges — And How You Can Overcome Them, Hitachi Solutions*. Available at: <https://us.hitachi-solutions.com/blog/top-5-challenges-banking-financial-organizations-can-overcome/> (Accessed: 25 April 2020).
- Wonglimpiyarat, J., 2017. Fintech banking industry: a systemic approach. *foresight*, 19(6), pp.590-603