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Impact of financial technology (fintech) on traditional banking

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Abstract
With the development of financial technology, the Chinese government deregulated the banking industry. The impact on traditional banks has been questioned since the first bank to operate exclusively online was established in 2014. Before (2009-2014) and after (2015-2018) the advent of online-only banking, we looked at two different time periods. During these periods, we evaluated the efficiency and performance variations among 20 banks using regression and data envelopment analysis approaches. Fintech, which stands for financial technology, is the term used to describe the use of technological innovations for the financial services sector. Applications like as mobile payments, money transfers, loans, asset management, and fundraising are all included in this. Global investment in fintech has recently increased and is predicted to continue growing because it is applicable to financial services as well as any business that deals with the financial sector. Often creative, fintech firms have the potential to upend traditional finance and spur quick innovation. Traditional financial services can be improved by using technology to make them faster and easier to access. This is known as fintech. Startups typically create these solutions with the goal of enhancing corporate and retail banking, frequently working alongside or going up against more established financial institutions. The idea and significance of financial technology, as well as how banks and financial technology businesses profit from their current collaboration, are all covered in this article.

Keywords: Information systems, banks, financial technologies, and financial services

Introduction
Rapid technology improvements in Indonesia have had a profound impact on a number of industries, causing the nation to shift from a traditional to a digital era. As a result of these advancements, people may now more easily obtain information, use technology to better suit their requirements, and finish work via a variety of digital platforms. A prominent domain impacted by this technological expansion is financial technology (Fintech), which combines technology and financial services. Traditional financial institutions are frequently challenged by fintech firms, which concentrate on creating cutting-edge financial services and solutions (Hadad, 2017). Utilizing technology-driven financial systems, fintech seeks to develop new goods, services, technologies, or business models. This innovation improves overall financial system reliability, payment system efficiency and security, and monetary stability (Bank Indonesia, 2020). Regulations such as Indonesian Bank Order Number 19/12/PBI/2017 were implemented to prevent potential dangers to the financial system and to regulate the expansion of Fintech. Additionally, in order to ensure all digital financial innovations are responsibly handled and emphasize customer safety, the Financial Services Authority (OJK) developed Regulation Number 13/POJK.02/2018. Fintech has rapidly spread throughout Indonesia; the number of businesses rose by 78% between 2015 and 2016. It Indonesian Banking and Finance Association estimates that as of November 2016, there were 135 to 140 local Fintech businesses. The payment services industry employs 43% of them, and banks (17%), aggregates (13%), fundraising (8%), along with private finance planning (8%), at close intervals. In Islamic banking, Fintech's growth opens up new opportunities. The government has facilitated the expansion of Islamic banks and their competition with conventional banks by simplifying regulations such as licensing processes. Fintech companies are partnering with many Islamic banks to improve their financial performance, boost their credibility, and attract new customers. When evaluating financial performance, ratios such as money, activity, solvency, and profitability are helpful in figuring out a bank's

success and level of investor confidence.

Fintech: Impact on indian financial services industry

Fintech has slowly but benevolently transformed the complete financial products and payments sector, with its customized solutions, foundational assistance, and significant breakthroughs in areas such as credit management, insurance, and education. With 240 million smartphones, 330 million internet users (94 percent of whom use cellular devices), and more than one billion cell phones, India is rapidly turning into a digital economy, according to the Deloitte & CII Vision 2020 research. India is becoming a thriving environment that offers finance startups a platform to grow into billion-dollar unicorns. Indian fintech companies have a variety of objectives, ranging from breaking into new industries to expanding into foreign markets. Over the past few years, Indian Fintech has grown significantly. In India, the fintech sector software market is expected to reach a value of USD 2.4 billion by 2020, up from its present size approximately USD 1.2 billion, according to NASSCOM. Increasing effort, enhancing customer experience, lowering operational frustration, and enabling enhanced channel reception and utilization are some of the fundamental problems impacting Indian money-related services that Indian Fintech companies could help with. New Fintech companies should have a preferable position in the traditional banks' and fixed cost models and heritage-inclined architecture of financial institutions as banks turn to these more creative and adaptable new businesses. Fintech has the ability to affect changes over time in the financial industry, increase market share, and enhance client behavior. The following areas of fintech are promising for growth: There are three ways that Indian Fintech businesses could revolutionize the financial services industry: Fintech should develop remarkable and inventive risk assessment tools. Increased access to financial services in India would result from the use of vast amounts of data, in-depth education, and optional knowledge to ensure credit and create FICO ratings for clients with weak credit histories. Fintech companies are trusted to improve financial services quality and reduce expenses. Customers can benefit from less fatty working models by not having to deal with inheritance tasks, expensive physical systems, and IT frameworks. 193 Financial Services in India: The Effect of FinTech.

Purpose of the study

The study aims to investigate the impact of Fintech on traditional banking establishments with a particular emphasis on the following goals: Examine how Fintech has changed the way that banks do business as well as the methods that banks are using to adopt new technology. Investigate the benefits and difficulties that Fintech offers conventional banks, especially in relation to customer service, competition, efficiency, and regulatory compliance. Examine cooperative approaches between traditional banks and Fintech companies to learn how these alliances improve customer satisfaction and advance financial inclusion. Examine how the expansion of banking services to underserved populations, especially in emerging nations like India, has helped to promote financial inclusion through financial technology. See how Fintech will continue to influence the financial sector and look at future banking trends in the larger context of digital transformation. The competition is heightened by fintech firms, which provide services more quickly, easily, and frequently at a lower cost than traditional banks. Because of this, traditional banks are being forced to modernize by offering more tech-driven, customer-focused services, despite their limitations due to antiquated infrastructure and slower innovation. Customers now have different expectations because of the convenience that Fintech solutions like digital wallets, smartphone apps, and customized financial products offer. In response, traditional banks are funding digital transformation projects and improving the client experience with services powered by AI, automation, and mobile banking. Instead of directly competing, many traditional banks are partnering with Fintech companies. As a result, banks are able to improve their digital capabilities, lower operating expenses, and provide more services. These collaborations benefit banks as well as Fintech companies. Fintech has increased underbanked and unbanked people's access to financial services, especially in developing countries like India. By using e-wallets peer-to-peer finance, and mobile banking to reach areas without traditional banking infrastructure, Fintech helps to increase financial inclusion.

Significance of the study

The importance of this report lies in its comprehensive understanding of how Fintech is transforming the conventional banking business as well as the broader financial services sector. The main contributions this research consists of: Recognizing the Banking Disruption. The study will show how traditional banking operations have been impacted by Fintech innovations, forcing banks to adjust to a quickly evolving financial ecosystem. Policymakers, stakeholders, and financial institutions can more accurately evaluate the potential and problems presented by Fintech by analyzing the extent and impact of these disruptions. Using the study's findings, traditional banks that could find it challenging to stay up with Fintech innovations might identify areas for improvement, including operational efficiency, customer experience, and technology. For banks hoping to maintain their competitiveness in a time when Fintech is taking over, this report provides a road map. Promoting cooperation between banks and fintech. Understanding how collaborations between Fintech businesses and traditional banks might result in mutual benefits will be possible thanks to the study. It will include information about how these partnerships help both industries by promoting innovation, cutting expenses, and improving customer service. Encouraging the inclusion of people in the financial process. This study emphasizes Fintech's critical role in encouraging financial inclusion through an analysis of how it has extended financial services to underbanked and unbanked people, particularly in emerging nations like India. Governments and financial organizations will be able to develop policies that promote greater access to banking services with the aid of the insights. The swift growth of Fintech presents issues with consumer protection, security, and regulation. In order to balance innovation and customer safety, the study's conclusions will provide policymakers with insightful suggestions on how to create an atmosphere that is favorable to both traditional banks and Fintech companies. In view of Fintech's impact, the study will also investigate the financial

sector's future course. Financial institutions and stakeholders may achieve long-term success in the changing digital landscape and keep ahead of emerging trends by foreseeing prospective developments in banking.

Research Objectives

- To Examine Shifts in Consumer Conduct
- To be aware of how competitive dynamics affect
- Assess the efficiency of operations
- Examining the Regulatory Consequences

Literature Review: Financial technology, or fintech, is a critical innovation in the financial sector (Rumondang, Sudirman, Effendy, Simarmata, & Agustin, 2019) [22] since it is simple to design, promotes a fair economy, has profitable and supportive regulations, and provides comprehensive and actionable information. The World Bank describes fintech as a sector made up of different businesses that use technology to improve financial systems and services with the goal of increasing efficiency. This is in line with the definition provided by Anindyastri *et al*.

Financial Performance

A measure of a company's effectiveness in allocating its financial resources is its financial performance. According to Pohan (2017) [23], it is imperative that businesses in the financial industry exhibit efficacy and efficiency in their operating activities. Understanding financial performance facilitates decision-making and the creation of policies for businesses by enabling them to assess the costs associated with their operational activities.

Islamic Banking

Modern banking based on Islamic principles has evolved into Islamic banking, which emphasizes risk-sharing and forbids interest. Through the avoidance of usurious transactions, Islamic banking seeks to raise awareness among Muslims about adherence to Sharia law and cultivate public confidence in its legitimacy in the financial realm.

Financial Ratios

The links between the components of financial accounts can be found and explained using financial ratios, which are analytical tools. Among these are ratios of profitability, solvency, activity, and liquidity. In particular, profitability ratios evaluate the efficacy of management and gauge a company's capacity to turn a profit. ROA, or return on assets, is the financial ratio used in this study.

Mobile Banking's Effect on Financial Performance

Customers are drawn to mobile banking because of its various features that facilitate smartphone transactions. A spike of transactions between customers through mobile banking can make Islamic banking's financial performance better. With the number of transactions occurring through mobile banking, Islamic banks are likely to see a rise in their earnings. Thus, mobile banking greatly enhances Islamic banking's financial performance. Thus, the first hypothesis is that mobile banking significantly enhances financial performance (H1).

How Online Banking Affects Financial Performance

Customers who use internet banking services can conduct transactions using a variety of internet-connected devices. Islamic banks' financial performance can be improved by more people using their online banking services. Internet banking significantly improves financial performance, according to studies. The second hypothesis, then, is: H2: Financial performance is much improved by Internet banking.

Impact of SMS Banking on Financial Performance

Without having an internet connection, SMS banking makes it possible to perform tasks like bill payment, balance queries, and inter- account transfers. With more consumers using SMS banking features, banks' financial performance may improve. According to earlier studies, financial performance is positively impacted by SMS banking.

Research Methodology

Research Design

Information Type and Source As quantitative-descriptive research design was employed in this study, and Bank Syariah Indonesia (BSI) served as a case study. With IDR 247.3 trillion in assets as of June 2021, BSI is the biggest Islamic bank in the nation, having merged BSM, which is, BRIS, and BNI Syariah. The study object was chosen with this information in mind. The total funds of Islamic banking are 40.1% represented by a portion of these assets. With tier 1 core capital of IDR 22 trillion, Bank Syariah Indonesia (BSI) is the biggest branch within Indonesia's Islamic banking industry. We used secondary data to measure financial ratios such the Central African Republic, Return on Asset, Return on Equity, BOPO, and FDR.

Variable of Research

A fintech service, which includes online, mobile, text, and phone banking, is the individual variable in this study. The value of a bank is one when it uses only one form of technology service in a year, and two when it uses multiple kinds of fintech services, such as text messaging & mobile or phone banking. Three and four are added based on the Fintech services used. The factor that is dependent is BSI's financial performance as determined through the ratios of ROA, ROE, The Bank Operating Profitability, CAR, and FDR, and it may be accessed on the BSI website.

Data Analysis Technique

Before evaluating the data using regression, the traditional test for assumptions must be performed to make sure there are no econometric issues with the data. The classic assumption test includes multicollinearity as a component. Autocorrelation, normalcy, and heteroscedasticity tests. The autocorrelation test According to Ghozali (2018) [24], the autocorrelation test looks for a link between the error due to confounding for time period time versus the influencing error in cycle of time-1 within a linear regression model. An issue with autocorrelation arises as there is a correlation. This study used the Durbin-Watson test to find autocorrelation. The test for heteroscedasticity is used in regression models to ascertain whether the variance with the leftovers from a particular event and the remainders of another observation is uneven.

Heteroscedasticity occurs when the variance changes between the residuals of two observations, whereas homoscedasticity occurs when the variance remains

constant. A suitable model for regression is one that has either homoscedasticity or no heteroscedasticity. This study employed the plot graph to identify heteroscedasticity.

Simple Linear Regression

A simple linear regression equation demonstrates the relationship between one independent variable (Y) and one dependent variable. The financial performance of BSI is represented by Y in this study, and Fintech services by X.

Hypothesis Test (Partial t-Test)

The study aims to determine how fintech affects Islamic banking's financial performance. To evaluate the hypothesis, a partial t-test was used. Significant effects of the independent variable on the dependent variable are indicated if the statistic for the independent variable is less than the t table or if the value of the sig is less than 0.05. If the t statistic's values is larger than the statistic shown in the t table or the significance level gets higher than 0.05, it means that the dependent and independent variables do not significantly relate to one another.

Coefficient of Determination Test

The value of the coefficient of determination (R2) indicates the extent of the relationship between unrelated variables and the variable of interest as a whole. The coefficient of variation of determination has a value that ranges from zero to one.

Simple Linear Regression

Results of Simple Linear Regression

Table 1: Coefficients

Unstandardized Coefficients				Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	38.160	43.882		2.870	.007
	Fintech	.600	16.586	.008	2.536	.002

Dependent Variable: Financial_Performance

Interpretation

Y = 38.16 + 0.6X is the linear regression model used in this study, as shown by the outcomes of the linear regression in Table 4. If the uncorrelated variable of Financial Services remains the same, this means its revenue will be 38.16 units; if it does, it will rise by 0.6 units. The innovation service, which includes online, mobile, text, and phone banking, is the individual variable in this study. A bank that employs just one type of innovation service in a year is given a score of 1, and if it makes use of both kinds of fintech services, such as SMS banking and cellular or phone banking, it is given a score of 2. Three and four are added based on the Fintech services used. The parameter that is dependent is BSI's financial success as determined by ROA, and it may be accessed on the BSI website.

Hypothesis Test (Partial t-Test)

Coefficients

Tabel 2: Results of Parsial t-Test

Unstandardized Coefficients				Standardized Coefficients			DF	Sig. Level	t table
Model		B	Std. Error	Beta	t	Sig.			
1	(Constant)	38.160	43.882		2.870	.007	18	0.025	2.10
	Fintech	.600	16.586	.008	2.536	.002			1

Dependent Variable: Financial_Performance

Interpretation

Finding the relationship between Fintech services and financial performance requires comparing the values of the t statistic and the t table. To compute the t table, utilize the subsequent formula: Table total = t(a % 2: n-k-1) = t (0.025:18) = 2.101! The substantial worth of 0.002 < 0.05 and the significance level of 2.536 > 2,101 are shown in Table 5. Therefore, fintech services—such as the World Wide Web, adaptable, SMS, and phone banking—have a big influence on BSI's financial success. It can be agreed that fintech services have an impact on BSI's financial performance as measured by CAR, ROA, ROE, BOPO, and FDR. When the beta value is positive, it means that Fintech services and BSI's financial performance throughout 2016 to 2020 are positively correlated.

Coefficient of Determination Test

A measure of how strongly the independent and dependent variables are related overall is the coefficient of determination. A very strong association is represented by a correlation value of 1, while an extremely weak relationship is represented by a value of 0.

Model Summary

Tabel 3: The Coefficient of Determination Test's findings

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.460	.260	0.430	40.62703

a. Predictors: (Constant), Fintech

b. Dependent Variable: Financial_Performance

Interpretation

R2 is 26% based on the coefficient of determination results shown in Table 6. This suggests that the fintech variable accounts for about 26 percent of the variations or shifts in BSI's economic performance from 2016 to 2020. Other factors not included by this study model account for 74% of the remaining explanation. Additionally, a coefficient of determination is 26%. The factor of determination is 26%, which is regarded as modest even though it has a considerable impact on financial success. Since Fintech services have not yet been employed in Islamic banking by many people, particularly those who reside in distant areas, their impact on BSI's the financial health has been minimal.

Findings and Suggestion

Enhanced Customer Experience: By providing creative

solutions and user-friendly interfaces, fintech businesses increase consumer satisfaction and engagement. In an effort to compete, traditional banks are adjusting by improving their online platforms.

Cost Efficiency
Because they have less overheads than traditional banking, fintech solutions frequently have lower operating expenses. Because of this, banks have had to reconsider their cost structures and think about implementing technology to improve efficiency.

Access to Financial Services
Financial services are now more accessible thanks to fintech, particularly for marginalized groups. This has led to the creation of inclusive financial solutions by traditional banks in order to serve a larger market.

Focus on Cybersecurity
Cybersecurity measures must be given top priority by banks as digital banking grows in popularity in order to safeguard consumer information and uphold confidence. It is essential to keep security procedures up to date and to inform staff members of potential hazards.

Adapt Regulatory Compliance
To guarantee adherence to changing fintech legislation, banks must to collaborate with authorities in a proactive manner. Keeping up with regulatory changes can enhance operational resilience and reduce risks.

Conclusion
According to the study's conclusions, BSI's financial performance is positively impacted by Fintech services. CAR, ROA, ROE, BOPO, and FDR are among the financial indicators that are also highly impacted by these services for BSI. The survey suggests that in order to better inform the public about Islamic banking services, BSI should be more aggressive. Though there are numerous potential advantages to financial technology, it also needs an ecosystem that supports it, including information security, technological advances in communication and information infrastructure, and appropriate laws for new technology businesses operating in this industry. In order to manage the risks associated with recently introduced banking or financial products and services, regulatory laboratories must be used, and laws and regulations, especially those pertaining to the the system of electronically stored financial products, must be reviewed.

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