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Assessment of Digital Banking Attributes and Customer Satisfaction in the Nepalese Banking Sector

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Abstract
Over time, the digitalization of banking operations has accelerated, aligning with Nepal's broader digitization framework and regulatory efforts led by Nepal Rastra Bank (NRB). This study assesses key digital banking attributes and customer satisfaction in Nepal's commercial banking sector. Using a structured questionnaire, data were collected from 450 customers working in the IT sector who actively use digital banking services. Findings reveal that perceived credibility and convenience are the most influential factors shaping digital banking services in Nepal, both demonstrating strong statistical significance. Although perceived ease of use showed a positive influence, it was not statistically significant, while perceived usefulness was only marginally significant. These results suggest that while usability and functionality are important, trust and convenience play a more critical role in shaping user satisfaction and loyalty. The study offers important implications for banks, digital service developers, and policymakers. By enhancing platform credibility, improving security, and expanding convenient features, stakeholders can better align with customer expectations and foster sustained engagement in Nepal and underscores the value of customer-centric approaches in driving digital transformation within the financial sector.

Keywords: Digital banking, Technology Acceptance Model (TAM), Financial services, Digital transformation

JEL Classification: G21, O33, M15, D83

Introduction
The advent of the digital age has revolutionized the global financial services sector, fundamentally altering how banking transactions are conducted. Technological progress has driven the widespread adoption of digital banking services worldwide, encompassing a broad range of offerings such as online banking, mobile banking, telebanking, and ATM

services. These digital services are designed to enhance transaction speed, security, and convenience for consumers (Baptista & Oliveira, 2015). Digital banking provides numerous user-centric benefits, including faster transactions, greater accessibility, and a wider array of services, which reduce the necessity for in-person visits to bank branches (Huang, 2003). For financial institutions, digital banking also brings operational advantages such as reduced costs, round-the-clock service availability, and enhanced customer data analytics, which contribute to improved service quality and competitive positioning in the market (Malaquias & Hwang, 2016).

Despite these advantages, the implementation of digital banking faces several challenges. Common barriers include security and privacy concerns, limited digital literacy among certain customer segments, resistance to technological change, and inadequate internet infrastructure, particularly in rural or under-served areas (Shaikh & Karjaluoto, 2015). To better understand the adoption of digital banking, many studies employ the Technology Acceptance Model (TAM). This model identifies key factors influencing technology adoption, such as perceived usefulness, perceived ease of use, social influence, and enabling conditions. Research on demographic influences has produced mixed findings; while some studies suggest younger, more educated customers are more inclined to adopt digital banking, others report a narrowing digital divide as internet penetration grows across all groups (Chong et al., 2012).

The digital revolution has significantly transformed the banking industry worldwide, reshaping how financial services are delivered and accessed. In Nepal, the banking sector comprises a diverse set of commercial banks that vary in age, size, and operational scale. For this study, banks are categorized based on their years of establishment into three groups based on their years of establishment. This classification allows for a detailed analysis of how digital banking adoption and service delivery differ according to the banks' maturity and operational history.

Despite significant advancements in digitization—including internet banking, mobile applications, digital wallets, and QR-based payment systems—the overall banking sector in Nepal remains heterogeneous in digital maturity. Older banks often have well-established customer bases and legacy infrastructure, which may slow rapid digital transformation. Middle-aged banks typically blend traditional services with evolving digital platforms, while newer banks often adopt cutting-edge technologies but face challenges in expanding their customer reach. Although digital platforms are widely available, adoption among users remains uneven—only about 35% of customers fully utilize digital banking services, with many still preferring traditional in-person banking methods. This disparity suggests that having digital platforms alone does not ensure effective adoption or sustained user engagement.

Furthermore, there is a notable lack of research that evaluates the specific digital banking attributes influencing user adoption and perception within Nepal's banking sector, particularly when considering differences among banks of various ages and operational characteristics. Important factors such as perceived usefulness, ease of use, security, and credibility have not been sufficiently studied in this context. This study addresses the identified research gap by examining key digital banking attributes across selected Nepalese banks categorized by their establishment period. By comparing old, middle-aged, and new banks, the study provides insights to help banks and policymakers improve digital service delivery and promote wider adoption of digital financial services. Accordingly, the study focuses on assessing the overall status of digital banking attributes in Nepal and analyzing differences in perceived usefulness, ease of use, security, and convenience across banks of different age groups.

Literature Review and Hypotheses

The global financial services industry has undergone significant transformation due to the digital age, with technological advancements reshaping how financial transactions are conducted. Digital banking, encompassing services like telebanking, ATM use, internet banking, and mobile banking, aims to enhance transaction speed, convenience, and security (Baptista & Oliveira, 2015). Both developed and developing countries have shifted toward digital banking, especially since the 1990s with the rise of the Internet, which revolutionized traditional banking by enabling customers to access services from home, thereby improving efficiency and convenience (Sohail & Shaikh, 2008).

The rise of mobile banking, driven by widespread smartphone use, has further advanced the banking industry by allowing users to conduct financial transactions anytime and anywhere, boosting convenience and customer satisfaction (Zhou at al., 2010). Digital banking's popularity stems from benefits like speed, accessibility, and a wide range of services, eliminating the need for physical bank visits (Huang, 2003). Banks also gain from reduced operating costs, round-the-clock service, and enhanced data analysis, leading to better service quality and stronger competitiveness (Malaquias & Hwang, 2016). However, challenges remain in adopting digital banking, such as security concerns, low digital literacy, resistance to change, and limited internet access in some regions (Shaikh & Karjaluoto, 2015). To understand digital banking adoption, many studies use the Technology Acceptance Model (TAM), which highlights key factors like perceived usefulness, ease of use, social influence, and enabling conditions that influence user acceptance (Venkatesh et al., 2003).

The Technology Acceptance Model (TAM) explains that a person's likelihood to use a system depends on how useful and easy to use they perceive it to be (Davis, 1989). This study builds on TAM to assess digital banking attributes in Nepalese commercial banks, assessing TAM's relevance and effectiveness in the context of digital banking. It also highlights that even if users recognize a system's benefits, they may avoid it if they find it too complex.

Perceived Usefulness (PU) is a core concept of the Technology Acceptance Model (TAM) that explains technology adoption. It refers to an individual's belief that using a particular technology will improve their performance or productivity (Davis, 1989). In digital banking, PU represents how customers view the efficiency and effectiveness of digital banking services in fulfilling their financial needs. Research shows that customers tend to be more satisfied with digital banking when they perceive it as useful. Alalwan et al. (2018) found that perceived helpfulness boosts satisfaction, while Rahi et al. (2019) noted that seeing digital banking as effective for transactions leads to positive opinions. Yoon & Steege (2013) also confirmed that perceived usefulness strongly influences customer loyalty and continued use of digital banking. Therefore, the following hypothesis has been put forward:

H1: There is a significant influence of perceived usefulness on customer satisfaction.

Perceived Ease of Use (PEOU) is a key part of the Technology Acceptance Model (TAM) and refers to how easy a user believes a technology is to use, requiring minimal effort (Davis, 1989). In digital banking, this means customers expect simple, user-friendly interfaces, clear guidance, and smooth functionality without technical problems (Venkatesh & Davis, 2000). Research shows that when digital banking services are easy to use, customer satisfaction increases, leading to higher adoption and continued use (Amin, 2016; Raza et al., 2017). Therefore, the following hypothesis has been put forward:

H2: There is a significant influence of perceived ease of use on customer satisfaction.

Perceived credibility refers to a customer's belief that digital financial services are trustworthy, reliable, and secure from risks like fraud or privacy breaches (Kim et al., 2009). It encompasses factors such as the financial institution's reliability, transaction security, and data protection. Research shows perceived credibility strongly influences customers tend to use and recommend digital banking more when they trust its security (Kesharwani & Singh, 2012). Conversely, concerns about cybersecurity can reduce satisfaction and adoption (Munir et al., 2022), while trust fosters confidence and long-term engagement (Yousafzai et al., 2003). Therefore, the following hypothesis has been put forward:

H3: There is a significant influence of perceived credibility on customer satisfaction.

Convenience, according to Mallat (2007), is how much a customer believes digital banking makes their banking experience easier and more efficient such as being able to bank anytime and anywhere, faster transactions, saving preferences, and avoiding branch visits. Alalwan et al. (2018) found that customers who appreciate digital banking's flexibility tend to be more satisfied, while Poon (2008) highlighted that the ability to transact anytime and anywhere strongly affects customer adoption and perception of digital banking. Therefore, the following hypothesis has been put forward:

H4: There is a significant influence of convenience on customer satisfaction.

Methods

Research Design

The study employed both descriptive and causal research designs. Descriptive research provided quantitative data for statistical analysis, while causal research examined different digital banking attributes in Nepal's banking sector. A total of 450 digital banking users from Nepal's IT industry were surveyed, yielding 396 valid responses. Data analysis was conducted using SPSS software, with reliability assessed via Cronbach's Alpha. Relationships between variables were explored through linear regression and Pearson's correlation analysis.

Population and Sample

The study focused on customers working in the IT industry who use digital banking services provided by a diverse range of Nepalese commercial banks. These banks are categorized by their establishment periods into three groups: old banks (established 15 or more years ago), including Nepal Bank, Rastriya Banijya Bank, Standard Chartered Bank, Nabil Bank, Everest Bank, NIC Asia Bank, Siddhartha Bank, Sanima Bank, Kumari Bank, and Machhapuchhre Bank; middle-aged banks (operating for 10 to 15 years), such as Global IME Bank, Prime Bank, NMB Bank, Prabhu Bank, and Lumbini Bank; and new banks (operating for 5 years or less), including Laxmi Sunrise Bank and NIMB. This classification supports an in-depth analysis of how digital banking experiences vary across different bank types based on their maturity and operational history. Specifically, participants were employees of digital financial services company in Nepal, with a total population of 1,500 individuals. Using random sampling, 450 questionnaires were distributed, and 396 valid responses were collected.

To determine the appropriate sample size for this finite population, Cochran's (1977) formula was applied. With a 95% confidence level, a 5% margin of error, and an assumed attribute prevalence of 50%, the initial infinite population sample size was calculated as 384. After adjusting for the finite population, the minimum required sample size was 306. Since 396 valid responses were obtained, the sample size exceeded the minimum needed for reliable and precise statistical analysis.

Instruments Development

The researcher used a structured questionnaire, initially distributing a small portion in person and the rest via an online Google form. The questionnaire was adapted and modified from various prior studies to ensure relevance and maintain validity and reliability. Items on Perceived Usefulness were based on Kamutuezu (2016), Perceived Ease of Use on Akuffo-Twum (2011), Perceived Credibility on Kazi (2013), Convenience on Lichtenstein and Williamson (2006), and Customer Satisfaction items were adapted from Venkatesh and Davis (2000), and Akuffo-Twum (2011), .The questionnaire had two sections: the first gathered demographic and educational data, while the second focused on digital banking attributes. It included both Likert scale questions (1 to 7 scale) and multiple-choice questions for structured responses.

Results and Discussion

Table 1 outlines the demographic profile of respondents, indicating that the sample is largely male (71.7%), dominated by young adults aged 20–30 years (79.5%), mostly single (78%), primarily from Bagmati Province (55.8%), and highly educated, with the majority holding bachelor's (66.9%) and master's degrees (29.3%), while professionally more than half are engaged in engineering and development (54%), followed by product and project management, finance, and other fields. The analysis of digital banking transaction usage across Nepalese banks, classified by establishment period, reveals that newly established banks account for the highest share of users (44.2%), led by Laxmi Sunrise Bank (37.9%) and NIMB (6.3%), reflecting strong digital adoption supported by modern infrastructure and technology-driven strategies. Old banks collectively represent 42.2% of users, with notable digital engagement from NIC Asia Bank (15.4%), Nabil Bank (8.8%), and Sanima Bank (5.3%), while institutions such as Rastriya Banijya Bank (0.8%), Nepal Bank (1.5%), and Machhapuchhre Bank (0.8%) show minimal usage, indicating uneven digital progress among long-established banks. Middle-aged banks, including Global IME Bank (5.6%), Prime Bank (3.8%), NMB Bank (1.5%), Prabhu Bank (3.5%), and Lumbini Bank (0.3%), together contribute only 18.2% of total users, suggesting a slower pace of digital transformation despite their potential to integrate legacy systems with emerging technologies. Overall, the results show that new banks are the most aggressive adopters of digital banking, older banks exhibit mixed but evolving adoption, and middle-aged banks lag behind, while descriptive statistics using mean and standard deviation summarize user perceptions of perceived usefulness, ease of use, credibility, and convenience of digital banking services.

Table 1. Respondent Profile

Demographic Characteristics		Frequency	Percent (%)
Gender	Male	284	71.7
	Female	112	28.3
Age	20-30	315	79.5
	31-40	72	18.2
	41-50	6	1.5
	Above 51 years	3	0.8
Marital Status	Single	309	78
	Married	87	22
	Divorced	0	0
Place of Origin	Bagmati Province	221	55.8
	Gandaki Province	62	15.7
	Karnali Province	3	0.8
	Lumbini Province	27	6.8
	Madesh Province	32	8.1
	Koshi Province	39	9.8
	Sudur Pachhim Province	12	3.0

Education Attainment	Intermediate	15	3.8
	Bachelor's Degree	265	66.9
	Master's Degree	116	29.3
	PhD	0	0
Profession	Engineering and Development	214	54.0
	Project Management	24	6.1
	Product Management	39	9.8
	Customer and Technical support	6	1.5
	Marketing and Sales	23	5.8
	HR and Administration	18	4.5
	Finance and Operation	27	6.8
	Research and Development	0	0
	Other	45	11.4
Bank utilizing for digital banking transactions	Laxmi Sunrise Bank	150	37.9
	Everest Bank	18	4.5
	Lumbini Bank	1	0.3
	Global IME Bank	22	5.6
	Kumari Bank	6	1.5
	Nabil Bank	35	8.8
	NIC Asia Bank	61	15.4
	NIMB	25	6.3
	Prabhu Bank	14	3.5
	Sanima Bank	21	5.3
	Prime Bank	15	3.8
	Siddhartha Bank	4	1.0
	Standard Chartered Bank	6	1.5
	NMB Bank	6	1.5
	Machhapuchhre Bank	3	0.8
	Nepal Bank	6	1.5
	Rastriya Banijya Bank	3	0.8
Duration of utilizing digital banking for banking transactions	1 to 6 months	3	0.8
	7 to 12 months	11	2.8
	More than 1 year	382	96.5

Source: Authors.

Reliability Analysis

Cronbach's alpha was used to assess the reliability of item scales measuring perceived usefulness in the study. It helped identify and remove less reliable items to improve overall consistency. A Cronbach's alpha value of 0.70 or higher was considered acceptable for construct reliability, following Nunnally's (1978) guideline. The reliability test results using Cronbach's alpha are detailed in Table 2, with six items measuring each variable. Perceived Usefulness showed high reliability with an alpha of 0.857. Perceived Ease of Use demonstrated exceptional consistency, scoring 0.925. Convenience had strong reliability at 0.881, while Perceived Credibility scored 0.837, indicating robust reliability. All values exceeded the 0.70 threshold, confirming that the measurement scales used are reliable and suitable for further analysis.

Status of Perceived Usefulness

Table 3 shows that respondents' perceptions of perceived usefulness of digital banking systems based on six statements. Mean scores range from 4.89 to 6.40, indicating a generally positive consensus among respondents. The highest agreement was for time saving (mean 6.40), while lowest score for offering all the services by banks (mean 4.89) indicating the expectation of respondents for more services by banks .

Table 3. Descriptive statistics of Perceived Usefulness

Code	Key words of the Statement	Mean	SD
PU1	The use of Digital banking makes my transactions very fast	6.39	0.715
PU2	By using digital banking, I can save time	6.40	0.787
PU3	Using the digital banking information system improves my performance of banking activities	6.04	0.820
PU4	The use of Digital banking gives me control over my transaction	5.54	1.293
PU5	My bank offers all the services I Expect	4.89	1.330
PU6	Digital banking services are beneficial to me	6.08	0.898
Total		5.89	0.98

Source: Authors

Table 4 shows that assessment of a one-sample t-test to test whether the mean Perceived usefulness differed significantly from a neutral value of 4.0 on a 7-point scale. With 395 degrees of freedom, t-values ranged from 13.34 to 66.425, all highly positive, and significance values were .000, indicating statistical significance ($p < 0.05$). The null hypotheses were rejected, confirming users perceived usefulness on digital banking system were towards agreement.

Table 4. One - Sample T - Test of the Perceived Usefulness

	One - Sample T- Test		
Variable	t	Df	Sig.
Perceived Usefulness	66.425	395	.000
	60.62	395	.000
	49.53	395	.000
	23.62	395	.000
	13.34	395	.000
	46.187	395	.000

Source: Authors

Status of Perceived ease of use

Table 5 shows that respondents' perceptions of the ease of use of digital banking systems based on six statements. Mean scores range from 5.48 to 5.73, indicating a generally positive consensus that these systems are easy to learn, understand, and navigate. The highest agreement was for ease of learning (mean 5.73), while slightly lower scores for adaptability and user-friendliness (around 5.48) suggest some room for improvement. Standard deviations (1.095 to 1.313) show moderate variability, with the most consistent agreement on managing banking tasks effortlessly. Overall, users find digital banking intuitive and supportive, but banks could enhance interaction clarity and adaptability to boost satisfaction further.

Table 5. Descriptive statistics of Perceived Ease of Use

Code	Key words of the Statement	Mean	SD
PEU1	I have no difficulty learning how to use the Digital banking system	5.73	1.313
PEU2	I effortlessly manage my banking tasks with the digital banking system	5.60	1.095
PEU3	I experience a clear and understandable interaction with the Digital banking system	5.52	1.137
PEU4	The Digital banking system is adaptable and user-friendly from my perspective	5.48	1.183
PEU5	I have no trouble understanding the digital banking system	5.62	1.203
PEU6	I perceive the Digital banking system as user-friendly and easy to navigate	5.49	1.137
Total		5.57	1.178

Source: Authors

Table 6 shows that assessment of a one-sample t-test to test whether the mean Perceived Ease of Use score differed significantly from a neutral value of 4.0 on a 7-point scale. With 395 degrees of freedom, t-values ranged from 24.975 to 29.012, all highly positive, and significance values were .000, indicating statistical significance ($p < 0.05$). The null hypothesis was rejected, confirming users perceive digital banking as significantly easy to use. The high t-values reflect strong user agreement on the system's accessibility, intuitive design, and user-friendliness, contributing to positive experiences and adoption.

Table 6. One - Sample T - Test of the Perceived Ease of Use

	One - Sample T- Test		
Variable	t	Df	Sig.
Perceived Ease of Use	26.290	395	.000
	29.012	395	.000
	26.647	395	.000
	24.975	395	.000
	26.781	395	.000
	26.025	395	.000

Source: Authors

Status of Perceived credibility

Table 7 summarizes respondents' perceptions of digital banking system credibility, with an overall mean score of 4.57 indicating general trust and reliability, though response variability (SD = 1.34) suggests differing opinions. High ratings were given to system reliability (mean 4.97) and trust in digital banking (mean 4.78). The strongest confidence was in users' ability to navigate the system independently (mean 5.50). However, lower scores on error handling, such as clear error messages (mean 3.93) and ease of recovery from mistakes (mean 4.02), highlight areas needing improvement. Variability in responses was higher for error management but lower for independent use confidence. Overall, respondents trust digital banking systems but recommend enhancing error feedback and recovery processes to boost credibility.

Table 7. *Descriptive statistics of Perceived Credibility*

Code	Key words of the Statement	Mean	S.D
PC1	I don't notice any inconsistencies as I use digital banking	4.23	1.446
PC2	I trust digital banking	4.78	1.193
PC3	The digital banking information system is reliable	4.97	1.160
PC4	Whenever I make a mistake using the Digital banking system, I recover easily and quickly	4.02	1.547
PC5	The Digital banking system gives error messages that tell me how to fix problems	3.93	1.543
PC6	I am confident about using digital banking even if there is no one around to show me how to do it	5.50	1.192
Total		4.57	1.34

Source: Authors

Table 8 shows that assessment of a one-sample t-test to test whether Perceived Credibility scores differ significantly from a neutral value of 4.0 on a 7-point scale. Results showed t-values from -0.912 to 25.089. Four out of six items had highly significant p-values (.000 or .002), indicating strong user trust in digital banking's security, privacy, and reliability. However, two items had non-significant p-values (.770 and .362), suggesting neutral perceptions for those aspects. The negative t-value (-0.912) points to some users perceiving slight credibility issues. Overall, while digital banking is generally seen as credible, certain elements still raise user concerns.

Table 8. *One - Sample T - Test of the Perceived Credibility*

	One - Sample T- Test		
Variable	t	Df	Sig.
Perceived Credibility	3.162	395	.002
	12.971	395	.000
	16.718	395	.000
	.292	395	.770
	-.912	395	.362
	25.089	395	.000

Source: Authors

Status of Convenience

Table 9 presents respondents' perceptions of digital banking convenience, with an overall positive mean score of 5.59. The highest agreement was on convenience itself (mean 5.94)

and the system's ability to minimize steps in completing tasks (mean 5.87). Respondents also agreed that digital banking simplifies banking activities (mean 5.66) and allows effortless navigation without instructions (mean 5.52), though navigation showed slightly more variability. Lower scores were seen for fulfilling user expectations (mean 5.11) and providing control over transactions (mean 5.47), indicating areas for improvement. Standard deviations (0.948–1.233) suggest generally consistent views but some differences in individual experiences. Overall, digital banking is viewed as efficient and user-friendly, with room to enhance function fulfillment and navigation support for a smoother user experience.

Table 9. Descriptive statistics of Convenience

Code	Key words of the Statement	Mean	SD
CON1	I do Digital banking because it is convenient	5.94	0.962
CON2	Digital banking minimizes the number of steps necessary to achieve my desired tasks	5.87	0.948
CON3	I can navigate digital banking effortlessly, even without written instructions	5.52	1.233
CON4	Digital banking fulfills all my expected functions seamlessly	5.11	1.220
CON5	Digital banking simplifies the process of conducting banking activities	5.66	1.075
CON6	Digital banking gives me more control over my banking transactions	5.47	1.233
Total		5.59	1.11

Source: Authors

Table 10 shows that assessment of a one-sample t-test whether Convenience scores significantly differ from a neutral value of 4.0 on a 7-point scale. Results showed highly significant t-values ranging from 18.076 to 40.164, all with p-values of .000, indicating strong positive perceptions of digital banking convenience. The highest t-values reflect strong agreement on ease and accessibility, while even the lowest t-value remains highly significant. Overall, users widely view digital banking as an easy, accessible, and efficient platform that enhances their experience and satisfaction.

Table 10. One - Sample T - Test of the Convenience

	One - Sample T- Test		
Variable	t	Df	Sig.
Convenience	40.164	395	.000
	39.216	395	.000
	24.445	395	.000
	18.076	395	.000
	30.753	395	.000
	23.678	395	.000

Source: Authors

Customer satisfaction across banks

The analysis of mean scale scores across various Nepalese banks provides insights into the satisfaction of digital banking experiences among customers. The overall average mean score across all surveyed banks is 30.37, with a standard deviation of 5.81, indicating moderate variability in digital banking perceptions among customers regarding their satisfaction.

Table 11. *Mean scale of customer satisfaction across Nepalese bank*

Nepalese Bank	Mean	N	Std. Deviation
Everest Bank	32.16	18	2.70
Global IME Bank	33.77	22	5.28
Kumari Bank	35.16	6	3.43
Laxmi Sunrise Bank	30.07	150	5.81
Lumbini Bank	32.00	1	0.00
Machhapuchhre Bank	37.00	3	0.00
Nabil Bank	29.28	35	5.18
Nepal Bank	32.50	6	6.02
NIC Asia Bank	30.96	61	6.11
NIMB	28.76	25	4.93
NMB Bank	33.50	6	3.50
Prabhu Bank	30.28	14	3.60
Prime Bank	23.40	15	8.60
Rastriya Banijya Bank	38.33	3	2.88
Sanima Bank	31.91	21	3.24
Siddhartha Bank	22.25	4	2.50
Standard Chartered Bank	30.00	6	4.38
Total	30.37	396	5.81

Source: Authors

Old Banks (15+ years of establishment)

This group includes banks like Rastriya Banijya Bank (38.33), Machhapuchhre Bank (37.00), and Kumari Bank (35.16), which reported the highest mean scores, suggesting a relatively better user experience or perception of digital banking services. Other old banks such as NIC Asia Bank (30.96), Standard Chartered Bank (30.00), Nabil Bank (29.28), and Siddhartha Bank (22.25) show varied levels of satisfaction, with Siddhartha Bank scoring the lowest among all surveyed banks. On average, old banks exhibit higher performance variance, with some outperforming significantly, while others lag behind.

Middle-aged Banks (10–15 years of operation)

This category, comprising banks like Global IME Bank (33.77), Sanima Bank (31.91), NMB Bank (33.50), Prabhu Bank (30.28), Lumbini Bank (32.00), and Prime Bank (23.40), displays a mixed pattern. While some banks in this group have scores above the national average, Prime Bank's low score of 23.40 significantly pulls the group's overall mean down. These results suggest that while some middle-aged banks are maturing well in digital delivery, others may struggle with system quality, service consistency, or usability.

New Banks (≤5 years)

The newly merged entities Laxmi Sunrise Bank (30.07) and NIMB (28.76) fall slightly below the overall average. Despite being new entrants, which often means better digital readiness, these banks did not outperform significantly, indicating that newness does not automatically equate to superior digital banking experience. Their results may reflect teething issues in operational integration, system scalability, or limited digital reach.

Overall, Rastriya Banijya Bank, Machhapuchhre Bank, and Kumari Bank stand out with high digital satisfaction levels, possibly due to their focused efforts on digital enhancement or strong customer support systems. In contrast, Siddhartha Bank and Prime Bank reveal areas needing urgent attention. While older banks demonstrate the highest peaks in performance, middle-aged banks show more consistency, and new banks, though promising, appear to still be finding their footing. These insights reinforce the importance of tailored digital strategies aligned with a bank's operational maturity and customer base.

Regression Model and Interpretation

The regression analysis presented in the table identifies the key factors influencing digital banking attributes in the Nepalese banking sector, namely perceived usefulness, perceived ease of use, perceived credibility, and convenience. Among these, perceived credibility emerged as the most influential factor, showing a strong positive relationship with digital banking adoption. With a beta value of 0.419, a t-test score of 10.409, and a significance level (p-value) of 0.000, the results clearly indicate that users place high importance on the security, reliability, and trustworthiness of digital banking platforms. Similarly, convenience

was also found to have a statistically significant and positive effect, with a beta value of 0.358, t-test value of 6.127, and p-value of 0.000. This highlights that customers are more inclined to use digital banking when the services are accessible, time-saving, and easy to navigate.

In contrast, perceived usefulness showed only a marginally significant effect, with a beta value of 0.117 and a p-value of 0.051. Although the relationship appears weak, it suggests that usefulness may still contribute positively, though not consistently, to user engagement. The 95% confidence interval includes zero, implying uncertainty about its true effect. Perceived ease of use, on the other hand, demonstrated a non-significant relationship with digital banking attributes. The beta value was only 0.048, and the p-value was 0.298, indicating that this factor does not play a critical role in shaping user perception or behavior in the context of Nepalese digital banking. Overall, the findings suggest that perceived credibility and convenience are the most crucial factors for encouraging the adoption and positive perception of digital banking in Nepal, while perceived usefulness and ease of use have relatively lesser influence in this context.

Table 12. Factors affecting customer satisfaction in Nepalese banking sector

				95.0% Confidence Interval for B	
Model	Beta value	T-test value	Sig.	Lower Bound	Upper Bound
Perceived usefulness	.117	1.956	.051	-.001	.235
Perceived ease of use	.048	1.042	.298	-.043	.140
Perceived Credibility	.419	10.409	.000	.340	.498
Convenience	.358	6.127	.000	.243	.473

Source: Authors

Table 13 shows a strong positive correlation, with an R value of 0.787, indicating a significant relationship between the predictors and the outcome. The R Square value of 0.619 reveals that the model accounts for 61.9% of the variation in the dependent variable, demonstrating that a substantial portion of the data's variability is captured. The Adjusted R Square of 0.615, which adjusts for the number of predictors, confirms that the model maintains a good fit even after this correction. Additionally, the Standard Error of the Estimate, measured at 3.60651, suggests that the model's predictions are reasonably accurate and close to the actual observed data points. Overall, these statistics indicate that the regression model is reliable and effective in explaining the dependent variable, accurately reflecting the underlying data and relationships.

Table 13. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.787a	.619	.615	3.60651

Source: Authors

The ANOVA results show that the regression model is highly significant, indicating strong and reliable relationships between the variables (Table 13). The large F-statistic of 158.867 demonstrates that the model effectively explains variations in the data. Additionally, the very low significance value (.000) confirms that these relationships are statistically meaningful and not due to chance, highlighting the model's robustness and relevance.

Table 14. Analysis of Variance

Model		F	Sig.
1	Regression	158.867	.000b
	Residual		

Source: Authors

Hypothesis Testing

The hypothesis testing results from the regression analysis indicate that out of the four proposed hypotheses, H3 and H4 were accepted, while H1 and H2 were rejected. Specifically, Hypothesis 3 (H3), which posited that perceived credibility significantly influences digital banking attributes, was supported with a p-value of 0.000, confirming a strong statistical significance. Likewise, Hypothesis 4 (H4), asserting that convenience has a significant influence, was also accepted with a p-value of 0.000, highlighting its crucial role in shaping user perceptions and satisfaction in digital banking services.

In contrast, Hypothesis 1 (H1), suggesting a significant influence of perceived usefulness was rejected with a p-value of 0.051, which falls slightly outside the conventional 0.05 threshold for statistical significance. Hypothesis 2 (H2), related to the influence of perceived ease of use, was also rejected due to a p-value of 0.298, indicating no meaningful effect. These findings reinforce that credibility and convenience are the primary drivers behind users' positive digital banking experiences in Nepal, while usefulness and ease of use are relatively less impactful in determining satisfaction or perception.

Table 15. Hypothesis Testing

Hypothesis	Description	Testing method	P-value	Result
H1	There is a significant influence of perceived usefulness on customer satisfaction.	Regression	.051	Rejected
H2	There is a significant influence of perceived ease of use on customer satisfaction.	Regression	.298	Rejected
H3	There is a significant influence of perceived credibility on customer satisfaction.	Regression	.000	Accepted
H4	There is a significant influence of convenience on customer satisfaction.	Regression	.000	Accepted

Source: Authors

The study found that digital banking attributes are strongly influenced by perceived usefulness, as users appreciate how it speeds up and improves transaction efficiency, aligning with Davis's Technology Acceptance Model (1989). Perceived ease of use also significantly impacted, with most users finding digital banking easy to navigate, although some suggested improvements for user-friendliness and guidance for new users, supporting TAM's emphasis on simplicity.

Perceived credibility showed mixed results; while many trusted the systems, concerns about errors and recovery persisted, echoing prior research on the importance of security and transparency. Convenience was another key factor, with users valuing quick and effortless transactions, though some felt certain features could be improved. The study's hypotheses were strongly supported: perceived usefulness and ease of use significantly boost satisfaction, as do credibility and convenience, reinforcing the TAM framework. Trust and security remain critical, especially given the sensitivity of financial data in Nepal. Overall, success in digital banking depends on integrating usefulness, ease, credibility, and convenience, loyalty, and acceptance in Nepal's banking sector.

The study's conclusions highlight key implications for various stakeholders. Banks should enhance digital banking by improving user-friendly interfaces, security, customer support, and service offerings to increase satisfaction and loyalty. Policymakers must establish clear regulations to ensure platform security, protect user data, promote financial literacy, and encourage wider adoption. Academically, the research enriches knowledge on digital banking adoption in developing countries like Nepal and recommends future studies on trust, perceived risk, and technology advances. Addressing these areas can help banks improve user experience, foster loyalty, and boost digital banking usage.

Conclusion

This study concludes that digital banking attributes significantly influence Nepal's banking sector. Perceived usefulness improves transaction efficiency, making digital banking a key tool, though expanding service offerings to meet customer expectations is needed. Perceived ease of use is important for adoption, with platforms generally seen as user-friendly, but ongoing enhancements in interface design and user support are necessary. While perceived credibility is high, concerns about security and error recovery remain, highlighting the need for stronger safeguards and transparent processes. Convenience also plays a major role in satisfaction, enabling easy and seamless transactions, but banks must keep improving services to match changing customer needs. Overall, digital banking is viewed positively, but continuous efforts to enhance reliability, security, and user support are vital for sustained growth and adoption.

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Conflict of Interest

"The authors declare no conflict of interest."

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