Determinants of Customer Satisfaction with ATM Services: Evidence from Customers of Commercial Banks in Pokhara, Nepal

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Abstract

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Background: The banking industry has witnessed the rise of various service delivery channels, including automated teller machines (ATMs). As global financial systems evolve and competition intensifies, there has been an increasing focus on examining customer satisfaction.

Objectives: This study examined the determinants of customer satisfaction with ATM services among customers of commercial banks in Pokhara, Nepal.

Methods: This study adopted a descriptive cross-sectional design to investigate the determinants of customer satisfaction with ATM services among commercial bank customers in Pokhara, Nepal. A self-reported survey was administered to 153 customers from various commercial banks through a structured questionnaire distributed via Google Forms. The survey comprised 29 items across six key constructs: reasonability of fees charged (5 items), frequency of problems faced (5 items), choice of ATM (5 items), usage of services (4 items), post-purchase behaviour (4 items), and customer satisfaction (6 items). Respondents rated each item on a six-point Likert scale, where 1 indicated strong disagreement, and 6 indicated strong agreement. Pearson correlation analysis examined the relationship between the various dimensions of ATM services and customer satisfaction.

Results: The findings revealed positive correlations between customer satisfaction and factors such as post-purchase behaviour ($r = 0.723$, $p < 0.01$), reasonability of fees charged ($r = 0.621$, $p < 0.01$), choice of ATM ($r = 0.605$, $p < 0.01$), and usage of services ($r = 0.478$, $p < 0.01$). However, the frequency of problems faced ($r = -0.217$, $p < 0.01$) showed negative correlations with customer satisfaction.

Conclusion: This study clearly demonstrated that customer satisfaction is strongly driven by factors such as post-purchase behaviour, the reasonability of fees charged, choice of ATM, and usage of services. However, the frequent occurrence of operational issues, such as malfunctions and service disruptions, significantly decreases customer satisfaction. These results highlight.

Keywords: ATM services, commercial banks, customer satisfaction, Pokhara

JEL Classification: G21, M15, 031

Introduction

The rapid advancement of information technology has significantly transformed the service sector, particularly banking and financial institutions (Barroso & Laborda, 2022). Among the various innovations in the banking sector, Automated Teller Machines (ATMs) have emerged as indispensable tools, providing customers with quick, convenient, and accessible financial services (Aslam et al., 2019). These advancements have enabled banks to offer high-quality products and made banking services more efficient, catering to an ever-growing demand for fast and reliable access to financial transactions (Tadesse & Bakala, 2021). The convenience and accessibility of ATMs have further amplified their significance, making them one of the most widely used banking services for quick financial transactions (Amene & Buta, 2019; Aslam et al., 2019). As customers increasingly rely on ATMs for their everyday banking needs, examining the factors contributing to ATM services and their impact on customer satisfaction is crucial for banks striving to maintain competitive advantages (Ahmad, 2023; Aktar, 2023; Olufemi, 2021). Therefore, the expansion of ATM services has gathered considerable attention in recent literature, particularly concerning customer satisfaction (Alexis, 2020; Syahrani et al., 2023; Tadesse & Bakala, 2021; Yoeung et al., 2023). Customer satisfaction, defined as the extent to which a service meets or exceeds customer expectations, is a key indicator for evaluating service performance in the banking sector (Yoeung et al., 2023). However, despite the advancements in ATM infrastructure, several challenges remain in meeting the evolving expectations of customers. Issues such as system downtime, transaction fees, security concerns, and the overall reliability of ATMs continue to contribute to customer dissatisfaction (Goet, 2020; Susanti & Kowanda, 2024). For instance, research indicates that while customers appreciate the convenience of ATMs, they often express frustration when faced with technical malfunctions or unexpected fees (Goet, 2020). Furthermore, security concerns regarding the safety of transactions also play a critical role in shaping customer perceptions and satisfaction levels (Aslam et al., 2019).

Numerous studies have examined the relationship between ATM services and customer satisfaction globally. These studies have identified various dimensions of ATM service quality, including reliability, ease of use, and responsiveness, which significantly impact customer satisfaction levels (Yoeung, 2023; Aslam et al., 2019; Indrayani et al., 2019). For instance, research indicates that customers express high satisfaction when ATMs function efficiently and provide reliable access to cash, while dissatisfaction often arises from technical issues such as network outages (Yoeung, 2023; Indrayani et al., 2019). Similarly, Aslam et al. (2019) identified responsiveness, fulfillment, security and privacy, ease of use, convenience, and reliability as crucial to customer satisfaction with ATMs. Likewise, Alexis (2020) highlighted the importance of operational efficiency, convenience, reliability, security, and responsiveness in shaping customer satisfaction. Moreover, the literature also points to other factors that affect ATM service quality and customer satisfaction. These include transaction fees (Elifneh et al., 2020), technical issues during usage (Syahrani et al., 2023), the choice of ATM (Yoeung et al., 2023), and overall patterns of service usage (Amene & Buta, 2019). Furthermore, post-purchase behaviours such as customer loyalty and future usage intentions are influenced by ATM service quality, further reinforcing the critical role of customer satisfaction in driving loyalty and influencing future ATM usage (Chandra, 2022).

Over the past decade, adopting Automated Teller Machine (ATM) services in Nepal has experienced remarkable growth, reflecting a significant shift in customer banking behaviours (Goet, 2020; KC, 2024). This trend has transformed how people access and manage their finances, marking a major milestone in the modernization of the banking sector (Joshi, 2019). Various studies have examined the factors influencing customer satisfaction with ATM services within the Nepalese context, highlighting key aspects contributing to the overall user experience. For example, Goet (2020) found a strong and positive relationship between several factors—such as the reasonableness of fees charged, the availability of multiple ATM choices, the frequency of ATM usage, and post-purchase behaviour—and customer

satisfaction. Similarly, Joshi (2019) emphasized the importance of cash availability and the location of ATMs in shaping customer satisfaction. Customers value ATMs that are well-stocked with cash and located in easily accessible areas. These factors ensure that customers can rely on the service without inconvenience, thus enhancing their overall satisfaction with ATM services. Furthermore, Shrestha (2019) identified additional factors such as transaction speed, ease of use, and the responsiveness of ATM services as key determinants of customer satisfaction. However, given the unique challenges within Nepal's banking environment, including infrastructural limitations, varying technological adoption, and distinct customer expectations, there is a need for further research to provide tailored insights that can enhance ATM service delivery and improve customer experiences (Goet, 2020; Joshi, 2019; KC, 2024; Shrestha, 2019). While these studies have contributed valuable insights into the factors influencing customer satisfaction with ATM services, they also point to the inconsistencies in findings. The variation in results can be attributed to different methodologies, contexts, and demographic factors across studies. This inconsistency suggests the need for further research to better understand the specific factors that drive customer satisfaction with ATM services, particularly in the Nepalese context.

This article is structured into six sections. The first section provides an introduction to the study. The second section presents a thorough review of the relevant literature and formulates a set of working hypotheses. In the third section, the methodological approach employed in the investigation is detailed. Section four presents the results derived from the data analysis, along with their corresponding interpretations. The fifth section discusses the potential implications of the study's findings. Finally, the sixth section concludes the article by outlining the study's limitations and suggesting directions for future research.

Review of Literature

Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) offers a useful framework for understanding customer satisfaction with ATM services. According to TPB, individual behaviour is influenced by three factors: attitudes, subjective norms, and perceived behavioural control (Ajzen, 1991). In the context of ATM services, if customers perceive fees as reasonable, they are more likely to have a positive attitude toward using ATMs, which in turn enhances their satisfaction (Yoeung, 2023). Positive experiences lead to higher intentions to continue using the service, as suggested by Sleiman et al. (2022), who emphasize the role of perceived control in customer satisfaction. Access to multiple ATMs improves perceived behavioural control, allowing customers to choose locations with better service, thereby increasing satisfaction (Aslam et al., 2019). Frequent use of ATMs also reflects a positive attitude, contributing to higher satisfaction (Syahrani, 2023). However, frequent operational issues, such as machine malfunctions, can negatively affect customer satisfaction by altering attitudes and diminishing perceived control, as noted by Tadesse and Bakala (2021). This, according to TPB, may reduce customers' intentions to use ATM services in the future, leading to decreased satisfaction.

Customer Satisfaction with ATM Services

Studies have shown that ATM fees are one of the primary determinants of satisfaction in financial services. For instance, Yoeung (2023) posited that if customers feel the fees are excessive or unjustifiable, their overall satisfaction with the ATM service may decline. Likewise, Sleiman et al. (2022) found that customer satisfaction is closely linked to the perceived value of the services provided, suggesting that reasonable fees can enhance satisfaction if accompanied by high-quality service. Similarly, if customers perceive the fees as unreasonable, it can lead to negative feelings towards the bank, even if the service quality is unsatisfactory (Elifneh et al., 2020). Moreover, Alexis (2020) found a direct correlation between the perceived reasonableness of fees and overall customer satisfaction levels. Furthermore, in

the context of Nepal, Goet (2020) emphasizes that the reasonableness of fees charged is a significant factor affecting customer satisfaction.

Another major factor influencing customer satisfaction with ATM services is the frequency of problems faced in ATM services. The frequency of problems faced in ATM services plays a significant role in determining customer satisfaction. For instance, studies indicate that frequent service disruptions or technical failures can create a sense of inconvenience, affecting customers' overall experience and satisfaction (Hoque et al., 2024). Customers expect smooth, hassle-free interactions with ATM services, and when problems arise regularly, it diminishes their trust in the service's reliability. Furthermore, repeated issues without timely resolution or poor customer support can exacerbate dissatisfaction, making customers less likely to return to the service in the future. Similarly, studies have shown that customers value reliability and consistency in ATM service delivery, and reducing the frequency of problems faced can lead to higher levels of satisfaction (Chandra, 2022).

Similarly, the choice of ATM is another key factor influencing customer satisfaction. Studies show that ATMs offering quicker and easier access tend to be more favored by customers (Yoeung et al., 2023). Likewise, the availability of essential services like cash withdrawals, balance inquiries, bill payments, and transfer capabilities also influences customers' choice of ATM. If an ATM frequently lacks essential services or is not functioning properly, customers are likely to seek alternatives, directly impacting their satisfaction (Nigatu et al., 2023). Moreover, the perceived security of an ATM is another important factor. ATMs that are in well-lit, secure locations, and that use advanced technology for protecting user information, tend to be more trusted by customers. Any security concerns or risks of fraud can reduce customer confidence and satisfaction (Aslam et al., 2019). Furthermore, if an ATM is consistently out of service or experiences technical issues, customers may avoid using it in favor of a more reliable machine. This impacts overall satisfaction with ATM services, as customers prioritize machines that are functional and dependable (Chandra, 2022).

Moreover, the usage of ATM services is closely linked to customer satisfaction, as the frequency and context in which customers use ATMs can shape their overall experience and perceptions of service quality. For example, customers who use ATM services regularly are likely to form strong opinions about the quality and reliability of the service. Frequent users may have heightened expectations regarding the ease of transactions, accessibility, and functionality of the ATMs (Tadesse & Bakala, 2021). Likewise, the convenience of using ATMs is a critical factor in determining satisfaction. The more accessible an ATM is in terms of location, hours of operation, and functionality, the more likely it is that customers will use the service frequently (Yoeung et al., 2023). Similarly, the range of services an ATM provides can influence its usage and the customer's satisfaction with it. ATMs that provide more than just basic cash withdrawals, such as bill payments, fund transfers, balance inquiries, and even mobile phone top-ups, are more likely to be used by customers and enhance satisfaction (Hoque et al., 2024). Moreover, the usage of ATM services can also be affected by customers' perceptions of security. If customers feel that the ATM is secure from theft, fraud, or privacy violations, they are more likely to use the service with confidence (Aslam et al., 2019).

Furthermore, the post-purchase behaviour of ATM services also significantly affects customer satisfaction. For instance, after using ATM services, customers may encounter issues such as transaction errors, card retention, or malfunctioning machines. How effectively and promptly these issues are resolved by the bank or ATM service provider directly affects post-purchase satisfaction (Tadesse & Bakala, 2021). The perceived value of the ATM service also influences post-purchase behaviour. Customers who feel they have received good value from the service—whether in terms of convenience, speed, or the functionality offered (such as bill payments, fund transfers, etc.) are more likely to engage in positive post-purchase behaviour (Hoque et al., 2024). Similarly, customer satisfaction significantly influences post-purchase

behaviour regarding repurchase intentions and loyalty. Satisfied customers are more likely to use the same ATM service again, especially if they have had positive experiences with functionality, reliability, and convenience (Chandra, 2022).

Despite the growing body of literature on ATM service quality such as tangibility, reliability, responsiveness, assurance, and empathy, there remains a research gap analyzing the impact of five key variables fees charged, frequency of issues, ATM preference, service use, and post-purchase behaviour on customer satisfaction specifically in the context of developing countries like Nepal. While much of the existing research has been conducted in developed and other developing nations, comprehensive studies on ATM services in the Nepalese banking sector are relatively scarce. Therefore, the current study seeks to address this gap by analyzing the impact of five key variables; fees charged, frequency of issues, ATM preference, service use, and post-purchase behaviour on customer satisfaction in the commercial banks of Pokhara, Nepal. By doing so, this study aims to contribute to the existing literature by providing a more nuanced understanding of the determinants of customer satisfaction with ATM services in Nepal. The findings will be valuable for policymakers, banking institutions, and researchers seeking to enhance the customer experience and improve ATM service quality in Nepal.

Materials and Methods

This study employs a causal research design based on a cross-sectional survey of commercial bank customers in Pokhara, Nepal, to examine the determinants of customer satisfaction with ATM services. The target population for this study consisted of individuals who use ATM services provided by commercial banks in Pokhara, Nepal. Data was collected through a survey using a Google Forms questionnaire, which was distributed to a convenience sample.

A convenience sampling technique was employed in this study (Etikan et al., 2016). This method was chosen due to the absence of a comprehensive sampling frame of ATM users, making it difficult to identify all potential participants in the population. Convenience sampling allows for data collection from individuals who are readily available to the researcher, making it both cost-efficient and time-saving (Mason, 2002; Robinson, 2013). Since the population of ATM users in Pokhara is unknown, the sample size was calculated with a 95% confidence level, 8% margin of error, and 50% response distribution, resulting in a recommended sample size of 153 respondents.

Data was collected through a survey using a Google Forms questionnaire, which was distributed to a convenience sample. Initially, 200 questionnaires were distributed, and a total of 168 respondents completed the survey. After careful review to ensure data quality, which included checking for incomplete responses and instances of straight-lining, 15 inappropriate responses were excluded. As a result, the final dataset comprised 153 valid responses, yielding a response rate of 76.5%. The study followed ethical guidelines by obtaining informed consent from participants, who voluntarily took part without receiving any incentives. Participants were also allowed to withdraw from the survey at any point if they no longer wished to continue. Data collection occurred between January and March 2023.

The study employed a self-administered questionnaire available in both English and Nepali languages using Google Forms. The survey comprised three sections. The first section of the survey comprised inquiries about the demographic characteristics of the participants. The second section consisted of scales measuring five dimensions of ATM services. The final section encompassed fundamental queries about customer satisfaction. A pre-test was conducted with a sample size of 50 respondents to evaluate the effectiveness of the measurement instrument. Feedback was gathered on the clarity of the scale employed during the pre-testing phase. Furthermore, to ensure the validity of the content and language structure of the questionnaire, recommendations were solicited from three research experts in the field of service quality. The process of pre-testing and expert opinion gathering was conducted in Kathmandu,

the capital city of Nepal. The final survey consisted of 29 items pertained to six constructs: reasonability of fees charged (5 items), frequency of problems faced (5 items), choice of ATM (5 items), usage of services (4 items), post-purchase behaviour (4 items), and customer satisfaction (6 items) associated with ATM services. The participants' responses were assessed using a six-point Likert scale, where the scale ranged from 1, indicating a strong disagreement, to 6, indicating a strong agreement. The reasonability of fees charged construct is assessed using five items on a six-point scale, drawing from sources such as Narteh (2015), Hubbard (2009), and Jegede (2014), with a Cronbach's alpha of 0.829. The sources of items and their corresponding Cronbach alpha values are provided in Table 1.

Table 1.

Source of Measurement Instruments

Construct	Items	Source	Cronbach alpha
Reasonability of fees charged	5 (Six-point)	Narteh (2015), Hubbard (2009), Jegede (2014)	0.829
Frequency of problems faced	5 (Six-point)	Khan (2010), Rogers et al. (1997), Narteh (2015), Narteh (2013)	0.818
Choice of ATM	5 (Six-point)	Mcandrews (2003), Narteh (2015),	0.822
Usage of Services	4 (Six-point)	Singh (2009), Motwani and Shrimali (2013), Shamsuddoha et al. (2010)	0.775
Post-purchase	4 (Six-point)	Darch and Caltabiano (2004)	0.822
Customer Satisfaction	6 (Six-point)	Cockrill et al. (2009), Casalo et al. (2008)	0.882

Data Analysis Technique

Quantitative data analysis was used in this study to address the research objectives. Both descriptive and inferential statistical methods were applied to analyze the data. The responses collected through the questionnaire were systematically organized, classified, and evaluated using appropriate statistical techniques. The data were tabulated and analyzed using software applications such as the Statistical Package for the Social Sciences (SPSS) and Microsoft Excel. Descriptive statistics, including frequency distributions and means, were used, along with inferential tests such as correlation analysis.

Results and Discussion

Respondent's Profile

Table 2

Profile of Survey Respondents

Characteristic	n	%	Characteristic	n	%
Age			Occupation		
Below 20	19	12.4	Student	63	41.2
21-30	96	62.7	Government employee	10	6.5

31-40	33	21.6	Private employee	73	47.7
41 and above	5	3.3	Self-employed	7	4.6
Gender			Income Level (Annual)		
Male	90	58.8	Less than 1 lakh	73	47.7
Female	63	41.2	1-3 lakh	34	22.2
Education			4-6 lakh	24	15.7
Below high school	4	2.6	More than 6 lakh	22	14.4
Higher School	27	17.6			
Bachelors	72	47.1			
Masters and above	50	32.7			

Table 2 shows that 58.8% of the 153 participants were male. A significant portion of ATM users, 62.7%, falls within the 21-30 age group. This suggests that younger individuals, who are more likely to be in their prime working years, are more engaged with ATM services, as they tend to have greater financial independence and the ability to save more. Additionally, younger users tend to utilize ATMs more frequently than older individuals, who generally prefer traditional banking methods. Among this demographic, 47.1% hold a bachelor's degree, 47.7% work in the private sector, and 47.7% have an annual income of less than 1 lakh.

Table 3

Factors Affecting Customer Satisfaction

Items	Mean	Standard deviation
Reasonability of fees charged		
The bank's ATM card fee is very reasonable	3.27	1.557
The bank's yearly fee for ATM service is reasonable.	3.34	1.557
The fee charged by the bank for using other bank ATM outlets is satisfactory.	3.2	1.587
The fee charged on the replacement of a new ATM card in case the card gets expired, lost, or damaged is reasonable.	3.27	1.469
The bank does not charge fees for transactions conducted at its own ATM outlet is very satisfactory.	4.44	1.784
Frequency of problems faced		
The condition of ATM machine malfunction is a commonly occurring phenomenon.	4.33	1.202
Automated Teller Machine (ATM) cards frequently encounter the issue of being seized and subsequently disabled.	4.21	1.139
Automated Teller Machines (ATMs) typically perform electronic fund transfers by debiting accounts without dispensing physical currency.	4.25	1.055
The frequent occurrence of cash depletion in automated teller machines (ATMs) is a notable phenomenon.	4.21	1.139

Automated Teller Machines (ATMs) typically dispense currency notes that have been in circulation for a considerable period of time.	4.25	1.055
Choice of ATM		
ATM transactions are highly secure and reliable.	4.41	1.321
ATM transactions are quick and time-saving.	4.82	1.295
ATM is situated in a location that is easily accessible for users.	4.29	1.459
ATMs offer precise and accurate records	3.76	1.495
The ATM service is operational round the clock	4.33	1.547
Usage of services		
Withdrawal of cash at any time from any ATM outlet.	4.29	1.49
Inquiry of current balance using ATM.	4.52	1.514
Fund transfer is easy.	3.76	1.584
Utility payment using an ATM	3.53	1.766
Post purchase behaviour		
I am interested in availing the exclusive benefits of the ATM services offered by this financial institution, which are not accessible elsewhere.	3.85	1.418
I am inclined to exhibit customer loyalty toward this financial institution.	4.35	1.475
I intend to utilize this Automated Teller Machine (ATM) in subsequent transactions.	4.61	1.392
I recommend that individuals utilize the automated teller machine (ATM) services provided by my financial institution.	4.16	1.61
Customer satisfaction		
I am satisfied with the ATM service provided by the bank	4.23	1.417
I am satisfied with the physical location of the ATM provided by the bank.	4.14	1.386
I am satisfied with the operating hours of ATM of the bank.	4.12	1.402
I am satisfied with the fee charged to the ATM by the bank.	3.46	1.482
I am satisfied with the card delivery from the bank	3.89	1.417
I am satisfied with the service quality of ATM personnel for query response and timely action on the request of the bank	3.86	1.396

Source: Based on authors' calculation and field survey, 2023.

Table 3 depicts the mean scores of all 29 items measuring customer satisfaction on five major dimensions (reasonability of fees charged, frequency of problems faced, choice of ATM, usage of services and post purchase behaviour). The participants' responses were assessed using a six-point Likert scale, where the scale ranged from 1, indicating a strong disagreement, to 6, indicating a strong agreement. The study, based on responses from 153 participants, assessed ATM services provided by commercial banks in Pokhara. It found that respondents were generally neutral to slightly agreeable toward various ATM fees, including those for card issuance (mean = 3.27), annual service fees (mean = 3.34), and using other bank ATMs (mean = 3.20), with similar responses to fees for replacing lost or damaged cards (mean = 3.27). However, the absence of fees for transactions at the bank's own ATMs was highly appreciated (mean = 4.44). Regarding ATM performance, respondents reported frequent issues, such as machines seizing cards (mean = 4.21), withdrawing funds without dispensing cash (mean = 4.25), running out of cash (mean = 4.16), and dispensing old banknotes (mean = 3.76), although these problems were not seen as overwhelming. In terms of service perception, ATMs were considered secure (mean = 4.41), efficient

(mean = 4.82), and convenient (mean = 4.29), with 24/7 availability being especially valued (mean = 4.33). However, there was slight disagreement about the accuracy of ATM records (mean = 3.76). Features like the ability to withdraw cash at any time (mean = 4.29) and check account balances (mean = 4.52) were well-received, while satisfaction with fund transfer safety (mean = 3.76) and utility bill payments (mean = 3.53) was lower. Most respondents expressed a strong intention to continue using their current bank's ATM services (mean = 4.61), though there was less enthusiasm for accessing exclusive ATM services not available elsewhere (mean = 3.85). Additionally, most of the respondents expressed generally positive satisfaction with the availability, location, and operating hours of the bank's ATM services, with mean scores of 4.23, 4.14, and 4.12, respectively, although there was some variation in responses. However, satisfaction with the fees charged for ATM usage was notably lower, with a mean score of 3.46, indicating that many customers were dissatisfied and had differing opinions on the fees. Satisfaction with the card delivery process (mean = 3.89) and the service quality of ATM personnel, particularly in responding to queries and requests (mean = 3.86), was moderate, reflecting some positive views but also highlighting areas for improvement. Overall, while customers were mostly satisfied with the ATM's availability, location, and operating hours, concerns were raised regarding fees, card delivery, and personnel service quality, with varying satisfaction levels among respondents.

Table 4

Pearson Correlation Matrix

	CS	RFC	FPF	COA	UOS	PPB
CS	1	.621**	-.217**	.605**	.478**	.723**
		.000	.008	.000	.000	.000
RFC		1	-290**	.389**	.425**	.596**
			.001	.000	.000	.000
FPF			1	.017	.038	-.175*
				.833	.641	.030
CA				1	.597**	.514**
					.000	.000
US					1	.507**
						.000
PPB						1

**Correlation is significant at the 0.01 level (2-tailed), * Correlation is significant at the 0.05 level (2-tailed), CS= Customer satisfaction, RFC=Reasonability of fees charged, FPF=Frequency of problems faced, COA= Choice of ATM, UOS= Usage of services, PPB= post-purchase behaviour

Table 4 shows Pearson correlation matrix revealing several key relationships influencing customer satisfaction with ATM services. The findings demonstrated that there is a strong positive correlation between customer satisfaction (CS) and reasonability of fees charged (r = 0.621, p < 0.01), suggesting that customers who view the fees as fair are more satisfied with the service. Similarly, a negative correlation was exhibited between customer satisfaction and the frequency of problems faced (r = -0.217, p < 0.01), indicating that while more frequent issues reduce satisfaction, other factors may play a larger role. Likewise, customer satisfaction is also strongly positively correlated with the choice of ATM (r = 0.605, p < 0.01), implying that satisfied customers are more likely to stick with a preferred ATM. Moreover, a positive correlation between customer satisfaction and usage of services was found (r = 0.478, p < 0.01), suggesting that satisfied customers use ATM services more frequently. Furthermore, a strong

correlation was observed between customer satisfaction and post-purchase behaviour (r = 0.723, p < 0.01), indicating that satisfied customers are more likely to engage in positive post-purchase behaviours.

This study examined the determinants of customer satisfaction with ATM services among customers of commercial banks in Pokhara, Nepal. The findings indicate positive correlations between post-purchase behaviour, reasonability of fees charged, choice of ATM, usage of services, and customer satisfaction. However, customer satisfaction was negatively correlated with the frequency of problems faced.

The study reveals a strong positive correlation between post-purchase behaviour and customer satisfaction, indicating that satisfied customers are more likely to engage in repeat transactions, such as continued usage of ATM services. This finding is consistent with several previous studies. For instance, Sharma and Singh (2021) established a significant relationship between customer satisfaction and repeat purchase behaviour, suggesting that satisfied customers tend to make repeat transactions. This aligns with the work of Dlamini and Chinje (2019), which emphasizes that customer satisfaction directly influences repeat purchase behaviour, with positive post-purchase experiences enhancing overall satisfaction. Further, Soesanto (2023) found that customer service positively influences customer satisfaction, indicating that effective post-purchase support can enhance customer perceptions of value.

Similarly, the present study demonstrated a positive correlation between the reasonability of fees charged and customer satisfaction. This result supports the research of Mukerjee (2020), who found fee charges significantly impact customer satisfaction in retail banking. The work of Olufemi (2021) further reinforces this idea, noting that competitive pricing and service quality are essential for customer satisfaction in banking. In this study, the perception of fair and transparent fees directly contributes to higher customer satisfaction, which is also consistent with Goet (2020), who highlighted the importance of reasonable fees in the Nepalese banking context. In line with the findings of Goet (2020), KC (2024) also found transaction fees as key predictor of customer satisfaction. Furthermore, Syahrani et al. (2023) found that the presence of ATMs significantly affects customer satisfaction in Islamic banks. This aligns with the current study's findings, indicating that customers are sensitive to fees and expect them to be reasonable. The emphasis on fair pricing is echoed in the work of Elifneh et al. (2020) who highlighted that service quality dimensions, including fee structures, play a crucial role in determining customer satisfaction in ATM services (Elifneh et al., 2020).

Likewise, the study also finds a positive correlation between the choice of ATM and customer satisfaction, indicating that customers who are satisfied with their ATM services tend to use a particular ATM more frequently. This finding is supported by Alexis (2020), suggesting that customers value the flexibility and accessibility provided by diverse ATM options. This aligns with the current study's findings that customer satisfaction is enhanced when customers can choose ATMs that best meet their needs. Moreover, the study also found a positive correlation between the usage of services and customer satisfaction. This finding aligns with previous research by Wulandari et al. (2023), who found that customer satisfaction mediates the relationship between online banking fees and customer loyalty. This suggests that customers who are satisfied with ATM services are more likely to continue using them, reinforcing the notion that customer satisfaction encourages increased usage.

However, the study demonstrated a negative correlation between the frequency of problems faced and customer satisfaction. This finding is supported by the research of Amene and Buta (2019), who noted that user satisfaction is significantly impacted by the frequency of problems, particularly in technology-based service delivery channels like ATMs. Matimbwa and Ochumbo (2018) further emphasize that operational issues with ATMs, such as malfunctions, errors, or insufficient cash availability, can severely undermine customer satisfaction and trust in the service.

Conclusion and Suggestions

This study clearly demonstrated that customer satisfaction is strongly driven by factors such as post-purchase behaviour, the reasonability of fees charged, choice of ATM, and usage of services. However, the frequent occurrence of operational issues, such as malfunctions and service disruptions, significantly decreases customer satisfaction. These results highlight the importance of addressing operational issues to maintain high levels of customer satisfaction. This study clearly demonstrated that customer satisfaction is strongly driven by factors such as post-purchase behaviour, the reasonability of fees charged, choice of ATM, and usage of services. However, the frequent occurrence of operational issues, such as malfunctions and service disruptions, significantly decreases customer satisfaction. These results highlight the importance of addressing operational issues to maintain high levels of customer satisfaction. The findings of the present study resonate with the Theory of Planned Behavior (TPB), which suggests that attitudes, subjective norms, and perceived behavioural control influence customer behaviour. Positive attitudes toward service, shaped by reasonable fees, post-purchase behaviour, and smooth usage, increase customer satisfaction. Subjective norms, such as satisfaction with the service, further reinforce continued use. However, frequent operational issues, like malfunctions and service disruptions, reduce perceived behavioural control, causing frustration and decreasing satisfaction.

This study has several limitations. Firstly, the sample size is relatively small and may not fully represent the broader population. Additionally, the research focuses only on commercial bank customers in Pokhara, limiting the generalizability of the findings to other sectors or regions in Nepal. The study also measures customer perception using only five variables, which could be expanded in future research. To enhance the reliability and accuracy of results, future studies should include a larger and more diverse sample across various urban areas. Expanding the research to include other financial institutions, such as development banks and finance companies, would provide a more comprehensive understanding of customer satisfaction with ATM services. Additionally, future research should explore the impact of customer satisfaction on customer retention and extend the geographic scope beyond Pokhara Valley.

Author contribution statement

M.M: Conceptualization, design of the study, and data collection. B.R.B.: Conceptualization, design of the study, statistical analysis, writing, revision, and editing. S.K.G.: Statistical analysis, writing, revision, and editing. All authors finalized the manuscript.

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Declaration statement

The authors declare no conflict of interest.

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