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Technological Aspects and Digital Finance Uprising in India

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Abstract: ***The Government of India is regularly supporting and embracing the technological advancements necessary to promote digital inclusion among masses. New technologies such as Artificial Intelligence, Machine Learning, Biometric Identification and Blockchain technology brought new financial technologies namely Unified Payment Interface Services, Immediate Payment System and Mobile Banking/Wallet Services into existence. As a result of the revolutionary development of FinTech, Digital Finance Companies and Digital Financial Services, various new digital products emerged and became popular among masses because of their convenient, speedy, simple, and user-friendly functions. This article focuses on FinTech, Digital Finance, Digital Payments, and their role in Digital Financial Inclusion in India.***
Keywords: FinTech, Digital Financial Services (DFS), Digital Financial Inclusion, Digital Payments.

I. INTRODUCTION

Government's recent demonetization and plan to make India a cashless economy has provided an understanding of how digitization and its practice affects all the sectors. Government of India has made reforms in financial sector to update knowledge about digital aspect of financial literacy of every citizen by starting campaigns to educate Indian citizens about digital finance. Digital India is one of the dreams of our government and as a result India is progressing moving towards the digitization in every sector.

Digital financial inclusion can improve the welfare of individuals and the businesses that have a reliable digital platform. The Ecosystem of digital financial services is vast, comprising of technology solution providers, regulators, last mile agents and users who have varied interests and diverse expertise. Co-learning and collaboration are therefore essential to develop this ecosystem and achieve the larger objective of providing access to financial services to all. Digital finance can be increased by promoting FinTech and their role in digital finance inclusion in India, using the existing framework provided by the World Bank, Reserve Bank of India, National Payment Corporation of India.

In 2016, India ranked 3rd among 55 countries across the world in having the most enabling environment for financial inclusion, along with Peru, Colombia, and Philippines. In nearly a decade of progress, multiple stakeholders have come together to enable the delivery of digital financial services to low-income households across urban and rural areas by developing a new ecosystem. Digital finance refers to the concept of implementing digital infrastructure by people and institutions for various financial services like savings payments insurance investment or credit.

Critical factors for initiation and implementation of digital finance are

A. Digital infrastructure consisting of robust network connectivity
B. Digital payments system which has a secure and swift method of making as well as receiving payments
C. Personal identification system that accurately identifies and verifies the financial transaction undertaken by person
D. System to regulate the transactions

II. LITERATURE SURVEY

The term FinTech denotes the financial technology and is defined as the delivery of financial and banking services through modern technological innovation led by computers and algorithms (Ozilli, 2018). The Indian FinTech market has been growing leaps and bounds in the last five years (PWC, 2019).In 2018,India ranked second globally in the FinTech adoption rate, averaging 57.9% behind china 83.5%.The goal of financial services made available via digital platforms is to contribute to the financial inclusion objectives of developing economies (United Nations, 2016).

Digital financial inclusion results in benefits for banks by lowering transactions costs, reducing queuing lines in banks, reducing manual paperwork and documentation. This results in improved efficiency and a need for fewer branches for banks(Manyika, 2016).Digital financial inclusion can improve the welfare of individuals and business that have a reliable digital platform (CGAP, 2015). It can be concluded that there are close relationships among FinTech, Digital finance and Digital financial inclusion.

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FinTech is a portmanteau of the terms "Finance" and "Technology" and refers to any business that uses technology to enhance or automate financial services and processes. FinTech market and FinTech business units have been growing steadily in India -in the year 2015 there were 174 FinTech units which increased to more than 2000 units by the year 2018. The value of transactions is expected to reach $73 Billion in the year 2020(MicroSave,2018).

III. DIGITAL FINANCE TECHNOLOGICAL ASPECTS

As stated before, digital financial inclusion can be beneficial to individuals and businesses. Digital financial inclusion can be defined as digital access of formal financial services by the excluded and undeserved population through deploying reliable and cost saving digital services.

A. Digital Finance services Have three Essential Concepts namely

1) Digital transactional platform
2) Intermediaries/Retail agents
3) Usage by customers

The government is working vigorously to bring right digital platforms and infrastructures to promote FinTech market in India further. Our government is encouraging adoption of FinTech's by the customers through the initiatives such as demonetization, direct benefit transfer(DBT),UPI products like Bharath Interface for Money(BHIM),Bharath QR code, Aadhaar Enabled Payment Services(AEPS). Rupay debit cards, National Automated Clearing House(NACH), charging no transaction fees for National Electronic Fund Transfer(NEFT),and Real-Time Gross Settlement (RTGS).

B. Digital Technology Adoption Statistics in INDIA



Source: Akamai's state of the internet report/MGI digital India report

Table 1: Digital payments in India from March 2014 to March 2019 from source bulletin

PARTICULARS	2014	2015	2016	2017	2018	2019
PAPER CLEARIN G	1253.1	1196.5	1101.9	1206.6	1170.6	1123.7
RETAIL ELECTRONIC CLEARIN G	1018.7	1687.4	3141.6	4161.7	5467.2	7113.2
DEBIT AND CREDIT CARDS	7219.1	8423.5	10036	12054	13358	16046
PREPAI D PAYMENT INSTUM ENTS	144.2	314.46	747.96	1963.6	3459.0	4604.3
TOTAL RETAIL DIGITAL PAYME NTS	9636.1	11621	15028	19386	23455	28887

Source RBI bulletin (rupees in crores)

1) Overall growth of digital payments in India has increased by 198%
2) Debit and Credit cards are also grown significantly. The card transactions increased by 122% in 2019 compared to 2014.

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C. Various Methods of Digital Payments Available in India

1) *NFS or MST Transmission over Platform:* Companies have come up with marketing transactions through NFS (near field communication) and MST (magnetic secure communication)
2) *Digital Wallet Payment System:* Through this platform money is loaded in digital wallets, you can add money using digital wallet apps.
3) *USSD Code Payment System:* If you do not have Smartphone internet facility, still you can make payments through dialing USSD (Unstructured Supplementary Service Data) code from your basic phone
4) Mobile Money Identifier: MMID is a seven-digit unique number which issued by the bank once you have registered your mobile number
5) *UPI App Based Payments Platform:* UPI has come up with a unique feature of creating virtual address through which you can transfer money without disclosing your account number and IFS code to the receiver.UPI works on real time basis which means the money is transferred instantaneously.
6) *QR code-based Payments System:* QR code is again a different mechanism of making the transfer of payment where you only need to scan the QR code of the merchant and do the transfer of payments. FinTech market and FinTech business units have been growing steadily in India in this decade.

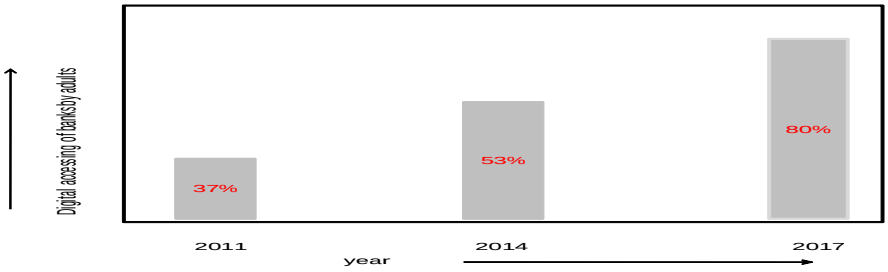


Chart.2: Internet users in India

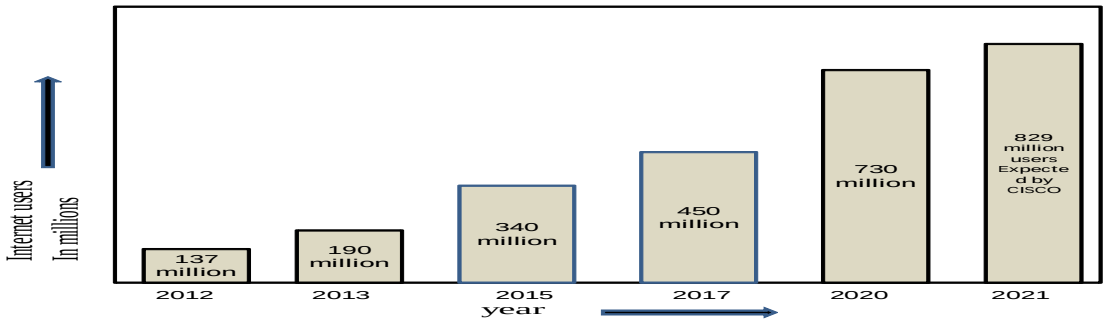


Chart.2: Internet users in India

IV. CONCLUSION

FinTech companies have changed the face of payments, credit, remittances, and the government is leading from the front in digital financial inclusion. FinTechs fueled access to the bank account by the adults in India. It seems that there is still a long time to go before India can become a cashless economy.

The biggest challenge in front of government is the lack of knowledge and awareness among people and concerns of transactions security using digital payment methods and the risk of hacking. Inadequate infrastructure & inadequately trained staff in the rural and north east regions are acting as a barrier in reaching the benefits of digital financial services. Strategic programs and promotions/campaigns to improve digital and financial literacy is the need of the hour.

Several active measures and initiatives have already taken up by government in this direction like Simplification of tax procedures GST /Aadhaar enabled digital transactions/Mobile banking, use of technology to Direct Benefit Transfers (DBTs)etc.

Implementation of such initiatives need to be further enhanced by close collaboration with all stake-holders to strengthen & improve the Digital Ecosystem in India.

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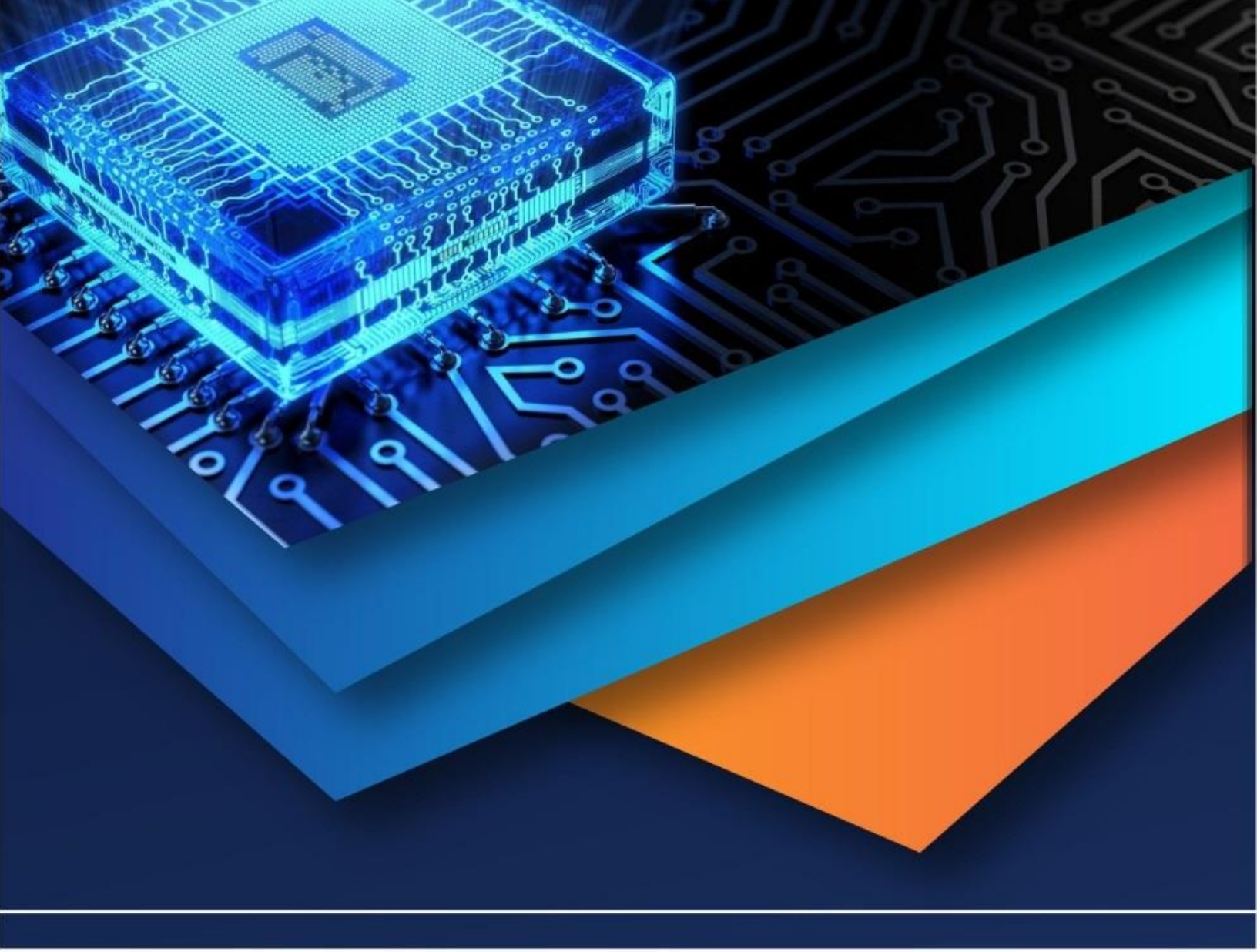
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