Role of Leadership in the Adoption of Self-Service Technologies in Banking & Finance: An Ethnographic Study of a Public Sector Retail Bank in India

Soumyo Das & Bidisha Chaudhuri
Centre for IT & Public Policy, IIIT Bangalore
Working Paper for DSA 2020

Abstract: Our study explores the role of front-desk executives in the adoption of ICTs in everyday practices of retail banking. Drawing on ethnographic fieldwork in a Public Sector Bank in Kolkata,India, we show the forces driving leadership to proactively push for the adoption of ICTs & the role of front-desk executives. as 'leadership vessels' in facilitating the same. We argue that the role of front-end executives as "leadership vessels" are crucial in reaching out to end users in developing contexts.

Keywords: Public Sector Bank, Digital Payments, Organisational Change, Leadership

1. Introduction

Digital technologies are constantly bringing about profound and dramatic changes in the nature of service delivery. While being used to redesign delivery supply chains, digital technologies are also being used to facilitate people access services & products offered by commercial establishments directly without having to rely on human intermediation. Such technologies, termed as Self-Service Technologies, have gained adoption in a number of contexts – for example, in facilitation of banking through automated teller machines & online banking portals, purchasing tickets via automated kiosks, healthcare advice through online websites, retail via e-commerce platforms etc.

Self-Service Technologies are characterised as "*digital technologies which enable customers to get service on their own*" (Meuter et al 2000). The proliferation of such technologies has come about for a variety of reasons including cost reductions, customer demand, a desire to increase customer satisfaction, and the need of creating new delivery channels for reaching out to new customer segments (Ho et al 2008, Curran & Meuter 2005, Beatson et al 2007, Wijters 2007). The underlying economic motive behind the adoption of such technologies is to facilitate better and more efficient customer-oriented services by reducing the supposed inefficiencies and lag induced by human actors (middlemen, facilitators, intermediaries etc) in service delivery. The underlying assumption is that such technologies, via direct communication with backend service provisioning systems, will be able to facilitate easier access of services by customers in an efficient manner without human actors being involved in the last-mile of the supply chain. Furthermore, such technologies are also assumed to afford global reach of services which were previously tied to their home locations (Bitner et al 2002).

For the past four decades or so, organisational dependence of information systems has grown both in terms of operations, as well as strategy (e.g., Ross & Feeney 2000, Porter & Miller 1985, Brown 2003), and have become ubiquitous & pervasive across different organisational functions. As such, ISs are now a critical resource for the day-to-day operations of the

organization as a whole and for individual functional areas. This increasing dependence on IS, both for operations and process innovation, has placed a significant spotlight on IS leadership. Given that the IS-leadership, for cases ranging from growth to development consulting, has to combine technical skill as well as an in-depth understanding of the organisation across its different functions, unique leadership challenges, previously unexplored in generic leadership literature have come to the forefront (Karahanna & Watson 2006). This research is an effort to contribute to such literature on IS-leadership in organisations, and from the perspective of organisations which play a critical role in a state's sustainable development goals.

For the case of India, Public Sector Banks are the financial-service backbone to the state's development plans & policies. Started as state institutions, they are responsible for providing financial services to people across the state from all socio-economic backgrounds. Unlike private financial establishments, Public Sector Banks comprise a country-wide network or branches in rural and semi-urban areas, which account for 70% of total banking business in India.

The working paper is structured as follows. We start by introducing Public Sector Banks as institutions of development in Section 2, followed by highlighting some of the Self-Service Technologies adopted by a public sector bank in India, the Indian Standard Bank[1]. In section 4, we present our Observations, and we analyse, conclude, and set our objectives for future work in Section 5.

2. Public Sector Banks as Institutions of Development

Public Sector Banks in India are state institutions which first started operating as Presidency Banks in Calcutta, Bombay and Madras. India's post-war development strategy was, in many ways, a socialist one, and the government felt that private sector banks did not lend enough to those who needed it most – the "bottom 80" percent of the population. The Indian government nationalised all large Indian banks in 1969, arguing that banking was "inspired by a larger social purpose" and must "sub-serve national priorities and objectives such as rapid growth in agriculture, small industry and exports." (Mukherjee et al 2004). Since then, more than 58,000 bank branches have opened in India and as of June 2019, 84% of retail banking branches in the country are of Public Sector Banks.

Public Sector Banks in India, unlike private sector financial institutions, were formed with a prime focus to bring financial products and services including retail banking & microfinance to all sections of the society (Ray 2004). The role of Public Sector Banks is to bring economic capital & planning to people in remote sections of the country, often in underdeveloped contexts. Social welfare programs, including household fuel subsidy, educational subsidy and pension disbursing require people to have banking facilities (Economic Times 2009, 2011, 2015). The role of Public Sector Banks got a further impetus following the 2016 'Jan Dhan-Aadhar-Mobile' (JAM) trinity program, leading to increasing emphasis on people having bank accounts and access to banking services as critical requirements to fully take advantage of social welfare and development programs undertaken

---

[1] Pseudonymised name of the bank whose branches we undertook fieldwork.

by the Government of India. Examples include policies based on direct cash transfers to be delivered directly to beneficiaries' bank accounts in the case of Indian Public Distribution System (Rajarajan & Kar 2016, Saini et al 2017, Das & Masiero 2019).

In recent years, PSBs have increasingly started using ICTs to deliver financial services, and are proactively pushing for the adoption of digital banking technologies in service delivery. ICTs implemented in Public Sector Bank can be broadly classified into two categories – *In-House Technologies*, and *Self-Service Technologies*. In house-technologies - for example, the Core Banking Solution software, Cash Authenticator Machines etc - are used by employees in their day-to-day work of providing financial services to customers. On the other hand, Self-Service Technologies, including ATMs, Multi-Function Kiosks, and application & software-systems are used by customers of Public Sector Retail Banks, and are the area of our study. Within the cluster of ICTs used as Self-Service Technologies by customers, our research focuses on app- & platform-based SSTs, and we study two types of SSTs – 1. Online Banking Systems, and 2. Mobile Banking Applications.

3. Methodology

This paper is based on ethnographic fieldwork involving front-end executives, support staff, customers, and their interaction with digital technologies in retail banking ecosystems. The fieldwork was undertaken during October 2019 to January 2020 in 2 retail banking units of a public sector bank in Kolkata, West Bengal.We name this bank Indian Standard Bank (ISB). Both the branches are accessed by people involved in occupations like agriculture, construction, and other forms of informal work, as well as white collar workers and businessmen. The prominent languages spoken in our field sites include Bengali and Hindi. Before conducting fieldwork in Kolkata, we conducted a pilot study in a similar bank branch in Bangalore, Karnataka which helped us design our later fieldwork.

In ISB, we came across two kinds of self-service technologies. First, online banking was introduced in ISB in 2008 which is a web-based application for customers to conduct regular banking tasks and manage their accounts on their personal computers/laptops from their home/office or anywhere with internet access. Online banking started with the introduction of the Core Banking Solution in 2008, but was initially restricted as an in-house technology; however, in 2011, SBI introduced its Internet Banking portal for customers to access online banking facilities. Second, a mobile banking application called Zone, introduced in 2018. Using the application, customers can access account opening, register for banking cards, make mobile payments to both ISB & other bank customers, and even allow for the possibility to apply and get approved for minor loans. The application has been argued by the bank to be 'Simplified' – with an easy to understand interface, and with methods of simple and intuitive navigation

Our study adopted an exploratory single-case embedded design (Yin 2003), and included multiple data collection methods (Benbasat et al 1987, Yin 2003). The data sources included interviews, observations, and participant- observations. Observations were the most important source of information for our study. Around 410 hours (spread over 88 days) of observation, coupled with multiple rounds of interviews with key actors in the retail banking ecosystem

and extensive interviews with customers helped gather data for this study. Interviews were held with key actors in the retail banking ecosystem - Table 1 briefs the details of the interviews conducted at our field sites, and Figure 1 highlights the organisational structure of the bank.

No.	Respondent Type	Count
1	Front-Desk Executives	18
2	Retail Banking Management & Support	6
3	Customers	53
4	Assistants to Customers	17

Table 1. Details of Interviews

The interviews were mostly semi-structured formal interviews with a few informal conversations during the observing processes. The formal interviews lasted anywhere between 30-45 minutes, while informal interactions were much shorter and were conducted in between observations. Interviews with the front-desk executives took place over multiple rounds, with observations between each round shaping the discussions in the forthcoming interview. Guided by "levels of questions" (Yin 2003), multiple rounds of interviews were conducted with the front desk executives in order to corroborate evidence, given different customers had different understandings of the processes involved in retail banking, and how they, at an individual level, undertook those processes.

Given the sensitive nature of financial physical ecosystems (in terms of privacy and security), no recordings (audio or video) were taken. Case notes were written down at the time of observation and during interviews. The names of banks, banking architectures, and respondents have been pseudonymised for privacy.
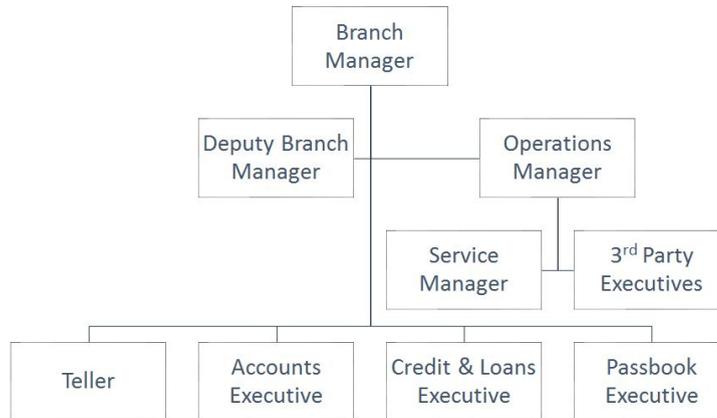
Fig. 1. Overview of the Organisational Structure

4. Observations

Our empirical study brought forth two distinct sets of observations which highlight the role played by different factors in developing Indian Standard Bank's digital strategy, and the leadership's internal positioning contributed to the same. We also see the change in the organisational form and function to accommodate for the digital strategy. In this section, we briefly discuss the app-& platform-based SSTs developed & implemented by Indian Standard Bank for its customers, and present our two sets of observations.

4.2. Adoption of Digital Strategy

"Soumyo, believe me or not, the demonetisation exercise in 2016 changed everything. I have been working with ISB for over 20 years now, and what people went through during that phase was unprecedented. You say demonetisation exercise was not the first – I would say that the earlier ones did not have the kind of impact this did.' – Dr. Ronojit Bhattacharya, CGM, Accounts Operations, Indian Standard Bank.

Dr. Bhattacharya's argument has been echoed by a number of customers, who argue that their reliance on digital wallets like PayTM went up significantly.

"It was difficult, but what was the way out? My colleague – he is like my son only - installed the app for me, and it was really difficult for me to even understand how to use it. People like me have always been using cash, but if I had to stand for 5-6 hours – yes – 5 to 6 hours at the branch, I cannot. In the beginning it was difficult to believe in such apps, but I did it nonetheless. I did it, my colleagues did it, my friends did it. We all did it. We had to do it – there was no other way". – Mr. Arindam Chatterjee, Customer, Indian Standard Bank.

An interview with Mr. Rohan Roy, DGM, Branch Operations at Indian Standard Bank brings out a number of critical points. Firstly, since the demonetisation exercise, a significant number of private banks and certain Non-Banking Financial Companies (e.g. PayTM, Google Pay) had brought out their digital banking architectures.

"Back in 2016 there were quite a number of players in the mobile payment market – but they were restricted to the more youthful sections of our consumers. When the cash mechanism reduced, people from all ages started using PayTM, then Tez and all. Indian City Bank* brought out their own app – and they were not very stable back then, but they were there nonetheless. ISB too, had a few applications, but they were specific purposes and were not as integrative."

Although customers with ISB accounts could use such applications for financial transactions, and the security aspects, as Mr. Roy argues, was high, he says that there was a need to build a platform which was integrative and gave people retail banking facilities at hand.

"I remember in the early months of 2017, we had a number of zonal and centralised meetings, and it was decided to work on a mobile application which could be used for all purposes – from opening bank accounts to applying for a loan. In 2018, our bank went ahead with adding special features – like being able to withdraw money from our ISB ATM networks without the need of a debit card."

A follow up interview with Mr. Santosh Bagchi (Branch Manager) at Indian Standard Bank highlights the organisational aspirations were shaped significantly by existing customers and informal networks of pre-existing customers.

"It would not be wrong to say that public sector banks have not had the best of systems – there is no point denying that internet banking was, even till 2015, a very complex and immature thing. I was earlier working with Indian Lloyd Bank*, and I knew how bad the situation was. Here, however, it is much better. But customers, especially younger customers like you, would come regularly and ask why ISB has not brought out its own app. Then demonetisation happened, and PayTM did great, and customers became more interested in such things. We used to raise such points early on in our zonal meetings – they happen every 6 months – the management had to take notice, and I think that played a big role. In Kolkata however, we have more customers who require assistance in person, compared to other cities like Delhi or Bombay."

4.3. Implementation of Digital Strategy: Role of Front-Desk Executives

We found the role of front-desk executives, who are responsible for providing direct financial services to people as critical human intermediaries to implement the digital strategies adopted by the organisation. While ISB adopted digital strategies for a better banking experience, front-desk executives went through many changes in their work practices to account for the new responsibilities entrusted upon them. Mr. Dhritiraj Sengupta, DGM of Branch Accounts, ISB argues that Front-Desk Executives are '*vessels of digital initiatives of the bank*'. They have reoriented their organisational work practice in such a way that they themselves introduce and assist people to digital banking channels, beyond their technical roles & responsibilities.

For example, when a customer comes to a retail banking branch, Front-Desk Executives are now responsible for asking them if they have online banking systems with them or not, of if they use ZONE - their digital banking application. They, going beyond their standard roles &

responsibilities (e.g. that of an Accounts Manager or Loans Manager etc), help customers onboard such digital platforms, and if they have queries, they resolve them in person.

However, in larger banks, there is a change in the organisational form in itself - a separate dedicated person, given the title of 'Digital Partner', has been given the role of assisting people with digital banking systems. The motivation behind this change is to reduce the footfall and customer density at any given point in time. Prior to 2019, there was no such role in retail banking at the organisation where the fieldwork was undertaken. The role was introduced in June 2019, when a significant volume of work related to ZONE started coming through. However, since then, the responsibility has gone beyond the mobile banking application, and now includes assisting people related to issues with online banking and with 3rd party digital payment applications (e.g. mobile wallets – PayTM/Google Pay etc) as well.

During the observation, some of the tasks undertaken by the Digital Partner included assisting people with onboarding of the mobile banking application or online banking, resolving their issues with the digital systems, and for issues related to transactions/services undertaken through them, recommending the customer to the proper Front-Desk Executive, or helping them with documentation regarding claims or grievances for higher support.

During the tenure of the fieldwork, it was observed that along with assisting people onboard the platforms or architectures, the Digital Partner was also responsible for educating them how to use the same. This includes spending additional time with them, or requesting them to come at mutually agreed hours to learn how to use the information systems. It was seen that the Digital Partner used a variety of methods – including communicating in different languages for different people – among Hindi and Bengali, and by using signs and symbols, and alongside, explaining to them terminologies associated with the information systems.

5. Front-end executives as 'leadership-vessels' and Financial Inclusion

The deployment of ICTs for development by governments and international organisations are often premised on the belief that ICTs, through their widespread diffusion in developing states, can have positive consequences to the social and economic development of marginalised and underserved populations (Heeks 1999, Brewer et al 2005, Das and Masiero 2019; Gomez and Gould 2010). The belief is reinforced through different national policies framed in the recent past - examples include Jan-Dhan Aadhar, Digital India Plan etc, and thereby putting an increasing emphasis on digital finance. In response, and to otherwise market demands, banking leadership at Indian Standard Bank has accordingly put an increased emphasis on onboarding customers to customers online/mobile payment systems. The diffusion of ICTs for banking & finance for developing states, as for other forms of ICTs for development has been shown to require the critical assistance of human intermediaries. When it comes to financial inclusion Demombynes and Thegeya (2012), Ledgerwood and White (2006), Helms (2006) and Rangarajan (2008) etcetera have shown the importance of intermediaries as a critical component of ICTs adoption for finance and financial services provisioning.

The importance of human intermediaries fundamentally lies in bridging both the overt and the social resource endowment gaps between what the disadvantaged have (e.g. literary

levels, digital literacy levels, economic resources) and what they need in order to access ICTs (Heeks 1999, Cecchini 2003, Batchelor et al 2003, Donner and Marsden 2011, Medhi et al 2010, Parikh 2006). Being a public sector bank, a significant proportion of customers of Indian Standard Bank are disadvantaged, coming from underdeveloped sections of the society, and the issues faced stem from low literacy levels, low digital literacy and lack of trust in technology, barriers between conversational and user-interface language, and age-related factors (issue with remembering things – e.g. PIN codes of debit cards). Observations during the fieldwork highlights the role played by Front-Desk Executives as vessels[2]' - which is in fact, the role of an intermediary. Front-Desk Executives, or Digital Partners, are responsible for informing customers of new channels of banking, assisting them with onboarding such channels, and resolving issues related to it - and therefore, are at the channel & agency of implementation of the digital strategies formulated the mid- & top-tier leadership of the retail bank.

6. Conclusion

Our initial set of findings highlight two important themes: firstly, the linkages between national policies, market-demands, and organizational aspirations of being a 'progressive modern firm' as core driving forces behind the senior and mid-level leadership stressing on increasing number of 'active users' of the digital banking infrastructure; secondly, the role of front-end executives as 'leadership-vessels' by acting in new advisory roles - from explaining the digital technology to customers, to helping them board the platform, and advising them on mitigating problems as and when they arise. Given the ecosystem of a developing state that Public Sector Retail Banks operate in, and the overarching social endowment gaps of customers accessing financial services through Public Sector Retail Banks, it can therefore be argued that Front-Desk Executives, acting as the intermediaries responsible for in-person interactions with customers, have reoriented their work practices to incorporate digital policies of the leadership. It is critical to study their role in facilitating the adoption of digital banking architectures and extending support to mitigating problems in digital system use, arising out of structural issues & use-knowledge shortcomings of customers.

References

Batchelor, S., Evangelista, S., Hearn, S., Peirce, M., Sugden, S. and Webb, M. (2003) ICT For Development: Contributing to the Millennium Development Goals – Lessons Learnt from Seventeen infoDev projects, Washington DC: World Bank.

Beatson, A., Lee, N., & Coote, L. V. (2007). Self-service technology and the service encounter. The Service Industries Journal, 27(1), 75-89.

Brewer, E., Demmer, M., Du, B., Ho, M., Kam, M., Nedevschi, S., ... & Fall, K. (2005). The case for technology in developing regions. Computer, 38(6), 25-38.

---

[2] The term 'leadership vessels' was introduced in the informal ISB environment during one of the quarterly meetings between the management & the Front-Desk Executives. Front Desk Executives argue that they have become responsible for implementing the strategies formulated by the leadership at ISB - thereby acting as 'vessels' through which policies of the leadership are implemented at the ground level.

Cecchini, S. (2003). Tapping ICT to reduce poverty in rural India. IEEE Technology and Society magazine, 22(2), 20-27

Curran, J. M., & Meuter, M. L. (2005). Self‑service technology adoption: comparing three technologies. Journal of services marketing.

Das, S., & Masiero, S. (2019, January). The datafication of anti-poverty programmes: evidence from the public distribution system in Karnataka. In Proceedings of the Tenth International Conference on Information and Communication Technologies and Development (p. 39). ACM.

Demombynes, G., & Thegeya, A. (2012). Kenya's mobile revolution and the promise of mobile savings. The World Bank.

Donner, J., Gitau, S., & Marsden, G. (2011). Exploring mobile-only Internet use: Results of a training study in urban South Africa. International Journal of Communication, 5, 24.

Gomez, R., & Gould, E. (2010). The "cool factor" of public access to ICT: Users' perceptions of trust in libraries, telecentres and cybercafés in developing countries. Information Technology & People, 23(3), 247-264.

Heeks, R. (1999). Information and communication technologies, poverty and development. Development informatics working paper, (5).

Heeks, R. (1999). Information and communication technologies, poverty and development. Development informatics working paper, (5).

Helms, B. (2006). Access for all: building inclusive financial systems. The World Bank.

Ho, S. H., & Ko, Y. Y. (2008). Effects of self‑service technology on customer value and customer readiness. Internet research.

J. W. Ross and D. F. Feeny, "The evolving role of the CIO," in Framing the Domains of IT Management: Projecting the Future Through the Past, R. W. Zmud, Ed. Cincinnati, OH: Pinn Flex, 2000, pp. 385–402.

Ledgerwood, J., & White, V. (2006). Transforming microfinance institutions: providing full financial services to the poor. The World Bank.

M. E. Porter and V. E. Miller, "How information gives you a competitive advantage," Harv. Bus. Rev., vol. 63, no. 4, pp. 149–161, 1985.

Meuter, M. L., Ostrom, A. L., Roundtree, R. I., & Bitner, M. J. (2000). Self-service technologies: understanding customer satisfaction with technology-based service encounters. Journal of marketing, 64(3), 50-64.

Parikh, T. S. (2006). "Understanding and Designing for Intermediated Information Tasks in India," Pervasive Computing , pp. 32–39.

Rajarajan, K., Kumar, S. G., & Kar, S. S. (2016). Proportion of beneficiaries and factors affecting Janani Suraksha Yojana direct cash transfer scheme in Puducherry, India. Journal of family medicine and primary care, 5(4), 817.

Rangarajan Committee, 2008, "Report of the Committee on Financial Inclusion", Committee Report.

S. Brown, "Does IT matter? Response to Carr," Harv. Bus. Rev., vol. 81, no. 6, pp. 109–112, 2003.

Saini, S., Sharma, S., Gulati, A., Hussain, S., & von Braun, J. (2017). Indian food and welfare schemes: Scope for digitization towards cash transfers. ZEF-Discussion Papers on Development Policy, (241).

Weijters, B., Rangarajan, D., Falk, T., & Schillewaert, N. (2007). Determinants and outcomes of customers' use of self-service technology in a retail setting. *Journal of Service Research*, *10*(1), 3-21.