Institutional Void to Institutional Work: Study of Digital Finance in India

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Abstract:

This article presents a longitudinal development of digital finance in India. The article presents the growth of digital finance in India from the 1950s to 2022. It discusses various legislations, litigations and civil society activism in the initialization of digital finance in India. Consequently, this article studies the institutional development of digital finance in India using an institutional work framework. Further, it draws on institutional voids and institutional work framework to reflect the present state of digital finance and what must be done to ensure that it is more inclusive and protects its users' property rights. The article's main contributions are that it applies

the concepts of institutional voids and institutional works in the case of the institutionalisation of digital finance in India and its studies the development of digital finance in India using expert interviews and secondary data analysis.

Keywords: Digital finance literacy in India, Digital finance, Institutional work, Financial ethics, Financial institutions of India

1. Introduction

The developing world faces multiple levels of socio-economic crises, primarily caused by poverty, lack of water, climate change, public health crises, unemployment, and lack of skilling and education (Banerjee & Duflo, 2012). The following factors compound the difficulties in addressing the causes of these crises. First, there is an inefficient allocation of resources by the state, resulting in the need for a multi-sector organized effort to deploy resources efficiently (Powell, Gillett, & Doherty, 2018). Second, a lack of entrepreneurial ecosystems hinders the development of markets that efficiently allocate resources to solving issues like climate change, unemployment, and wealth generation (Gümüsay, 2017). Third, the traditional financial credit lines that support social innovation addressing the causes of socio-economic problems that use innovative market-based financial strategies are underdeveloped (Hudon, Labie, & Reichert, 2018). Fourth, there is a lack of multi-institution and multi-stakeholder organized effort toward addressing the fundamental socio-economic problems (Kraatz & Block, 2008). There are multiple policies and strategies that communities, governments, and organizations can use to address poverty, unemployment, public healthcare challenges, climate change, and lack of skilling and education. This article studies the development of Inclusive digital finance in India. Studying fintech from a development perspective makes an exciting inquiry into organizational studies because digital finance bridges multiple institutions (like banks, public sector finance) and more modern organizational forms like social enterprises and fintech startups. In this article we explore the institutional work of digital finance in India. We further explore how digital finance institutions respond to India's socio-economic dichotomies and ensures that the interests of marginalized are included.

2. Theoretical framing: Institutional Work Framework

India ranks close to 130 or inferior on multiple developmental parameters like literacy, HDI, GINI, and per capita income. Despite this, India has over 600 million internet users and over 800 million smartphone users. This dichotomy is startling, however, it also implies that government policies can leverage the potential of high-end technologies in helping and leapfrogging citizens from economic and societal problems. In that context, internet-based information to deliver multiple public services is seen as a strong policy initiative to bring socio-economic development to the people. One such public service that has been explored and delivered to millions of citizens in India is digital finance.

However, Digital finance is an evolving institution. Nobody knows what happens behind those complex algorithms, software systems and servers. In times of cyber-attack or security breach, who secures our assets that are locked within digital walls. At the same time, the educated and technically knowledgeable people have a higher advantage to leverage their investments using digital finance. While many are slow learners who maybe taken advantage of, it is essential to have a system that responds to the needs and risks associated with different stakeholders. For this article, we use an institutional work framework to understand digital finance's institutionalization and institutional resilience.

For institutions to grow and survive, they need legitimacy from multiple stakeholders. Digital finance is a growing institution that needs institutional work to signal to the different stakeholder and draw legitimacy. Institutional Work refers to the sets of practices through which individual

and collective actors create, maintain, and disrupt organizational fields' institutions (Dobbins, 2010) . Institutional Work refers to the actions individuals, organizations, and policy makers take to ensure institutions' maintenance and innovation (Lawrence et al., 2011; Paul, Jarzabkowski et al., 2010). Lawrence and Suddaby (2006) theorize institutional work framework into three stages (See table 1), namely, Institution Creation, Institution Maintenance and Institutional Disruption.

Table 1 Institutional Work Process

Stage	
Disrupting	Disconnecting Sanctions Disassociating Moral Foundations Undermining assumptions and beliefs
Creating	Advocacy Defining Vesting Constructing Identities Changing Normative Associations Constructing Normative networks Mimicry Theorizing Educating
Maintenance	Enabling Work Policing Deterring Vapouring and Demonising Mythologizing Embedding and Routinizing

According to Lawrence and Suddaby (2006), institutional creation is the most important stage of institutional work. It involves the actions and reflection of the process, risks, and actors who engage in institutions' development. Ideally, institutions are sociological settings that function relatively independently. Yet, some institutions are stronger and while others are weaker. Digital finance institutions in the European Union are stronger compared to similar institutions in developing countries. Institutional maintenance is a way to understand and reflect the

institutional resilience and the requirement to maintain their resilience. Stronger institutions would protect property right without litigation, while weaker institutions may force marginalized people to seek civil society and public interest litigation to protect their rights. Digital finance as an institution would challenge the existing status quo of banks and other intermediaries. There is risk of inter-institutional conflicts, delegitimating and possible disruptions (Lawrence & Suddaby, 2006). Institutional work would involve the study of these risks and potential actions to mitigate these risks.

3. Method

Data Collection

This article employs a qualitative research method. The research involved desk research of articles that provide a longitudinal perspective on India's growth of digital finance. Table 3 provides a summary of the longitudinal trajectory of digital finance in India. The research method also involves an interview with experts on Indian fintech and banking industry. The interviews were conducted using an interview guide that included exploratory questions on the history of digital finance in India, major institutional contingencies and future outlook. In total ten interviews were conducted. The snowball sampling criteria for an interview was adopted. The interviewee and their background is presented in the table below.

Data Analysis

The collected data were divided into three sections. The first section focused on the historical development of digital finance in India. First section formed the basis for the development and analysis of the second section. The second section used the frame of institutional work theory to develop the data analysis heuristics. Institutional work theory states that new rules, processes, and actions are legitimated only when they are secure, market acceptance, legal, decrease transaction costs, and has lower market entry costs. Following the institutional work perspective, we analyze the data based on inter-organisational and inter-institutional collaboration, technical Infrastructure, regulatory, and market development infrastructure.

4. Findings: Evolution of Digital finance in India

Despite being a developing country with extremely challenging developmental rankings on each developmental index, the technological progress made by the Indian state is a reflection of how institutions can act independently and lead to innovation, development and hi-tech adoption. In a similar context, the digital finance sector (informally also known as the fintech sector) in India is evolving at a fast pace, and along with this evolution, we see a rapidly evolving and innovating institutional and market behavior. Table 2 summarizes the longitudinal development of digital finance in India.

Table 2: History of Digital Finance in India (multiple sources used to construct the table)

1956	HEC – 2m, first digital computer from UK, Installed in Indian Statistical Institute Kolkatta[1]
1981	Infosys was founded (one of the inspiring IT firms in India that led the cradle of entrepreneurship in the technology sector in India and ushered digitalization)
1987	First ATM in India by HSBC in Mumbai
1995	BSE (Bombay Stock Exchange) was founded in 1875 and started e-trading in 1995

[1] https://www.isical.ac.in/~repro/history/public/notepage/HEC-2M-F.html

1998	Internet banking by ICICI Bank
2000	India IT act (comprehensive act giving definition to financial and cyber rights and security)
2001	Mobile (SMS based) alerts on balance and transactions
2003	Infosys Finacle was first implemented by State bank of India to manage its banking services and operations, since it has expanded to over 100 countries and their banks
2007	• Founding of One97, one of the Mobile based venture capital fund, later launched Paytm • National Payments Corporation of India (NPCI), an umbrella organisation for operating retail payments and settlement systems in India, is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007, for creating a robust Payment & Settlement Infrastructure in India.[2]
2008	RBI allows fund transfer over mobile
2010	• Launch of PayTm (similar to Paypal), most widely used payment app in India • Zerodha, electronic discount brokerage platform • Shared Financial Switch (Public infrastructure) • IMPS introduced in Indian banking(Public infrastructure)
2011	• AePS is a bank led model which allows online interoperable financial inclusion transaction at PoS (MicroATM) through the Business correspondent of any bank using the Aadhaar authentication • Cheque Truncation System • RBI deregulates IMPS, paying way for M-Commerce • M-Pesa launched by Vodafone in collaboration with ICICI bank[3]
2012	• RuPay, a new card payment scheme launched by the National Payments Corporation of India (NPCI), has been conceived to fulfill RBI's vision to offer a domestic, open-loop, multilateral system which will allow all Indian banks and financial institutions in India to participate in electronic payments. • National Automated Clearing House (NACH)" for Banks, Financial Institutions, Corporates and Government a web based solution to facilitate interbank, high volume, electronic transactions which are repetitive and periodic in nature.
2013	• Aadhar Based payment and Bridge system • RBI Categorically stated that BITCOIN and Virtual currency as illegal trading items
2015	Jan Dhan, Digital India (platform for digital infrastructure from Internet to open APIs)
2016	• Aadhaar Act 2016, rectified by Supreme court of India in 2018 • Unified Payments Interface (UPI) is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood. It also caters to the "Peer to Peer" collect request which can be scheduled and paid as per requirement and convenience • First digital bank : Digibank by DBS[4]; enrolled one million customers by June 2017 • Bharat BillPay is the consumer brand of BBPS. The Bharat bill payment system is a Reserve Bank of India (RBI) conceptualised system driven by National Payments Corporation of India (NPCI). It is a one-stop payment platform for all bills providing an interoperable and accessible "Anytime Anywhere" bill payment service to all customers across India with certainty, reliability and safety of transactions.[5] • Demonetization (opened a window of opportunity for payment based Fintechs) • Bharat Interface for Money (BHIM) is an app that lets you make simple, easy and quick payment transactions using Unified Payments Interface (UPI). You can make instant bank-to-bank

[2] https://www.npci.org.in/milestone

[3] https://thenextweb.com/in/2013/04/17/vodafone-launches-m-pesa-mobile-banking-service-in-india-targets-700m-unbanked-people/

[4] https://www.dbs.com/innovation/dbs-innovates/banking-without-branches-dbs-digibank-india-gains-1m-customers-in-a-year.html

[5] https://www.npci.org.in/milestone

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2017	GST (Goods and services tax), Infrastructure for the Electronic payment of GST
2018	Payments Banks launched by Paytm, Reliance Jio, Airtel, Bharti-Idea (truncated service banks)
2020	Covid 19, Greater reliance on Fintech technologies for trade and transaction Greater issues on Fintech security - PayTm continues to lose capital, fails to compete with UPI - Reliance Jio Internet is becoming a platform provider for OTT services - IPO SBI Cards
2021	IPO of Paytm (first fintech IPO) RBI Policy of Bitcoin and Cryptocurrency
2022	Whitepaper on Digital Wallet Crash of Cryptocurrency market (Validation of RBI regulation of cryptocurrency) Strategic alliances and M and A activity in the fintech sector, stronger private player investments and acquisitions

The **first computer** was imported in 1956, and one of the first global IT company was established in India in 1981. While Infosys lead the way for IT services in India and abroad, India still lagged behind computerization and automation until the late 1990s. The digitalization of banking started very late in India. HSBC operated the **first ATM** from Mumbai in 1987. The Bombay stock exchange started e-trading in 1995. Things become easier as Indian firms started to code their software, and enterprise software prices decreased.

First Indian bank to adopt **internet banking** was ICICI bank in 1998. The adoption of internet banking In India was almost 20 years after it was introduced in the United States. The legal framework was not defined until 2000. Before the Y2K, the Indian parliament passed the first major legal framework on Information technology known as the Indian IT act. The act defined the Information technology-based business. It defined the rights of individuals and ensured the protection of property rights. The act was a first step and needed multiple interventions from civil society and courts.

Following the **2000 Indian IT act**, multiple innovations started to happen. Among them was the SMS alert services by the banks on mobile phones on their transactions and balance. In 2003 Infosys developed industry-level software known as Finacle for managing banking operations, products and services. Many Indian banks are currently using this software to manage their operations. This software reduced the cost of e-banking in India and the developing world as well. It was also the time when the Indian startup ecosystem was evolving. The Indian startup ecosystem made major progress with the founding of One97 venture capital fund in 2007. It fundraised close to USD 100 million and made investments in internet and mobile-based startups. Most of its investments did exceptionally well as they were first movers. Most internet-based startup needed digital payment modes.

In 2007 , the RBI formed an institution called the National payments council of India. 2007 act led to the creation of robust Payment & Settlement Infrastructure in India. It is an umbrella organization for operating retail payments and settlement systems in India. It has introduced several initiatives that are opening up the fintech sector in India such as 1) Immediate Payment Service (IMPS) which helps in real time payments in retail sector; 2) National Financial Switch (NFS) and Cheque Truncation System (CTS) helps in faster check clearances and prevent check frauds; 3) Unified Payments Interface (UPI) helps in transaction of payments/transfer of funds with ease without going to the bank 4) Bharat Bill Payment System (BBPS) - launched in pilot mode, will help faster clearing of bills 5) RuPay Card is a free debit card that used by most Indian bank account holders to do retail transactions, similar to mastercard/visa but less expensive 6) National Common Mobility Card (NCMC) and National Electronic Toll Collection

(NETC) are other products aimed at reducing the payment related pain points. Further in **2008,** RBI allowed transactions over mobile. These measures allowed easier flow of capital, away from traditional banks..In 2009, the Indian government launched Aadhaar verification system. The system was built on the idea that the unique biometrics of Indian citizens would be linked to a 12 digit number. This system is evolving, and currently, many public services are not linked to Aadhar card. As a consequence, **in 2010**, India saw multiple startups like Zerodha, Paytm.

In 2013, the RBI categorically advised market and entrepreneurs to refrain from trading or selling products building on bitcoin, while advised on blockchain. RBI still lacks a policy on blockchain and continues with a discouraging advisory on transactions involving cryptocurrencies. Such a policy strategy has led to the de-growth of cryptocurrency innovations and markets in India.

In 2015, Indian government launched Jan Dhan Yojna, known as Pradhan Mantri Jan Dhan Yojana (PMJDY) is financial inclusion program that aims to make affordable access to financial services (such as bank accounts, remittances, credit, insurance and pensions). Under this scheme, the government allows the opening of no-frills truncated services accounts which provide 1) basic account services 2) INR 5000 overdraft after 6 months 3) Free Rupay Debit Card 4) Relaxation of KYC (using Aadhaar ID card) 5) Interest on deposit. The accounts are operated by Business Correspondents trained in basic financial services. The account holders use their biometrics and Aadhar card. In the same year, India launched India stack. India stack open public sector APIs for all. These APIs provide infrastructure for digital payments.

In 2016, India's government took numerous decisions that further facilitated the innovation and market creation of digital finance. Among the, the Aadhaar Act, UPI transaction infrastructure and Demonetization stands out. 2016, Aadhar act institutionalized the use of aadhar card as a legitimate document to procure multiple public services and financial services. Aadhaar is a 12-digit unique identity number obtained by India residents, based on their biometric and demographic data. The Aadhaar project has been linked to some public subsidy and unemployment benefit schemes such as the domestic LPG scheme and MGNREGA. In these Direct Benefit Transfer schemes, the subsidy money is directly transferred to a bank account which is Aadhaar-linked. It also created the Infrastructure to map the credit history of individuals automatically. In 2016, RBI introduced Bharat Bill Pay. Many startups used the Bharat bill pay infrastructure and created applications that ensure bill payment over the internet. Finally, 2016 ended with Demonetization. Though a controversial decision, the policy led to multiple fintech companies. Demonization bought numerous behavioral changes among the consumers in India. They became more adaptable to technology and started to use digital payment systems more frequently than before.

In 2017, the Indian government launch GST act which led to new taxation regime, made taxation easier and facilitated both inter-state and international trade. The GST act ensured the development of multiple startups which would automatize tax and invoice management involving cross-border trade between Indian states and international trade. A result of these multiple policy decisions, one can observe the greater market activity. GST, although a traditional institutional process was designed to rely on technology completely. This created multiple problems. It continues to evolve as of now.

In 2020, we see more significant innovation in the financial sector. The launch of IPO SBI cards and its continuous favorable valuation shows that India specific financial products and services has a strong potential. The IPO also shows that digital finance firms in India will get market acceptance**. Covid 19** and its effects: Covid 19 allowed further diffusion of digital finance among people. There was a high risk that currency notes may carry virus, and therefore, people digital financial media to undertake transactions. Covid 19 further reinforced the local and institutional movement towards digitalization.

5. Discussion: Institutional Work of Digital Finance in India

Following the framework of institutional work by Lawrence and Suddaby (2006), below is the discussion on creating an Inclusive digital finance institution in India. The full paper would contain a discussion on the Maintenance and Disruption framework of Institution work.

Advocacy

Advocacy is an essential component of institutional work. India's advocacy groups lobbied politically involving opposition parties to pressure the government to ensure digital privacy and data security. Currently, Aadhar card (similar US based social security number) store all the digital footprint, and any public agency can have access to that data. Access to the data has been regulated through advocacy, but it needs more technological and institutional work.

Defining

Defining implies "the construction of rule systems that confer status or identity, define boundaries of membership or create status hierarchies within a field. At the societal level, an illustration of this process is the way". However, digital finance is a rapidly evolving space where national and international actors are involved. Each has its interest in defining inclusion in digital finance. Through laws passed in the parliament, India's government has tried to define various organs of the digital financial system. Strong opposition and civil society keep on challenging the definition through public protest and public interest litigations (similar to class action lawsuits).

Vesting

Vesting refers to institutional work directed toward creating rule structures that confer property rights (Lawrence & Suddaby,2006). Vesting is again evolving and temporal as technological advances highly temporal. The process of vesting comprises of the multi-institutional framework. Advocacy groups are strongly pursuing the government to ensure data privacy, protect digital property rights, and focus on democratic governance. The India IT act in 2001 laid one of the first foundations defining and vesting the regulation of Information technology.

Subsequent legislation mostly focussed on removing regulation while ensuring protecting property rights.

Constructing Identities

Construction of organisational identity is an important element of institutional work. Identity is a link between the actor and the organisational field (Lawrence & Suddaby,2006). The construction of identity is largely studied in the case of development of professionals. In this case, we see development of identities and support organizations. There are professional focusing of data security, bankers trained in digital finance, infrastructure experts ensuring reliability of digital finance infrastructure and lawyers training in digital fraud. The government has created digital and IT related regulatory bodies which are developing their own unique professional identities.

Changing Normative Associations

It involves the creation of new institutions that work parallel or in complementary to existing institutions (Lawrence & Suddaby,2006). In this case, we saw the development of payments banks, crowd-funding fintechs, which worked alongside traditional full service banks. The payment banks and crowd-funding fintech required very few regulations, but they were required to provide limited services. The benefit of such an approach led to faster innovations and unique business models and tested the resilience of new institutional practices. For instance, recently, multiple frauds were detected through fintech loan apps where worked outside the traditional banking systems. This limited the fraud to just those apps but also ensured the banking systems learn from these frauds.

Constructing Normative Networks

"Normative networks" are bodies of knowledge that lead to the development of organisational identities, organizational language, and define the organisational field over a period of time. It is a collective effort that requires collaborative work of markets, the public sector and society. Indian fintech startup Paytm is one such example of way mobile payment became synonymous with the word PayTm. The word Paytm (although a name of a fintech firm) became synonymous with mobile payment's normative practice. Also, Payments Bank, UPI, Aadhar Card, and Jan Dhan Accounts represent separate categories, yet they represent normative vocabularies of the emerging digital finance field.

Mimicry

Actions and emerging institutions tend to drive legitimacy from more established actors and institutions. Paytm (highly valued fintech) is named similar to Paypal, drawing legitimacy from the name. Purely Digital banks (which provided savings bank account) and a debit card called themselves bank, effectively drawing legitimacy from the institution of bank and competing with full-service traditional banks.

Theorising

Theorizing is 'the development and specification of abstract categories, and the elaboration of chains of cause and effect'. These categories become vocabulary which over a period of time define and give identity to the emerging institution. These categories become cognitive maps descriptions and defining the boundaries of the new emerging organisational fields. Analysis found multiple vocabularies that uniquely define Indian digital finance landscape. 2001 Indian IT act, 2007 National payments act and 2016 Addaar Money bill were institutional legislations which became the theoretical and legal definitions of digital finance in India. While the legislation were acts of the government, the following amendments in the legislations were the actions of the courts and civil society.

Education

New institutions require a newer skill set. Education is needed for both to use and interact with the new institution and maintain and develop it. Following the development of digital finance in India, universities across the board launched multiple big data courses, AI and finance, fintech management, technology consulting, Oracle -SAP-Finacle for finance. Further, those who were not comfortable using the internet and mobile for financial transactions were forced to learn from their friends, children, and colleagues. At the moment, it seems that those who are not comfortable in digital finance interfaces are losing to those who are good at digital finance interfaces.

6. Conclusion

The growing mobile and financial literacy is expected to bridge the financial capability gap. The low-income segments households do not have the financial capability to use mobile money services offered by mobile network operators (MNOs) and banks (through BCs). However, decreasing costs, higher awareness, and growing network effects drive user behavior towards digital finance. However, there remain challenges as the information asymmetric is high. There is a lack of institutional guarantee. The institutional understanding of digital finance lags far behind the technology creators. The government's institutional support towards financial inclusion using digital technologies has led to policy initiatives, legal Infrastructure, and capacity development, which provide an encouraging platform for the development of the fintech sector in India. However, there remain many issues related to data security, data privacy, and property rights. Yet, the governments' support for entrepreneurial activities in the fintech sector has positioned the Indian fintech landscape as one of the other promising countries.

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