

# A Conceptual Study: E-Banking Challenges and Opportunities

**Mr. Pranav Tamne**

Dr. Ambedkar Institute of Management Studies And Research, Nagpur

**Abstract:** *Banks drive the operations in the financial sector, which is vital for the economy of the country. The banks have passed through three stages after independence. With the nationalisation of banks in India in 1969, they also had emerged as engines for social change. They have moved from the character based lending to ideology based lending to today competitiveness based lending in the context of India's economic liberalisation policies and the process of linking with the global economy. So the operations of the bank are increasing as the banking frauds in banks are also growing, and fraudsters are becoming more and more complex and inventive. In a bid to keep moving with the unstable times, the challenge in the management of social responsibility with financial viability has progressed. Therefore, present conceptual study tries to find out what are the research gaps in different investigations conducted by the different researchers.*

**Keywords:** e-banking, telecommunication technology, security risk.

## I. INTRODUCTION

E-Banking has developed as a channel to accommodate banking services to customers electronically via banks' websites. E-banking services have obtained a lot of recognition due to its enormous advantages; many consumers are still not ready to use them because of the risk involved in handling transactions online. E-banking services have obtained a lot of recognition due to its enormous advantages; many consumers are still not ready to use them because of the risk involved in handling transactions online. There is a plenty of research carried on the real utility gains attributable to e-banking adoption or acceptance but the quantities of potential negative utility (perceived risk) have been ignored. Technology has become a valuable tool in organisations. Currently, banks operate in a highly globalised, privatised and liberalised environment with fierce competition. To exist in this harsh climate, banks have to use Information Technology. Information Technology has launched several new business dimensions. Day by Day Information Technology playing a more vital role in promoting the assistance or products in the banking industry in India. The banking business in India has witnessed tremendous progress because of sweeping reforms that are taking place in the IT. E-banking has generated from such a creative environment. Modern technology is acknowledged as a support for most of the complaints that the banking industry faces today. Currently, India is a corresponding non-bank economy as the credit-to-GDP ratio is one of the moderates between different producing countries. So, Indian banks are covering the second difficulty of increasing acceptance and high growth adjustment. The banking sector can kill two birds with one stone that is with the use of technology. Mammoth the process took place in the area of technology which has examined the globe to a global village, and it has brought incredible transition in the banking sector. Branch banking conception in the brick and mortar style has been converted into click and order channel style.

## II. THE IDEA OF E-BANKING IN INDIA

In India, E-Banking appeared in mid-nineties as newly proposed private sector banks came up with a new business model revolving around a strong information technology (IT) Backbone. E-Banking in India was launched by ICICI bank, a private bank, in 1996. 1996 to 1998 marked the adoption phase, while practice increased only in 1999, owing to inferior Internet Service Provider (ISP) online charges, increased PC penetration and a tech-friendly atmosphere. Recent development shows that most brick and mortar banks have evolved themselves by shifting their focus towards up gradation of their new e-banking Capabilities. And internet banking services are progressively turning as "need to have" rather than "nice to have" (Kesharwani, 2012). Indian Banks offer to their customers' various e-banking products and

services like ATM, Debit Cards, Credit Cards, Electronic fund transfer (EFT), E-cheques etc. Throughout the previous few years, e-banking has made a conspicuous growth in India.

**TABLE 1: VARIOUS E-BANKING DELIVERY CHANNELS AND THEIR GROWTH IN PER CENT**

Type of electronic channels	No of Channels		Growth %
	Mar-12	Apr-18	
No. of ATM deployed	95686	2,05,288	114.54
No. of POS deployed	660920	3193356	383.16
No. of CREDIT CARDS issued	1,76,53,818	2,98,42,23	69.04
No. of DEBIT CARDS issued	27,82,82,83	90635678	225.69

Source: RBI website

**TABLE 2: NEFT AND RTGS TRANSACTIONS**

Transaction Type	Number of Transaction (in Millions)		
	2011-12	2017-18	Growth %
NEFT	27.11	1946.4	1846.4
RTGS	6.34	124.4	101.0138

Source: RBI website

Table 1 displays some data and illustrations related to ATM, POS (Point of sale) and electronic cards (credit and debit cards) disposed and issued by the commercial banks in India as on March 2018. According to it currently, 2,05,288 ATMs, 3193356 Point of sale devices, 2,98,42,23 million credit cards and 225.69 million debit cards are working in India, and it also shows the growth rate of these banking channels in five years (i.e. from 2012 to 2018), and it seems to be great in the Indian context.

Table 2 gives the growth rate of NEFT and RTGS transactions during these five years. According to IAMAI-IMRB Report, Urban India with an estimated population of 444 million already has 269 million (60%) using the Internet but Rural India, with an estimated population of 906 million as per 2011 census, has only 163 million (17%) Internet users. Another release, titled “ENCASHING ON DIGITAL: Financial Services in 2020” further added that out of 269 urban internet users, only 45 million are active e-banking users which composes around 16% of urban population. With the ongoing digital drive in India and increased government focus on digital foundation, While the number of internet users are multiplying hardly one-fourth of them use internet banking in India. It may be due to lack of trust, fear of hidden charges, fear of account could be hacked or complicated information provided among others. So, this study is an effort to determine the risk factors which prevent customers to use e-banking in India.

### III. OBJECTIVES OF THE RESEARCH

- To investigate the possibility to increase e-banking awareness.
- To examine the hurdles and risk factor associated with e-banking
- To illuminate the standards adopted for safe banking.
- To know the challenges in the adoption of e-banking.
- To scrutinise the breaks available in E-banking.
- To study the advantages and limitations of using e-banking services.
- To make recommendations as to how to improve e-banking usage.

### IV. RESEARCH METHODOLOGY

Various databases were examined including EBSCO Host and Academic Search Complete. Articles were limited to peer-reviewed and scholarly journal articles published between 1970 and 2018. Searches included combinations of the following keywords: Difficulties in the adoption of e-banking, factors inducing the adoption of e-banking, Cost-related factors in the adoption of e-banking, Gender-related factors in the choosing of e-banking, fraud associated e-banking, advantage to adopt e-banking, instructional strategies to motivate the choosing of e-banking, access of e-banking in the adoption of e-banking, financial factors affecting the adoption of e-banking, impact of social factors in the adoption

e-banking, Security risk factors, Self-regulatory Learning Strategies, influence of Personality Traits in the adoption of e-banking.

An exhaustive exploration was administered to cover only studies adoption of e-banking and reviews with discrete thoughts, reliable methods, and well-reasoned conclusions that focused on performance within health profession education and general higher education. Studies that were empirical and research article both were included. More than hundred articles were selected for this literature review.

## V. REVIEW OF LITERATURE

There is a visible increase in phishing statistics as is apparent from data collected from different sources. It may be a due number of hosting of phishing sites or emails received about phishing, monetary loss either of the customers or to the organisations. Singh, N. P. (1970). The main reason for failures/ success of frauds is ignorance on the part of the client as well as service providers (bankers, ISPs, retailers etc.). It requires rigorous methods of educating customers and regular review of security-related information of individual customers. Nitsure, R. R. (2003). This study discusses some of the problems developing countries, which have a low penetration of information and telecommunication technology, face in realising the advantages of e-banking actions. Major attention such as the 'digital divide' among the rich and poor, the various operational situations for government and private sector banks, intricacies of protection and authentication, supervision and ordinance, and incompetent funding of small and medium scale enterprises (SMEs) are highlighted. Usman, A. K., & Shah, M. H. (1970). Nitsure, R. R. (2003). Online Banking scam is a problem encountered globally and is proceeding to prove costly to both banks and consumers. Frauds in e-banking services happen as a consequence of various trade-offs in security varying from weak authentication systems to inadequate native checks. The absence of investigation in this field is questionable for practitioners, so there is a necessity to research to support better security and check stakeholders from falling trust in the operation. The purpose of his study is to learn factors that could be dangerous in establishing fraud prevention operations in electronic banking. The study reviews relevant kinds of literature to help identify potential significant success factors of frauds prevention in e-banking. Findings show that exceeding technology, and other factors need to be examined such as interior restrictions, customer education and staff education etc. These findings will help assist banks and controls with knowledge in specific areas that should be approached to strengthen their current scam blocking systems Previous research on Indian banking sector has examined the service quality attributes of public, private, and foreign banks in India There is limited research to understand the effect of customers' trust in the adoption of internet banking in India. (Angur, M.G.,1999) (Sureshchandar G.S.et.al.,2003)

Also, researchers benchmark the performance of our model against those that use just the financial ratios and language-based features from MD&A sections and demonstrate that social media features perform better in our data set. By integrating financial ratios, language-based features, and social media features, our algorithm leads to 80 per cent prediction accuracy. Finally, conduct an applicability check of our algorithm. These findings not only demonstrate the efficacy of social media features for fraud detection but also verify that a social media-based method can supplement existing corporate fraud detection approaches. We note that the five sets of latent functions proposed in their study can be extracted from other types of social media data and applied to domains such as product defect discovery. (Beneish, M.D,1997) fraudulent behaviour detection on crowd funding platforms, (Zhang, D et al,2016) and fake online reviews detection. (Abbasi, A.et.al,2012) The advanced fraud disclosure system has the potential to significantly curtail the time lag from fraud inception to fraud enlightenment, thus substantially inhibiting financial losses to broad shareholders and financial disturbance to the economic system. Three stakeholders, in particular, investors, audit firms, and government regulators and policymakers can benefit from such a system. (Borgatti, S.P.& Foster, P.C,2003)

Ezeoha, A. E. (2005) Still amidst the regulatory insufficiencies recognised earlier, the increasing cases of Internet-related frauds beginning from Nigeria have made the Internet banking environment very complicated. The banking industry in the country does not also at present enjoy that level of global union that may allow for full advantages of the Internet banking system. Even at home, the level of public confidence in the banks is not such that can ensure efficient customer support of Internet Banking services. Therefore, in interest to the cases of inadequate access to the essential facilities, very few customers businesses through the Internet. This demonstrates why the development of banks' web sites has not gone beyond information objects. A situation where banks would have to invest much on procuring

information technology software without attracting enough customer assistance necessary to justify the enormous expenditure does not make for a reformist chance for rapid growth in Internet banking in Nigeria. With the deficiencies in the existing electronic banking guidelines and the apparent lack of proactive actions in other banking regulations in the country, the right climate for Internet banking remains presently not in existence. Soviany, C. (2018). The performance of artificial intelligence-based solutions for fraud management in financial applications could be further optimised were the fraud management solution development process augmented with the following operations, as best practices for the design and deployment. A reliable data analytics process to explore the most significant properties of the available data that are required to design the learning engine for fraud detection/prevention. Enlarging the training period to properly exploit the additional information about new fraud methods and newly detected vulnerabilities discovered at the customer application level. He developed solution, based on an advanced AI-based technology and platform increased fraud detection rate from 85 per cent to 90 per cent (in terms of number of transaction records) and to 95 per cent in related amount volume (in terms of transaction value), while the alert rate (the percentage of daily transactions investigated manually) was reduced from 40 per cent to 10 per cent. The solution falls under the category of explainable AI because it can explain the rationale behind the decisions.

(Al-Smadi, and Mohammad,2012) Factors influencing E-payment system, its benefits and challenges has been discussed by widely many researchers. In order to motivate customers to use e-banking, organisations must many make key improvements that address the customers concerns and hence, it is necessary to understand the key factors that influence the adoption of e-banking among the customers. Besides there are several factors that a card holder or the user considers for opting Digital payment system like Technology of payment instruments, information accessed by third parties. Kazan, Erol, and Damsgaard (2014) ease of use, risk, security and trust, consumer awareness, convenience, availability of e-payment tools, Speed Internet Access, the consumer's experience in using, computer and their level of education the technical, protection, security statements, Government and Central Bank regulations, productivity in the transaction, easiness and flexibility in the transaction, the reason that their dear and near recommends were the factors, many identified and incentivizes the elements which can fillip the usage of e-payment system. Junadi, and Sfenrianto (2015). Vinitha, K., and Vasantha, S. (2017), Distinguished ease of use and perceived usefulness affect the behavior and attitude towards information system. Renny, Guritno, S. and Siringoringo, H. (2013). Cultural factors such as level of education, language and experience of the technology is very important in the adoption of new technologies. Yousafzai, S. J Financ Serv Mark (2012) By considering above literature review, we identify that the factors influencing the implementation and adoption of e-payments can be broadly grouped as below

- Technology & Infrastructure.
- Education, Training & Awareness.
- Behavior & Attitude.
- Cultural factors.
- Online Safety & Security factors.
- Motivational factors.

How and why people use Internet banking (IB) has attracted a great deal of academic attention. This article reviews the IB literature through the eyepieces of nine adoption theories. The review suggests that IB adoption is a complex and multifaceted process, and joint attention of clients' personal, social, psychological, practical and behavioural perspectives is more important than approval itself and will ultimately result in the intended behaviour. Therefore, managers and system developers should undertake a customer-centric approach focusing on managing belief formation rather than directly influencing behaviour. The review also concludes that IB research is in an uncertain state, and is far from unanimous regarding the approaches and conceptualisations used to understand the beliefs that truly influence IB behaviour. There is limited research dealing with the role of interventions that can assist managers in making effective decisions to speed the adoption process. Despite the ease of doing online banking, there are people that still sceptical in utilising it due to perception and its security. This research highlights the subject of online banking security in Malaysia, especially from the perspective of the end-users. The study is done by assessing human-computer interaction, usability and security. An online survey utilising 137 participants was previously conducted to gain preliminary insights on security issues of online banking in Malaysia. Following those results, 37 participants were interviewed to gauge a

deeper understanding of the end-users perception of online banking within the context of proper security. The results suggested that most of the end-users are continually experiencing significant difficulties especially concerning the technical terminologies, security features and other technical issues. Although the security features are provided to provide a shield or protection, users are still incapable of coping with the technical aspects of such implementation. FN Mahmadi et al (2012) Data investigation revealed that perceived ease of use and perceived usefulness have a direct impact on the adoption of internet banking in Mauritius. Results have also shown that both support and security aspects are deemed crucial factors in defining internet banking adoption in Mauritius. Further investigation of the rational analysis highlighted that the level of teaching and income level of respondents might be a significant determinant in influencing the adoption of internet banking. The government of India (GOI) initialised financial inclusion campaign to quell exclusion. The campaign did not gain expected progress — government employed technologies to speed up the process. Among banking technologies, mobile banking appeared as a possible solution for financial exclusion with extensive mobile phone coverage. Inputs on rural people's intention toward technologies for useful financial inclusion were essential. Technology adoption factors, performance expectancy, effort expectancy, social influence, attitude, perceived risk, and behavioural intention (BI), were shortlisted after a literature review. Elements were subjected to reliability, exploratory factor analysis (EFA), multiple regression, and interaction analysis. Rural provinces in Karnataka state were surveyed.

From the analysing mentioned research gaps, the present research intends to analyse the factors and significant adoption challenges and factors that affect directly on the customer's adoption of e-banking. These research gaps have to be fulfilled:

- Banks can access new customers
- Personal Computer banking customers are consistently wealthier.
- Banks can access new geographical areas.
- Banks can reduce their operational costs.
- Banks can increase the quality of offered services
- Acquisition of knowledge
- Time and money costs
- Investments for establishing, maintaining and replacing the technological infrastructure.
- Training costs
- Security concerns

The effective factors were extracted from related theories to adoption on new technologies acceptance theory and diffusion of innovation theory adding the personal and behavioural characteristics of customers based on derived factor. What should be the adoption strategies for E-Banking? What should be the infrastructure requirement for the success of E-Banking.

The Internet has gained about a revolution, transforming the way that the businesses will communicate with their customer's business partners and suppliers in the future. Banks are competing to gain a large share of India's on line market. In India internet banking is new industry, customer acceptance and use of Internet Banking is still very low and the very little research has been conducted in India into the challenges and factors of the affects consumers to use Internet Banking. An understanding of different challenges and factors of the affects consumers to use Internet Banking and also how demographic characteristics like social influences and consumer's perception and attitudes towards Internet banking therefore influences the adoption of internet banking will enable banks to increase their market share by creating solutions and policies and strategies that attract consumers to use this type of banking therefore there is a need for a research of this nature.

This study has a practical value as the findings can be used by banks as guidelines to work with the customers in the future and serve them better by providing services as per their expectations and requirements.

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