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IMPACT OF FINANCIAL TECHNOLOGY IN INDIA ON BANKING SECTOR

Mrs.G.Yasmin	***Ph.D. Research Scholar (Corporate Secretaryship), Bharathiar University Coimbatore-641 046, Tamilnadu, India***
M.A.S. Raja Mohammed	***Director, Arfa Sameeha Star Tech Pvt Ltd, Coimbatore.***

ABSTRACT

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Technology has, to some degree, always been part of the financial world. The term fintech refers to the synergy between finance and technology, which is used to enhance business operations and delivery of financial services. Financial technology is the application of new technological advancements to products and services in the financial industry. It includes B2C (Business to Client), Crowdfunding Platforms, Block chain and Cryptocurrency, Mobile Payments, Insurance, Robo-Advising, Stock-Trading Apps, Budgeting Apps, Fintech Stocks. Fintech market in India is likely to expand to $31 billion in 2020," India is a dominant force in the financial technology sector globally with 29 per cent annual returns on investments, a report released by the City of London Corporation. The study is important to analyse the impact of fintech in banking sector through analyzing its performance and growth pattern. Implementation of new business models driven by technologies such as Artificial Intelligence and Machine Learning Wide middle-class expansion by 2030, India will add 140 million middle-income and 21 million high-income households which will drive the demand and growth on the Indian Fin Tech space.

KEY WORDS: *Fintech, Financial services, banking sector, India, technology*

I)INTRODUCTION

Fintech can be defined as "Computer programs and other technologies used to support or enable banking and financial services". It revolutionized the whole financial services industry by using latest innovative and advanced technologies such as block chain, big data and analytics, cloud computing, artificial intelligence (AI), IoT's, and robot advisors. The Indian FinTech market has been on an upward growth trajectory over the last five years. This is evidenced by an increase in both the number of FinTech companies founded and the investment they have attracted. From January 2013 to October 2018, approximately 2,000 FinTech companies have been founded, turning India into a hotbed of entrepreneurial activity. This has also translated into increased consumer adoption of FinTech solutions. In 2018, India ranked second globally in the FinTech adoption rate. The average percentage of FinTech users in the country is 57.9%, behind China's 83.5%, and much higher than developed countries' 34.2%. With a strong technological ecosystem as its backbone and a huge market base with a low penetration of financial services (FS), the Indian FinTech market holds immense potential.

II)LITERATURE REVIEW

- Acemoglu and Robinson (2012), Says how political institutions can affect a country's inclusive economic growth, there is still a lack of substantial academic production about how these institutions can affect the development and application of new financial technologies and business models. Actually, more researches should be conducted in order to assess how political institutions, governments, policy-makers and interest groups can influence the development and usage of new financial technologies and, indirectly, to determine how these technologies affect economic inclusiveness.
- As Nelson and Winter (1974) developed an organic view about economic development. In this theory, the Economic Growth is understood as an evolution of technological advances within the firms. A

technology is only applied to a firm's routine if it can lead to an increase in the profit, capital formation and growth

- Heinz Kurz (2012) argues, "The construction and introduction of improved machines into the production system can frequently be expected to lead to the displacement of workers and thus what was later called 'technological unemployment."

III) OBJECTIVES OF THE STUDY

- The study describes the impact and recent trends of financial technology in the banking sector.
- To analyse whether the new technological implementation helps the banking sector to build a sustainable business model.

IV)NEED AND IMPORTANCE OF THE STUDY

Fintech has revolutionized the whole financial services industry by using latest innovative and advanced technologies. By deploying these technologies it reshape finance by improving efficiency and quality of financial services, cutting costs, providing agility and eventually creating a global Fintech landscape. Thus, the study is considered to be an important to analyse the technological growth in banking sector.

V)RESEARCH METHODOLOGY

The recent updates in the research help to know about the importance of financial technology in the banking segment. The present study is descriptive. The data used in the study is secondary in nature. It is collected with the help of books, web sites and various other sources.

VI) SCOPE OF THE STUDY

As the subject is very vast and the technology is changing day by day. The study mainly focuses on evaluating the role of financial technology in banking sector. The analysis is made from the past data and it never gives guarantee to the future results.

VII)STATISTICAL TOOLS SND TECHNIQUES

The present study has used Regression and T-test and Z-test for the analysis and interpretation of data. The data was classified and tabulated with the help of using MS EXCEL.

VIII)PERIOD OF STUDY

The period for which the study was covered is six years from 2013-2018.

IX) ROLE OF FINTECH IN MODERN WORLD

- FinTechs have helped digitize banking by automating and innovating processes that reduce human intervention, queues, restrictions of time, place etc. They offer convenience to people and gives them the liberty to bank anytime, anywhere.
- Unlike the traditional banking systems, collecting and storing customer data has become easier, accurate and error-free.
- The solutions offered by FinTechs save costs both for customers and bank branches. The costs of banking at a physical branch i.e. via the traditional approach is at least 10 times more than that incurred at an ATM and 50 times more when transacted on a mobile banking application.
- FinTech solutions are in-built with automation that help financial service providers to stay compliant with the changing dynamics and reduce risks such as frauds.

X)MARKET SIZE

The Indian banking system consists of 18 public sector banks, 22 private sector banks, 46 foreign banks, 53 regional rural banks, 1,542 urban cooperative banks and 94,384 rural cooperative banks as of September 2019. In FY07-18, total lending increased at a CAGR of 10.94 per cent and total deposits increased at a CAGR of 11.66 per cent. India's retail credit market is the fourth largest in the emerging countries. It increased to US$ 281 billion on December 2017 from US$ 181 billion on December 2014

XI) DEVELOPMENTS IN INDIAN BANKING SECTOR

- In October 2019, the Department of Post launched the mobile banking facility for all post office savings account holders of the CBS (core banking solutions) post office.
- Deposits under Pradhan Mantri Jan Dhan Yojana (PMJDY) stood at Rs 1.06 lakh crore (US$ 15.17 billion
- In October 2019, Government e-Marketplace (GeM) signed a Memorandum of Understanding (MoU) with Union Bank of India to facilitate a cashless, paperless and transparent payment system for an array of services.
- Transactions through Unified Payments Interface (UPI) stood at 1.15 billion in October 2019 worth Rs 1.91 lakh crore (US$ 27.33 billion).
- In August 2019, the government announced the major mergers of public sector banks which included United Bank of India and Oriental Bank of Commerce to be merged with Punjab National Bank, Allahabad Bank will be amalgamated with Indian Bank and Andhra Bank and Corporation Bank will be consolidated with Union Bank of India.
- The NPAs (Non-Performing Assets) of commercial banks has recorded a recovery of Rs 400,000 crore (US$ 57.23 billion) in last four years including record recovery of Rs 156,746 crore (US$ 22.42 billion) in FY19.
- The board of Allahabad bank approved the merger with Indian bank for the consolidation of 10 state-run banks into the large-scale lenders.
- As of September 2018, the Government of India launched India Post Payments Bank (IPPB) and has opened branches across 650 districts to achieve the objective of financial inclusion.
- The total value of mergers and acquisition during 2017 in NBFC diversified financial services and banking was US$ 2,564 billion, US$ 103 million and US$ 79 million respectively.
- The total equity funding's of microfinance sector grew at the rate of 42 year-on-year to Rs 14,206 crore (US$ 2.03 billion) in 2018-19.

XII)GOVERNMENT INITIATIVES

- As per Union Budget 2019-20, the government has proposed fully automated GST refund module and an electronic invoice system that will eliminate the need for a separate e-way bill.

- Under the Budget 2019-20, government has proposed Rs 70,000 crore (US$ 10.2 billion) to the public sector bank.
- Government has smoothly carried out consolidation, reducing the number of Public Sector Banks by eight.
- As of September 2018, the Government of India has made the Pradhan Mantri Jan Dhan Yojana (PMJDY) scheme an open ended scheme and has also added more incentives.
- The Government of India is planning to inject Rs 42,000 crore (US$ 5.99 billion) in the public sector banks by March 2019 and will infuse the next tranche of recapitalisation by mid-December 2018.

XIII)ACHIEVEMENTS

- As on March 31, 2019 the number of debit and credit cards issued were 925 million and 47 million, respectively.
- As per RBI, as of October 25, 2019, India recorded foreign exchange reserves of approximately US$ 442.58 billion.
- India ranks among the top seventh economies with a GDP of US$ 2,73 trillion in 2018 and economy is forecasted to grow at 7.3 per cent in 2018.
- To improve infrastructure in villages, 204,000 Point of Sale (PoS) terminals have been sanctioned from the Financial Inclusion Fund by National Bank for Agriculture & Rural Development (NABARD).
- The number of total bank accounts opened under Pradhan Mantri Jan Dhan Yojana (PMJDY) reached 333.8 million as on November 28, 2018.

XIV) FINANCIAL TECHNOLOGY IN INDIA

India has the highest FinTech adoption rate globally. India is amongst the fastest growing FinTech markets in the world. India ranked the highest globally in the FinTech adoption rate with China. Digital payments value of $65 bn in 2019 is expected to grow at a CAGR of 20% till 2023. The overall transaction value in the Indian FinTech market is estimated to jump from approximately $65 billion in 2019 to $140 billion in 2023. India has overtaken China as Asia's top FinTech funding target market with investments of around $286 million across 29 deals, as compared to China's $192.1 million across 29 deals in Q1 2019.

XV)DIGITAL TRANSACTIONS

Digital payments have been the flag bearer of the Indian FinTech space. In 2010, India launched its first real-time payments systems 'IMPS' and introduced UPI in 2016. There are 375 Payment startups in the country. Mobile, digital wallets, gateways, POS, mobile POS sub-segments account for over 50% of the payment startups in India. In consumer credit, the urban population is likely to leverage FinTech lending services to avoid heavy documentation, and the rural population can benefit from alternative credit scoring mechanisms to stay away from loan sharks. The scope of IoT in Indian Insurance goes beyond telematics and customer risk assessment. Currently, there are 110+ InsureTech start-ups operating in India.

XVI)GROWTH DRIVERS IN INDIA

- **Jan Dhan:** JAM Trinity enabled Government to make direct transfers of INR 740 billion. High level of banking penetration through the Jan Dhan Yojana with more than one billion bank accounts and high smartphone penetration with 1.2 billion mobile subscribers.
- **India stack:** Set of APIs for businesses and startups. Open API platforms like Aadhar, UPI, Bharat Bill Payments, GSTN and Digital India.
- **Favourable Govt. initiatives:** Digital India, National Payments Council, tax benefits on surcharges etc.
- **Blockchain:** Blockchain market in India is expected to grow at a CAGR of 37% till 2024
- **Start-up India:** GoI's flagship initiative to build strong start-up ecosystem.
- **Aadhar:** Biometric identification database in which more than 1.2 billion citizens enrolled.

XVII)TREND IN INDIA IN 2020

The industry is likely to continue its current growth trajectory, with the global Fintech software and services sector predicted to touch USD 45 billion by 2020 at a Compound Annual Growth Rate (CAGR) of 7.1%.3. At this juncture, India has created an ecosystem that provides start-ups an opportunity to exponentially grow into big businesses. The Indian Fintech software market is poised to touch USD 2.4 billion by 2020 from the current USD 1.2 billion in the Financial Year (FY) 2016.

ANALYSIS AND INTERPETATION

Table – I Regression analysis on value and volume of Digital payments

Year	Value of Digital Payment Transactions(USD TN)	Volume of Digital Payment Transactions(MN)
2013	0.7	6.99
2014	1	8.56
2015	1.53	10.6
2016	1.8	14.32
2017	2.5	19.2
2018	3.5	24.13

H0	There is no significant difference between the Value of Digital Payment Transactions(USD TN) and Volume of Digital Payment Transactions(MN)
H1	There is exists a significant difference between the Value of Digital Payment Transactions(USD TN) and Volume of Digital Payment Transactions(MN)

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.991749
R Square	0.983567
Adjusted R Squa	0.979459
Standard Error	0.147478
Observations	6

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	5.207085	5.207084872	239.410435	0.000101828
Residual	4	0.086998	0.021749615		
Total	5	5.294083			

	Coefficient	*andard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	-0.31016	0.151346	-2.049310341	0.10977623	-0.730359299	0.11004902	-0.73036	0.110049
Volume of Digit	0.15383	0.009942	15.47289356	0.00010183	0.126226627	0.18143282	0.126227	0.181433

Result

1. Multiple R .991749 denotes Good positive correlation
2. Regression output indicate that 98.3% variations in Value are explained by volume data and remaining persentage
3. low value of Standard error 0.14 are observed.
4. F Signifance is 0.00010 less than 0.05 hence favours H1 There is exists a significant difference between the Value of Digital Payment Transactions(USD TN) and Volume of Digital Payment Transactions(MN)

Interpretation: The Table-1 represents the value and volume of digital payment transactions. It is compared through applying regression tool and it is found that F significance is 0.00010 that is less than 0.05. Hence favors H1 and there exist significant difference between the Value of Digital payment transactions and the volume of digital payment transactions.

Table – 2: Z-test analysis on volume, value of digital payments and total of fintech companies

Year	Number of Fintech Companies Founded 2013-2018	
2013	200	
2014	293	
2015	674	
2016	524	
2017	337	
2018	66	

t-Test: Paired Two Sample for Means				
	Volume of Digital Payment Transactions(MN)	*Number of Fintech Companies Founded 2013-2018*		
Mean	**13.96667**	**349**		
Variance	**44.00927**	**48364**		
Observations	**6**	**6**		
Pearson Correlation	**-0.36041**			
Hypothesized Mean Difference	**0.05**		**small**	**Ho not significant due to F value is smaller than F critical value**
df	**5**			
t Stat	**-3.69065**		**large**	
P(T<=t) one-tail	**0.007068**			
t Critical one-tail	**2.015048**			
P(T<=t) two-tail	**0.014136**			
t Critical two-tail	**2.570582**			

H0	There is no significant difference between the Value of Digital Payment Transactions(USD TN) and Number of Fintech Companies Founded 2013-2018			
H1	There is exists a significant difference between the Value of Digital Payment Transactions(USD TN) and Number of Fintech Companies Founded 2013-2018			
	z-Test: Two Sample for Means			
	Value of Digital Payment Tra	*Companies Founded 2013-2018*		
	Mean	1.838333	349	
	Known Variance	1	1	
	Observations	6	6	
	Hypothesized Mean	0.05		
	z	-601.388	small	H1 there exists a significant due to Zvalue is smaller than Z critical value
	P(Z<=z) one-tail	0		
	z Critical one-tail	1.644854		
	P(Z<=z) two-tail	0		
	z Critical two-tail	1.959964	large	

Interpretation: Table 2 represents the analysis between number of fintech companies with value and volume of digital payments through z-test analysis. It is found in the analysis that there exists a significant relationship between value and volume of digital payments with the total fintech companies.

F test analysis on value and volume of digital payments for different years

H0	There is no significant difference between the Value of Digital Payment Transactions(USD TN) and Number of Fintech Companies Founded 2013-2018			
H1	There is exists a significant difference between the Value of Digital Payment Transactions(USD TN) and Number of Fintech Companies Founded 2013-2018			
	F-Test Two-Sample for Variances			
	Value of Digital Payment Tra	*Companies Founded 2013-2018*		
	Mean	1.838333	349	
	Variance	1.058817	48364	
	Observations	6	6	
	df	5	5	
	F	2.19E-05	small	Ho not significant due to Fvalue is smaller than F critical value
	P(F<=f) one-tail	1.22E-11		
	F Critical one-tail	0.198007	large	

H0	There is no significant difference between the Volume of Digital Payment Transactions(MN) AND Number of Fintech Companies Founded 2013-2018				
H1	There is exists a significant difference between the Volume of Digital Payment Transactions(MN) AND Number of Fintech Companies Founded 2013-2019				
	F-Test Two-Sample for Variances				
	Volume of Digital Payment Tomponies Founded 2013-2018				
	Mean	13.96667	349		
	Variance	44.00927	48364		
	Observations	6	6		
	df	5	5		
	F	0.00091		small	Ho not significant due to Fvalue is smaller than F critical value
	P(F<=f) one-tail	1.35E-07			
	F Critical one-tail	0.198007		large	

H0	There is no significant difference between the Value of Digital Payment Transactions(USD TN) and Volume of Digital Payment Transactions(MN)				
H1	There is exists a significant difference between the Value of Digital Payment Transactions(USD TN) and Volume of Digital Payment Transactions(MN)				
	F-Test Two-Sample for Variances				
	Value of Digital Payment Trai	*Payment Transactions(MN)*			
	Mean	1.838333	13.96667		
	Variance	1.058817	44.00927		
	Observations	6	6		
	df	5	5		
	F	0.024059		small	Ho not significant due to Fvalue is smaller than F
	P(F<=f) one-tai	0.000448			
	F Critical one-t	0.198007		large	

Interpretation: Table 3 represents the analysis between the value and volume of digital payments through F-test analysis. It is found in the analysis that there is no significant relationship between the value and volume of digital payments

SUGGESTIONS

The following aspects are the suggestions of the study to the Indian FinTech companies to reshape the financial services landscape.

- It is suggested that the FinTech startups are likely to reduce costs and improve quality of financial services. Not being burdened with legacy operations, IT systems, and expensive physical networks, benefits of leaner operating models can be passed on to customers.
- The FinTech industry should develop unique and innovative models of assessing risks. Leveraging big data, machine learning, and alternative data to underwrite credit and develop credit scores for customers with limited credit history will improve the penetration of financial services in India.
- FinTech would create more diverse, secured, and stable financial services landscape.
- Fintech companies could learn and adopt best practices around risk and internal controls, operational excellence, compliance culture, and employee engagement.

CONCLUSION

Fintech startups, with their knack to use technology to explore new ways of improving service quality and customer experience, have imposed a serious threat to established financial institutions from the very beginning. And the threat is only growing with time, as depicted in the chart above. By defining new standards within the financial services, they have raised customers' expectations. As a result, today's customers want simpler, more convenient, more transparent, and personalized services across different channels. This has left incumbents with a few options partner with a Fintech startup, acquire one, or invest in technology to transform their core business model, IT infrastructure, operations, and service delivery models. 'Disrupt or get disrupted' has become the industry norm. Digital transformation is more about strategy than technology. So, it is essential for companies to be first clear on their goals with the technology enablement.

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