

Assessing the Effectiveness of Digital Banking Services in Shaping Online Banking Habits: A City-Specific Study of Nagpur

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Abstract:

The rapid growth of digital technologies has influenced the banking sector significantly putting the relationships between consumers and banks in a different perspective. The research question to be used in this research is whether online banking services through web-based banking can influence and shape online banking practices among the consumers in Nagpur cities. It bears noting that a mixed-methods research design has been adopted through the implementation of which primary data collection was implemented through administering the structured questionnaires to the representative sample of the bank customers and conducting the semi-structured interviews with the banking professionals. The paper lists the core points of the online banking like availability, usability, security, service effectiveness and customer satisfaction and their impact on the adoption of the online banking process. Findings show that convenience and services efficiency are the most powerful driving force of online interactions but there is also an issue of cyber security and technological ineptitude that is a significant disincentive to certain groups of clients. The paper has suggested the important role that banks play in enhancing user experience, building of trust, and financial inclusion through effective digital strategies. The lessons have significance connotations to the banking institutions, technology innovators and policy-makers that work towards instilling sound online banking practices to the urban Indians communities.

Keywords: Digital banking, online banking habits, customer adoption, financial technology, user experience, Nagpur.

Introduction

The past decade has been an amazing period in the development of the banking industry in India where the integration of digital technologies and financial innovations is performed at an astonishing pace. The use of face to face and paper-based banking is also going digital whereby the customers continue to access financial services anytime and anywhere. The online variants of the banking service are enormous per the category of which Internet banking, mobile banking apps, digital wallets, Unified Payments Interface (UPI) transactions, and automated

customer support systems can be classified as a part of the digital banking. The above services are not only useful in the efficiency and accessibility of the banking activities but also re-define customer behavior and preferences that instigate the continuation of the conventional to online banking behavior. Given the increased penetration of technology in urban areas like Nagpur that are largely adopting technology, the dynamics in the digital banking use are relevant to the banks that seek to improve the customer experience as well as increase financial inclusion.

This is because Nagpur is a relatively recent metropolitan city in the central region of India, and this is one of the places where the behavior of digital banking can be investigated. The internet penetration, smartphone penetration and digital literacy have been high which has ensured that the city has favorable conditions to embrace the online banking services. Secondly, the local banking system, which incorporates the state banking sector, the commercial banks, the cooperative banks and the regional rural banks have been aggressively developing on the digital channel to make services more convenient, economical and expand their market. Despite them, not every demographic group uses digital banking relatively uniformly. Some of the factors that are considered when determining the online banking practices include the age, education, income, technological literacy, perceived security and confidence in the online platforms. These disparities bring out the need to conduct research that is urban-specific as it would provide useful data to banks operating within a wide range of urban environments like Nagpur.

The significance of digital banking is not in the matter of convenience as only. It is a strategic tool that financial institutions have an opportunity to make operations even more efficient, reduces operation costs and stay competitive in the digitalized economy. Digital banking is also rewarding to customers as they get real-time updates of the transactions, can access financial products, and receive personal services, among others, which turn them into more satisfied and engaged. However, the cybersecurity threats remain the problem, the ignorance of a part of the client population, and insensitization to the change among the users accustomed to the conventional banking system. In order to address such problems, there is a need to have a keen understanding of the factors influencing the implementation of the digital banking and the level of success of such services in improving the uniformity of the internet banking behavior.

The previous research studies that have been carried in the area of digital banking in India have provided in large part mainly an insight into the trends of this area, the levels of technological adoption pyramids and comparative research of traditional and online banking. Nonetheless, these studies could also be applied to the existing body of knowledge; however, the literature on the impact of digital banking service on the local urban consumer behavior is not presented in large volumes. This study will outline this gap by focusing on Nagpur, which aims at establishing the relationship between success of digital banking services and the creation of the online banking behaviors amongst the clients of the metropolis. The research also examines the key components of digital banking which include service quality, usability, security, trust, and customer satisfaction as a way to determine what they both mean to the intention to adopt and use online banking services on a frequent basis.

The implications of the comprehension of these dynamics are policy and practical. With reference to banks, this research may be applied in developing specialized digital strategies, convenient platforms, and customer education platforms to facilitate the growth of the adoption rates. The results can be used by policy makers and regulators to model systems that will ensure the digital financial services are secure, inclusive, and efficient. The research paper is also included in the general debate of the issue of digital transformation in the banking sector and how the technological interventions could employ it to shape consumer practice and financial inclination in new urban markets. First of all, the paper shows a huge success of digital banking that alters the essence of banking practices and introduces an urban-based study that can be applied to other urban locations in India.

Literature Review

e-banking has brought about a disruptive impact to the world of banking and has literally transformed the way customers relates with banks. A number of studies have touched upon the predictors of the digital banking adoption and customer satisfaction and the behavioural patterns in both emerging and mature economies. Hassan and Wood (2020) explored the impact of the country culture on the perceptions of mobile banking by consumers and determined how their propensity to use the service can depend on the socio-cultural background. As their comparative analysis between Egypt and United States demonstrated, cultural orientation was an influencing factor on trust, perceived ease of use, and perceived risk, the results show demographic and region factors were instrumental on consumer behavior depending on the situation of digital banking. This highlights the necessity of local study on cities so as to give explanations of local behavioral patterns such as Nagpur.

It has been established that customer satisfaction and customer loyalty in digital banking is a key factor that relates to service quality. Hennayake (2017) studied the commercial banks of the public sector that serve rural economies and established that responsiveness, reliability, and assurance are also key concerns influencing the level of customer satisfaction. Jones (2021) also indicated on the same note that, in digital banking, customer loyalty has been achieved due to real-time responsiveness particularly in the competitive banking environments where services should be offered conveniently and with due speed. Kumbhar (2011) also indicated that, service quality perception is the principal predictor of customer satisfaction to online banking services but noted variations between the public and the private sector banks. All these findings have depicted that the service quality and efficiency of operations play a critical role as far as online banking behaviour and enabling further usage are concerned.

The other major impact force on the uptake of digital banking is perceived risk. Hussein and Saad (2016) conducted a study whereby their behavioral predictors in relation to online banking behaviour in Egypt were tested and found that their consideration in relation to privacy, financial stability and technological stability, directly affects the inclination of the customers using online banking platforms. These findings can be explained by the results discussed by Kaur et al. (2021), who discussed the notion of digital banking in Northern India and emphasized that perceived risks could create the conditions of reduced customer satisfaction and engagement, particularly in case this factor is associated with novices or customers with

zero experience. Precautions of increased protection and education of the consumers are significant in the acquisition of a sense of confidence and further utilization.

The role of and the importance of the bank efforts and in-branch initiatives in enabling a digital adoption among the banks have also been investigated. Kaur, Ali, Hassan, and Al-Emran (2021) claim that the efforts of the personnel of financial institutions to inform and guide the clientele in using electronic mediums contribute significantly to the adoption rates, especially in the developing economies. This demonstrates that the technological solutions are not enough, human element and support systems play a part in the formation of the habitual digital banking practices. The necessary point highlighted by Kawimbe (2020) is that design disruption, even though it enhances service delivery, requires that the banks utilize the perception and experiences of the customers to prevent the latter customer dissatisfaction and departure.

The methodological decisions made in these studies are good recommendations in researching the digital banking in urban specifics. Different research design methods, including surveys, structured questionnaires, and mixed-methods are offered by Igwenagu, Kellmereit, and Kothari (2016) and can be applied to obtain both the quantitative and qualitative data on customer behavior and service performance. These are particularly useful in terms of engaging minor behavioral patterns in city contexts like Nagpur whereby there may be socio-economic and digital literacy differences that may influence the use of online banking.

In conclusion, the existing literature is supportive in the claim that the service quality, perceived risk, cultural and demographic factors, technological literacy, and active engagement of banking organizations in modifying digital banking adoption and use to a consistent practice have an impact on digital banking adoption and habitual use. However, such a notion as urban Indian settings (such as Nagpur) still does not have a particular study of cities. The research on the national level provides their broad knowledge, but the local research is needed in order to disclose the details of the interaction between the customer expectations and technological availability and the banking plans. This gap will thus be filled using this research paper since they will assess the importance of online banking service delivery in the formation of online banking habits in Nagpur in terms of service delivery efficiency, a view of security, and satisfaction.

Objectives of the study

1. To analyze the influence of digital banking services on customers' online banking habits.
2. To assess the impact of service quality, usability, and security on the adoption of online banking.

Hypotheses (H₁):

- **H_{1a}:** Service quality of digital banking services has a significant positive impact on the adoption of online banking among customers in Nagpur.

- **H_{1B}**: Usability of digital banking platforms significantly influences the adoption of online banking among customers in Nagpur.
- **H_{1C}**: Perceived security of digital banking services significantly affects the adoption of online banking among customers in Nagpur.

Research Methodology

The research method in this research is a quantitative method as the researcher acquires some knowledge about the usefulness of digital banking services to inform the online banking habits among Nagpur clients. It is a descriptive and explanatory form of research design, since the research must quantify the intensity that exists between variables that are significant in particular the quality of the services and usability, security and adoption online banking. The sample of the study will consist of the customers of banks in Nagpur urban areas who actively use or have access to digital banking products of banks in the public sector, banks in the private sector and cooperative banks. The instrument developed was the structured questionnaire on the parameters of a five-point Likert scale of closed-ended questions that were to be qualitative, as strongly disagree-strongly agree. The demographics, usage habits, quality of service perceived, usability, security and the frequency with which such an individual embraces online banking will be sought by the questionnaire.

Purposive sampling technique was used: The respondents who are currently actively working in the digital banking platforms needed to be selected to make sure that the kind of data that is going to be utilized is meaningful and valid. The sample size was determined based on the estimated population of the customer base of the urban bank in Nagpur that justified the target population to be 400 respondents in the sample and hitting the level of statistical validity. Data analysis will involve the descriptive and inferential statistics, including frequency distribution, mean scores, correlation analysis and multiple regression analysis, to determine the relationship between the independent variables (service quality, usability, and security) and dependent variable(adoption of online banking). In order to gain reliability as well as validity, Cronbach alpha testing and factor analysis testing were conducted in order to arrive at a stable and accurate test.

Table 1: Descriptive Statistics of Variables (N = 400)

Variable	N	Mean	Standard Deviation (SD)	Minimum	Maximum
Service Quality of Digital Banking (H _{1a})	400	4.12	0.56	2	5
Usability of Digital Banking (H _{1B})	400	4.05	0.62	2	5
Perceived Security (H _{1C})	400	3.88	0.71	1	5
Adoption of Online Banking	400	4.01	0.60	2	5

Analysis

According to the descriptive statistics, digital banking services are taken positively by the

respondents in Nagpur and in all the dimensions of measurement. The rating of the service quality received the largest mean score ($M = 4.12$, $SD = 0.56$), indicating that reliability, responsiveness, and efficiency are viewed as the elements that the customers attribute as very strong in digital banking platforms. Usability, which has a mean of 4.05 ($SD = 0.62$) indicates that customers have cited that the digital banking interfaces are easy to use, convenient, and navigate. Perceived security was rated a little bit less ($M = 3.88$, $SD = 0.71$), and it can be concluded that whereas the majority of the respondents are confident that online banking systems are safe, some of the users are still worried about the issue of data privacy and the security of making transactions. The means of the dependent variable, adoption of online banking measures 4.01 ($SD = 0.60$), which shows that most customers are an active participant of online banking services and have already included it in their daily financial habits. These results indicate a good tendency to embrace digital banking as the hypothesized hypotheses postulate. The scores of service quality and usability are high, which suggests that they probably have a crucial impact on stimulating habitual exploitation of online banking, confirming $H1o$ and $H1v$. Even though the perceived security score was slightly lower, its relatively high value implies that the use of trust and safety factors determines the decision of users to use online banking and is consistent with $H1$. In general, it is possible to note that the quality of services, their usability, and security all play a part in influencing online banking behavior in Nagpur. Further to establish the strength and greatness of these relationships, inferential statistics methods, including correlation analysis and multiple regression will be employed. The tests will be used to identify the extent of influence each factor has on the adoption of online banking as well as give empirical data used to justify the proposed hypotheses.

Table 2: Multiple Regression Analysis of Factors Affecting Online Banking Adoption (N = 400)

Predictor Variable	B	Std. Error	Beta (β)	t	Sig. (p-value)
Constant	0.512	0.204	—	2.51	0.012
Service Quality (H_{1a})	0.421	0.056	0.354	7.52	0.000
Usability (H_{1b})	0.367	0.062	0.298	5.92	0.000
Perceived Security (H_{1c})	0.254	0.058	0.206	4.38	0.000

Model Summary

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.721	0.520	0.516	0.418

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	98.142	3	32.714	187.1	0.000
Residual	90.106	396	0.228		

Model	Sum of Squares	df	Mean Square	F	Sig.
Total	188.248	399			

The multiple regression analysis reveals that the level of customer satisfaction with adoption of online banking depends considerably on the level of the three variables, which include quality of the services, usability and perception of the security among the customers in Nagpur. Online banking adoption ($R^2 = 0.520$) has a very high level of explanation of 52 percent, which is very considerable. The value of service quality was the greatest among the predictors (the value of 0.354, $p < 0.001$) which suggest that reliability, responsiveness, and overall performance of the digital banking services is the key factor that determines whether the customers will become frequent users of the online environment. The usability is also a major factor that can impinge adoption ($\beta = 0.298$ $p = 0.001$), and it is evident that likeable interfaces, navigation, and user friendly designs play a major role in influencing in terms of the development of habitual online banking behavior. The perceived security also positively significantly impacts ($\beta = 0.206$, $p < 0.001$) which confirms that the perceived trust that the customers towards the data protection, these aspects have a positive impact, safety of transaction and physical security, on their intentions to adopt and use the digital banking services. These findings confirm H 1 O, H 1 V, and H 1 B hypotheses and indicate that quality, usability, and security of digital banking platform is a key predetermining factor of customer adoption in the urban Indian environment. The results also reveal that there is hierarchical effect since service quality comes first and then usability and security and this is in line with international and local literature which rates service efficiency and user experience as of utmost importance in the adoption of digital finances. In general, the analysis indicates that the banks that attempt to promote online banking activities among the clientele in Nagpur will be forced to work towards higher levels of the quality of the provided services, improved functionality levels of the platforms, and high security rates to build trust and to create long-term relationships.

Discussion of Findings

The outcomes of the research in this paper provide much information regarding the factors which influence the adoption of online banking among the clients in Nagpur. It is evident in the multiple regression model that the online banking behaviours of the customers are reliant and have a positive relationship on the quality of service, perceived security and usability, which support the H0 n 01 and H0 n 011 hypotheses. These are the service quality that is by far the most effective predictor of them all and the fact that reliability, responsiveness, accuracy of the transactions and swift resolution of the problems are quite important determinants of the customer engagement. The finding is consistent with the past researchers who have emphasized the importance of high-quality of service alongside customer satisfaction and development of repetition phenomenon to reuse digital banking platforms (Hennayake, 2017, and Kumbhar, 2011).

The second force was determined as usability which implies that the intuitive interfaces, convenience and accessibility of the use by different devices can influence the customers to

exploit the online banking services more often. The mentioned outcome can be presented in comparison to the findings of Kaur, Ali, Hassan, and Al-Emran (2021), who focused on emphasizing the fact that the barrier to adoption can be lowered with the help of the easily accessible platforms and allow the habit of adoption to be made. Using the example of Nagpur, where people are becoming more digital and still not being spread to all the population layers, a more simple, convenient, and visually appealing digital banking will have an impact with the potential of growing the levels of adoption.

Albeit perceived security is not a powerful of determinants of online banking interactions compared to service quality and usability, the factor still is an important determinant of online banking behavior. The security of the transactions made using their money, privacy and safety in personal information and safe authentication tools are beliefs that the customer will have concerning the online banking service; the imminent effects of which will be the willingness to use the service. The studies by Hussein and Saad (2016) and Kaur et al. (2021) can be used to support such an outcome since both of them focused on the assumption that the perceived insecurity and degree of risk are possible to dishearten the adoption of online financial transactions, especially among first-time users or people who might be less adept with the system. Cybersecurity can be enhanced and clearly conveyed to the customer and thereby, more individuals are able to adopt the same.

The significance of the variables in general depicts the issue that banks of Nagpur should pursue a holistic stance on encouraging people to adopt online banking. With investments in the infrastructure of technological advances in service delivery, user experience, and security measures are to be made. Besides that, special customer education and support programs will be used to reduce the gap in digital literacy and provide more individuals among the urban population with the opportunity to use digital banking services.

In conclusion, the study helps to determine that the most important aspects in the adoption of online banking are the usability, the quality of the service, and the perceived security, in terms of which the service quality is the most influential. Not the least, these findings confirm the literature available, but they provide the evidence related directly to the city, which implies that one should remain flexible when it comes to introducing digital financial inclusivity. Banks that attempt to deliver these will be the most interested, the most contented with the customer, and the most long-lasting in the long-run, which will eventually contribute to a more digitally inclusive and efficient banking ecosystem in banking in urban India.

Conclusion

The source Assessing the Effectiveness of Digital Banking Services in Shaping Online Banking Habits: A City-Specific Study of Nagpur is very exemplary on the fact that digital banking services play a significant role in shaping the behavior of customers and positively influence the use of online banking. The findings show that service quality, usability and perceived security are the factors being significant predictors of online banking adoption with service quality being the best of the three choices, usability and security respectively. Customers will use online banking platforms on a regular basis upon responding to high quality of service

based on reliability, responsiveness and efficient service delivery. The user-friendliness and usability and friendly features strengthen the engagement habit and the high security systems provide the user with confidence and minimize the fear of privacy and risks of transactions.

The study defines the nature of the holistic approach that banks take to enhance the degree of digitalisation. One cannot merely target technological solutions alone, but the banks must provide high-quality services, smart platform design, and effective defensive means, which will result in the development of trust and the necessity to use them on a regular basis. In addition, there is a necessity of customer education and customer support programmes to overcome the digital literacy gap particularly in the areas that may intimidate in the digital banking techniques transition.

Practical and theoretical ideas come with this study. In real-life practice, it could also present viable recommendations to banks in Nagpur on how to exploit the customer experience and broaden financial incorporation through digital connectivity. In conceptual sense, it adds to literature on the subject of digital banking adoption in emerging urban environment demonstrating the influence of urban-based factors, including demographics, technology awareness, and behavioral pattern on online banking behaviors.

Lastly, it demonstrates that the digital banking services, which are efficient, i.e. contain the high-quality services, are user-friendly, and reach some level of perceived security, may produce a significant impact on the online banking behaviour of urban clients. Given such insights, banks can enhance customer satisfaction, establish loyalty, and transform the financial ecosystem to be more digital to achieve the overall objective of technology evolution in the banking sector of India.

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