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UNDERSTANDING INTERNET BANKING ADOPTION BEHAVIOR: A STUDY OF PERCEIVED BENEFITS AND COSTS IN INDIA

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ABSTRACT

The rapid growth of information technology has led to the emergence of internet banking as a viable alternative channel for delivering banking services and products. This study examines factors which affect internet banking adoption behavior of consumers in India, with a focus on perceived costs and benefits. A survey was conducted among 337 respondents in Delhi and NCR region from diverse socio-economic background. Descriptive statistics were calculated and multiple regression analysis was performed on this data. Results indicate that perceived benefits significantly and positively influence attitude towards internet banking adoption. However, perceived cost was found to have an insignificant relationship with the attitude towards internet banking, contrary to previous research findings. The study highlights the importance of emphasizing the tangible and intangible benefits of internet banking to encourage wider adoption. The study additionally offers managerial implications and proposes avenues for future research.

KEYWORDS: Internet banking, perceived costs, perceived benefits.

1. INTRODUCTION

The proliferation of internet has made banking through the internet a viable medium for delivering its services. Internet banking systems enable commercial banks of India to enhance their working while decreasing the underlying costs (Kumar et al., 2023). Consequently, internet banking is emerging as a transformative phenomenon which may alter the nature of banking by expediting communication and transactions for clients (Kumar and Govindaluri, 2014). Despite concerted efforts to develop more efficient and user-friendly internet banking systems, these systems have largely remained unnoticed by customers and are significantly underutilized by consumers. Thus, it is imperative to examine the variables which influence the consumer's intention to use net banking. This examination is crucial as any insights gained could assist the banking sector to develop effective strategies for the net banking segment.

Adoption of internet banking systems by customers depends on various variables, like perceived

usefulness, ease of use, and security concerns (Kumar et al., 2023). Banks must address these factors to increase customer acceptance and utilization of online banking services. Additionally, educating customers about the benefits and safety measures of internet banking can play a crucial role in overcoming barriers to adoption and fostering trust in digital banking platforms (Chauhan et al., 2019).

Although internet banking adoption has been extensively studied, the specific interplay between perceived benefits and costs, particularly in the Indian context, remains underexplored. This study aims to fill this by examining the same.

Perceived benefits play a significant role in shaping attitudes towards internet banking and influencing the intention to adopt such services. Research indicates these perceived benefits lead to a positive user attitude, fostering a higher likelihood of adopting internet banking services (Aldás-Manzano et al., 2009a). Trust and enjoyment, in particular, are found to be immediate determinants of these attitudes, highlighting the importance of perceived benefits in fostering positive attitudes and encouraging adoption (Bashir and Madhavaiah, 2015). In essence, perceived benefits such as convenience, ease of use, and trustworthiness significantly impact consumers' attitudes and intent to use net banking, underscoring criticality of these perceived benefits in driving adoption (Aldas-Manzano et al., 2009a; Aldas-Manzano et al., 2009b; Bashir and Madhavaiah, 2015).

According to Lee (2009), perceived benefits can be classified into two primary categories: direct and indirect benefits. Direct benefits encompass the immediate and visible benefits that consumers experience through the use of internet banking, such as economic gains, accelerated speed at which transaction is carried out, and enhanced transparency. Indirect benefits, on the other hand, are less apparent and more challenging to quantify, including 24-hour service, increased opportunities to invest. It also comprises of services such as stock quotes and news posts. These perceived benefits play a crucial role in shaping customers' attitudes towards internet banking adoption. By offering a combination of direct and indirect advantages, financial institutions can create a more compelling value proposition for potential users. Understanding and effectively communicating these benefits can help banks overcome potential barriers to adoption, such as perceived costs or security concerns, and ultimately drive greater acceptance of internet banking services.

Wu and Wang (2005) identified perceived cost as a significant issue especially at the time of introduction of a new technical service. It has been observed that acceptance of technical services is influenced by the perceived costs and benefits associated with it (Ching and Ellis, 2004). The cost of a novel technology comprises not only capital layout but also working costs (Roy et al., 2016; Chauhan et al., 2019) . Moreover, the perceived cost is often weighed against the expected benefits, such as increased productivity, improved quality, cost savings, or competitive advantage.

Organizations and individuals are more likely to adopt a technology when they believe the benefits outweigh the costs in the long term. Understanding the role of perceived cost in technology adoption is crucial for innovators and marketers. It can inform strategies for pricing, communication, and support to address potential adopters' concerns and highlight the value proposition of the new technology (Khedmatgozar, 2021)

This paper is structured as follows: Initially, the significance of perceived benefits and perceived costs as determinants influencing attitudes which shapes the acceptance of net banking is elucidated. Further, interrelationships among variables within the model are delineated, and pertinent hypotheses for empirical testing in the study are proposed. Subsequently, the research design employed in this study is examined. The following section presents and analyzes the study's findings. The final two sections provide a summary of the study's findings and outline the managerial implications and directions for further research.

2. PERCEIVED BENEFITS AND PERCEIVED COSTS

Internet banking provides several advantages, including reduced cost of transaction, increased speed, and enhanced transparency (Mohd Al-Hattami et al., 2021). Additionally, it offers customers access to complimentary amenities such as stock quotes, news, and twenty-four-hour service (Oh, 2007). Furthermore, internet banking frequently includes incentive programs, such as higher deposit rates, reductions or waivers of handling fees, additional credit card bonus points, lucky draws, or welcome gifts. Research in e-business has demonstrated that *perceived benefits* significantly influence the adoption of e-business (Zheng, 2006). Similarly, Beatty (2001) found that perceived benefits positively impact the adoption of corporate websites.

The perceived advantages of internet banking can substantially impact customer adoption and usage behaviors. Financial institutions that effectively communicate and deliver these benefits are likely to experience increased customer engagement and loyalty. As competition within the digital banking sector intensifies, it is imperative for banks to continuously innovate and enhance their online services to sustain a competitive advantage. The following hypothesis will be tested:

H₁: Perceived benefit has a positive effect on consumer's attitude towards adoption of net banking.

Wu and Wang's (2005) investigation into the acceptance of mobile commerce revealed that *perceived cost* exerted a significant negative impact on the acceptance of net banking in Taiwan. The paper examines a demographic characterized by middle-level income, which is sensitive to price fluctuations. The researchers posited that the perceived cost of net banking will adversely affect acceptance of such services. The study by Wu and Wang (2005) provides valuable insights into the

factors which affect the acceptance of mobile commerce, in Taiwan. Their findings highlight the critical role of perceived cost as a significant barrier to adoption, especially among middle-income consumers. This negative relationship between perceived cost and adoption rates suggests that financial institutions and service providers must carefully consider their pricing strategies to encourage wider acceptance of Internet banking services. Consequently, it is hypothesized that:

H₂: Perceived cost negatively influences attitude towards adoption of net banking.

Research framework for the paper is presented in figure 1.

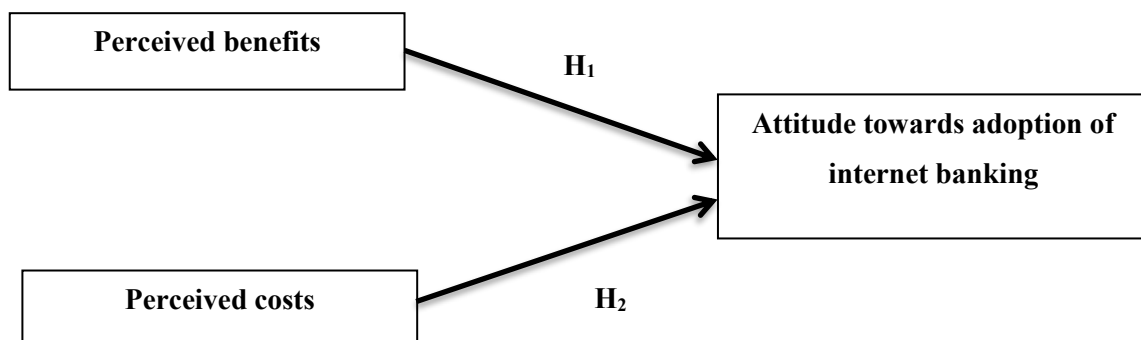


Figure 1: The Research Model

3. RESEARCH DESIGN

The study employs a convenience sampling method due to its efficiency and cost-effectiveness in reaching a diverse group of respondents within the metropolitan area of Delhi and NCR region. This approach enabled the collection of data from a wide range of socio-demographic backgrounds. A total of 600 questionnaires were distributed to participants at their homes, workplaces, educational institutions, and colleges. Following multiple follow-up attempts, 380 completed questionnaires were collected, resulting in an overall response rate of 63.33%. However, only 340 questionnaires were deemed suitable for analysis, as 40 were excluded due to incomplete or irrelevant responses.

Among the respondents, 53.4% were male, while 46.6% were female. Of these individuals, 31.5% were married. A significant proportion of the respondents (74.8%) were under the age of 30. The majority were either students (50.4%) or employed in the service sector (30.6%). Additionally, the data indicate that a substantial portion of the respondents (62.6%) held graduate or postgraduate degrees. Due to the limited number of respondents aged 60 and above (only three individuals, representing 0.9%), this age group was excluded from further analysis. Consequently, the analysis was conducted on a sample of 337 respondents.

A survey was designed to collect the necessary data on consumers' attitudes and usage intent for net banking.

Based on the previous studies (Cheng 2006; Wu and Wang 2005; Yiu et al 2007; Lee 2009), a structured non-disguised questionnaire was developed and slight modifications were made to secure demographic and attitudinal data.

The questionnaire consisted of *three* parts, as follows.

Part 1 addressed demographic variables of the respondents, including gender, age, income, education, and occupation.

Part 2 comprised 7 statements regarding perceptions of internet banking, four of which focused on perceived costs and 3 on benefits. The perceived cost was derived from Wu and Wang's (2005) scale, while statements on perceived benefits were adapted from Yiu et al (2007) and Lee, 2009.

Part 3 comprised 4 statements pertaining to the consumers' attitude towards internet banking adoption which were taken from Cheng et al. (2006) and Lee (2009).

All the statements in parts 2 and 3 were framed using seven-point Likert scale, ranging from strongly agree (1) to strongly disagree (7). Negative statements were coded in reverse¹.

Prior to administering the primary survey, a pretest was conducted to validate the research instrument. Specifically, a pilot test was carried out among internet banking customers to ascertain the clarity and comprehensibility of the questionnaire items. A total of 30 respondents were selected to complete the questionnaire during this pilot phase.

4. RESULTS AND DISCUSSION

SPSS v. 25 was used as analytical tool in this study. The demographic characteristics of the respondents are detailed in Table 1. The research methodologies utilized include frequency distribution, descriptive statistics analysis and multiple regression analysis.

¹ For any queries related to the detailed statements used in the questionnaire; a mail may be sent to the author.

Table 1: Demographic Profile of Respondents

Demographics		No. of respondents	Percent
Age (in years)	Less than 20	105	31.2
	20-30	147	43.6
	30-40	35	10.4
	40-50	35	10.4
	50-59	15	4.5
	Total	337	100
Gender	Male	180	53.4
	Female	157	46.6
	Total	337	100
Marital Status	Married	106	31.5
	Unmarried	231	68.5
	Total	337	100
Educational Qualification	Metric/senior secondary	107	31.8
	Graduate	114	33.5
	post-graduate	100	29.1
	Others	19	5.6
	Total	337	100
Work Status	Service	103	30.6
	Housewife	6	1.8
	Student	170	50.4
	Self-employed/ Business	44	13.1
	Retired	5	1.5
	Unemployed	9	2.7
	Total	337	100
Income	less than Rs. 15,000 p.m.	21	6.2
	Rs. 15,000-30,000 p.m.	39	11.6
	Rs. 30,000-50,000 p.m.	53	15.7
	Rs. 50,000-1,00,000 p.m.	87	25.8
	Rs. 1,00,000-2,00,000 p.m.	61	18.1
	Above 2,00,000 p.m.	60	17.8

Total	321	95.3
Missing	16	4.7
Total	337	100

Frequency distributions were generated to examine demographic characteristics, including age, sex, marital status, education, employment status, and monthly family income. A descriptive analysis, incorporating frequency, mean, and standard deviation, was conducted to present and interpret the data collected on attitude towards internet banking adoption. Regression analysis, a robust and versatile method, was employed to investigate the relationships between the variables.

Table 2 gives the summary form of descriptive statistics of the user's attitude towards the adoption of net banking.

Table 2: Statistical measurement of Attitude (ATT)

Name of the variable	Sample Size	Mean	Standard Deviation
ATT	337	5.5067	1.09348

The mean score is 5.5067 with a standard deviation of 1.10 (approximately). According to the above scale, the mean score was above 5.25, indicating that, on average, the respondents agreed with the statements based on attitude. The standard deviation of 1.09 indicates that most respondents were very close to the mean. This shows that the majority of respondents had a positive attitude towards the adoption of internet banking.

Regression analysis was conducted to show how different factors affect the attitude towards internet banking.

Table 3: Goodness of Fit

Parameter	Value
R	0.677
R Square	0.458
Adjusted R Square	0.455
Standard Error of Estimate	0.811

Table 4: Output for Regression

	Standardized Coefficients	t	Sig.
	Beta		
(Constant)		0.637	0.525
Perceived Cost (PC)	-0.024	-0.603	0.547
Perceived Benefit (PB)	0.369	8.430	0.000 *

Notes: Dependent Variable: Attitude towards adoption of internet banking

*** signify that difference is significant at 1% since $p < 0.01$**

The relationship between perceived benefit (PB) and attitude, was significantly positive ($p=0.000$, $\beta=0.369$). Thus, the greater the perceived benefit of using internet banking, the stronger is the consumers' attitude towards its adoption. Hence, H_1 is supported.

Prior studies on e-business report that perceived benefit influence its acceptance (Zheng 2006). Along the same lines, Beatty (2001) observed that perceived benefits have direct effect on the consumer's acceptance of the company's website. In our study, perceived benefit was also found to positively affect user attitude towards use net banking. The findings are also in sync with Featherman and Fuller (2002).

It was found that perceived cost ($p=0.547$ and $\beta= -0.024$) had an insignificant relationship with intention. In other words, the attitude of people to adopt internet banking is not affected by perceived cost. Hypothesis H_2 is, thus, rejected.

The value of adjusted $R^2 = 0.455$ is also statistically significant, indicating that the independent variables are able to explain 45.5% of variance in dependent variable.

Previous research suggests that users consider variables such as telecom cost, service fees, and the internet installation cost were found significant to shape their attitudes and intentions towards adopting internet banking (Bradley and Stewart 2003; Lee 2009). Consequently, the findings regarding perceived cost do not align with those of earlier studies, which demonstrated that perceived cost negatively influences the adoption of internet banking. The discrepancy between the current findings and previous research regarding perceived cost's influence on internet banking adoption warrants further investigation. While earlier studies emphasized the importance of financial factors such as

telecommunication costs, service fees, and installation expenses in shaping consumer attitudes towards internet banking, the present results suggest a shift in consumer priorities. This change could be attributed to several factors, including the widespread availability of affordable internet services, increased competition among banks leading to reduced fees, or a greater emphasis on convenience and accessibility over cost considerations.

5. CONCLUSION AND IMPLICATIONS

Perceived benefits offered to consumers affect their adoption of net banking. These benefits encompass both tangible and intangible aspects, such as convenience, time-saving, and cost-effectiveness. To encourage wider adoption, financial institutions must focus on highlighting these advantages through targeted promotional activities. These efforts can include in-branch campaigns, incentive programs for new registrations and active usage, and comprehensive awareness initiatives that address common concerns like privacy and security.

To further promote internet banking, financial institutions should develop multi-faceted marketing strategies. These may include educational programs to demonstrate the ease of use and benefits in place, as well as comparative analyses showcasing the cost-benefits of online transactions versus traditional banking methods. Media campaigns across various platforms, including radio, television, and newspapers, can effectively disseminate information about fee structures and other advantages. By addressing potential users' apprehensions and clearly communicating the benefits, banks can foster greater trust and encourage more widespread adoption of internet banking services.

Furthermore, the evolving technological landscape and changing consumer expectations may have altered the perception of costs associated with internet banking. As digital literacy has increased and online services become more integrated into daily life especially since the COVID pandemic, consumers may view internet banking as a necessary utility rather than a luxury, potentially diminishing the impact of perceived costs on adoption decisions. Additionally, the benefits of internet banking, such as time savings, 24/7 accessibility, and improved financial management tools, may outweigh cost concerns for many users. Future research could explore these potential explanations and examine how the relevance of various variables influencing the user acceptance of net banking has shifted over time.

6. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The antecedent constructs examined in this study are not comprehensive. This is also indicated by the goodness of fit parameters. Previous research has indicated that additional variables, like perceived usefulness, ease of use, compatibility, trust, internet prestige, web design/features, and internet experience, are significant in analyzing the factors influencing internet banking. Consequently, these

dimensions can further be investigated. Moreover, the factors identified by the current study — perceived benefits and costs are subject to cultural and national limitations. This is due to the fact that cultural differences have been observed in the way users react to expected risks (Tse, 1988; Weber and Hsee, 1998; Bontempo, 1997). These studies imply that user's adoption of net banking depends on cultural factors. This aspect necessitates additional investigation. Therefore, replicating the current research with a larger and more diverse data set across nations could be pursued in future research. Finally, employing a longitudinal study in the future would allow for the examination of our model over time, facilitating comparisons as well as yielding deeper insights into the phenomenon of internet banking adoption.

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