
The Impact of Financial Technology on Banking Performance: A study on Foreign Banks in UAE

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Abstract

Purpose: Fintech includes electronic payment services such as virtual currencies, funding, financial advisors and bots. The bank has developed a system dedicated to supporting Fintech technologies and supporting small businesses to enable them to serve the community, develop the national economy, and create new jobs and investments. The project objective is to test the relationship between FinTech and Banking performance in UAE.

Methodology/ Design/ Approach: This research used a quantitative method. The population of this research was banking who are currently in UAE with a sample size of 19 banks. The impact of Fintech on banking performance in UAE is investigated in this research.

Findings: The project results show a significant and positive relationship between the Fintech was positively significant about ROA. On the other hand, the finding showed that Fintech was positively significant about ROE. This finding indicate that Fintech has positive and significant effect on bank performance (ROA, ROE).

Practical Implications: As the information contents of annual reports improve the usage of Financial Technology services, the implications of this study result in better-informed judgments for investors. This presents an opportunity for inventors and innovators to emerge because banks will want to increase the performance of the bank, so they will use financial technology for their services. It will also give customers the opportunity which bank is better to open an account in it Banks will be encouraged to use financial technology, because the more it is used, the more customers will turn to the bank, and the bank's performance and profits will increase.

Originality/value: This study is one of the first to be conducted in the UAE. It has brought to the body of knowledge a new conversation about Fintech and its relevance to banking performance. Furthermore, undertaking such accounting research provides new insight about Fintech between developed and emerging economies, such as UAE. Keywords: Fintech, Banking Performance.

Keywords: FinTech, Banking Performance, Foreign Banks, UAE.

1. Introduction

Fintech is defined as any financial service or financial management which is based on technology in which it aims to provide innovation in financial services (Puschmann, 2017). It includes financial applications and electronic software. As an illustration, using electronic payment applications such as Apple Pay, PayPal and Google Wallet is considered to be a part of Fintech (Dhar & Stein, 2017). Fintech includes electronic payment services such as virtual currencies, funding, financial advisors and bots. It aims to offer new or existing financial products and services which result in enhancing security aspects reducing expenditures, and improving financial inclusion which leads to stimulating economic growth and financial development (Mention, 2019). Fintech is extremely diverse and as a result of its diversity, a lot of forms appeared that are a part of Fintech. Examples of Fintech forms are Blockchain, Ethereum, Bitcoin and Cryptocurrency (Thakor, 2020).

This modern industry consists of companies that use technology to serve the payments sector. In addition, Fintech companies are generally startups that aim to challenge traditional companies which depend less on technology and software (Goldstein, Jiang & Karolyi, 2019). Fintech started appearing after the global financial crisis in 2008. It was marked as a turning point in the financial sector because of subsequent bank bailouts and banker corruption scandals. After that, experts and consumers began to question the future of traditional banking in which studies have demonstrated that only 26% of the population internationally trust banking institutions (Vives, 2017). As a result, Traditional banks have begun to retreat compared to Fintech companies because 350,000 employees were reduced in four of the largest banks in the United States of America and Britain over the past seven years. The world decided to turn to Fintech because of many reasons. For example, it provides solutions, and it produces financial products controlled by banks, such as remittances and business credit cards (Chen, Wu & Yang, 2019). Moreover, it creates attractive alternatives and user-friendly digital destinations.

Despite the rapid growth of the Fintech field, it is still a relatively new idea in the Middle East region (Zalan & Toufaily, 2017). When Baides launched the Bridge app in 2015, his biggest challenge was trying to educate the industry, particularly venture capitalists, about the importance of Fintech in a mature business environment. In this area, the use of Internet banking, credit cards and alternative payment systems is reasonably popular, but studies indicated that 85% of consumers in Middle East still prefer to pay through cash on delivery (Gai, Qiu & Sun, 2018). The Central Banks ensures to encourage emerging companies and entrepreneurs to innovate and introduce modern financial technologies to serve the consumer while ensuring the security of his or her personal information and money (Echchabi, Omar, Ayedh & Sibanda, 2021). Is to encourage innovative financial solutions while maintaining the security and confidentiality of the information of users or customers. Banking has developed a system dedicated to supporting Fintech technologies and supporting small businesses to enable them to serve the community, develop the national economy, and create new jobs and investments (Kheira, 2021). Fintech technologies, especially after the spread of the Corona pandemic, take multiple and renewable forms and started to enter the lives of individuals faster. In the past, Fintech technologies focused only on reducing costs for banks and providing better

services in addition to expanding the user base for financial transactions. Fintech and financial technologies in general provide great opportunities for innovation and community service, especially with the presence of high percentages of youth and phone users.

In recent decades, the fast expansion of the digital economy has accelerated financial system transformation processes at both the national and global levels, resulting in the financialization of the global economy. (Zveryakov, Kovalenko, Sheludko, & Sharah, 2019). The current COVID-19 problem has boosted demand for digital services (Boot, Hoffmann, Laeven, & Ratnovski, 2021). Technology-driven firms are still developing digital innovation, which has prompted a lot of interest in its application in banking and finance (Ya, 2020). Faced with the rapid growth of financial technology and the related risks, all countries are reviewing their regulatory frameworks (Deng, Lv, Liu, & Zhao, 2021). There are many risks and lacks facing the Fintech, among these risks and lacks: difficulty in policies and procedures to give more flexibility in Grant and funding start-ups, particularly in the Fintech field (Echchabi, Omar, Ayedh & Sibanda, 2021). The issue emerges when digital disruption has an influence on the bank's business models as a result of changing client habits, with extra consequences for traditional businesses (Siek, & Sutanto, 2019). The advancement of information technology and the competitive pressure of Fintech businesses have an impact on bank stability, and banks must evaluate their competitive advantage to adapt to the new reality (Deng, Lv, Liu, & Zhao, 2021). Thus, the main objective of this research is to determine the relationship between Fintech and banking performance in UAE.

2. Literature review

The previous studies will cover studies for the last five years. For example, Echchabi, Omar, Ayedh and Sibanda (2021) their study about the existing Fintech start-up financing practices and opportunities in the Sultanate of Oman, particularly in Islamic financial institutions. Their study used the qualitative methods when doing the depth interviews with eight of managers of Islamic banks' managers in sultanate of Oman. The results show that the IFIs (Islamic Financial Institutions) are positive relate the prospects of outcome and success of Fintech in sultanate of Oman. In addition, Abdeldayem, and Al Dulaimi (2020) their studies are on the way to reach a good rate of education related to financial technology (Fintech) and spread the culture of financial technology, especially in the (GCC) Gulf Cooperation Council, and spread it to reach good research related to financial technology. They used secondary data in their research to reach good results. The result is that there are many researches in the Gulf Council countries in financial technology, which, if applied, would be a good turning point for financial institutions. Also, Ntwiga, (2020) his study is about if the merger in the Fintech and the bank has impact efficiency and positive on the banking sector. In his study, he takes 5 data from the financial statements of banks from 2009-2018 and divides it into two periods before the use of Fintech from 2009-2014 and the period of using Fintech from 2015-2018, and studies the effects of the impact of Fintech on financial transactions in these two periods .The result is that a positive and effective effect was found in the cooperation between Fintech and banks, and that the efficiency of banks increased during the period in which Fintech was used. Fintech has an impact of firm performance and several prior work have put more attention on measuring several element have impact on firm performance, for example ((e.g., Alabdullah, 2021;

Alabdulah et al, 2018; Alabdullah, 2019; Alabdullah et al., 2016; Abushammala, et al., 2015; Alabdullah et al., 2021; Alabdullah, 2013; Alabdullah et al., 2014; Alabdullah, 2016; 2018; Alabdullah et al., 2018; Alabdullah, 2019; Kanan et al., 2022; Alabdullah, 2022; Alabdullah et al., 2021; 2019; Alfadhel et al., 2013; Amashhadani and Amashhadani, 2020; Almashhadani, 2021; Kanan 2012; Kanan et al., 2014; Kanan et al., 2015; Kanan et al., 2022; Ahmed et al., 2015; Almashhadani, 2021; Nor et al., 2020; Nor, 2012, Nor, 2015; AL-Fakhri and Alabdullah, 2021; Alfadhel et al., 2016; 2018; Ahmed et al., 2020; Amashhadani and Amashhadani, 2012; Alabdullah, 2022).

According to Ebrahim, Kumaraswamy and Abdulla (2021) their study of the things that Fintech will use in the banking department and how to deal with the challenges that may occur in the future, and the risks that may occur. The results of their study show that Fintech is much better than doing traditional transactions, because it provides easier services to users and has more information preservation and more effectiveness. Sheng (2021) his study on the impact of financial technology (Fintech) on the ability of banks to complete their work and the change in the provision of credit services to institutions, in his study, he used the method of analyzing financial statements and records in banks in the period 2011 to 2018. The results are that (Fintech) financial technology facilitates obtaining credit from banks to institutions, and Fintech helps in developing small banks. Moreover, Wang, Liu, and Luo (2021) their studies, they research the risks that occur in the banking sector from the use of FinTech. They used unbalanced data in 2011-2018 from the bank to measure the development of Fintech in the bank. The result the risks in banks increase in the period of using Fintech, as the relationship between them is in a U-shape, which means that the use of Fintech is intensive and then weakens the ability of banks to take risks, and also banks become more sensitive. As per Alwi, (2021) his study, he mentioned that Fintech helps us to complete our banking business while we are at home, and it affects the banking business and studies many study variables in the bank. He used the method of studying major changes in banks, such as share price, profit and loss, as this information was collected from the largest banks in many countries in the period 2015-2019. The result is that there are positive effects on banks' profit, and the stock price continues to change for the better. On other hand, Boot, Hoffmann, Laeven, and Ratnovski, (2021) their study of impact of technology on financial intermediation, and there are several information and innovations that help in the processing of data and information in banking institutions. Their study used to review recent innovation studies and collected AI and data galore. The result shows the disintegration of the old banking business system and led to the emergence of modern technology used in banking in the Sultanate of Oman, and this helped in the development of finance in the Bank. Also, Deng, Liu, and Zhao, (2021) their study focuses and is concerned with identifying risk behavior in banking institutions, their study used they reviewed one of the most important ways to mature financial technology. The results show indicators, including the Urban the Urban Innovation Index, which is like a fundamental change with the problem itself. Kheira (2021) his studied a new plan to access banking services at an appropriate amount for people who do not deal with banking institutions, their study used They reviewed to encourage medium and small banks in raising the efficiency of banking technology. The result show is to encourage and raise government competencies in operations by strengthening the digital economy and technology.

According to Alexander, Shi and Solomon (2020) their study examines and investigates the growth and spread of Fintech in Africa. The study has Africa reached a relatable high rate of the number of adults that use financial technology services in which the rate reached 12% in 2019. Furthermore, the study demonstrated that the use of Fintech has increased in the rural areas over the years. In addition, it was illustrated that 39 countries in South Africa uses mobiles services for money transfer. As an illustration, the rating of bank transfer done through M-pesa system increased from 19% to 58% between 2007 to 2015 and peaked at 80% in 2019 in Kenya. Another study was conducted by Makina (2020) to research the role of Fintech in the sector of banking. The research demonstrated the achieved merits of using financial technology in Africa. Fintech succeeded in replacing traditional banking and financial services in which it contributed to improving financial inclusion. For example, the financial inclusion density increased in which it was found in only three banks in 2010 but the number increased to six branches in 2019. For example, the indicator of financial inclusion went up from 21% in 2006 to 65% in 2018 in Rwanda. Additionally, Eltweri (2020) his study about the impact of financial technology services on the efficiency of financial performances. He states that financial technology challenges the traditional structures of financial services and works to improve them and raise the degree of their efficiency. This innovation includes transforming all aspects of providing essential functions of the financial sector such as risk sharing payment settlement, facilitation of borrowing and savings, and capital allocation. Furthermore, Fintech completes other non-financial technologies and promotes innovation and creativity proposed by the government which therefore leads to economic growth and development. For example, Fintech provides farmers with information about the weather and market and helps to the decision making in regards of the place and time of farming and place of selling the products. For example, the application "Tigo Kilimo" is designed to send updated information in the form of notifications about the weather and farming. Zarrouk, Ghak and Bakhouche (2021) conducted a study to investigate the roles that determine the growth of financial technology. The findings indicated that there are three definite factors. First, the costumer's attitude in which the positive shift in costumer's attitude towards digital services is clear because they view Fintech to be convenient and easy. Second, low fees and cost in which Fintech offers lower expenses. Third, high restrictions in which small companies may face some challenges and difficulty to use Fintech because of complicated bank loans. Ng and Kwok (2021) conducted a study to examine the relationship between financial technology and cyber security. The resulted demonstrated that between one and three Fintech applications are used by 40% of consumers worldwide. However, just half of them have security software on all their personal devices. Moreover, the findings indicated that only 22% of consumers worldwide can be classified as "fintech adopters," using four or more fintech applications. Among FinTech users, 63% of the users protect all their devices with security software.

Zalan and Toufaily (2021) conducted a study to examine Fintech in the Middle East. The study indicated that there are potential risks of application of Fintech in banking operations. For example, there are risks that occur from the internet because of security issues in which electronic banking applications and accounts are prone to be hacked. Moreover, risks include operational management on the part of service providers and their three parties in which monitoring methods must be increased and enhanced between all parties. Finally, unexpected

events occurring in the market are unpredictable in which an overreaction following a sudden market event can lead to serious liquidity and financial capacity problems for Fintech companies and financial institutions. Likewise, Pollari (2021) researched the importance of financial technology. The study indicated that small and big companies stated that they prone to the economic side effects of the "Covid-19" such as the increase of operating costs due to disruption of the chains sourcing and the need to diversify customer base and suppliers. However, Fintech has helped small Enterprises to overcome such challenges. That is because Fintech offers electronic payment which helps to keep the distance and safety among people during the pandemic. Moreover, consumers and business owners prefer electronic payment because of low costs and fees. Besides, Vives (2017) conducted a study to investigate the impact of Fintech companies on banking and finance. The research demonstrated that fintech startups aim to be a threat, a challenge, and ultimately to wrest the market away from traditional and established financial service providers by being smarter, serving an underserved segment or serving in a faster and better way. For example, "Affirm" company aims to prevent the use of credit card companies in online shopping by providing a way for consumers to secure instant and short-term loans for purchases. Subsequently, Weber (2020) investigate how companies compete in the banking and finance factor. For instance, his research showed that "GreenSky" company aim to provide a connection between home improvement borrowers and banks by helping consumers to avoid established traditional lenders and save interest by offering interest-free promotional periods. Furthermore, "Tala" company provides consumers in the developing countries with microcredit by performing a deep search of data on their smartphones for their transaction history and seemingly unrelated things like through the mobile games installed on the mobile phones. Correspondingly, Casu (2020) conducted a study and one of the findings was that Fintech has several risks proven by some incidents. For example, Zenefits, a San Francisco-based health insurance firm valued at more than \$1 billion in private markets, has violated California insurance rules by enabling unlicensed brokers to sell and underwrite its plans. The SEC fined the corporation \$980,000, while the California Department of Insurance Regulatory ordered the company to pay \$7 million

The Relationship between Fintech and Banking Performance

Echchabi, et al., (2022) the IFIs (Islamic Financial Institutions) are positive relate the prospects of outcome and success of Fintech. Also, Ntwiga, (2020) there is a positive relationship between Fintech and banks, and that the efficiency of banks increased during the period in which Fintech was used. Moreover, Sheng (2021) the (Fintech) financial technology facilitates obtaining credit from banks to institutions, and Fintech helps in developing small banks. In addition, Alwi (2021) there are positive effects on banks' profit, and the stock price continues to change for the better.

Wang, et al., (2021) the risks in banks increase in the period of using Fintech, as the relationship between them is in a U-shape, which means that the use of Fintech is intensive and then weakens the ability of banks to take risks, and also banks become more sensitive. Ebrahim, et al., (2021) the Fintech is much better than doing traditional transactions, because it provides easier services to users and has more information preservation and more effectiveness. Furthermore, Pollari (2021) Fintech offers electronic payment, which helps to keep the distance

and safety among people during the pandemic. Moreover, consumers and business owners prefer electronic payment because of low costs and fees. On other hand, Li, Spigt, and Swinkels (2017) they found a positive relationship between financial technology and the returns and profits of banks when using it. Likewise, Alkhazaleh, and Haddad (2021) there is a positive relationship between them, as customer satisfaction increases in the bank after using financial technology. In addition, Hornuf, Klus, Lohwasser and Schwienbacher (2021) the financial technology affects the banks well, as the banks sign agreements with financial technology companies to develop their programs. Thus, the hypothesis developed is:

H1: A positive relation between Fintech and banking performance.

3. Research Methodology

This is a quantitative cross-sectional study in which quantitative data is gathered through secondary sources. Banking Performance is the study's dependent variable, while the factors that influence Fintech are known as independent variables. The population of this study were 26 Foreign Banks who are currently in UAE.

The current study used a wide variety of measurements to assess its chosen variables in Fintech and Banking Performance. The measure for each variable is shown below:

Table 1: Summary of variables measurements

Variables	Measurement
FinTech	Number of FinTech disclosure
Return on Asset	Net Income After Taxes / Total Assets
Return on Equity	Net Income After Taxes / Total Equity

The data is examined using Structural Equation Modeling (SEM) with a Partial Least Square (PLS) technique in this study.

Descriptive Statistics

The dependent variable, Banking Performance (ROA), had a mean of 4.881, a standard deviation of 13.440, and lowest and maximum values of 0.075 and 50.436, respectively, according to the descriptive statistics produced. Also, the mean was 2.506, with a standard deviation of 9.854, and the minimum and maximum values were 0.009 and 44.193, respectively, for Banking Performance (ROE). Furthermore, the independent variable Fintech has a mean of 3.684 and a standard deviation of 2.451, with lowest and maximum values of 1.000 and 9.000, respectively.

Table 2: Descriptive Statistics of Variables

	Mean	Min	Max	Standard Deviation
Fintech	3.676	3.000	8.000	2.443
Return on Assets	4.850	0.065	50.424	12.432
Return on Equity	2.511	0.019	44.167	9.823

Discriminant Validity

Standards are used in PLS for assessing the Special validity. Every AVE's square root must have a high level of correlation for each component. Other structures are included. To cope with discriminant validity, Fornell & Larcker (1981) suggest comparing the square root of each construct in its AVE to the constructions' correlations for all other constructs.

Table 3: Discriminant Validity

	Fintech	ROA	ROE
Fintech	1.000		
ROA	0.342	1.000	
ROE	0.417	0.542	1.000

R Square

The structural model was evaluated after analyzing the measurement model and passing all criteria. The coefficient of determination (R^2) is checked. In this work, the variable that is the banking performance has an R^2 value of 0.143 (ROA), 0.166 (ROE) indicating that 14.3%, 16.6% of the contrast in bank performance (ROE and ROA) that can be elucidated by the predictor: variable was used in this research Fintech.

Table 4: Explanation of the Variance

	R Square	R Square Adjusted
Return on Assets	0.143	0.073
Return on Equity	0.166	0.124

Hypothesis Testing

Table 5 shows the results from the hypothesis testing, where it was found that all hypothesis supported. The result revealed that the Fintech was positively significant about ROA, with $P < 0.018$, $t = 2.332$. This finding indicates that Fintech has a significant effect on performance (ROA). On the other hand, the finding showed that Fintech was positively significant about ROE, which was $P < 0.004$, $t = 2.951$. This finding indicates that Fintech has a significant effect on performance (ROE).

Table 5: Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values	Results
Fintech> Return on Assets	0.352	0.472	0.151	2.332	0.018**	Supported
Fintech> Return on Equity	0.418	0.465	0.142	2.951	0.004**	Supported

Note: Significance levels: *** $P < 0.001$ ($t > 3.33$), ** $p < 0.01$ ($t > 2.33$), * $p < 0.05$ ($t > 1.605$)

Impact of Fintech on banking performance

For a full literature review survey, a theory was built logically to characterize the link between variables. The research hypotheses are then improved to address the study's research questions. During this investigation, a total of 26 annual reports were successfully collected. The results of the hypothesis testing revealed that all of the hypotheses were supported. The Fintech was shown to be positively significant in terms of ROA, with a $P0.018$, $t = 2.332$. Fintech has a considerable impact on performance, according to this report (ROA). Fintech, on the other hand, was found to be positively significant in relation to ROE ($P0.004$, $t = 2.951$). Fintech has a considerable impact on performance, according to this report (ROE). This finding is consistent with Ntwiga's (2020) prior research, which demonstrated a strong link between Fintech and banking performance. Also, according to another study conducted by Ebrahim, et al., (2021), Fintech has a considerable impact on banking performance and is more successful than traditional transactions. In addition, Alkhazaleh and Haddad (2021) discovered a strong correlation between Fintech and customer happiness and banking performance.

4. Conclusion

The banks' results and statistics were viewed by searching for them (Return on Assets and Return on Equity). The banks' validity was tested, the criteria were applied, and a high correlation level was built in the banks to deal with the distinct validity. Hypotheses and results for the Fintech of Banking performance also came to us as positive and noteworthy.

This study discovered that Fintech has had a favourable impact on the banking performance of Foreign Banks in UAE. In addition, this study found that as the quantity of electronic financial services supplied to customers grows, so does the quality and performance of banks.

Recommendation

Many recommendations for future research are included in this paper. This study first looked at the direct relationship between Fintech and banking performance. This research focuses on the direct relationship between Fintech and Banking performance. There is some lack of Financial Technology service provided in some banks in UAE therefore, it is preferable to develop and increase a greater number of electronic financial services. For making electronic financial services easier and simpler for use by all segments of society and in different languages suitable for everyone in the country. Third, encourage customers to use Fintech in banks and introduce them to it. Fourth, it may add to inventors and investors from companies and individuals with technological expertise to invent electronic financial applications used by banks.

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