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Fintech Innovations and Its Impact on the Profitability of Selected Banks

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ABSTRACT: *We are taking into consideration the past year profits of HDFC Bank, ICICI Bank, Axis Bank, Kotak Mahindra Bank, IDBI Bank, Bank of India, State Bank of India, Canara Bank, IndusInd Bank, Bank of Maharashtra and Federal Bank for conducting our study to find out its effect before and after their collaboration with various Fintech services. Our study revolves around the specific fintech innovation like digital wallets, real time payments, mobile payments that have impacted the profits of the selected banks. To analyse the collected data we have used Paired T-test, Test of Normality.*

KEYWORDS: *Fintech innovations, Banking sector, Bank-Fintech collaboration, Profitability, Paired T-test, Test of Normality.*

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I. INTRODUCTION

We are currently going through the biggest revolution in the financial history called the Fintech revolution which has led to a great transformation in the banking sector recently. Those who are significantly impacted by the financial revolution are going those who work in the financial industry. Fintech: Short for financial technology, is an innovative way to use technology in the design and delivery of financial services and it is transforming the banking world by bringing in artificial intelligence, big data, block chain, crowd funding, digital payments and so on. The main reason Fintech came into existence was due to the huge amounts of cash that was inflating the economy in the past few years. Fintech is a vast term which mainly relates to those companies that generally apply cloud-based tools, and other different types of technologies so as to improve the field of banking and finance. Fintech Banks use cloud sourcing as one of the important resources which they use to save data. Fintech essentially aimed at as a competition to the traditional practice of finance and financial services.

II. REVIEW OF LITREATURE

i. (Lohia, How are Banks Getting The Support from Fintechs, 2018)

This article analyses the engagement of Banks and Fintech for the profitability of each other. Those banks which have been cognizant of the changes and invested in Fintech have attained positive gains from their collaborations. Fintech assists banks in developing their product offering and in turn generating more profitable paths to deploy their capital. In recent years both Banks and Fintech have perceived the advantage of each other's strength. There has been a drastic evolution in the Business Model of Banking, from one bank providing all services to a group of players providing variety of services.

ii. (Sur, Top five risks posed by the fintech revolution to Indian banks, 2018)

This article has recently survived on banks on international settlements has identified that the highest number of Fintech service providers are in payments, clearing and settlement category. Fintech also presents a wide variety of risks, banks should always be aware of risks and its implications before they develop their Fintech strategies. The New tech revolution is impacting almost all the aspects of banking operations.

iii. (Milne, Competition policy and the financial technology resolution in banking, 2016)

This article argues that the more ambitious prognostications of the outcome of the current Fintech revolution. These Fintech transformations of banking benefit the customers, depending on their banking platforms. It argues that the technology developments have indeed matured to the points where there is a change in banking and financial services. If policy intervention is supportive then the technology-driven change in banking can be profound.

iv. (Buitenhek, Understanding and applying Blockchain technology in banking, 2016)

This article emerges technology of block chain, the technology underpins bit coin and crypto currencies looking for potential disrupt and transform the financial services industry. This block chain highlights the work that the industry needs to make block chain applications a mainstream part of financial service and it can help the entire industry by speeding up transactions and making them more secure. The block chain is a constantly update public ledger of transactions.

v. (Pozzolo A. F., Fintech and Banking. Friends or Foe?, 2018)

This paper is a study whether Fintech is creating competition or enhancing the services provided by the traditional banks. Furthermore fintech is imparting banks with effective ways of doing the same traditional things and also increasing customer satisfaction. Fintech operated banks are comparatively better at managing raw information that can be digitalized, and further focus on additional standardized assets. Fintech is developing at a high speed and hence has become the most incumbent in the financial markets.

III. RESEARCH DESIGN

Statement of Problem

In today's rapidly growing world banks are having an increased rate of competition from other nonfinancial institutions that are providing e-commerce servicesand financial services to their customers. The sudden upsurge of Fintech has changed the way traditional banks used to work and in turn banking sectors need more innovative solutions to compete with the emerging firms. This requires Banks to invest in Fintech related services in order to benefit themselves and provide quality services to their customers as compared to traditional financial methods.Fintech is yet youthful and our nation is progressing towards Tech-Finance collaboration. This will jointly help the Fintech start-ups and the banking sector in improving the way digital transaction based operations are taken care of. As of now only 64% of Fintech association in India is having a stable base. As India is changing into a completely digital nation over the years, even the banking industry is trying to upgrade itself to the national as well as international standards to compete with its rival banks and also other non-banking financial service providers.

Sources of Data

For this paper we have used secondary source of data for collecting the information and analysis of result. The sources used mainly includes various publications of technical and trade journals, various associations concerned with business and industry, banks, stock market, e-newspaper, articles, research thesis, research paper, web information, etc. Our input data includes annual profits of selected banks foe various years.it also includes the year in which the selected banks have started invested in fintech related facilities in their banks for better customer satisfaction. To collect the secondary data related to banks annual profits and fintech investment dates we have used websites like Money control and The Economic Times.

Hypothesis

H0: There is no significant impact of Fintech innovations on the profitability of selected banks.
H1: There is significant impact of Fintech innovations on the profitability of selected banks.

Data Analysis Tools

We have used IBM SPSS software and excel as a statistical tool for statistical analysis of our research data. The various data analysis tools used for finding and interpreting the outcome in this project arePaired T-test, Test for Normality, Graphs.

Limitations

Fintech has very few limitations, they are mentioned as follows

- To collect data we have used random sampling method which might cause difficulty in comparison of banks in our study
- Our study is not considering equivalentent surplus in case of all banks.
- Factors other than Fintech also have affected the bank's profitability so it is difficult to make accurate analysis.
- Inadequacy of precise information for the study.
- As the investment in fintech is made in different years by different banks, this might cause inaccuracy and lack of comparability of research outcome.

IV. DATA ANALYSIS AND INTERPRETATION

Paired T Test Analysis

Table1: Table showing year of investment in fintech by respective banks

NAME OF THE BANK	YEAR OF INVESTMENT IN FINTECH
HDFC BANK	2014
ICICI BANK	2009
AXIS BANK	2013
KOTAK MAHINDRA BANK	2009
IDBI BANK	2011
BANK OF INDIA	2009
STATE BANK OF INDIA	2015
CANARA BANK	2014
INDUSIND BANK	2013
BANK OF MAHARASHTRA	2012
FEDERAL BANK	2013

Table 2: Table showing the yearly profits for selected banks

Year	HDFC BANK	ICICI BANK	AXIS BANK	KOTAK MAHINDRA BANK	IDBI BANK	BANK OF INDIA	SBI BANK	CANARA BANK	INDUSIND BANK	BANK OF MAHARASHTI	FEDERAL BANK
2018	17486.73	6777.42	275.68	4084.3	-8237.92	-6043.71	-6547.45	-4222.24	3605.99	-1145.65	878.85
2017	14549.64	9801.09	3679.28	3411.5	-5158.14	-1558.31	10484.1	1121.92	2867.89	-1372.51	830.79
2016	12296.21	9726.29	8223.66	2089.78	-3664.8	-6089.21	9950.65	-2812.82	2286.45	100.69	475.65
2015	10215.92	11175.4	7357.82	1865.98	873.39	1708.92	13101.57	2702.62	1793.72	450.69	1005.75
2014	8478.38	9810.48	6217.67	1502.52	1121.4	2729.27	10891.17	2438.19	1408.02	385.97	838.89
2013	6726.28	8325.47	5179.43	1360.72	1882.08	2749.35	14104.98	2872.1	1061.18	759.52	838.17
2012	5167.09	6465.26	4242.21	1085.05	2031.61	2677.52	11,707.29	3282.71	802.61	430.83	776.8
2011	3926.4	5151.38	3388.49	818.18	1650.32	2488.71		4025.89	577.33	330.39	587.08
2010	2948.7	4024.98	2514.53	561.11	1031.13	1741.07		3021.43	350.3	439.66	464.55
2009		3758.13	1815.36	276.1	858.54	3007.35			148.34	362.4	500.49
2008		4157.73	1071.03	293.93	729.46	2009.4			75.05	325.59	368.05
2007		3110.22		141.37	630.31	1123.16				228.15	
2006		2540.07		118.23	560.89	701.43				62.44	
2005		2005.2		84.89	415.52	340.05					
2004		1637.11		78.73	570.9	1008.32					
2003		1206.18		44.9		851					
2002		267.45		54.52		505.22					
2001		171.57		49.6		251.88					
2000		105.3		61.1		172.82					

Table 3: Table showing the outcome of Paired T-test

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	95% Confidence Interval of the Difference Upper			
Pair 1	HDFC1 - HDFC2	-8945.00750	1486.95415	743.47708	-11311.08338	-6578.93162	-12.031	3	.001
Pair 2	ICICI1 - ICICI2	-6228.54333	2069.86329	689.95443	-7819.58111	-4637.50556	-9.027	8	.000
Pair 3	AXIS1 - AXIS2	-2544.49800	4279.20846	1913.72020	-7857.83709	2768.84109	-1.330	4	.254
Pair 4	KOTAK1 - KOTAK2	-1761.31889	1110.23789	370.07930	-2614.72328	-907.91450	-4.759	8	.001
Pair 5	IDBI1 - IDBI2	2278.44714	4276.75361	1616.46092	-1676.89025	6233.78454	1.410	6	.208
Pair 6	BOI1 - BOI2	728.85222	4092.60819	1364.20273	-2417.00491	3874.70936	.534	8	.608
Pair 7	SBI1 - SBI2	7605.38000	8566.69740	4945.98505	-13675.47608	28886.23608	1.538	2	.264
Pair 8	CANARA1 - CANARA2	4103.16250	3392.36878	1696.18439	-1294.85324	9501.17824	2.419	3	.094
Pair 9	INDUSIND1 - INDUSIND2	-2001.68800	571.09357	255.40081	-2710.79433	-1292.58167	-7.837	4	.001
Pair 10	BOM1 - BOM2	428.32000	995.67825	406.48394	-616.58024	1473.22024	1.054	5	.340
Pair 11	FEDERAL1 - FEDERAL2	-266.59200	218.83411	97.86559	-538.31044	5.12644	-2.724	4	.053

After analysis we have found out that the following banks, Axis Bank, IDBI Bank, Bank of India State bank of India, Bank of Maharashtra, Federal Bank, and Canara Bank have no significant impact on profits, except the other four banks that is, HDFC Bank, ICICI Bank, Kotak Mahindra Bank and IndusInd Bank which have significant impact on profits. H0 is accepted, there is no significant impact of Fintech innovations on the profitability of selected banks.As per our analysis the output accepts the null hypothesis (H0) and rejects alternate hypothesis (H1).

Test of Normality Analysis

Table 4: Table showing the outcome for Test of Normality

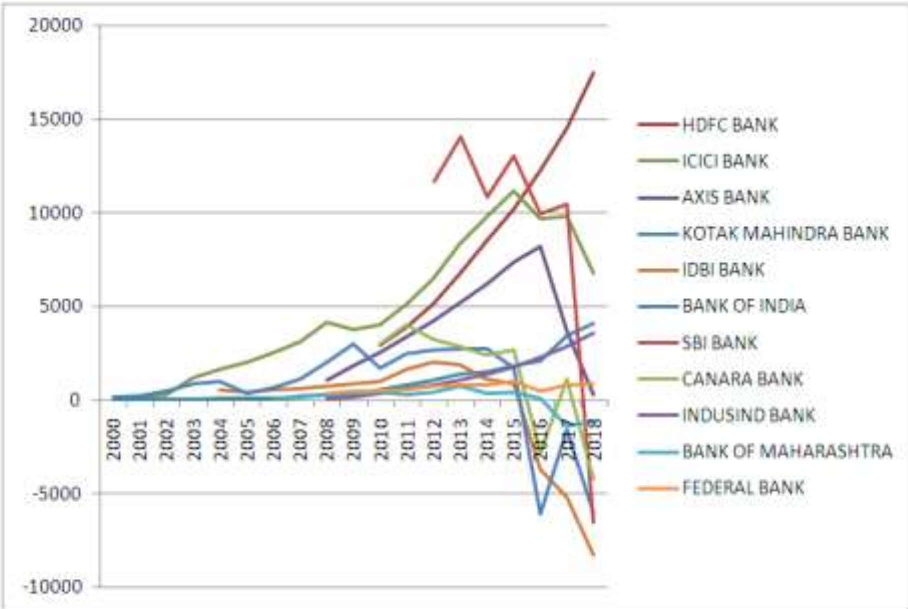
Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
HDFC	.123	7	.200*	.974	7	.928
ICICI	.260	7	.167	.904	7	.355
AXIS	.163	7	.200*	.957	7	.789
IDBI	.299	7	.059	.849	7	.121
KOTAK	.253	7	.194	.874	7	.201
BOI	.282	7	.098	.775	7	.023
SBI	.405	7	.001	.656	7	.001
CANARA	.280	7	.102	.795	7	.037
INDUSIND	.143	7	.200*	.956	7	.782
BOM	.288	7	.083	.804	7	.045
FEDERAL	.285	7	.090	.832	7	.083

In our outcome H1 is accepted for normality test. After conducting normality test we can interpret that for Bank of India, State Bank of India, Canara Bank, and Bank of Maharashtra data is not normally distributed as the outcome of significance is less than 0.05 and for other banks, that is HDFC Bank, ICIC Bank, Axis Bank, IDBI Bank, Kotak Mahindra Bank, Induslnd Bank, Federal Bank the data is normally distributed as the significance is greater than 0.05

V. FINDINGS AND SUGGESTIONS

Graph 1: Line chart showing profits of the selected banks



This line chart helps us in knowing the trend of annual profits for the selected banks under our time period of study from 2000-2018. HDFC Bank, Federal Bank, Kotak Mahindra Bank, IndusInd Bank, show a profit trend in our profits.ICICI Bank, Axis Bank, IDBI Bank, Bank of India, State Bank of India, CanaraBank and Bank of Maharashtra show a negative trend in their profits.

VI. CONCLUSION

We conclude that the outputs of banks with profits supports our theorythatthere is significant impact of Fintech innovations on the profitability of banking sector. Though all banks are not making considerable profits but the probability of banks making profit is on the greater side. So we can say that Fintech does impact the profitability of banks. While there might be other factors besides investment in Fintech which are impacting the bank's profitability affecting the level of accuracy in our research.Non-financial institutions providing financial services are a major risk to the banks as their existence is hindering the profitability of banks even after investing in Fintech as it is a key challenge for the banks to provide better services to their customers compared to the other non-financial institutions providing financial services using Fintech. Thus we can say that Fintech does impact the bank's profitability but only if the banks are providing other related services to their customers in an efficient manner and also if there aren't any other factors influencing the Fintech impacted banks profit or loss.

BIBLIOGRAPHY

[1]. Davies, S., Shipman, J., & Kashyap, M. (2018, april 4). *Article*. Retrieved from PWC Global: https://www.pwc.com/gx/en/industries/financial-services/publications/fintech-is-reshaping-banking.html
[2]. Desai, F. (2013, December 13). *Article*. Retrieved from FORBES: https://www.forbes.com/sites/falgunidesai/2015/12/13/the-evolution-of-fintech/#4fac36207175
[3]. Gada, D. (2018, March 5). Five ways Fintech is disrupting the financial services industry. *Finextra* , 1-3.
[4]. Lohia, R. (2018, August 16). *Article*. Retrieved from Entrepreneur India: https://www.entrepreneur.com/article/318529
[5]. Pozzolo, A. F. (2018, April 15). *Article*. Retrieved from EUROPEAN ECONOMY: http://european-economy.eu/wp-content/uploads/2018/01/EE_2.2017-2.pdf

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