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Assessing the Influence of Digital Divide on Employees of Indian Financial Institutions

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Abstract
The pandemic accelerated the digitalization across various industries including financial sector. The banking industry had adopted digitalization selectively especially in consumer-facing transactions. Within the banking industry, Indian public sector banks (PSBs) have been slow in adopting the digital practices. However, the pandemic enforced lockdown led to increased digital engagement by the bank employees. The present study aims to research the impact of enhanced digital adoption by public sector bank employees during the covid-19 pandemic. Through the framework of Expectancy-Disconfirmation Theory, the authors showcase that while the information failure and the service failure create dissatisfaction among the employees, the functional failure of the technology was not the factor leading to the dissatisfaction among the employees. In the present study data has been collected from 326 bank employees across four different public sector banks, spanning eleven branches. Finally, the authors discuss the theoretical contribution and industry implications of the findings of the research.

Keywords: Public sector bank employees, Expectancy- Disconfirmation Theory framework, digital divide, information failure, service failure, functional failure

1. Introduction

The new coronavirus (COVID-19) pandemic was the first major issue the world had to deal with in 2020. Because the disease is highly contagious, policy measures like imposing social seclusion, requiring individuals to isolate themselves at home, closing organizations and the general buildings, limiting travel, and even placing an entire nation under lockdown can be used to stop its spread. All financial and non-financial industries have been stunned since COVID-19 was declared a global pandemic on March 11, 2020, followed by the announcement of global lockdowns. The COVID-19 pandemic has accelerated the world's transition to the digital environment, with many people increasing their reliance on the internet for access to information, work, school, social support, and services (Lai and Widmar 2021). As the usage of ICTs in our everyday life has risen, it has emerged as a crucial area of concern for governments (Alshehri and Drew 2011). In 2020, approximately 60% of people worldwide used the internet, a rise of 7.3% compared to the previous year (Kemp 2021). The average world E-Government Development Index (EGDI) score increased from 0.47 in 2014 to 0.55 in 2018, indicating that the supply of public services digitally is accelerating globally (UNDESA 2018). Despite this, the issue of uneven digital dispersion and acceptance cannot be disregarded. While the epidemic emphasised the value of the digital economy, it also revealed many ways in which societies in developed and underdeveloped countries experience digital gaps (Tadesse and Muluye 2020). For example, consumers' poor technology literacy, limited internet access, outdated IT infrastructure, a shortage of digitalization, and communication and language barriers (Jaeger and Thompson 2003). ICT access and use are hampered by these drawbacks, and they may also widen the digital divide (Castells 2002). Several weeks after the COVID-19 epidemic, the use of digital solutions was expedited by lockdown at an unimaginable speed, generating unexpected chances for accelerating alternate methods of social and economic existence. Because of the substantial impact of globalisation and interconnectedness between nations in this instance, the coronavirus outbreak differs from past outbreaks in the past. Less developed countries have been shocked by this circumstance, and even wealthier nations have struggled to provide medical services during the outbreak (Shrestha et al., 2020). Due to more intense human connections caused by travel and migration, more developed and globally connected nations are impacted more quickly and significantly (Zimmermann et al., 2020).

The COVID-19 epidemic may present the banking sector with its toughest challenges in recent memory. The COVID-19 pandemic has caused people all across the world to turn to banks to carry on with daily activities like making payments, buying food, and doing brand-related spending (Naeem and Ozuem, 2021). Banks are a crucial economic structure, and the management approaches they choose will have an impact on how quickly the economy recovers from the pandemic. Because they enable both domestic and global trade, banks play a significant role in the economy. A major breakdown in this system would have an impact on society as a whole. Trust is essential for the economy and banking system to work in this sector (van Esterik-Plasmeijer and van Raaij, 2017). The significance of

banks for economic and social prosperity is undeniable (Berger, Molyneux, and Wilson, 2020; Liang & Reichert, 2020). They are the capital market generators and financiers of the economy, businesses, and people.

The COVID-19 epidemic has had several impacts on the banking industry, including increased usage of digital channels and payments; modifications in consumer habits; ease of regulations; a rise in non-performing loans; new difficulties with operational resilience; and supervisory requirements. There are 12 PSU's in India having approx 81397 branches and 7,42,000 employees approx working in the banks. Retailers have been compelled to utilise more digital payments and channels to entirely adapt and accept the emerging channels and technologies at the cost of money and established channels. Additionally, 57% of users now choose digital banking services, compared to 49% of users in the pre-pandemic phase, according to Capgemini's World Retail Banking Report 2020. Since banks are crucial service providers for clients and the general public, and the trend towards digitization is speeding up, they must approach workforce management with a well-planned strategy, especially since many employees have direct interaction with customers and others require office facilities to function (Buehler et al., 2020). However, banks ought to offer more active advice and instruction on internet banking, particularly to people who are unfamiliar with the system. The banking sector has modified some of its outdated practices and is currently looking for new approaches to simplify things for customers. Every banks had started their own digital app to provide better and fast services to the customers by providing services extra services like UPI scan, instant loan, life certificate submission, interest certificate, GST payment, cheque book apply, insurance and mutual fund facilities. This period is crucial for banks since it has demonstrated that using an adaptive framework to work allows things to move quickly.

This research aims to empirically verify the effects of digital by combining Tan et al.'s (2016) failure model with the services failure Information Success Model by Delone and McLean, 2003). EDT is additionally used to assess the unconfirmed expectations of digital services and their effects on employees. Having this concept in consideration, through this study, authors can highlight how the outcome, procedure, cost, and employee satisfaction compare to the employees' expectations and how these factors can lead to satisfaction or dissatisfaction among the employees and the banks. The failure experience of the employee is assessed in terms of information, functionality, facilitation, and performance expectancy, it fails.

The remaining five sections of the research are organized as follows.

The second part of the manuscript explains the research evaluation and the effects of digital information, functional, and service failures in PSB services. The research design, including the methodology used for data collection, participant profile, hypothesis testing and SEM analysis is discussed in part three. The fourth section provides the findings and the results of the study. Section five consists of theoretical discussions and industry application of the research. The study's limitations and suggested directions for future research are discussed in the sixth and concluding part.

2. Literature review

2.1 Expectancy-Disconfirmation Theory (EDT)

Introduced by Oliver (1980) EDT evaluates the gap between the expectation and actual delivery of service, and posits that the said gap is perceived to be service failure by the users. The main thought behind the theory, originally developed in consumer behavior research, is that satisfaction or dissatisfaction is a function of both a referent (a standard against which comparison is made) and perceived performance (Oliver 1977, 1980). Typically, expectations provide the referent against which people assess performance (Oliver 2010, pp. 63–64).1 Positive disconfirmation (better performance than expected) results in satisfaction, and negative disconfirmation (worse performance than expected) results in dissatisfaction (Oliver 1980; Spreng, MacKenzie, and Olshavsky 1996). The greater the value of disconfirmation, the greater is the difference between performance and expectation.

Failure has been studied extensively in the field of projects (Lu, Liu, & Ye, 2010; Pinto & Mantel, 1990; Yeo, 2002), however, limited attention has been given to failure of digital services from the employer-employee relationship.

EDT (Oliver, 1980) is used as a theoretical model, popular in marketing literature, to analyze digital service failure classification and its consequences. Some studies in information systems have highlighted the usage of EDT for analyzing behavior post-adoption (Lankton & McKnight, 2012; Venkatesh & Goyal, 2010) but the context of failures have never been explored. While not much of usage of EDT has happened in information systems literature, the context of digital services consumption and its determinants of failure becomes important to analyse using EDT given that its theoretical framework is based on post utilization of services.

2.2 Information failure:

The IS success model was developed by DeLone and McLean (1992) by taking information quality, system quality, use, user satisfaction, individual and organizational impact as the dependent variable. Past studies have been done around Digital services

and its innovation, disruption, success, transformation, empirical investigation, opportunities and challenges (Ciriello, Richter, & Schwabe, 2018; Skog, Wimelius, & Sandberg, 2018; Voigt & Hinz, 2016; Hauser, Günther, Flath, & Thiesse, 2018; Legner et al., 2017), but there is a lack of studies related to the digital services failure. Later on, Tan et al. (2016) has converted the IS success model into IS failure model since there are no studies has been done to address the failure faced by the users. They used 3 dimensions for this information, functional and system failure. Since there is a gap in research on the failure of IS and its impact on the system users, this study has integrated both Tan et al. (2016) failure model with Delone and McLean (2003) model and introduced the service dimension of failure.

2.3 Service failure:

The service failure of digital service are the failures which are not able to do a transaction in accordance with the user's requirement. The factors for service failure has been adopted from the IS success factor model as described by Alter (2002), Alter and Sherer (2004), Chen and Cheng (2009), Singh, Kar, and Ilavarasan (2017), Wixom and Todd (2005). It can be defined the system failure as the failure due to not being able to accomplish the user's transactional activities. So, it can be said that the failure of digital services are caused by inaccessibility, no adaptability, non-navigability, delay, and security.

2.4 Functional failure:

The failure of digital services are impacted by the functionality provided on digital services when they are not enabling users to accomplish their desired transactional activity. Functional failure has been adapted from Information System success model as described by Delone and McLean (2003), Delone and Mclean (2004), Holloway and Beatty (2003).

Based on the extensive literature review, the authors propose the following hypothesis **(Fig. 1):**

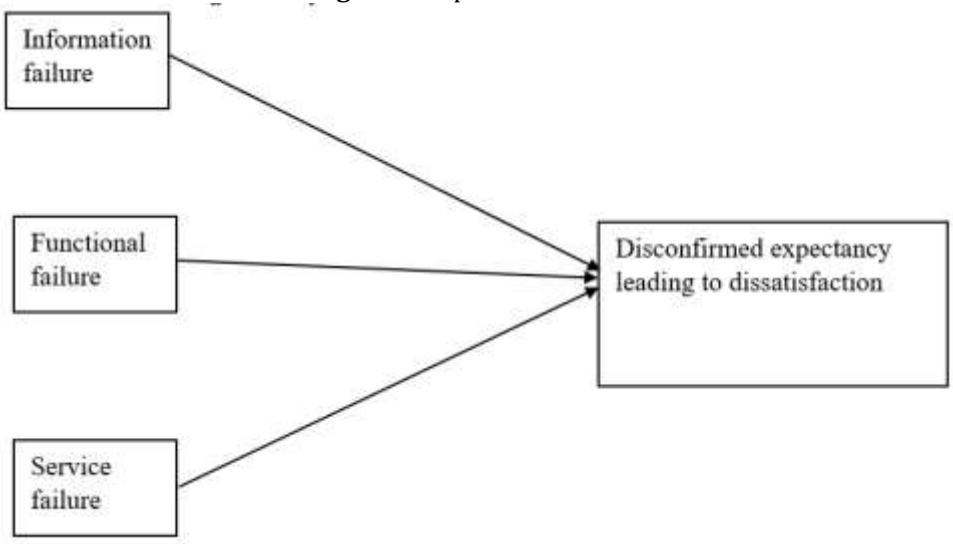
H1: The information failure due to digital ignorance will have negative effect on the PSU bank employees

H2: The functional failure due to digital ignorance will lead to dissatisfaction among the PSU bank employees

H3: The service failure due to digital ignorance will lead to dissatisfaction among PSU bank employees

H4: Disconfirmed expectancy in digital services will lead to dissatisfaction among the PSU bank employees

Fig. 1 Conceptual framework



3. Research Methodology

3.1 Research design

A total of 450 PSB employees were contacted online through snowball sampling technique. Among them 372 indicated their willingness to participate in the survey and shared their email ids. The survey form was shared online with the willing participants. The authors received a total of 326 filled forms. The response rate was eighty-seven percent since only the bankers showing their willingness were sent the survey instrument. The 326 respondents collectively represented four PSBs and their eleven branches from three cities in two states of Maharashtra and Madhya Pradesh. Since, the research has a reasonable sample size, the authors applied the PLS model technique.

3.2 Common method bias

In SPSS, authors measured the study's components for preliminary evaluations using Harman's one-factor test for common method bias. One factor provided an explained variance of 38.878% of the total variance indicating within the range of acceptance as the value is below 50%. The data was thus found to be free from common method biasrelated issues. Malhotra et al. (2006) informed

that the marker-variable technique is a good way to measure the common method variance. So, a marker variable called "Corporate Governance" was used, even though it had nothing to do with the study. Since the estimates of the correlation between the marker variable and the study variable are low, so the common method bias is not an issue in this study. In this context, we can say that there is no common method variance in the answers collected for the study. Also, it would be difficult for respondents to identify the link between cause and effect because the research utilised a complicated model that evaluated at both moderation and mediation effects. This would result in a reduced likelihood of CMB (Malhotra et al., 2006).

3.2.1 Data normality

The authors checked the data's normality to see if there were any missing or unengaged responses and skewness and kurtosis. All the assessed values were within the recommended range (i.e., +3 to − 3). The multi-collinearity test confirmed that the resulting values were within the desired range of 3 points, revealing no difficulty with non-responses.

3.2.2 Confirmatory factor analysis

Confirmatory Factor Analysis (CFA) provides evidence for the factor identified in the exploratory factor analysis (EFA). Convergent validity needs to be established during confirmatory factor analysis. Three conditions must be met in order to prove the convergent validity. Adequacy of model fit comes foremost. Then, the significant lambda value (factor loading), which should be more than 0.3, and finally, the average extracted variance (AVE), which should be bigger than 0.5. According to Hair, Ringle, and Sarstedt (2011), in order to obtain model fit, the values of the Root Mean Square Error of Approximation (RMSEA) and Comparative Fit Index (CFI) should be higher than 0.95 and less than 0.06, respectively. The suggested value is also influenced by the number of samples used for the research. The majority of authors concur that the goodness of fit index (GFI) should be greater than 0.8 (Allam, Bliemel, Spiteri, Blustein, and Ali-Hassan, 2019; Hair et al., 2011), the cmin/df value should be lower than 5.0, and the adjusted goodness of fit index should be greater than 0.7.

4. Results and findings:

Fig. 2

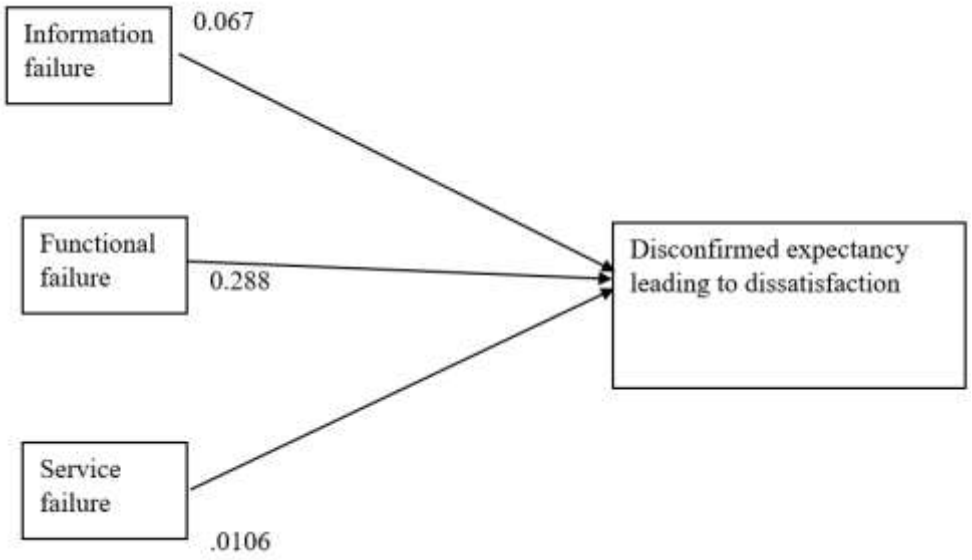


Table 1. Summary of the results

S. No.	Hypothesis	Result
01.	H1	Accepted
02.	H2	Rejected
03.	H3	Accepted
04.	H4	Accepted

5. Discussions:

5.1 Theoretical contribution

The study employs EDT in the context of measuring employee satisfaction based on their digital adoption. Previously, the EDT framework has been employed to study consumer behaviour in contexts ranging from online shopping, payment systems, public services, OTT services etc.

The EDT researchers have postulated the need to address the concerns related to the non-performance of digital services as per the users' expectations. The present research tries to address

the said concern by extending EDT in the service provider (bank employees) context. The earlier studies have been from the service recipient perspective, thereby, ignoring the service providers. The later themselves might not be well-versed with the functionalities of the technology or utility of technology thus leading to dissatisfaction among them. By hypothesizing the factors – Information failure, functionality failure and service failure as the cause of expectation-disconfirmation gap leading to dissatisfaction among the service providers, the research expands the existing EDT literature.

5.2 Industry implications:

The study has wide ramification for the financial service providers and specifically for the banks. Since, the study was conceptualized in a PSU bank, the findings can be replicated in other government-owned entities.

The acceptance of H1 highlights the dissatisfaction the respondents felt due to inadequate information. Therefore, it can be asserted that the flow of information is a prerequisite for a healthy working environment.

The rejection of H2 i.e. the functionality failure not having negative effect on the respondents can be interpreted in different manners. Firstly, it can be analysed that the PSU employees' lack of concern for the functionality or utility of the services. By extending the argument, it can be asserted that security of job has direct relationship with the satisfaction levels.

The acceptance of H3 i.e the service failure leading to dissatisfaction is contradictory to the above (H2 rejection) finding. The authors posit further exploratory research to understand the contradiction between H2 & H3.

The acceptance of H4 showcases the dissonance among the respondents due to the digital services. The finding asserts the gap between the expectation and reality among the respondents regarding the performance of the digital services. While one reason for the same can be digital illiteracy, it has been conjectured that during pandemic, many employees faced infrastructural (internet, broadband, laptop) issues. Thus, leading to the aforesaid gap between expectation and the performance of the digital services.

6. Limitations:

Firstly, the hierarchical levels of the respondent bank employees have not been segregated. For the purpose of this research, all the respondents have been treated at equal level. This is a major limitation of the study since employees with different education levels and in hierarchy might have adopted technology in individually different manner. Secondly, the PSBs are not homogeneous in adopting and implementing technology. Thus, the responses might contain the inherent bias towards more tech-savvy PSBs.

Thirdly, the authors acknowledge the theoretical advancement of EDT model not being adequately represented in the present research.

7. Conclusion

The post -Covid research in the public sector banking services showcases the importance of measuring dissatisfaction among the employees. If the levels of dissatisfaction are allowed to saturate and reach its threshold levels, the services will get hampered. Therefore, it is important that the dissatisfaction causing multiple factors should be periodically tested among the employees.

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