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The effect of financial technology (Fin-tech) on the conventional banking industry in India

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Abstract

The purpose of the study is to measure the impact of financial technology on the banking industry. Digital disruption has an impact on bank business models as well as conventional businesses as a result of changed customer behavior. This paper examines the impact of financial technology on the Indian conventional banking industry using a structured questionnaire filled out by 300 customers' of a bank selected using simple random sampling. For hypothesis testing, the statistical technique of regression analysis is used.In order to identify the impact of financial technology on the banking industry, the value propositions that influence the adoption of financial technology or banking products are analysed using importance and usefulness criteria such as customer satisfaction, net promotion score, promotion, ease of use, etc. The results show that banks have been positively impacted by the use of financial technology as it can now enhance their value proposition which includes improved service quality, marketing and a wide range of merchants. The research has implications for the banking industry that can make the services easily accessible for customers and improve their value proposition. Furthermore, customers are aware that the banking industry uses financial technology which can make their work easier too. The literature in the field of financial technology is limited in terms of theory and the practical issues are being improved with easy adoption and proper marketing needs in the research. This will improve and guide future research in the same area.

Keywords: Banks, Consumer behavior, Digital disruption, Financial technology, Net promoter score, Payment gateway.

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1. Introduction

The rise of financial technology enterprises (Fintech) which include a wide range of services ranging from payment gateways to peer-to-peer (P2P) lending has resulted in a shift in consumer preferences that has made it challenging for traditional banking institutions to meet their clients' needs. Even though the banking industry has successfully adapted to a number of obstacles over the course of the years and evolved into a large worldwide organization. Non-traditional companies such as financial technology which use a more nimble approach are competing with banks for market share despite the fact that they are relatively new IT enterprises operating inside the financial sector. It was inevitable that customers would want financial services, an alternative company with an offer of superior value has begun to compete with banks in this market. The term "digital disruption" came into being as a consequence of the impact that financial technology companies are having on the value proposition of the services that banks provide. Fintech companies are the ones that are causing disruption in the financial services industry because the solutions they provide may be tailored to match the requirements of individual customers.

The innovative disruptions that financial technology companies bring to the market are known as disruptors. The "digital disruption" phenomenon is a result of this innovation. There have been accounts of the digital transformations caused by financial technology firms in China, Europe and the US. The digital disruption in Indonesia is being fuelled by disruptive innovations such as e-commerce and payment applications likePaytm, Phone Pay and G-Pay. Financial technology related to peer-to-peer financing is another sector that is assisting in this disruption.

Digital disruption is the phenomenon that occurs when new digital technologies, creations and business models have an effect on existing services. Disruption may occur in different ways than just using digital technology. For instance, portable chairs are more useful than regular chairs and people prefer nitrogen ice cream over regular ice cream. A product cannot be disruptive unless it is the outcome of an invention that ultimately creates a fresh network of markets and values. Previously established markets must be impacted by this emerging market, progressively losing access to consumers for previously dominating businesses. The two objectives of this investigation are distinct. The first stage is to answer the question of whether conventional banks will have a short- or long-term influence that is favourable or damaging as a consequence of the arrival of financial technology companies using quantitative approaches such as hypothesis testing and regression analysis. Some of the parameters used to recognise their impacts on the end user's customer satisfaction with regard to banking and financial technology products may affect their perception of and commitment to the brand were marketing, ease of use, speed, variety of merchants, safety, various top-up options and client satisfaction to friends and family from the payment gateway. The following six elements are seen as being the most crucial in the context of P2P financial technology: interest rate, speed of approval, convenience, simplicity of acquiring a loan or deposit, accessibility and safety as well as customer satisfaction and referrals to friends and family. The second objective is to determine if conventional banks and financial technology firms should collaborate in order to mitigate the damage or if there should be competition in which cooperation is only an option and not a necessity.

According to the findings of a survey conducted by Price Waterhouse Coopers (PWC), banking companies providing superior customer service will experience an increase in both brand loyalty and awareness which will lead to increased revenue. There is no question that the agile and customer-focused financial technology sector is paying attention to these. The subpar experiences that banks provide for their customers are evidence that they have an ineffective digital strategy. The financial institutions are ignorant that customer patterns and behaviors are gradually moving in favor of financial technology which will require them to modify their business models in order to remain competitive [1]. Consumers are increasingly gravitating towards using digital services. As a result, one of the effects of a digital disruption is the modification of the behaviors of customers which compels the bank to take action. These are some instances of the present financial technology related digital disruption. On the other hand, P2P financial technology businesses have the potential to disrupt bank deposits through the provisions of higher interest rates of up to 16% yearly, the capability to deposit using mobile devices and the inclusion of a secure principle protection feature. The speed of the credit approval may also be a factor in the disruption of the banking loan. In addition, the credit application may be done by phone which is quite easy and the interest rate is far cheaper than what banks provide.

2. Reviews of Literature

The banking and financial services sector has become one of the most important contributors to a nation's Gross Domestic Product (GDP) in developing countries [2-4] resulting in growing competition from non-financial firms and banks that have begun to compete beyond the realm of financial services [5]. Financial technology has evolved into an essential part of the banking industry [6]. So, traditional banks are starting to see a reduction in their share of the market [7]. The growth of financial technology has a substantial impact on banks since many banking products are information-based [8-11]. On the other hand, contemporary ITs and data analysis techniques enable the digital personalization of many financial services [12]. Easy standardisation and less knowledge-intensive products or services provide a greater potential threat to the banking sector (payments, simple savings products, current account and consumer credit) [13-15]. However, timely collaboration with financial technology firms may assist banks in developing new prospects [16]. According to polls, banks have responded in different ways to the growth of financial technology businesses worldwide [17, 18]. Some banks have established partnerships with financial technology companies[19, 20] while others have bought financial technology firms or established their own subsidiaries [21]. By working closely with financial technology companies, banks would be able to take advantage of their competitive advantages such as their highly standardized and economical financial services as well as their comparatively lower risk financial services and products [22] (such as borrower default

risk and maturity risk) and technology-driven consumer behaviour [23, 24]. Financial technology growth generates additional risks for the banking sector including partial market share loss due to new rivals, greater margin pressure and decreased revenues increased operational risk, increased fraud risk and rising bank reliance on financial technology [25-27]. Therefore, financial market authorities must pay particular attention to non-bank financial service providers in terms of the norms adopted in dealing with consumer information, monitoring, enough capital, etc.

For banks, the expansion of financial technology represents a new problem, this issue may be transformed into an opportunity to assist banks' further growth [25, 28,29]. As a result, it is essential for banks to begin collaborating with financial technology companies particularly in sectors in which such companies offer services that are complementary to those offered by banks [27]. Recent occurrences have compelled financial institutions to increase their investments in financial technology, reconsider the strategies they use for the delivery of their services and further standardize their back-office processes. If financial technology is effectively incorporated into banking operations, financial institutions may be able to obtain a competitive edge in the growing market [26]. Financial technology has both positive and negative effects on the banking business. Despite the disruptive nature of financial technology banks are massive corporations with enormous cash, so it is possible that they will attempt to start competing by creating an offering that is comparable to the one that is being offered by financial technology companies. The competition that exists between traditional and modern financial institutions, more innovative financial service providers is good for the economy and provides customers with access to a broader range of products and options Murinde, et al. [25]. Nyholm [30] believes that rather than completely upending the financial industry, financial technology is fostering competition. There will always be a need for clients who are committed to using banks' financial services. The effects of digital disruption may vary depending on the financial technology but it is certain that the threat exists and keeps getting harsher. In his famous financial periodical, Bambrough [31] cited the increase in e-commerce sales in the US. These sales now account for around one-third of bank revenue. Due to their widespread usage as a method of payment, financial technology may indirectly benefit from the development of their income. In Indonesia, the increase in e-commerce income is expanding yearly and financial technology serves as their digital wallet. Another result is a decline in the value proposition of the product. Forbes writer Haering claims that the "4 horsemen of the e-apocalypse" are causing havoc with banks. According to Haering [32], there are four impacts of digital disruption: commoditization, unbundling, decentralization and disappearance. Since customers may now get financial services from other sources, banks are becoming invisible which means they are losing brand recognition. Unbundling refers to the unbundling of banks' products so that customers may now choose from a single source while commoditization refers to the loss of banks' ability to differentiate themselves from other financial institutions. Disintermediation refers to the process by which banks progressively lose contact with their clients since they may now receive financial services from other sources [25, 33]. According to the EY Fintech Adoption Index [34], the most popular types of financial technology products in 2015 were related to savings and investments (16.7 percent: online stockbroking and spread betting, online budgeting and planning, online investments, equity and rewards crowdfunding, peer-to-peer lending), money transfers (17.6 percent of active digitally active users have at least once used services such as nonbank money transfers, online forex exchange, overseas remittances) and insurance (7.2 percent).

3. Research Methodology

The following is a summary of the research approach that was used for the study:

3.1. Research Type

The study's research style incorporates an exploratory research design for which a questionnaire is created using variables from previous studies considered to be review of the literature.

3.2. Scope of the Study

The scope of the study is limited to the banking companies of India and their customers living in the geographical area of those banking companies.

3.3. Sample Size

The sample size is 12 banking organizations and 300 respondents chosen from those banks that use financial technology in their operations based on consumer feedback.

3.4. Data Type

For the present investigation, both primary and secondary data were gathered:

Primary data: Primary data has been obtained through a questionnaire from 300 bank customers who have experienced the use of financial technology by the banks. Those customers who had no information about financial technology, their views omitted from the study. Additionally, individuals who have filled out the dependent variable data in the proper format are eventually chosen for the research.

Secondary data: Secondary data sources included academic papers, financial reports, prior studies, the internet and online libraries.

3.5. Tool Used for Data Analysis

The statistical tool multiple regressions are used to analyse the data as it identifies the change in the dependent variable as an impact of various independent variables. The dependent and independent variables are listed in Table 2 as variables.

4. Analysis, Resultsand Interpretation

In Table1, the data received from customer respondents is provided first for their demographic profileas follows:

Table1.
Demographic profile.

Age	Below 25	9%	Sector of bank	Private	78%
	25-35	24%		Public	22%
	35-45	57%	Account exits from	Less than 5 years	15%
	45 & above	10%		5 to 15 years	54%
Education	Graduate	21%		Less than 5 years	31%
	Post-graduate	28%	Occupation	Job	29%
	*CA	17%		Service	43%
	**ICWAI	18%		Businessman	28%
	***CS	16%	Gender	Male	74.0
				Female	26.0

Note: *CA: Chartered accountants; ** ICWAI: Institute of cost accountants of India; ***CS: Company secretary.

First, the distribution of responses for measuring the impact of financial technology on the banking industry was shown. It revealed that the financial technologies were mostly used by private sector banking companies as their customers were also aware of them. The respondents or customers in the study who have awareness about the use of financial technology and are included had the highest frequency between 35-45 years of age, post -graduation qualifications, accounts from 5 to 15 years old and doing the services. Furthermore, the male respondents were numerous in the study.

Banks are using financial technology. It is important to measure whether they are benefiting from its use with financial technology or not. The following hypotheses were made:

H_1= the attributes configuring the use of financial technology in various banking companies have significantly benefited the customers of these companies.

To evaluate the aforementioned hypothesis and find the difference between significance and the advantages of financial technology, multiple regression tests using SPSS-19 software were used. The findings are presented in Table 2 as follows:

Table 2.
Results of multiple regression analysis (n=300).

S. No.	Variable	SPSS code	Mean	S D
Dependent variable (DV)	Banks may get an edge in the expanding competitive market by integrating financial technology.	Im_FTec	3.1167	1.04244
1	Once financial technology is implemented, banks must take on the role of delegated monitors.	Im_FTec1	2.5567	0.99839
2	Regulations allow for granting permission to financial technology businesses to better manage their customers.	Im_FTec2	3.1600	0.95083
3	Innovations in financial technology are now essential for banks to better manage their customers.	Im_FTec3	2.5500	1.06675
4	Additionally, financial technology companies improved their ability to handle soft data well favouring customers.	Im_FTec4	3.2200	1.23965
5	Traditional banks may upgrade their current IT setup to use the latest financial technology techniques to better serve their customers.	Im_FTec5	2.7000	1.20617
6	Customer handling will be less risky.	Im_FTec6	3.3167	0.70097
7	Financial technology companies primarily make use of improved capacities to meet the wants of their customers.	Im_FTec7	3.4500	0.75900
8	Some financial technology companies are launching low-cost services and often focusing on unbanked consumers covering them with banking facilities.	Im_FTec8	3.2867	0.94204
9	Small and unspecialized banks are likely unable to handle digital innovation for their customers at the necessary size and intensity.	Im_FTec9	3.1467	1.06251
10	Customers of large banks should be able to take in and process the technological advancements that are converging towards a new kind of operator where numerous financial services will be offered.	Im_FTec10	3.1400	0.96098
11	The risk of bank loan reimbursement has been embraced by the majority of financial technology companies.	Im_FTec11	3.0167	1.13166
12	The interest in financial technology -based financial services has risen as a result of shifting customer behaviour towards technologies.	Im_FTec12	3.3500	0.82245

Table3.
Model summary.

Model	R	R^2	Adjusted R^2	Standard error of the estimate
5	0.856[e]	0.809	0.797	0.474

Note: e. Predictors**:** (Constant), Im_FTec1, Im_FTec11, Im_FTec3, Im_FTec5, Im_FTec6.

Table 4.
Analysis of variance (ANOVA).

Model		Sum of squares	df	Mean square	F	Sig.
5	Regression	100.381	5	20.076	26.287	0.000[f]
	Residual	224.535	294	0.764		
	Total	324.917	299	-	-	-

Note: Dependent variable: Im_FTec.
f. Predictors: (Constant), Im_FTec1, Im_FTec11, Im_FTec3, Im_FTec5, Im_FTec6.

Table 5.
Standardized and unstandardized coefficients.

Model		Unstandardized coefficients		Standardized coefficients	T	Sig.	Collinearity statistics	
		B	Std. error	Beta			Tolerance	VIF
5	(Constant)	3.919	0.420	-	9.322	0.000	-	-
	Im_FTec1	-0.401	0.055	-0.384	-7.286	0.000	0.848	1.179
	Im_FTec11	-0.142	0.048	-0.154	-2.946	0.003	0.857	1.167
	Im_FTec3	-0.205	0.054	-0.210	-3.792	0.000	0.767	1.303
	Im_FTec5	0.173	0.046	0.201	3.779	0.000	0.834	1.199
	Im_FTec6	0.213	0.079	0.143	2.707	0.007	0.842	1.188

Note: Dependent variable: Im_FTec. (VIF=Variance inflation factor).

The demographics of the variables are presented in the first part of Table 2 showing the means and standard deviations of the dependent variable Im_FTec and the independent variables for each of them. As per the model, the changes in the dependent variables shall be explained by the independent variables which are initially compared with the means and standard deviations. Furthermore, summery in Table 3 presents a model under which the independent variables can explain the dependent one with the accuracy of its relationship which in this case is 79.7% which is a higher accuracy.

Table 4 reveals that the Analysis of Variance (ANOVA) test is used to determine the model fitness for future predictions.The total sum of squares (324.917) is the squared error that would accrue if the mean of companies practice or working were used to predict the dependent variables. Using the values of selected variables,these errors can be reduced significantly. This reduction is deemed statistically significant with the F ratio of 26.287 and significance at a level of 0.000[f].

The results in Table 5 reveal that the banks can not feel themselves safe and close their eyes to the transactions after the application of financial technology, they must take on the role of delegated monitors once Fintech is implemented. The traditional banks also have the option of upgrading their current IT setup to use the latest financial technology techniques to better serve their customers. They need to use the same as it is already implemented in other industries including the finance industry. They can also get its benefits. In this respect, the customer's views are also important for the banks where they can improve their customer base and better manage their customers with the application of financial technology. The application of financial technology may provide a win-win situation for both the banks and the customers where for the banks, a new customer base is possible and customer handling will be less risky. As per then new innovation and criteria the risk of bank loan reimbursement has been embraced by the majority of financial technology companies and must now be adopted by the banks.

5. Conclusion

The results of the study revealed that five independent variables indicate that banks must take on the role of delegated monitors once financial technology is implemented (Im_FTec1). The risk of bank loan reimbursement has been embraced by the majority of financial technology companies (Im_FTec11), innovations in financial technology are now essential to banks for better managing their customers (Im_FTec3), traditional banks may upgrade their current IT setup to use the latest financial technology techniques to better favor their customers (Im_FTec5) and customer handling will be less risky (Im_FTec6) explains the use of financial technology in various banking companies and how it has significantly benefited the customers of these companies.

According to the Financial Stability Board (FSB) research, financial technology as digital innovations could revolutionize financial markets and increase efficiency, risk reduction and financial inclusion. It also underlined financial technology main concerns such as regulating a changing technology with multiple use cases, monitoring activities beyond the regulated industry and detecting and monitoring new technology-related dangers. The financial innovation has received a lot of attention. Moreover, given the advancements in financial technology and the danger to personal data in the ownership of these entrepreneurs, it may be important to underline the need for comprehensive stand-alone data protection laws in India. Innovations in financial technology are now essential to banks for better managing their customers.

Furthermore, it is the duty of traditional bankers to upgrade their current IT setup to use the latest Fintech techniques that can favour the customer. By using financial technology, the customer experience can be easily improved in a cost effective manner making customer handling less risky and having a better understanding of their requirements. Thus, it can be recommended that the use of financial technology by various banking companies has significantly benefited their customers.

The current study uses the data from the 300 respondents. Future researchers can increase the sample to improve the generalization. Future studies may include the perspectives of banking experts and their interactions with customers as well as interviews with the senior banking authorities and even the RBI experts to gain a better understanding.

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