Study of Customer Attitude towards Online Banking Services

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ABSTRACT

This research analyzes the opinion of Nepalese customers about online banking, focusing on the impact of demographic factors (age, gender, education, and income) and six service quality elements (cost, ease of use, awareness, trust and security, accessibility, and speed). A survey was conducted with a sample of 170 respondents from Kathmandu Valley. The correlation, independent t-test, Anova, and other statistical methods showed that attitude toward online banking is influenced by age and income, while gender and education do not have any significant effect. Despite the readiness to accept online banking, the major obstacles to its usage are security concerns and low levels of awareness. These results emphasize the need for banks to develop robust cybersecurity strategies, marketing and educational campaigns that improve customer awareness, and more demographic-based services to meet online banking expectations. Meeting these requirements will enable banks and policy makers in Nepal to facilitate further digital finance inclusion, meet customer expectations, and strengthen the credibility and usefulness of internet banking in the country.

Keywords: Online banking, Customer satisfactions, Customer awareness, Cybersecurity strategies, Marketing campaigns.

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INTRODUCTION

E-banking, or internet banking, is a system that has changed the way customers access services at financial institutions. In the past 20 years, both developed and emerging economies have adopted enhanced digital technologies to improve customer service, cut operational expenditures, and expand their horizons. For developing nations like Nepal, the promise of online banking is not only ease of access for urban and technologically educated customers, but also the possibility of providing financial services to the under-served population in distant regions of the country. Even though there has been considerable improvement in the internet infrastructure in Nepal and greater use of smartphones, the usage of online banking services is still low (Banstola, 2007). One of the reasons is that a large segment of the population is still skeptical about fully migrating to digital platforms because of issues around security, low level of comfort with technology, and the difficulties involved in using e-banking systems (Khatri & Dhungel, 2013).

Credit card services were first introduced in Nepal in the early 1990s by the Nepal Arab Bank Limited (currently Nabil Bank). This marked the beginning of the digital transformation in the banking sector, which was followed by innovations in other commercial banks like Himalayan Bank Limited, Laxmi Bank Limited, and Kumari Bank Limited (Bhatta, 2010).

The range of these innovations includes Automated Teller Machine (ATM) services as well as mobile and online banking. While these measures signify the possibility of a totally digitized banking system, concerns still exist regarding whether the rest of the Nepalese people are ready for such changes (Khatri & Dhungel, 2013). There are customers who remain resistant due to a myriad of issues such as online account creation, fear of their financial information being compromised, and poor internet access in some regions. For banks that wish to create better digital services and policymakers wishing to promote a comprehensive financial system that utilizes technology without deepening the digital divide, understanding the fundamental issues of these obstacles is vital.

Understanding that technological acceptance in banking involves a multi-faceted phenomenon, such as perceived usefulness, perceived ease of use, cost, social factors, and trust, is recognized by academic and professional circles (Suh & Han, 2002; Agarwal et al., 2009). Well-known models like Technology Acceptance Models (TAM) and Theory of Planned Behavior (TPB) have been ethnocentric and applied in different settings to assess how consumers' willingness or unwillingness to accept technologically innovative products is formed.

Notably, these frameworks face challenges for their focusing critique for not considering regional context particulars in developing nations such as the socio-culture components, infrastructural limitations, and even the legal framework that may determine the degree and nature of how the internet is used (Lee, 2009). In this context, this research seeks to

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examine the attitudes of Nepalese customers towards digital banking by analyzing the demographic characteristics (age, gender, education, and income) and their perceptions of service quality (cost, ease of use, awareness, trust and security, accessibility and speed).

The present paper integrates a literature review on the adoption of online banking, covering its versions from other countries and focusing on Nepal. It covers a more comprehensive approach with well-known frames in the adoption of technology and addresses good portions of their relevance and shortcomings in applying it in an emerging economy. The relaxing sections specify the research paradigm, which includes the sampling design, collection of data, and the statistical analysis of the relationships among the variables. After providing the results, the paper discusses how the outcomes relate to previous studies and their significance in terms of theory and application.

The closing part summarizes how these findings can be useful to improve the application and adjustment of digital banking in Nepal, whereas the last section presents practice and policy suggestions that resolve issues on security, educating users, and the system's design. There is a focus on maintaining scholarly standards within the bounds of the study alongside its limitations, and gaps where further research or policy engagement might be useful are highlighted.

2. LITERATURE REVIEW

2.1 Technological Adoption Theories in Banking

The adoption of technology on a social level, especially in banking, is well-captured by social psychological perspectives as well as those from information systems research. Notably, The Technology Acceptance Model (TAM), pioneered by Davis in 1989 and later developed by several authors including (Suh, 2002, Pikkarainen et al, 2004) argues that both perceived value of usefulness and perceived ease of use of a new technology have a considerable impact on intention to adopt the technology. This model is extensively utilized regarding customers' acceptance of e-banking, mobile payment, and other digital financial services (Karjaluoto et al., 2002). On the contrary, different scholars critical of TAM argue that social, cultural and contextual factors, especially in developing countries with a wide range of literacy levels, are neglected (Agarwal et al., 2009).

The Theory of Planned Behavior (TPB) developed by Ajzen (1985, 1987), stems out of the Theory of Reasoned Action and adds a dimension of perceived behavioral control. Tripartite model suggests that attitudes, subjective norms in a social context, and degree of emphasized control over a system act together to form behavioral intentions. In the context of online banking, attitudes may come from perceived risks in online transactions, subjective norms may represent social or peer influence while perceived behavioral control can be related to available internet or computer to use (Ajzen, 1987; Lee, 2009).

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Even as TPB expands, it draws critiques over its ability to keep pace with fast changing technologies and the complexity of data confidentiality issues in financial domains (Mukherjee & Nath, 2003) has argued. As an example, Shatat (2017) includes service quality descriptors in his version of e-ServQual or DeLone and McLean's Information Systems Success Model that include service reliability, responsiveness, and trust.

These arguments converge with the fact that online banking adoption is highly correlated with its perceived associated value attributes, including timely execution of transactions, system availability, and high level of information security. These additional parameters are important in emerging markets due to the infrastructural deficit, high incidence of data leakage, and low levels of regulatory trust for digital transactions (Naqvi & Al-Shihi, 2014).

2.2 Service Quality Dimensions and Consumer Perceptions

In the context of online banking, service quality can be analyzed further with regards to the elements that encompass cost, usability, trust and security issues, accessibility, speed, as well as the knowledge level of the available digital instruments. Initially, cost factors tend to have lower transaction costs, a possible reduction in the time required for travel, and a reduction in the expenses associated with maintaining physical branches for the banks Rotchanakitumnuai and Speece (2003). In some developing nations, where the population is cost-sensitive, cost effectiveness could prove vital. At the same time, ease of use is associated with the concept of user-friendliness, which is pivotal in TAM's perceived ease of use dimension. Many banks in emerging regions have realized that complex user interfaces can prevent older or less tech-savvy users from using e-banking services, demonstrating the importance of interface design and user support (Liao & Cheung, 2002).

Some of the most important factors for the acceptance of online banking are trust and security issues (Mukherjee & Nath, 2003; Laforet & Li, 2005). In an environment with digital technology, where people need to exchange very confidential financial data, the perceived risk can hinder usage in the absence of adequate encryption, transaction monitoring systems, and fraud prevention from the banking institution. Such worrying stories about phishing or hacking events further fuel a great sense of distrust, which makes restoration of trust a top priority for service providers. Moreover, the intangible components of trust like brand image and authoritative institutional support can greatly influence customer's perception of e-banking (Naqvi and Al-Shihi, 2014). This sense of comprehension directly relates to understanding the intricacies, advantages, and disadvantages of online banking. Without mass media and specific educational materials, even the most technologically skilled users can be unaware of important features like mobile check deposits and bill payment (Sathye, 1999). A lot of developed countries pour a lot of money into advertising and educating their clients in order to get them to move to digital banking. In developing economies, these strategies can be particularly effective when they combine not only the usage of online banking but also the trust and cultural attitude elements that influence the

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perception of financial technology (Poon, 2008).

Rapidness and convenience are just as important. In principle, the distinctive benefit of internet banking is the capability to perform banking transactions anytime and anywhere (Kassean, 2012). A user's ability to accomplish a transaction or check his or her account balances or confirmations in real time associated with time efficiency are all elements of speed. In the Nepalese situation, the theoretical convenience of digital channels is undermined by poor internet connection, power cuts, and inadequate coverage of broadband facilities which forces some users back to conventional banking methods. Therefore, accessibility in this instance is not just the possession of a computer or smartphone, but also the existence of an infrastructure that allows for constant coverage on the internet (Banstola, 2007).

2.3 Social Influences

People of different ages, sexes, levels of education, and income are likely to have different responses on the use of various services of digital banking. Past investigations reveal that younger people are more predisposed to adopt internet banking because they are more comfortable with technology and online dealings (Karjaluoto et al., 2002; Lee, 2009). However, this does not suggest elderly users eliminate e-banking. Rather, they may require more education, training, or less complex interfaces to interact with these systems competently (Yiu et al., 2007). Some cultures have gender-based differences in the use of technology, but these differences do not occur in all developing nations and change with increasing exposure to technology (Naqvi & Al-Shihi, 2014).

Education has often been understood to be a major determinant of e-banking adoption due to its association with higher digital literacy and analytical skills (Agarwal et al., 2009). That said, there are still some findings that contradict these assumptions. In some regions, even those who are highly skilled professionals may not have faith in digital channels if there is a high perceived risk or strong interpersonal context preference (Laforet & Li, 2005). The same can be said about income. New technologies are adopted relatively more so by higher income earners who are able to afford internet subscriptions, smartphones, and advanced personal computers (Banstola, 2007). Still, the fact that there are less severe financial barriers does not automatically enable adoption when trust and security, for example, are inadequately taken care of.

2.4 Nepalese Context and Emerging Gaps

The context of Nepal demonstrates a duality in terms of opportunities and challenges associated with the advancement of online banking. The development of digital channels for banking has the likelihood of improving financial inclusion, particularly in underserved regions that lack the adequate presence of bank branches (Khatri & Dhungel, 2013). On the contrary, inadequete digital infrastructure, irregular network connectivity, and a low propensity to use e-services by some section of the population

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can act as barriers to development (Banstola, 2007). Moreover, regulatory and policy frameworks, although becoming stronger, still invites criticism with respect to consumer data protection and cybersecurity, which has a bearing on the level of trust consumers have (Nepal Rastra Bank, 2012). There has been considerable research conducted on the use of online banking in other countries like India, China, or Malaysia (e.g., Laforet & Li, 2005; Poon, 2008), but limited detailed studies are available that focus on the Nepalese context, considering the local population, distribution of the internet, and so forth.

Relatively few holistic studies examine the specific context of Nepal considering its local population, the spread of the internet, and the cultural value of interpersonal trust (Banstola, 2007). The objective of this study is to fill this gap by analyzing the dynamics of attitudes and behaviors of Nepalese e-banking users.

3. RESEARCH METHODOLOGY

3.1. Research Design and Justification

A cross-sectional survey technique was use to study the attitudes of Nepalese consumers towards online banking and to determine relationships between attitudes and selected demographic and service quality variables. A cross-sectional method was selected because it is economical in terms of time and resources. It allows capturing quantitative data at a certain time which represents the attitudes of the people at that moment (Kothari, 1990). Although a longitudinal study may be more insightful in explaining how attitudes change, the lack of funding and time available to conduct a single cross-sectional study made this option more pragmatic. The research design provides a balance between quantitative (statistical) and qualitative (open feedback) analysis yielding a complete understanding of the issues in question.

3.2 Sampling and Population

The population of interest was active users of online banking using the services from the Kathmandu Valley which encompasses the districts of Kathmandu, Bhaktapur, and Lalitpur. Concentrating on the Valley region allowed the study to target respondents who are more predisposed to online banking with greater use of technology and the presence of many commercial banks offering e-banking facilities (Khatri & Dhungel, 2013). The researcher implemented a non-probability convenience sampling method with quota restrictions to ensure coverage from different age groups, income levels, and sex (Malhotra, 2007). Of these, 170 respondents were selected, which was deemed adequate for practical purposes, particularly from prior studies which utilized similar sample sizes in examining online banking in their respective regions.

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3.3 Instrumentation

We gathered information using a structured questionnaire consisting of open and closed questions. The questionnaire had two major parts. The first part dealt with demographic variables such as age, sex, education level, occupation, and income. The second part focused on the respondents' attitudes, perceptions, and experience with online banking. Respondents were asked how they perceived the service quality for cost, ease of use, awareness, trust and security, accessibility, and speed, using the five-tiered Likert scale of "Strongly Agree" (1) to "Strongly Disagree" (5). On average, higher mean scores on a particular dimension were assumed to indicate less favorable perceptions; however, this depends on the item's phrasing. Besides, participants were invited to elaborate on any considerable barriers or drives they had, thus enriching the data with qualitative explanations.

Before the broad rollout of the instrument, a pilot test using 23 banking customers was conducted. They reported to us the clarity, relevance of items, and completion time. To ensure content validity, people with expertise in marketing and finance evaluated the items as well. The pilot results made us incorporate some minor changes, including rewording certain items to make them clearer, as well as changing the order of some questions to make them more intuitive.

3.4 Reliability and Validity

Following Cooper and Schindler (2006), the reliability of the constructs was measured using Cronbach's alpha. Each service quality dimension as well as the overall attitude scale received an alpha greater than 0.70, which is regarded as the minimum level. Apart from these measures, face and content validity was checked through expert review, while construct validity was partially checked by item-total correlations. Additionally, primary components factor analysis was performed to validate that the six service quality dimensions were separated clearly with no substantial overlap.

3.5 Data Collection Procedures

As stated previously, data were collected using self-administered questionnaires that were distributed in person and sent via email. I contacted some respondents in bank branches with prior permission from the management while others were reached through referral circuits in offices or schools. The distribution took place for about four weeks so that there was enough time to follow up on non-responsive participants. They were assured that their response would remain anonymous, and for ethical purposes, they were briefed on the academic goals of the study.

3.6 Methods of Analysis

Once 170 valid responses were collected, the data was loaded into IBM SPSS. Descriptive statistics, including means, standard deviations, frequency counts, and percentages were

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calculated in order to describe the sample and summarize the key variables of interest. Hypothesis-testing inferential statistics were performed for the main hypothesis's tests. Service quality dimensions and customer attitudes were assessed using Pearson's correlation to determine the relationships among the variables. Differences based on gender were analyzed using independent t-tests. ANOVA was used to assess the presence of statistically significant differences across several categories such as age groups, educational qualifications, income levels, and occupational status. Where ANOVA results were found to be significant, post-hoc analyses were performed. The threshold for significance of the tests was set at $p < 0.05$ based on standard social sciences (Kothari, 1990).

3.7 Examination of Other Options

Even though the descriptive cross-sectional design served the purpose of the study, the researcher accepts that a mixed-methods design or a longitudinal approach would provide greater insight into the behavioral changes over time. A completely qualitative study through focused interviews could provide a better understanding of the individual's experiences but would reduce the ability to extrapolate results throughout the diverse population in Kathmandu Valley (Cooper & Schindler, 2006). Regardless, the chosen methodology is a compromise between practicality, statistical sophistication, and the degree to which online banking attitudes can be captured at that time.

4. RESULTS

4.1 Demographic Profile of Respondents

The study's demographic (Fig 1), the information obtained from the respondents concerning the gender structure is reasonably balanced and approximately equal in ratio with males having a frequency of 54.7 % and females 45.3 % indicating a moderately balanced gender ratio for the 170 respondents.

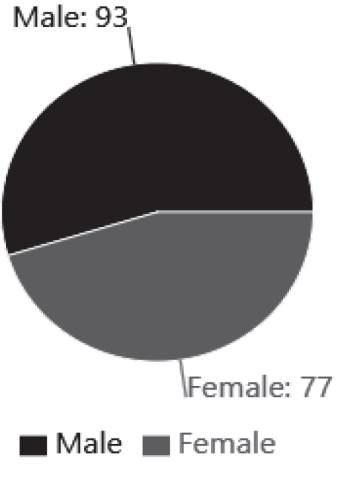

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Figure 1: *Demographic Distribution Pie Chart - Gender Composition of Online Banking Users*

The age distribution showed peaks (Fig 2): Males aged 26 to 40 years formed the largest group, which was 55.9%, any individual below 25 years came second at 31.8% and last was anyone over 40 years who accounted for 12.4%.

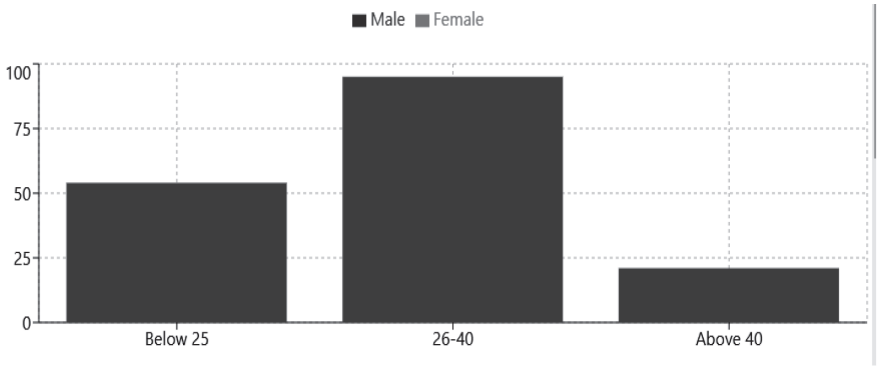

Figure 2: *Age Distribution Bar Chart - Age Groups of Online Banking Users*

It is this age range that appears to be saving and encouraging these individuals to seek these services which would explain the popularity of online banking relatively easy to access digital services

The educational background assessment depicted (Fig. 3) as previously mentioned a significant representation of those with a bachelor's degree which comprised of most of the respondents accounting for 54.7%, whereas the intermediate levels and below were at 24.1%, with master's degree and above accounting for 21.2%. The occupational breakdown revealed that 61.8% were employed full-time, 14.7% were professionals such as doctors or lawyers, 14.1% were students, and the remaining proportion included business owners, homemakers, or retired individuals. The income distribution varied significantly, reflecting Kathmandu Valley's socioeconomic diversity, with some respondents earning less than NPR 25,000 per month and others surpassing NPR 80,000 monthly.

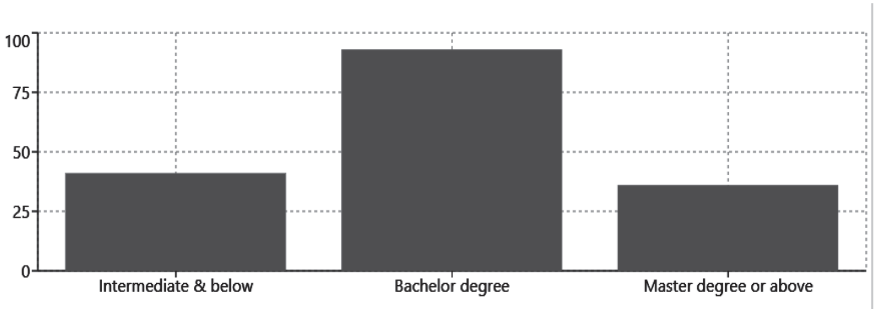

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Figure 3: *Educational Level Distribution Bar Chart – Educational Background of Respondents*

4.2 Overall Attitude Toward Online Banking

About the overall attitude evaluation assessment (Figure 4), Descriptive analyses indicated that 25.3% of the respondents had very positive attitudes, 45.3% had positive attitudes, 23.5% were neutral, and 6% had negative or very negative attitudes. This means that slightly more than 70% of the respondents in the sample of Nepalese e-banking users have positive attitudes. Some of the participants who reported neutral attitudes pointed out the ambiguity of their feelings as to the safety of transactions and personal information. On the other hand, negative or strongly negative attitudes were associated with experiencing technical problems or hidden fees. These findings suggest that while most people seem poised to embrace digital financial services, a large portion remain doubtful or unconvinced.

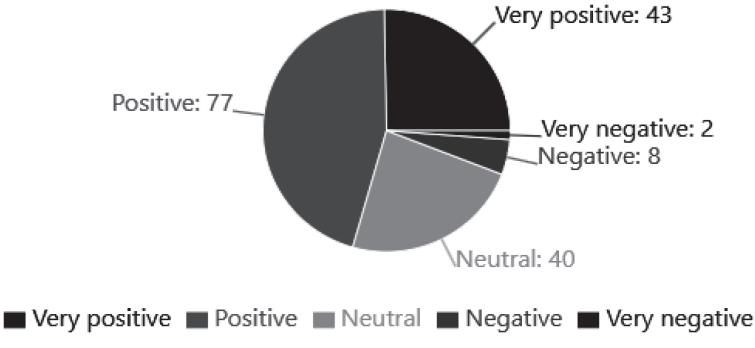

Figure 4: *Customer Attitude Distribution Pie Chart – Overall Attitude Towards Online Banking*

4.3 Relationship and ANOVA Findings for Demographic Variables

The correlation analysis showed that there are significant relations between the overall attitude towards online banking and two main demographic variables: age and income. Younger respondents, aged 26 – 40, tended to have positive attitudes towards e-banking. This supports the earlier finding that younger and active people with professional skills are more likely to use digital services. Positive attitudes had a mild but positive correlation with income level, revealing that positive attitudes had greater appeal to higher consumers with greater disposable incomes. Perhaps they were more accustomed to using the internet for transactional purposes, or they possessed the necessary digital infrastructure.

These assumptions were confirmed by ANOVA tests. Influences of age were significant ($F=3.606$, $p=0.029$), signaling there are statistically significant differences in attitudes across the three elder groups. Post-hoc observations indicated that the gap was greatest in the comparison of younger adults (18-25), and older adults (40+). Likewise, income also had a powerful effect on attitudes towards e-banking ($F=2.496$, $p=0.045$). However, the other examined factors did not have significant impacts: gender ($F=3.358$, $p=0.069$) and education

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(F=0.662, p=0.517) did not register. For example, some highly educated respondents openly declared trust in the e-banking system because the money is not secure. This suggests that high levels of education do not automatically leads to positive appropriation of digital services, at least in this context of Nepal.

4.4 Analysis of Service Quality Dimensions

All service quality dimensions – cost, usability, security and privacy, awareness, accessibility, and speed (Fig 5), were assessed using multiple Likert scale items. While the security dimension scores were correlated with overall attitude toward online banking, each dimension had a positive correlation which was statistically significant at $p < 0.05$.The strongest correlation emerged for trust and security, followed by awareness, ease of use, cost, and accessibility, with speed also featuring as an influential dimension.

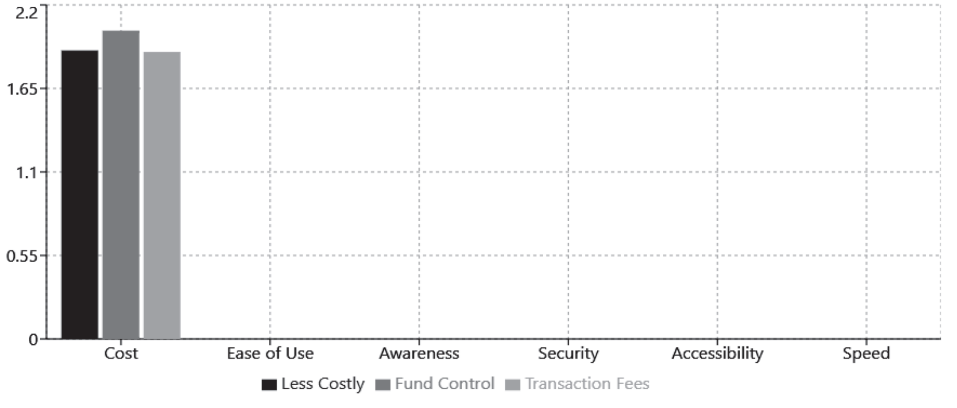

Figure 5: *Service Quality Bases Comparison for the Six Factors - Bar Graphs*

Many respondents pointed out that online transactions do not require spending as much time and money as the traditional approach; however, there is still a lingering risk associated with system security and phishing. About 48.2% picked security issues as the central obstacle, with responses exhibiting concern over potential credential compromise. Another 37.6% explained this gap by limited awareness and spoke of the uncontrolled ignorance towards the online payment platforms and the knowledge of their functionalities apart from balance inquires and mini statements. More than 35% labeled the services as complicated, which suggested that if banks adopted better user interfaces, instructional guides and less jargon or visual information, the less savvy customers might more readily switch to electronic banking.

4.5 Usage Patterns and Key Barriers

As for the activities conducted in online banking, respondents indicated that the most actively used functions involved the lowest level of processing, such as balance inquiries and account transfers, followed closely by bill payments and electronic funds transfers. Of

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note, bill payments received special consideration for saving users time during physically demanding utility office visits. The more sophisticated features, however, such as applying for loans online, or the use of other more complex investment products, were not as widely utilized. This suggests that, while most people tend to use the platforms to perform basic functions, there is still a substantial number of users who are not using the platforms to their full potential.

A barrier to adoption was investigated using an open-ended question. The most common concern related to security breaches, including data leakage, hacking, the misuse of saved credentials, and even personal identity disclosure (Fig 6). A less common but still significant group of respondents mentioned obscured or undisclosed service charges. Some others, particularly those who had experienced incomplete or aborted transactions, cited unreliable internet connections or recurrent power outages as obstacles. These qualitative observations reinforce the quantitative data suggesting that appropriate digital banking alternatives cannot gain widespread acceptance in Nepal until there is greater infrastructural support and more user trust in the system.

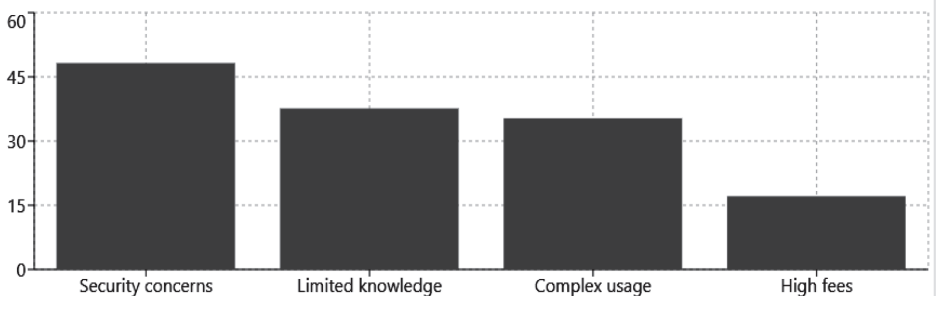

Figure 6: *Barriers to Adoption Bar Chart – Major Challenges in Online Banking Adoption*

5. DISCUSSION

5.1. Integration with Current Literature

This study confirms previous research underscoring demographic factors, particularly age and income, as critical determinants of attitudes towards technology acceptance (Karjaluoto et al., 2002; Lee, 2009). The previously discussed online banking attitudes are notably influenced by age, which fits with younger and middle-aged adults adapting more readily to technology. It is important to note that some in this sample over 40 years of age were users of e-banking, meaning that age is not an absolute barrier to adoption if there is sufficient awareness and a user-friendly interface. Also, the effects of income are consistent with the idea that having more resources increases the ability and willingness to adopt new technologies, which is made easier for better internet connections, newer smartphones or computers, and more familiarity with online purchases. This study corroborates the

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argument foundational to the TAM and its extensions that indeed trust and security issues can significantly limit usage intentions (Mukherjee & Nath, 2003; Agarwal et al., 2009). Even those who acknowledged the quickness and ease of using online services were still hesitant when there was a lack of adequate security provisions. This reminds us of the claims made in the use technology literature which capture the relationships between perceived usefulness, risk, and ease of use. It also demonstrates how abstract concepts such as trust towards the platform, confidence in data protection, and comfort with technology serve as vital constituents of user acceptance within financial services, which is especially unique.

5.2 Fundamental and Contextual Consequences

This study advances the domain of literature on Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) by illustrating the role specific cultural and demographic features play in a developing country context. Education does tend to feature as an e-banking uptake predictor in many instances (Agarwal et al., 2009), but in this case, its impact was negligible. This implies that in Nepal, trust issues and infrastructure limitations may do more inverting than formal education benefits. This implies that there is a likelihood that standard acceptance models may need modification to accurately reflect local factors like the absence or presence of reliable internet services, local banks' reputation, and socio-cultural attitudes towards interpersonal financial transactions. In addition, this underscores the necessity for further modifications of TAM or other models to integrate wider sociopolitical or infrastructural conditions capable of retarding or promoting adoption.

Those remarks deal with targeting by age and attitudes towards using the internet. For example, the older group's ambivalence which, to some extent, corresponds with their income may suggest that the marketing approach should be integrated with product showcasing, security explanation as well as trust building for the poorer segments that lack exposure to modern devices. This is in line with other emerging markets which suggest that localized inverse adoption strategies such as in-person workshops and ethnocentric advertising are often more effective than those which are brainchilds of developed nations (Laforet & Li, 2005; Poon, 2008).

5.3 Contradicting the Other Studies

Emerging economies like previously mentioned also focus strongly on the Internet's ability to disburse information to people who are focused on the central issue of trust, security and to a certain extent, awareness as the most important cause of e-banking acceptance (Naqvi & Al-Shihi, 2014). Most of these studies concentrate on the fact that younger users are more comfortable with technology and social media; however, their knowledge about traditional banking looks rather poor, as well as confidence in data privacy and security. Some segments of the population may be highly aware, but that does not necessarily mean they will adopt e-banking if large segments of the population have deep-rooted skepticism regarding the credibility of the system (Sharma & Malviya, 2014).

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Identifying the proportion of respondents that remained neutral, almost a quarter, highlights the gap that exists for banks and policymakers to potentially convert neutral respondents to more favorable ones with the right communication and sufficient evidence of trust in the platforms.

This observation is also aligned with some of the prior studies focusing on the intersection of financial literacy and internet-enabled transactions where the trust deficit is huge. In contrast, Nepal appears to make more sense of other more serious yet less visible issues. It is interesting to note that the absence of trust in these economies leads to underutilization of even free or very low-cost digital services, which is inconsistent with the basic principle of economics that suggests these services should be in high demand (Nasri, 2011, Rotchanakitumnuai & Speece, 2003).

5.4 Restrictions and Prospective Avenues for Further Research

While the study provides important perspectives, it is limited due to its cross-sectional nature and its concentration on the Kathmandu Valley. Rural regions may produce different results due to limited access and varying cultural perceptions. Future researchers could study changes in user behavior over time through longitudinal studies, particularly as more banks invest in the digital transformation of their services and as there is a shift in policy direction towards more stringent security measures. Another potential direction of growth is the use of qualitative approaches such as focus groups or in-depth interviews to capture personal narratives concerning breaches of trust associated with e-banking or successful e-banking experiences.

A more expansive theoretical contribution could come from creating a locally based e-banking acceptance framework that includes infrastructural factors (the internet's comm quality and the continuity of power supply), institutional assistance, and other social impacts, particularly peer effects. Such models are more likely to offer better explanations than the typical universal models in Nepal and comparable countries that are slowly transforming their financial systems. Exploring brand loyalty may be worthwhile because there seem to be some customers who stick with legacy banks irrespective of how subpar their digital interfaces are, while some other customers are more easily captured by sophisticated applications or novel e-banking services.

6. CONCLUSION

This study attempts to address the interaction of demographic factors and service quality issues that make online banking appealing to Nepalese consumers. It builds on accepted theoretical frameworks from technology acceptance research and considers the socio-cultural context of Nepal. The quantitative findings indicate that, unlike a woman's gender or educational attainment, one's age and income are strong indicators of one's attitude

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towards e-banking. All the consumers' service quality perceptions, including cost, ease of use, awareness, trust and security, accessibility, and speed, interaction were positively associated with the general orientation of the consumers. However, concerns over security and limited awareness negatively impact the adoption of online services.

The remained neutral or negative respondents, while minimal, underscore problems that banks and policymakers need to resolve, this is in congruence with the 70% of partakers who reported positive or very positive attitudes. Based on the experience of many participants, there seems to be a considerable effect from attempts to improve security measures, educate users on the perks of e-banking, and design user friendly interfaces. In the end, the results, while affirming the high prospects of strong online banking adoption in Nepal, mark that the achievement of e-banking initiatives will need to address the infrastructural and attitudinal obstacles to more positive and active engagement. If perhaps more tailored actions are taken, then the Nepalese financial institutions will be able to strengthen the trust of users and enhance their participation in the effort of e-finance, thereby contributing to the digital transformation of the country.

7. RECOMMENDATIONS

Narrative recommendations are more common in social sciences and business research, as compared to bullet point style recommendations. In relation to this case study, there are specific recommendations which need attention from both the financial institutions and the government agencies responsible for implementing effective and safe online banking in Nepal. There is overwhelming evidence supporting the idea that banks do not adequately explain their security measures and should do so more effectively. Respondents kept returnig with concern regarding the safety of their transactions, which skews towards establishing security believing them to be visible and reliable. Institutions are able to enhance their branding and communications by operationalizing state-of-the-art encryption technology, biometric and multi-factor login systems, and active fraud detection and prevention. Even so, it is important that these changes are put on public record through regular consumer reports, workshops, and easy to understand documents. When customers know what security measures are undertaken and how their personal information is protected, it is reasonable to expect that their trust in e-banking services would be positively impacted.

Third, the campaigns for building use of online banking should not be limited to simple commercials. The results of the study indicate that around a neutral one-fourth of the sample does not have adequate information regarding the variety, safety, and benefits of these digital portals which are largely unattended. Interactive digital tutorials, written documents, and on-site demonstrations like transfer of funds, bill payments, and checking transaction history kiosks should be made available in Nepalese and English. Furthermore, partnerships with educational entities, local community organizations, and consumer rights groups can help reach out to more diverse audiences. Given that high literacy does not

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guarantee many things, these campaigns need to be designed with different comfort levels towards technology and learning styles in mind.

Third, banks might think about developing more accessible systems for users, especially for those over 40 years of age or for people who are not very tech-savvy. Interfaces can appear less complicated if the structure is simplified, guided procedures are established, and support hotlines are easy to access. For those who are afraid of making mistakes while tele-interacting with a system, a stepwise method where each important step is verified—as in checking account numbers before executing the transfers—could alleviate concerns. The combination of better digital video tutorials and in-person help could help many clients who are currently reluctant to become comfortable on-line bank users. Banks should also consider trying to implement uniformity in user interface design to the extent possible to minimize confusion for customers with multiple accounts in different financial institutions.

The Nepal Rastra Bank, along with other governmental institutions, ought to provide guidelines and motivated action for the enhanced security of online banking. This may involve establishing comprehensive cybersecurity standards for the financial institutions, providing instructions on how banks should manage data breaches or suspicious activities, and enforcing security negligence fines. To encourage transparency and aid users' confidence by minimizing the assumption of concealed charges, the institution may also endorse uniform disclosure of costs. Public sector-subsidized campaigns that seek to raise online banking usage among rural and less affluent individuals can shift the focus away from the predominately urban Kathmandu Valley. Developing reliable internet connectivity through subsidization or tax incentive programs can enhance availability, thus alleviating one of the fundamental barriers to e-banking adoption.

Fifth, in this analysis, age, income, and usage patterns by the respondent should form the basis of targeted market segmentation strategies. Younger, more digitally savvy users may require that banks provide more advanced online investment tools and automated savings features. As for older age groups, they might prefer more basic interfaces along with substantial offline assistance to help them transition from traditional face-to-face service methods to more digital ones. Such segmentation would help to alleviate the primary concerns faced by each group while increasing satisfaction with the relevant digital tools provided. Lastly, to guarantee perpetual growth and acceptance, some form of planning systematic evaluation processes should be designed. For example, banks could set up feedback mechanisms where users would systematically assess their satisfaction with online service windows.

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