

# The Impact of Service Quality Dimensions on Customers' Satisfaction to Use Debit Cards in Phnom Penh City

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#### **ABSTRACT**

In the new industrial revolution 4.0 era, a debit card has been developed as a payment method that facilitates users in performing financial transactions via a light plastic card with low risk from cash holding and time-saving in visiting the bank. The study attempts to investigate the impact of the service quality dimension on customers' satisfaction with debit card usage. The study employed quantitative approach, using a questionnaire to collect data from 243 debit card holders who are currently living in Phnom Penh City. By using multiple regression analysis, the study has found that Tangibles, Responsiveness, and Assurance had a positive and significant impact on customers' satisfaction of using debit cards, while reliability and empathy was not statistically significant.

**Keywords:** SERVQUAL Model, customers' satisfaction, debit cards



#### 1. Introduction

With the advancement of technology, the banking industry has been upgrading itself to respond to the economic integration with modern banking services. Banks are able to offer customers a variety of electronic banking services with less time taken through an electronic payment system. In the early 2020s, due to the outbreak of Covid-19, customers were strongly encouraged to adopt the electronic payment method to reduce the risk of possible virus infection through cash. The advent of the advanced technology and electronic communication has brought about a wide range of electronic payment methods to serve customers. Qatawneh, Aldhmour and Alfugara (2015) assert that an electronic payment system (EPS) usually refers to an online payment transaction. This payment was a debit card, a magnetically encoded plastic card, which could replace the payment made by cash or cheques in most retail transactions (Caskey et al., 1994).

The banking sector in Cambodia has witnessed a new financial infrastructure throughout Phnom Penh City and provinces in which 341 new branches have been opened and equipped with 519 new Automated Teller Machines (ATMs) and 22,928 Point of Sale (POS). With the Fintech Development, there have been 47 commercial banks governed by the National Bank of Cambodia (NBC) and authorized to issue debit and credit cards. This has resulted in a remarkable increase in cash-substitutional-card transactions, by which the number of credit and debit cards reached 67,968 and 2,759,453 respectively (NBC, 2020).

The availability of debit cards has been known as the crucial aspect of a convenient payment method, which has enabled customers to have a remote access to their bank accounts. Debit cards have brought about great advantages for customers, resulting in such a remarkable growth and change. Notably, the adoption of debit cards provides customers with convenience and cashless payments, leading them to a new living habit with digital platforms. Foscht et al. (2010) have found that the opportunity cost and risk related to carrying cash around were reduced through this payment method.

The advanced technological innovation in the banking industry has made payment methods, namely mobile banking payment, electronic payment cards, and virtual cards, become convenient for people in their daily lives. Among the population of 16 million in Cambodia in 2020 (Association of South-East Asian Nations [ASEAN], 2021), approximately 2 million people consumed debit cards (NBC, 2020).

Noticeably, research has been conducted centring around the issue of debit card usage due to the remarkable increase in the use of debit card service. Ly et al. (2021) adopted the Unified Theory of Acceptance and Use of Technology (UTAUT) to examine consumers' attitudes toward the use of debit cards. Truong et al. (2020) investigated this issue and found that the



rising number of customers' dissatisfaction with complaints and inconvenience toward debit card services led to a change of service providers. This current study aims to examine the impact of the service quality dimensions on customers' satisfaction of using debit cards in Cambodia since the debit payment is considered a crucial payment method, widely used in Cambodia particularly during the Covid-19 pandemic.

The current study sheds light on customers' satisfaction of this electronic payment to the financial and banking industry and clients. Firstly, this study will help inform the banks about the effectiveness of debit card payments and how consumers think and what they want from this service so that they can effectively work out how to improve the payment service quality. Secondly, this study benefits the consumers in being well aware when consuming this electric payment method. Finally, it contributes to the advancement of knowledge in the field of banking and finance.

#### 2. Literature Review

## Definition of debit cards

According to Caskey et al. (1994), debit cards are machine-readable, magnetically encoded plastic cards; their appearance is comparable to credit cards or cards used to access ATMs. It is a real-time electronic transfer between merchant and customer bank accounts. A debit card, a type of payment method, requires consumers to have the funds (or a line of credit attached to the account) in their account before a purchase transaction is completed. The payment amount made through a debit card is immediately deducted from the bank account and guarantees that cardholders do not spend beyond the amount in their account (Foscht et al., 2010).

#### The SERVQUAL Model on debit card usage

SERVQUAL Model, known as Service Quality Model, has been described as the form of a discrepancy between customers' perceptions of services offered by particular firms and results from a comparison of their expectations with the notions of performance (Parasuraman et al., 1988).

The SERVQUAL Model is a key tool in many studies in different service settings to measure the relationship between service quality, consumer satisfaction, and purchase intentions (Cronin Jr & Taylor, 1992); and E-banking services (Hammoud et al., 2018) and banking halls of ACLEDA Bank Plc. (Taing et al., 2021). Hence, this study proposes the analysis on the five dimensions of the SERVQUAL Model in order to measure customer satisfaction of using debit cards.



# Hypothesis development

Lin (2003) defines customer satisfaction as the objective outcome of a cognitive and affective evaluation of comparison between expectations to the actual perceived level of experienced performance. Biswas and Roy (2020) assert, "satisfaction as a psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer's prior feelings about the consumption experience" (p.3). It is also perceived as the overall judgment of cumulative experience with service/product features that provide a pleasant level of consumption (Sureshchandar et al., 2002; Burböck, 2014).

### Tangibles and customer satisfaction

Tangibles are defined as those related to physical tools, including buildings, equipment, and the composition of personnel and technologies used to reach the customers (Parasuraman et al., 1985; Tazreen, 2012). The tangibles of debit card can be measured in terms of design, shape, size, and the look (Parasuraman et al., 1988; Phan & Nham, 2015). Moreover, previous studies found that tangibles had positive influences on customer satisfaction (Rahman et al., 2017; Pakurár et al., 2019; Tien et al., 2021). Therefore, the study proposes the following hypothesis.

H1: Tangibles have a significant positive effect on customers' satisfaction of debit card.

#### Reliability and customer satisfaction

Tien et al. (2021) cited that reliability is the capacity to offer the promised service with the right attitude and in a timely manner, along with a strong commitment of the staff to keep their promise, knowledge, and skills. In banking sector, the reliability is a significant element of the core service quality in the bank as it is perceived as a "do it right first attitude" to build the first good impression between customers and service providers (Berry et al., 1994). The reliability of debit card service can be measured in terms of accurate performance, absence of complaints, and promise (Parasuraman et al., 1988; Phan & Nham, 2015). More importantly, it is evident that that reliability significantly impacted on customer satisfaction (Rahman et al., 2017; Pakurár et al., 2019; Tien et al., 2021). Therefore, the study proposes the following hypothesis.

H2: Reliability has a significant positive effect on customer satisfaction of debit card.

#### Responsiveness and customer satisfaction

Tazreen (2012) defines responsiveness as willingness to assist customers and deliver prompt services. Phan and Nham (2015) refer responsiveness to as willingness or readiness of employees to help customers and provide services. In this sense, bank employees are willing to answer any questions, concerns, or issues of customers regarding the use of debit card. Also, previous studies found that responsiveness has a significant and positive influence on customer



satisfaction (Arokiasamy & Abdullah, 2013; Pakurár et al., 2019; Tien et al., 2021). Therefore, the study proposes the following hypothesis.

H3: Responsiveness has a significant positive effect on customer satisfaction of debit card.

Assurance and customer satisfaction

Phan and Nham (2015) define assurance as knowledge and courtesy of employees and their ability to convey trust and confidence. Parasuraman et al. (1988) assert that assurance is a substitution of courtesy, competence, credibility, and security in the original ten dimensions for calculating service quality. In banking sector, assurance is measured in terms of quick and efficient service delivery as well as a sound knowledge of addressing customers' inquiries with courtesy (Tazreen, 2012). Assurance has been found having the strongest impact on overall customer satisfaction which has led to positive word-of-mouth outcomes (Arasli et al., 2005; Arokiasamy & Abdullah, 2013; Pakurár et al., 2019). Therefore, the study proposes the following hypothesis.

H4: Assurance has a significant positive effect on customer satisfaction of debit card.

Empathy and customer satisfaction

Phan and Nham (2015) cited that empathy refers to individualized care and attention provided by the firms to its customers. Pakurár et al. (2019) have found that customers need to be treated as a priority by service providers. This dimension aims to keep customers continuing to use bank services (Lau et al., 2013). Previous studies have concluded that empathy had a significant influence on customer satisfaction (Arokiasamy & Abdullah, 2013; Pakurár et al., 2019; Tien et al., 2021). Hence, the study raises the following hypothesis.

H5: Empathy has a significant positive effect on customer satisfaction of debit card.

Conceptual model on the study of debit card usage

The following figure (figure 1) shows the conceptual model on the study of debit card, the study has formulated the following hypotheses.



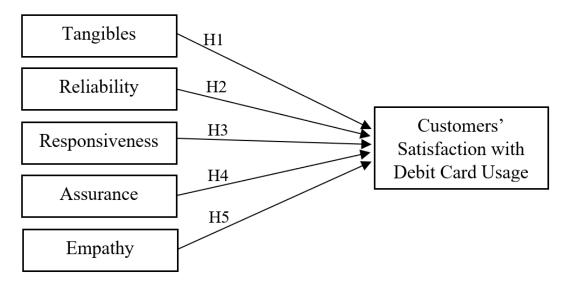


Figure 1: Conceptual model

#### 3. Methods

# Research design

This study applied the quantitative approach to test the proposed hypotheses. The study employed the SERVQUAL Model as a theoretical basis in order to develop the hypotheses. Then the study used the Model to develop a research tool to collect the data from the target participants, who frequently used debit cards.

#### Sampling and sample frame

The study collected data from debit card holders who are educators from three higher education institutions (HEIs) and employees from three small and medium sized enterprises (SMEs). These card holders' ages range from 15 to 64 who are currently living in Phnom Penh City. The site was selected because it is the largest cosmopolitan area in Cambodia. The name and contact lists of students who study in the evening from the three HEIs and employees from the three SMEs were obtained as the sample frame.

#### Determine the sample size

The participants were grouped in terms of gender, age, educational level, occupation status, and monthly income. For the best practice of regression analysis, the sample size was selected based on Green (1991), who determined that "N > 50 + 8k; and "k" represented the number of independent variables.

Formula: N > 50 + 8k



When,

N= Sample Size

k= Number of independent variables

N > 50 + 8(5)

N > 90

Even though 90 is the appropriate sample size for five predictors in running the multiple regression analysis, the study collected up to 243 participants for validity of the findings.

# Sampling procedure

In order to avoid bias in data collection, this study used simple random, in which all the members of the population have an equal opportunity of being selected for the sample (Kumar, 2018). The name and contact lists were randomly selected by using Ms. EXCEL.

#### Research instrument

The study designed a questionnaire by including the measurement of the five predictors and the outcome, such as customer satisfaction of using debit cards. The questionnaire was divided into four sections. Section 1 is comprised of demographic information. Section 2 consists of a screening question, the brand of debit cards, and debit card usage frequency. Section 3 is composed of the five dimensions of the SERVQUAL Model and customer satisfaction of the use of debit cards. The measurement of tangible, reliability, responsiveness, assurance, empathy were adapted from Phan and Nham (2015) and Parasuraman et al. (1988) and customer satisfaction was adapted from Mynuddin (2016) and Sikdar and Makkad 2015). The study used a 7-point Likert Scale as part of the measurement. Each scale was assigned with following meaning: 1 for Strongly dissatisfied, 2 for Dissatisfied, 3 for Somewhat Dissatisfied, 4 for Neutral, 5 for Somewhat satisfied, 6 for Satisfied, and 7 for Strongly satisfied. Section 4 includes open-ended questions were used to discover extra recommendations or any problems consumers encounter while using debit cards.

#### Data collection

During the outbreak of COVID-19 in Cambodia, the questionnaire, designed in Google Form, was administered to debit card users at the selected HEIs and SMEs through social media, namely Facebook messenger and Telegram. The researchers precisely explained the objective of this study and screened individual participants to determine whether they are qualified as research participants in this study. The data were collected for three months from May to July 2022.



# Data analysis

The study employed both descriptive and inferential statistics in order to analyse the data obtained from the participants. The study analyzed the personal data, the brand of debit cards, and usage frequency by using descriptive statistics. Prior to running a multiple regression analysis, the study, first of all, calculated the mean by combining items into the variable so that the ordinal data become ratio ones. After that, the study ran Pearson correlation coefficient and analysis of variance to check model fitness. In order to test the hypothesis, the study grouped (tangibles, reliability, assurance, responsiveness, and empathy) as independent variables and customers' satisfaction as dependent variable.

The following figures show the multiple regression equation.

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5 + \epsilon$$

#### Where:

Y = customers' satisfaction as dependent variable

X1 =Tangibles as first independent variable

X2 = Reliability as second independent variable

X3 = Assurance as third independent variable

X4 = Responsiveness as fourth independent variable

X5 = Empathy as fifth independent variable

 $\beta 0$  = intercept (value of Y when Xi = 0)

 $\beta$ 1,  $\beta$ 2,  $\beta$ 3,  $\beta$ 4 and  $\beta$ 5 = are the coefficients of the five independent variables

 $\in$  = random error

# Ethical consideration

In the process of collecting data, the researchers did not force the participants to complete the questionnaire. In other words, they were expected to answer the questions on a voluntary basis. Confidentiality and anonymity of the participants' data were ensured in the study. The researchers did not manipulate the data in the analysis; in this sense, all the relevant data were presented and used in the analysis. Finally, the researcher gave full credit to other works in order to avoid plagiarism.



# 4. Results and Discussions

# Demographic information

The table 1 below shows that among 243 participants, debit card holders are mostly female, accounting for 56.4% and the age range from 15 to 25 years is 63%, which is the highest. Moreover, most of them hold a bachelor's degree and employees, accounting for 75.3% and 65.8%, respectively. Approximately 27% obtain a range of income from \$350 to \$399.

Table 1: Demographic information of the research participants

Item	Categories (N=243)	Frequency	Percentage
	Female	137	56.4%
Gender	Male	106	43.6%
	15-25 years old	153	63.0%
	26-35 years old	61	25.1%
Aga	36-45 years old	22	9.1%
Age	46-55 years old	6	2.5%
	56-64 years old	1	0.4%
	High School	22	9.1%
	Associate	7	2.9%
	Bachelor	183	75.3%
Educational Level	Master	25	10.3%
Educational Level	PHD	5	2.1%
	Others	1	0.4%
	Company/Organization/Employee	160	65.8%
	Government officer	6	2.5%
O	Self-employed	26	10.7%
Occupation Status	Business owner	3	1.2%
	Currently unemployed	34	14.0%
	Others	14	5.8%
	Below or equal \$194	56	23.0%
	\$195 - \$349	61	25.1%
Monthly Income	\$350 - \$599	65	26.7%
	\$600 - \$999	34	14.0%
	Over \$1000	27	11.1%



# Analysis of agreement level

The table 2 below shows the level of agreement of each variable. Norng (2022) cited that by adopting the seven-point scale interpretation of (Armstrong, 1987), the mean score of 1.00-1.85 was regarded as Strongly Disagree, 1.86-2.71 as Disagree, 2.72-3.57 as Somewhat Disagree, 3.58-4.42 as Neutral, 4.43-5.28 as Somewhat Agree, 5.29-6.14 as Agree, 6.15-7.00 as Strongly Agree. The mean score of the six variables were 5.750, 5.732, 5.836, 5.570, 5.377, and 5.902 for Tangibles (TAN), Reliability (REL), Responsiveness (RES), Assurance (ASS), Empathy (EM), and Customer Satisfaction (CS), respectively. Therefore, card holders viewed all the constructs as at the Agree level.

Table 2: Level of Agreement

Variable	Minimum	Maximum	Mean	Std. Deviation	Level of Agreement
TAN	1.67	7.00	5.750	0.902	Agree
REL	2.75	7.00	5.732	0.903	Agree
RES	3.00	7.00	5.836	0.869	Agree
ASS	2.50	7.00	5.570	1.024	Agree
EM	1.75	7.00	5.377	1.141	Agree
CS	3.17	7.00	5.902	0.878	Agree

<sup>\*</sup>Note: Neutral: 3.58-4.42, Somewhat Agree: 4.43 – 5.28, Agree: 5.29 – 6.14, Strongly Agree: 6.15 – 7.00

# Correlation analysis

Pearson's correlation analysis measures the strength of the relationship between two variables. Lind et al. (2019) explains that the value of correlation (r) moving close to (-1) indicates a negative correlation, and that close to (+1) indicates a positive correlation between the two variables. Table 3 shows that the correlations of each pair of the constructs are positively correlated, and the strongest is between Reliability and Responsiveness at 0.740, while the lowest is between Customer Satisfaction and Empathy as 0.510.

Table 3: Pearson Correlation Matrix

Variable	TAN	REL	RES	ASS	EP	CS
TAN	1					
REL	0.662**	1				
RES	0.623**	$0.740^{**}$	1			
ASS	0.579**	0.675**	0.643**	1		
EP	0.546**	0.638**	0.591**	0.758**	1	
CS	0.567**	0.633**	0.683**	0.612**	0.510**	1

<sup>\*\*.</sup> Correlation is significant at 0.01 level (2-tailed)



# Reliability test

The study also checked the reliability, which measures the solidity and dependability of the instrument in testing the concept and assists the measuring of 'goodness' of the test (Cavana et al., 2001). In this sense, Cronbach's Alpha was used to ascertain the internal consistency of each construct (Kumbhar, 2011). The result of the reliability test shows that the value of Cronbach's Alpha went above 0.7, which was highly reliable (Nunnally, 1994). The lowest on was the Reliability construct, which stood at 0.767, and the highest one was the Empathy construct, which stood at 0.927.

No. of items Variables Cronbach Alpha (n=243) 3 TAN 0.789 4 **REL** 0.767 4 **RES** 0.759 4 ASS 0.868 4 0.927 EM 6 **TAN** 0.897

Table 4: Reliability Test of Cronbach's Alpha on Each Variable

# Model fitness

The analysis of the variance (ANOVA) shows that the proposed SERVQUAL Model was statistically significant at 0.000. Moreover, the model summary of linear regression analysis depicted R = 0.734, R square = 0.539, and Adjusted R Square = 0.529. These results show that the SERVQUAL Model was fit in the study of the debit card adoption.

# Variance inflation factor

The study ran variance inflation factor (VIF) to check whether or not all independent variables are highly correlated, for it may interrupt the result of regression analysis. According to O'brien (2007), VIF and tolerance are "both widely used measures of the degree of multicollinearity of the *ith* independent variable with other independent variables in a regression model" (p.673). When the VIF goes above 10, the regression coefficients are poorly estimated because multicollinearity exists; and when the VIF is near or above 5, there is a problem in multicollinearity in a multiple regression model (Akinwande et al., 2015). The following table 5 shows that the VIF ranged from 1.989 to 2.923; therefore, multicollinearity did not exist in this study because VIF of all independent variables were lower than 5.



Table 5: Collinearity statistics

Tolerance	VIF
0.503	1.989
0.341	2.932
0.395	2.534
0.345	2.895
0.390	2.563
	0.503 0.341 0.395 0.345

# Multiple regression analysis

The table 6 shows the impact of the five predictors on Customer Satisfaction with debit cards. As can be seen in Table 6, tangibles were statistically significant at .039 with the standardized coefficient  $\beta = 0.129$ . Moreover, Responsiveness and Assurance positively influenced Customer Satisfaction at  $\beta = 0.375$  and  $\beta = 0.244$ , respectively. However, Reliability and Empathy are not statistically significant.

Table 6: Result of Multiple Regression Analysis

Model		dardized ficient	Standardized Coefficients		
	В	Std. Error	Beta	- t	Sig.
(Constant)	1.250	0.288		4.338	0.000
TAN	0.126	0.061	0.129	2.079	0.039
REL	0.138	0.073	0.141	1.872	0.062
RES	0.379	0.071	0.375	5.341	0.000
ASS	0.210	0.064	0.244	3.258	0.001
EP	-0.044	0.054	-0.058	818	0.414

Dependent Variable: CS

# Results of hypothesis testing

Table 7 shows the summary results from the tested hypotheses obtained from the multiple regression analysis. The exhibition of backed results of H1, H3, and H4 at significant levels 0.039, 0.000 and 0.001, represented the independent variables, namely Tangibles, Responsiveness, and Assurance, respectively. Nevertheless, H2 and H5 were unsupported at the significant level of 0.062 and 0.414, respectively.

Table 7: Result of Hypothesis Testing

Hypothe	esis		Sig.	Result
TAN	H1	Tangibles has a significant positive effect on customers' satisfaction.	.039	Supported
REL	H2	Reliability has a significant positive effect on customers' satisfaction.	.062	Not Supported

(to be continued)



Table 7: Result of Hypothesis Testing

Hypothe	esis		Sig.	Result
RES	Н3	Responsiveness has a significant positive effect on customers' satisfaction.	.000	Supported
ASS	H4	Assurance has a significant positive effect on customers' satisfaction.	.001	Supported
EP	Н5	Empathy has a significant positive effect on customers' satisfaction.	.414	Not Supported

#### Discussion

First of all, the impact of the tangibles at  $\beta = 0.129$ , responsiveness at  $\beta = 0.375$ , and assurance at  $\beta = 0.244$  on customer satisfaction were in line with the previous studies; for instance, the influence of tangibles and responsiveness on customer satisfaction supported (Rahman et al., 2017; Pakurár et al., 2019). Nonetheless, Meesala and Paul (2018) have found that the influence of tangilbles on customer satisfaction was not supported. Moreover, the finding on the positive relationship between responsiveness and customer satisfaction contradicted (Wang & Shieh, 2006; Munusamy et al., 2010; Sanjuq, 2014).

Secondly, the effect of assurance on customer satisfaction was consistent with Phan and Nham (2015) and Pakurár et al. (2019); whereas it contradicted those of Rahman et al. (2017) and Meesala and Paul (2018). In other words, the current study has shown that debit card holders were satisfied with the plastic feature of debit cards, namely good quality design and physical look. They are more likely to value the prompt feedbacks from the bank staff in terms of effective communication, quick response to the questions and issues, and timely solutions. At the level of assurance, debit card users were also satisfied with the knowledge and courtesy of the bank staff in providing magnificent and proficient services, which increased their trust and confidence in debit card transactions.

Thirdly, the study has found that reliability does not affect Customers Satisfaction to use debit cards at  $\beta = 0.141$ . This finding contradicts the study of Mwatsika (2014) and Ha Nam Khanh (2019). Nevertheless, the result supports the study of (Munusamy et al., 2010; Sanjuq, 2014; Okeke et al., 2015). Regarding this relationship, the respondents viewed that they are satisfied with the process of using a debit card because they need to withdraw cashes from the ATMs and pay at the POS. Factor such as reliability does not influence their satisfaction with debit card usage.

Finally, the study has revealed that empathy did not have a significant positive effect on customer satisfaction at  $\beta$  = -0.058. The result supported the study of Munusamy et al. (2010); Sanjuq (2014); Meesala and Paul (2018). However, the result contradicted the studies of



Mwatsika (2014); Pakurár et al. (2019); Ha Nam Khanh (2019). This means that debit card holders were less likely satisfied with the attitudes of bank staff when listening to their inquiry and concern.

# 5. Conclusion and Implications

#### Conclusion

The primary objective of this study is to determine the impact of service quality dimensions on customer's satisfaction with debit cards at the commercial banks located in Phnom Penh. In order to address this objective, the study adopts the SERVQUAL Model as the conceptual framework to test five hypotheses. Based on the multiple regression analysis, the study has found that Tangibles, Responsiveness and Assurance have a significant and positive effect on Customer Satisfaction with debit cards, while Reliability and Empathy are not statistically significant.

#### *Implications of the study*

The results of this study reveals that the SERVQUAL Model is one of the most appropriate frameworks to examine the bank products and services, especially the impact of service quality dimension on customer satisfaction with debit card. Nonetheless, the study suggests that the bank sectors might consider improving one part of the customer services continuously, namely active and empathetic listening.

The study also shows that debit card holders are satisfied with quality dimensions, such as Tangibles, Responsiveness, and Assurance. This implies that most part of the banks' customer services are satisfied by the debit card holders; therefore, banks might consider keeping these quality dimension alive; so that they can attract these existing customers to use other products and services.

#### Limitations and further research

The sample size is considerably limited because the study was conducted only in the Phnom Penh City during the Covid-19 pandemic. In addition, the study only examines debit card adoption at the commercial banks. Therefore, the future research should consider looking into the behaviour of debit card holders at various provinces and at the specialized banks or the micro finance institutions. This study also focuses on post purchase behaviour such as customer satisfaction with debt cards, so the next study should examine the end spectrum of post purchase, namely customer loyalty.



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