

Customers' Satisfaction with ATM Service Quality of ACLEDA Bank

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ABSTRACT

This study aims to identify the factor that influences customer satisfaction with the ATM service quality of ACLEDA Bank Plc. by adopting the SERVQUAL Model such as Performance Tangibility, Reliability, Responsiveness, Assurance, and Empathy. To achieve this objective, a quantitative method was employed with a sample size of 204 ATM end users of ACLEDA Bank Plc. Descriptive statistics were used to indicate the satisfaction level of respondents. Cronbach's alpha was used to check the variables for reliability and correlations and multiple regression were used to test the hypothesis. The study shows that Tangibility, Reliability, Responsiveness, Assurance, and Empathy were statistically significant and positively correlated with customer satisfaction. This research is a useful contribution to the banking industry especially in Cambodia. Further research should be conducted in other areas of the banking industry to seek further insights into this service industry in Cambodia.

Keywords: Automated Teller Machine (ATM), Customer Satisfaction, Service Quality

1. Introduction

Background of study

Technological advances in the industrial revolution 4.0 era have led to the innovation of products and services in both public and private institutions, including financial institutions. The services have been transformed from using human resources to using machines and technology. Noticeably, a commercial bank has introduced Automated Teller Machines (ATMs) to serve customers to make financial transactions – withdrawals and deposits – without the need for a bank teller (cashier). ATMs have helped banks meet their customers' needs through high-quality services (Alexis & Chen, 2019).

The first ATM appeared at a branch of Barclay's Bank in London in 1967 although there were reports of cash dispensers in Japan in the mid-1960s (Kagan, 2023). In Cambodia, ATMs were reportedly first introduced in Cambodia by Canadia Bank in 2004 (Makara, 2011). The number of new bank ATM terminals in Cambodia increased slightly by 22 percent, according to the National Bank of Cambodia (NBC) (2018).

NBC licensed ACLEDA Bank Limited as a Specialized Bank on October 07, 2000 (ACLEDA Bank, 2020). ACLEDA Bank Plc. was then licensed by NBC on December 01, 2003 as a Commercial Bank so that it can provide complete banking services according to the needs of the customers and the market. Initially, there were only 20 ATMs installed at ACLEDA Bank. ACLEDA Bank Plc. has noticeably expanded its ATM network within a few years. Nowadays ACLEDA Bank has the largest ATM network, with 655 ATMs (September 04, 2020) throughout Cambodia.

Problem statement

Financial institutions in Cambodia are facing competition in attracting customers to their services. There are 54 commercial banks excluding their branches operating in Cambodia, according to the NBC report on 31 December 2021. They have digitalized their products to meet the needs of customers and compete with other banks in the financial sector, while Cambodians have wished to spend less time on banking services, by using digital banking services such as ATM withdrawals and deposits and mobile banking transactions.

ATMs play an important role in serving customers for withdrawals, deposits, and other transactions while the bank is focusing on the quality of services and functions of ATMs. ACLEDA Bank is one of the potential commercial banks in Cambodia that provides ATM services with 655 ATMs (September 04, 2020) throughout Cambodia. Managers in charge of marketing both goods and services are increasingly implementing service quality and customer satisfaction to measure business performance (Anderson et al., 1994; Rust & Zahorik, 1993).

To know customer satisfaction with ATM service, a study on the relationship between service quality and customer satisfaction with ATM service is very important to increase the efficiency of bank ATM service in the future (Adepoju, E. & Alhassan, B. 2010). Although research on the impact of service quality on customer satisfaction has been conducted in different contexts, in Cambodia, especially with regard to bank ATM services, it is still rare. Even a few researchers have implemented the SERVQUAL model to measure service quality in financial institutions in Cambodia.

Research objective

The main objective of this study is to identify the factor that influences customer's satisfaction with the ATM service quality of ACLEDA Bank Plc. by adopting the SERVQUAL Model, such as Performance Tangibility, Reliability, Responsiveness, Assurance, and Empathy.

Research question

What factors influence customers' satisfaction with the ATM service quality of ACLEDA Bank Plc in Cambodia?

Significance of the study

The research will benefit Cambodia's banking industry by enhancing ATM service quality. In addition, the results of this study will help support bank management and bank branch managers to improve customer satisfaction more effectively and efficiently. Furthermore, this study will contribute to future research and academics on ATM service quality, particularly within the Cambodian context.

2. Literature Review

ATM Service

ATM is a computerized telecommunications device that gives customers access to financial transactions in public without needing a human clerk or bank teller (Magara, 2018). In modern ATMs, the consumer is identified by inserting a plastic card with a security chip containing a unique card number and some security information, like an expiration date.

Customer satisfaction

Customer satisfaction is the degree to which a customer perceives that an individual, firm or organization has effectively provided a product or service that meets the customer's needs in the context in which the customer is aware of and/or using the product or service (Cengiz, 2010). Hence, the more satisfied customers are, the better business the company runs (Juneja, 2015).

Customers satisfaction is described as a measure of how products or services supplied by an organization meet customers' expectations, and this is one of the keys to ensuring business success because customers' satisfaction will determine the market growth of the organization in the future (Ibrahim et al., 2016).

Service quality

Philip Kotler and Gary Armstrong defined the term “service quality [SQ]” as the ability of a service firm to hang on to its customer. That is, in their opinion customer retention is the best measure of SQ (Ramya et al., 2019). According to Lewis and Booms (1983) defined SQ as a measure of how well a service delivered matches the customers' expectations, a definition used by other researchers, including Lewis & Mitchell (1990). Robinson (1999) identified SQ as an attitude or global judgment about the superiority of a service, whereas Grönroos (1990) described SQ as an outcome of a comparison that customers make between their expectations about service and their perceptions of how the service has been performed. Gronroos's (1990) definition of SQ had similarities with Westbrook's definition of customer satisfaction (1980) in that both are responses or outcomes of comparison between expectations and perceived performance.(Considerations, 2018)

Toward conceptual framework and hypothesis

Model (SERVQUAL) was used to analyze Customers’ Satisfaction toward ATM Service Quality of ACLEDA Bank; SERVQUAL Models are Tangibility, Reliability, Responsiveness, Assurance, and Empathy (A Parasuraman et al., 1988; Lim & Tang, n.d.; Ahmed et al., 2017).

Tangibility: Parasuraman et al. (1985) and Kotler (2012) identified tangible materials as physical facilities, equipment, personnel, and communication tool (Value 11).

Reliability: the ability to perform the services promised with Reliability and accuracy (Parasuraman et al. 1985; Kotler, 2012).

Responsiveness refers to the willingness to help customers and provide services quickly (Parasuraman et al. 1985; Kotler, 2012).

Assurance refers to employees' knowledge, courtesy, and ability to generate trust and confidence (Parasuraman et al. 1985; Kotler, 2012).

Empathy refers to a willingness to care and provide personal attention to customers (Parasuraman et al., 1985). Kotler (2012) described Empathy as the willingness to provide deep concern and specific service to each customer.

Previous study found that tangibility, reliability, responsiveness, and assurance influence customer satisfaction of a banking hall of ACLEDA Bank Plc. (Taing et al., 2021). Moreover, another study found empathy influence customer satisfaction in a telecommunication service (Loke et al., 2011).

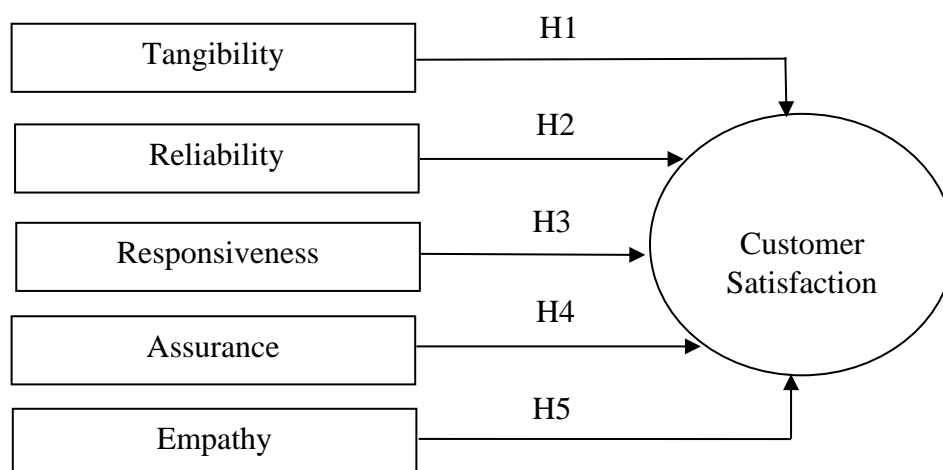


Figure 1: Conceptual Model

Hypotheses for research study

According to the conceptual Model, the following hypotheses have been proposed.

- H1: Tangibility has a significant relationship with customer satisfaction.
- H2: Reliability has a significant relationship with customer satisfaction.
- H3: Responsiveness has a significant relationship with customer satisfaction.
- H4: Assurance has a significant relationship with customer satisfaction.
- H5: Empathy has a significant relationship with customer satisfaction.

3. Methods

Research design

This research study employed quantitative methods (Schindler, 2019) to identify the factors that influence customer's satisfaction with ATM service quality of ACLEDA Bank Plc. by adopting SERVQUAL models such as performance Tangibility, Reliability, Responsiveness, Assurance, and Empathy.

Population and sample

The target population in this study was Cambodian people who were living in Phnom Penh City, Cambodia; the targeted samples were consumers who have been using ATM service (ATM user) of ACLEDA Bank Plc. As it was impossible for the researcher, within the time constraints, data were collected using a convenience sampling technique. The study selected 204 ATM users as

the sample size, representing 1,602,969 existing clients of ACLEDA Bank Plc (September 22, 2020). For the sample size, the number was calculated by using the formula of (Yamane, 1967).

Research respondents

The total number of the respondents is 204; the respondents were aged between 18–45 years, education level is a bachelor or master and other. Occupations include businessman/woman; company employee; government officer; teacher, worker; student, and others. Table 2 indicates that 64.2 percent of the respondents are female, whereas 35.8 of them are male. Regarding age, there were 37.3% aged between 18 - 25 years, 39.7% aged between 26 - 35 years, and 23% aged between 36 - 45 years. Education level, there were 84.3 percent have a bachelor's degree, 15.2 percent have a master's degree, and 0.5 percent have other education levels. Occupation, the result shows that 69.1% of respondents are company employees and 15.2% of 204 people are students. Furthermore, the most accessed service of ATMs is Cash /Cardless cash withdrawal is more than three quarters and followed by Deposit.

Table 1: Demographic Profile of Respondents

Item	Category (N= 204)	Frequency	Percentage
Gender	Female	131	64.2%
	Male	73	35.8%
Age	18 - 25 years	76	37.3%
	26 - 35 years	81	39.7%
	36 - 45 years	47	23%
	Bachelor	172	84.3%
Education	Master	31	15.2%
	Other	1	0.5%
	Businessman/woman	20	9.8%
Occupation	Company Employee	141	69.1%
	Government officer	5	2.5%
	Teacher	5	2.5%
	Worker	1	0.5%
	Student	31	15.2%
	Other	1	0.5%
ATM services	Cash / Card less cash withdrawal	195	95.5%
	Deposit	5	2.5%
	Mobile top up	3	1.5%
	Balance inquiry	1	0.5%
	Everyday	26	12.7%
How often do you use an ATM	Once a week	48	23.5%
	Three-four times a week	46	22.5%
	Once a month	17	8.3%
	When necessary	67	32.8%

Research tools & measurements of constructs

The survey questionnaire was used to collect the primary data, which was a series of pre-determined questions (Cooper & Schindler, 2011). The measure questions were designed by adopting the statements of (Mwatsika, 2016) and Magara (2018). This questionnaire was for the targeted samples: consumers using the ATM service of ACLEDA Bank Plc. The total of 385 questionnaires were distributed to the ATM users. The questionnaire was distributed into three main sections, the first was related to the demographic detail of respondents; the second is the function of ATM that respondents have been using; and the third is service quality of ATMs. SERVQUAL Model developed by Parasuraman (1988) was used. There were 23 items constructed from five dimensions of the SERVQUAL Model: Tangibility (6 items), Reliability (5 items), Responsiveness (4 items), Assurance (3 items), and Empathy (5 items), as shown below:

Table 2: Number of Items in Each Dimension

No.	Dimensions	Number of items
1	Tangibility	6
2	Reliability	5
3	Responsiveness	4
4	Assurance	3
5	Empathy	5

The remaining one variable (1 item) was used to measure customer satisfaction level on the service quality of ATM were asked based on a 5-point Likert scale. The five points as shown below:

Table 3: Five-points Likert Scale

Dimensions	Number of items
Strongly Agree	5
Agree	4
Neutral	3
Disagree,	2
Strongly Disagree,	1

Data collection

In addition to the primary data, the secondary data was obtained from relevant literature collected from diverse sources of information such as journals, reports, and accessible information on the Internet. Due to the COVID-19 outbreak and based on Yamane (1967), the primary data using the questionnaires were collected using Google Forms; the link was sent to targeted respondents via telegram, Facebook messenger, and other online channels.

Data analysis

Descriptive statistics using Statistical Package for the Social Sciences (SPSS 25) was conducted to analyze the data obtained from the participants. The descriptive statistics involve mean and standard deviation, tables, and graphs. Cronbach's alpha was used to check the variables for Reliability. Correlations and multiple regression were used to test the hypotheses.

Ethical consideration

Since the targeted respondents were ATM users of ACLEDA Bank Plc., three ethical questions must be addressed. First, the letter of consent was used as an official permission from the Bank for data collection. Second, the researcher must keep anonymous all the information of respondents. Third, the researcher also gives credit to previous researchers and authors for citation to avoid plagiarism.

4. Results

Analysis of level of agreement

The following data analysis result indicates respondents' satisfaction with the ATM service quality of ACLEDA Bank. Table 4 illustrates the minimum, maximum, mean, and SD and will then analyze the agreement level. The means of opinion from respondents for each factor indicates the effecting level of those factors. Since the research used a 5- point rating scale, the means from 3.40 to 4.19 were considered a level of agreement.

Table 4: Level of agreement

Variables	Minimum	Maximum	Mean	SD	Level of Agreement
Tangibility	2.33	5.00	3.96	.47	Agree
Reliability	2.40	5.00	3.36	.61	Agree
Responsiveness	2.25	5.00	3.77	.54	Agree
Assurance	3.00	5.00	4.19	.54	Agree
Empathy	2.60	5.00	3.98	.49	Agree
User Satisfaction	2.00	5.00	4.03	.53	Agree

Note: 2.60-3.39 as neutral, 3.40-4.19 as an agreement, and 4.20-5.00 strongly agree. As Table 4 displays that

The "Assurance" components have the highest mean equals 4.19. The lowest mean was observed in the "Reliability" component, which has a 3.36 mean.

Correlation analysis

Correlation Analysis was used to test the level of correlation between two or more variables. The range of correlation values was between -1 to +1 (Pearson, 1926). When the values were closed in +1, there were strong positive correlations. Table 5 illustrates that Tangible, Reliable, Responsiveness, Assurance, and Empathy positively correlate with customer satisfaction. The

result reflects that the correlation between variables is significant ($p < 0.01$), with the lowest value of 0.398** and the highest value of 0.771**.

Table 5: Correlation of constructs

Variables	T	R	RES	ASS	EM	US
Tangible	1					
Reliable	0.564**	1				
Responsive	0.655**	0.771**	1			
Assurance	0.496**	0.691**	0.576**	1		
Empathy	0.579**	0.685**	0.737**	0.677**	1	
Satisfaction Level	0.506**	0.439**	0.449**	0.398**	0.459**	1

*. The correlation is significant at level 0.05. (2-tailed).

**. There is a significant correlation at level 0.01. (2-tailed).

Regression analysis

The statistical method is used for regression analysis to know the relationship between the dependent variable and more independent variables. In addition, it can be used to forecast an outcome variable and to measure the strength of the relationship between variables. The regression analysis result in SPSS is as follows:

The ANOVA output was examined to check whether the proposed Model was feasible. Therefore, the analysis of variance in table 6 indicated that Tangibility, Reliability, Responsiveness, Assurance, and Empathy were statistically significant in explaining customer satisfaction. The result showed that the overall Model was significant ($F = 17.506$, $P \text{ value} = 0.000$). The following table is constructed to analyze each predictor individually and whether they are statistically significant.

Table 6: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	18.085	5	3.617	17.506	0.000
Residual	40.910	198	0.207		
Total	58.995	203			

Table 7 Beta coefficients and p-value demonstrated the impact of independent variables on dependent variables. The higher the absolute value of beta coefficients, the stronger the effect. The regression results confirmed Tangibility, Reliability, and Responsiveness. Assurance and Empathy have a significant and positive relationship with customer satisfaction. Their magnitudes are as follows: Tangibility (Beta = 0.506, $p = 0.000$) majorly affects customer satisfaction. Reliability (Beta = 0.434, $p = 0.000$) is found to have a significant effect on customer satisfaction. Responsiveness (Beta = 0.449, $p = 0.000$) positively and significantly affects customer satisfaction. Assurance (Beta = 0.398, $p = 0.000$)

significantly affects customer satisfaction. Finally, the result is that Empathy (Beta = 0.459, $p = 0.000$) positively and significantly affects customer satisfaction.

Table 7: Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.704	0.278		6.138	0.000
Tangible	0.581	0.070	0.506	8.348	0.000
Reliable	0.384	0.056	0.434	6.838	0.000
Responsive	0.449	0.063	0.449	7.141	0.000
Assurance	0.393	0.064	0.398	6.170	0.000
Empathy	0.502	0.068	0.459	7.350	0.000

Hypotheses testing

Table 8 illustrates the summary result from all hypothesis testing since the first and second regression analyses. The result indicated that all five hypotheses were supported.

Table 8 Hypotheses result

Hypotheses	Sig.	Result
H1: Tangibility has a significant relationship with the customer satisfaction.	.000**	Supported
H2: Reliability has a significant relationship with the customer satisfaction.	.000**	Supported
H3: Responsiveness has a significant relationship with customer satisfaction.	.000**	Supported
H4: Assurance has a significant relationship with the customer satisfaction.	.000**	Supported
H5: Empathy has a significant relationship with the customer satisfaction.	.000**	Supported

Discussions of key findings

The research study's findings indicated that the five dimensions of quality of service (Tangibility, Reliability, Responsiveness, Responsiveness, and Empathy) have a significant relationship with customer satisfaction. First, Tangibility (Beta = 0.506, $p = 0.000$) significantly relates to customer satisfaction. The study of the Impact of Service Quality on customer satisfaction of ATM service: in Vietnam by Phan & Nham (2015), a case study of a Private Commercial Joint Stock Bank, described that the quality of ATMs (excellent design and suitable size), physical facilities equipment of transactions such as always-clear computer display screen, convenient and easy identification of the teller (ATM machinery) are the factors that create satisfaction of customers over the service. Among them, quality criteria, appearance, and design of cards are highly evaluated as they are appropriate for use in dynamic and modern life. Furthermore, the display screen machinery also affects the Bank's service quality (Nham, 2015). This finding has also been corroborated by other research, including Service Quality of Automated Teller Machines and Customer Satisfaction: (Mohammad & Alhamadani, 2011); Akpan (2016); Belay and Kindie (2017); Prasad (2018);(Nshimiyimana, 2020).

The second dimension of ATM service quality is Reliability. The result of this study revealed that Reliability (Beta = 0.434, $p = 0.000$) is found to have a significant relationship with customer satisfaction. The studies of Akinmayowa et al. (2014) demonstrated that the feature of Reliability described the ability to perform the required service accurately and dependably at all times. ATM users want to receive the correct quantity and quality of service at all times, as promised by the banks. In addition, they prefer accurate billing of their accounts; they want user-friendly ATMs, fast ATMs, ATMs that do not run out of cash, ATMs that are not out of order, and no long queues at ATMs (Akinmayowa et al., 2014). Similarly, previous studies like Service Quality of Automated Teller Machine and Customer Satisfaction: Al-Hawari & Ward (2006), (Khan, 2010), (Wasswa Katono, 2011) found the same finding.

The third dimension of ATM service quality is Responsiveness. The result of this study illustrated that Responsiveness (Beta = 0.449, $p = 0.000$) has a significant relationship with customer satisfaction. The studies of (Akinmayowa & Ogbeide, 2014) once again identified that the responsiveness aspect of ATM service quality relates to the ability of the bank staff to provide the agreed services timely, accurately, dependably, and promptly. Responsiveness measures the extent to which the banks put measures in place to recover services when ATM services are negatively confirmed, to respond quickly to requests and suggestions, and to assist customers in case of problems. A quick response to requests is likely to increase perceived convenience and diminish uncertainty, and the banks need to show that they are customer oriented and act benevolently toward customers (Akinmayowa & Ogbeide, 2014). This finding was the same as other studies, which included: Narteh (2015) and Prasad (2018).

In addition, Assurance was also an essential dimension of the ATM service quality. This research study showed that Assurance (Beta = 0.398, $p = 0.000$) is significantly related to customer satisfaction. The study of Tazreen (2012) highlighted that Assurance is the knowledge of employees and the ability to convey trust and confidence. This finding was similar to other studies, which included: (Prakoso et al., 2017), (Mwatsika, 2016) and (Suleiman & Abdulkadir, 2022).

Lastly, Empathy (Beta = 0.459, $p = 0.000$) has a significant relationship with customer satisfaction. The study by Siddiqi (2011) determined that customer service often has expectations about the extent to which the service provider appears to understand and be concerned about their needs and wants. The more service provider can see from the customer's point of view, the better. Employee and customer interactions are reflected through the empathy dimensions. Furthermore, bank customers seek front-line staff who can understand their needs (Siddiqi, 2011). This finding has also been substantiated in other studies, which included (Pakurár et al., 2019) and (Ramya et al., 2019).

5. Conclusion and Suggestions

Conclusion

To meet customer satisfaction, service quality is one of the core strategies for a competitive advantage for the banks. Different key strategies are being developed to compete in the banking sector. ATM service plays a role in banking services because Cambodian people have adjusted their habits from traditional banking services to digital banking services, according to ACLEDA Bank Plc. (2020). The study found that Tangibility, Reliability, Responsiveness, Assurance, and Empathy were statistically significant and positively correlated with customer satisfaction.

Implications of the study

Theoretical implications

The studies of Mulder (2018) stated that the Service Quality Model, also known as the SERVQUAL Model, was established and implemented by Valarie Zeithmal, Parasuraman, and Leonard Berry in 1988. It is a method to capture and measure the service quality experienced by customers. Initially, the emphasis was on developing quality systems for product quality. Over time, enhancing the quality of relevant services has become tremendously important. Improved service quality could give the organization a competitive edge. The SERVQUAL Model's knowledge-based theory lies in the fact that the data show a crucial role for the contextual factor in facilitating the flow of knowledge among entrepreneurs. Therefore, this study is important for future scholars who may pursue further research in this field.

Implications for finance and banking

Based on the study, this research contributes to Cambodia's banking industry, enhancing service quality via ATMs. Furthermore, this study also facilitates bank and branch managers who improve customer satisfaction more effectively and efficiently.

Limitations and future research

The study positively contributed to the Bank learning about factors affecting customer satisfaction with service quality. However, this study also has limitations. First, this research used a quantitative method. Therefore, future researchers should conduct a qualitative or mixed-method study. Second, the sample size of the research study is still small, and the scope of the study area was only in ACLEDA Bank, Phnom Penh City. In addition, the sample size for this study was 204, and the norm was 385. Therefore, it is recommended that the following study should be conducted in different geographical locations (urban and rural areas), the whole country, or regions. In addition, future research can be done in public or private sector banks

that provide ATM services. Third, this research used convenience sampling to measure the five dimensions of the SERVQUAL Model. Thus, future researcher may consider another method of sampling to obtain a better overview of the situation. Last but not least, the study mainly focused on how service quality impact on customer satisfaction while there are other factors which affect customer satisfaction. Therefore, future research should consider other factors that impact customer satisfaction to develop a better understanding of the situation.

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