

# **Debit Card Adoption Attributes and Customer Satisfaction: A Study on Dutch-Bangla Band Ltd.**

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## **ABSTRACT**

*Dutch-Bangla Bank Ltd (DBBL) is one of the most innovative and technologically advanced banks. It stands as a leader in the country's banking sector. Recently it was found that a large number of customers were using debit card for various purposes like convenient, speedy money transaction, easy maintenance etc. To assess which factors were related to debit card adoption, a questionnaire was developed. The survey was conducted among 239 customers from three different branches of Sylhet city. The study showed the significantly influencing debit card adoption factors, which were transaction transparency, shopping through Point-of-Sell (POS) utility bill payment, easiest way to maintain relationship with bank community and so on.*

**Key words:** Debit card, Customer Satisfaction, Bank, Automated Teller Machine (ATM)

## **I. INTRODUCTION**

In the era of electronic banking, the importance of debit card has increased tremendously. Card appears as a powerful economic engine, stimulating growth and generating new opportunities. A debit card (also known as a bank card or check card) is a plastic card that provides the cardholder electronic access to his or her bank accounts at a financial institution. Debit cards appear to serve primarily as a substitute for cash and checks. Debit card is a great financial tool used every day for making life easier by giving access to cash while transacting. Debit cards allow cash to be drawn from an ATM booth or shopping to be done; hence it eliminates the need to have actual cash at hand during purchase.

There are nine foreign commercial banks (FCBs) and 39 local commercial banks which now have banking operation in the country. All banks have issued

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72, 32,554 debit cards to their clients; the PCBs (Private Commercial Banks) issued 67, 92,800 and the FCBs issued 3, 82,356 debit cards as on August 31, 2013; amongst them Dutch-Bangla Bank issued the highest number of debit cards. The DBBL issued 30, 98,047 debit cards or 42.83 percent of the total debit cards issued by the scheduled banks (Uddin, 2013).

The present scenario and nature of users of debit cards of some selected banks in Rajshahi city of Bangladesh with respect to various aspects such as convenience of using, promptness of card delivery, hidden cost, risk-freeness, number of booths, quality of service and so on (Kalam, et al. 2012) had been analyzed.

## **II. LITERATURE REVIEW**

Customer Satisfaction (CS) is a key performance indicator of the activity of a firm or a corporation. CS is an abstract term and can be considered as a latent variable. The usual measures of CS involve a survey with a set of questions. The overall satisfaction may be measured by a single direct question or by several manifest variables relating to the different domains of satisfaction. These variables are often on ordinal scale with different numbers of categories (binary, Likert scale with 5 or 7 modalities, scores from 1 to 10, and so on) (Zani and Berzieri, 2008).

Gronroos (1984) studied the banking industry; the consumer satisfaction was measured by technical and functional aspects. Technical deals with the quality control procedures that might produce the core benefits of the services delivered.

Bennet (1992) claimed that the main thing to achieve competitive advantage in the banking business was to be customer driven. In other words, the entire aspect of the institution should concentrate on the factors that the customer hold dear and it should be willing to exceed customer expectations.

Normally, all banks need to identify how to entertain the clients, regardless of the facts that they appear to be gratified. As rivalry in the financial services industry is higher than at any time in the past, and while services offered by banks are getting progressively equivalent, it is important to comprehend the satisfaction of consumers' (Rose & Marquis, 2006).

It has been recommended that, with the intention of accomplishing a competitive place in the industry, banks must give attention to service quality and customer satisfaction (Caruana, 2002).

Satisfying a customer involves tackling the specific fears and concerns of the customer, the primary of which, scholars have revealed, are data security risks (Mulki & Jaramillo, 2011). Research participants in Mulki and Jaramillo's study revealed that any banking business whose leaders seek to satisfy the needs of their customers innovatively use checking and other types of accounts and find ways and means to deliver satisfaction to customers consistently, whether such customers are at home or at bank facilities.

The customers use debit card either for money withdrawal or for purchase of goods and services or for both. A study showed that 80 percent respondents used debit card for money withdrawal, while 20 percent used debit card for purchasing goods and services. It also showed that 90 percent of respondents used debit card because it saves time (Parvin and Hossain, 2010).

### III. OBJECTIVES OF THE STUDY

The Study-objectives were:

- i. To identify the demographic profiles of the debit card users of Dutch-Bangla Bank Ltd, a private commercial bank in Bangladesh.
- ii. To highlight a model with list of adoption factors affecting customers' overall satisfaction with regard to debit card.
- iii. To draw major conclusions and suggest some policy recommendations.

#### 3.1 Research model

The research is being conducted to show how customer satisfaction depended on different variables by applying linear regression. The research model for empirical analysis is as follows:

$$Y = \alpha + \beta_1 A_1 + \beta_2 A_2 + \dots + \beta_{16} A_{16} + \epsilon$$

#### 3.2 Hypothesis

There was a significant relationship between customer's overall satisfactions on debit card with the independent variables (debit card adoption variables)

#### **IV. METHODOLOGY**

This section describes the methodology which included collection of data, construction of questionnaire, descriptive statistics, Cronbach alpha and Multiple regression, field work and data analysis.

##### **4.1 Collection of Data**

The study is based on both primary and secondary data. The primary data were collected from respondents directly with the help of interview schedule. Secondary data were collected from journals, newspapers and websites.

##### **4.2 Construction of Interview Schedule**

The interview schedule was constructed by the researchers themselves. The variables to be included were identified by the researcher in the pilot study. The variables identified were converted into appropriate questions and they were included in the interview schedule. It was circulated among academicians and in the light of recommendation from them, the interview schedule was modified. Personal interviews of the customers were conducted; on an average interviewing time was 12-20 minutes.

##### **4.3 Sampling design**

The sample was customers of Dutch-Bangla Bank Ltd in Sylhet city of Bangladesh. Three different branches (Sylhet Corporate, Amborkhana and Uposhohor) of Dutch-Bangla Bank Ltd in Sylhet city were used as sampling frame. The sample size was selected as 239 consisting of males and females. They were selected at random by applying random sampling technique. Interviews were conducted using standard questionnaire with three parts.

Part I consisted of demographic information of the respondents like age, gender, profession, income and education. Part II contained factors related to adoption of debit card, consisting of sixteen variables, were designed in a Likert scale format, which was given five point rating scale ranging from unimportant to very important; and part III consisted of sixteen satisfaction measurement variables, were designed in a Likert scale format which provided five-point rating scale ranges from very unhappy to extremely satisfied.

##### **4.4 Field-work and Data Collection**

The researcher carried out field work for the survey over a period of 25 days in the months of July and August 2014. The required information was collected through interview schedule.

#### 4.5 Tools for Analysis

Data were analyzed with the help of frequency tables and percentages (descriptive statistics). Cronbach alpha was used to justify the reliability of the variables and multiple regression analysis was used to reveal the variation in customers' overall satisfaction on debit card. The gathered data were analyzed through Statistical Package for Social Sciences (SPSS) version 20.

#### 4.6 Limitations

Some respondents were reluctant to provide necessary information due to suspicion that the information may be used against them for illegal purpose. It was a challenge to find the respondents free because they were always busy with transaction-related activities.

### V. DATA-ANALYSIS AND RESULTS

TABLE 1  
RESPONDENTS' PROFILE

	Frequency	Percentage
<b>Survey cases</b>	239	100%
<b>Gender</b>		
Male	182	76.2
Female	57	23.8
<b>Age</b>		
<= 20	3	1.3
21 – 29	136	56.9
30 – 38	85	35.6
39 – 47	12	5.0
48 – 56	2	.8
57+	1	.4
<b>Marital status</b>		
Married	96	40.2
Unmarried	139	58.2
Divorce/separate	3	1.3
<b>Education</b>		
Below SSC	5	2.1
SSC	11	4.6
HSC	61	25.5
Diploma	15	6.3
Graduate	99	41.4
Masters	43	18.0
Others	5	2.1
<b>Occupation</b>		
Businessperson	85	35.6
Banker	38	15.9
Officials of private companies	48	20.1
Officials of multinational companies	8	3.3
Officials of public companies	17	7.1
Teacher	40	16.7

No response	3	1.3
<b>Income per month</b>		
Below Tk. 20000	93	38.9
Tk. 20001 - Tk. 30000	92	38.5
Tk. 30001 - Tk. 40000	29	12.1
Tk. 40001 - Tk. 50000	13	5.4
Above Tk. 50000	12	5.0
<b>Length of using debit card</b>		
Less than 1 year	54	22.6
1 - 3 years	116	48.5
4 - 6 years	57	23.8
6 years and above	8	3.3
No response	4	1.7
<b>Frequency of using debit card per month</b>		
<= 5	140	58.6
6 - 10	59	24.7
11 - 15	18	7.5
16 - 20	17	7.1
21 - 25	2	.8
26 - 30	3	1.3

From the above Table, it is seen that the majority of the customers were found to be male with 76 percent. Among the 239 customers interviewed, most of the customers were found between the age limit of 21-29 years with 57 percent. Analyzing the marital status and educational qualification, it was seen that 58 percent were unmarried and 41.4 percent were graduate.

As occupation plays an important role in the use of debit card, it was seen that 36 percent of customers were doing business. In the income category, it was noticed that 39 percent of the customers were earning between Tk. 20,001 to Tk. 30,000. Since possession of debit card was vital for understanding the frequency of using, it was seen that 49 percent were using debit card in the range of 1-3 years and 59 percent customers were using it less than 5 times per month.

**TABLE 2**  
**RELIABILITY OF VARIABLES**

<b>Variables group</b>	<b>Number of items</b>	<b>Reliability (Cronbach's Alpha)</b>
Debit card adoption	16	.732
Satisfaction	16	.742

Source: Field survey, 2014

After identifying the adoption and satisfaction factors for the study, a scale to measure each factor was selected and overall scale reliability was checked by Cronbach's Alpha Reliability test. In this study, the scale selected was having a Cronbach's Alpha value of 0.732 for debit card adoption and a value of 0.742 (Table 2) for satisfaction. The Cronbach's Alpha results showed a positive relationship with the items considered for this study.

TABLE 3  
MULTIPLE REGRESSION ANALYSIS

Dependent variable	Independent variables with code	B	t-value	Sig. level
Overall customer Satisfaction on debit card	(Constant)	.1608	5.910	.000
	A <sub>1</sub> I choose debit card to feel relaxed not to carry cash all the time.	.102	2.270	.024
	A <sub>2</sub> I choose debit card because it is less risky.	.069	1.534	<b>.127</b>
	A <sub>3</sub> I am able to shop through Point of Sale (POS).	.167	3.793	.000
	A <sub>4</sub> I choose because I am able to draw cash from any ATM @ 24 hours a day.	.099	2.273	.024
	A <sub>5</sub> I am able to save valuable time, not having to physically appear at bank for drawing cash.	.115	2.542	.012
	A <sub>6</sub> I choose it to purchase through the internet and web portals.	.098	2.061	.041
	A <sub>7</sub> I choose because transactions' transparency is available via mini statements or receipt after transaction.	.200	4.421	.000
	A <sub>8</sub> I choose because bank charges or hidden cost is reasonable for debit card.	.074	1.542	<b>.124</b>
	A <sub>9</sub> It is very much flexible.	.067	1.452	<b>.148</b>
	A <sub>10</sub> I choose because I am able to pay utility bills like telephone/cell bills, electric bills, gas and water bills.	.200	4.188	.000
	A <sub>11</sub> I choose because it is one of the ways to create relationship with banking community.	.128	2.626	.009
	A <sub>12</sub> I choose because Debit card can generate new opportunity	.134	2.739	.007

TABLE 3 Cont....					
A <sub>13</sub>	I choose because it is the popular electronic payment system.	3	.03	.716	<b>.475</b>
A <sub>14</sub>	It creates good image in society.	1	.13	2.876	.004
A <sub>15</sub>	I choose because its transaction speed is faster than cheque.	8	.07	1.681	.094
A <sub>16</sub>	I choose because network coverage is enough for this city.	0	.04	.910	<b>.364</b>
	R <sup>2</sup>	5	.64		
	Adjusted R <sup>2</sup>	9	.61		
	F-Value	297	25.		
	Significant	0	0.0		

The column-5 of Table 3, presents the level of significance of each variable. Most of the variables are strongly significant in the above table. The significance level value of one variable such as risk free (.127), less transaction fee (.124), flexibility (.148), popularity (.475), network coverage (.364) was greater than 0.05 which implied that this variable had no significant impact on customer satisfaction. The results showed the regression with multiple (sixteen) independent variables (Convenience, Risk free, Transaction through POS, Cash availability of ATM booth, Save time, Online purchase through internet and web portals, Availability of receipt paper in ATM, Transaction fee, Flexibility, Utility bills payment, Service quality, New opportunities by advertisement, Popularity, Social Image, Speedy and faster transaction, Network coverage); the coefficient tells us how much the dependent variable (overall customer satisfaction) was expected to increase or decrease when the independent variable increased by 1%, holding all the other independent variables constant. Sixty-four percent (64.5%) of the overall variance was explained by the independent variables. A unit increase in the above said independent variables increased the overall customer satisfaction in DBBL by 0.645 respectively. The change in the relevant independent variables explained the change in overall customer satisfaction in DBBL to the extent of 61.9% percent since R<sup>2</sup> value was 0.645. Constant coefficient was equal to 16.085. Put this coefficient with others in the linear regression model. We find the following model summary.



### 5.1 Model Summary

Overall customer satisfaction = 16.085 + (.102) Convenience + (.069) Risk free + (.167) Transaction through POS + (.099) Cash availability of ATM booth + (.115) Save time + (.098) Online purchase through internet and web portals + (.200) Availability of receipt paper in ATM + (.074) Transaction fee + (.067) Flexibility + (.200) Utility bills payments + (.128) Service quality + (.134) New opportunities by advertisement + (.033) Popularity + (.131) Social Image + (.078) Speedy and faster transaction + (.040) Network coverage

The linear model indicates that holding all other independent variables constant, if convenience, risk free, transaction through POS, cash availability of ATM booth, save time, online purchase through internet and web portals, availability of receipt paper in ATM, transaction fee, flexibility, utility bills payments, service quality, new opportunities by advertisement, popularity, social Image, speedy and faster transaction, network coverage were increased by 1%, then overall customer satisfaction would be positively affected and increase by 10.2%, 6.9%, 16.7%, 9.9%, 11.5%, 9.8%, 20.0%, 7.4%, 6.7%, 20.0%, 12.8%, 13.4%, 3.3%, 13.1%, 7.8% and 4.0% respectively. The significantly influencing debit card adoption factors were utility bill payment and transaction transparency (20.0%), transaction through POS (16.7%), New opportunities by advertisement (13.4%), Social Image (13.1%), Service quality (12.8%), Speedy and faster transaction (11.5%) and so on.

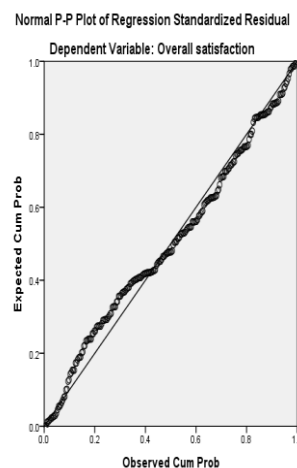
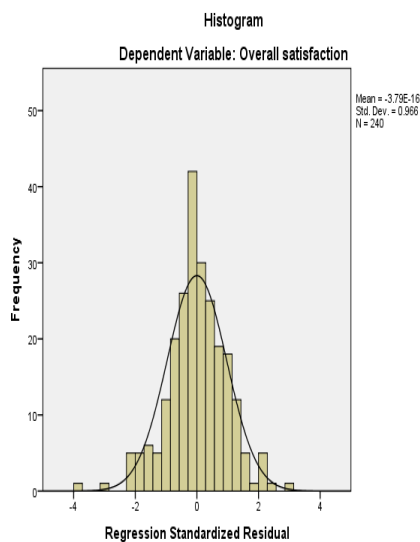
TABLE 4

#### COLLINEARITY STATISTICS OF MULTIPLE REGRESSION ANALYSIS

Variables	Tolerance	VIF
I choose debit card to feel relaxed not to carry cash all the time.	.796	1.257
I choose debit card because it is less risky.	.783	1.276
I am able to shop through Point of Sale (POS).	.823	1.215
I choose because I am able to draw cash from any ATM @ 24 hours a day.	.833	1.200
I am able to save valuable time, not having to physically appear at bank for drawing cash.	.782	1.279
I choose it to purchase through the internet and web portals	.697	1.434

TABLE 3 Cont....		
I choose because transactions' transparency is available via mini statements or receipt after transaction.	.775	1.290
I choose because bank charges or hidden cost is reasonable for debit card.	.700	1.428
It is very much flexible.	.750	1.334
I choose because I am able to pay utility bills like telephone/cell bills, electric bills, gas and water bills.	.699	1.430
I choose because It is one of the ways to create relationship with banking community.	.666	1.501
I choose because Debit card can generate new opportunity	.661	1.513
I choose because it is the popular electronic payment system.	.767	1.304
It creates good image in society.	.770	1.299
I choose because its transaction speed is faster than cheque.	.732	1.366
I choose because network coverage is enough for this city.	.814	1.229
Source: Field survey, 2014		

Table 4 indicates the result of multicollinearity statistics of the multiple regression analysis. Results from Table 2 shows that multicollinearity did not exist, as the values of tolerance were greater than 0.1 and variation inflation factors (VIF) for all independent variables were less than 10 (Hair et al. 1998).



The standardized residual histogram (figure 1) is nicely bell-shaped; it supports the assumption that the disturbances were normally distributed. Since the probability plot (figure 2) is linear, it supports the view that the residuals were normal.

## **VI. CONCLUSIONS AND POLICY RECOMMEDATIONS**

The study successfully identified the variables playing important role in assessing overall satisfaction on DBBL debit card. Debit card is strongly related to modern economy; e-commerce and e-payment is not possible without the spread of plastic money. The DBBL debit card penetration has been very good in Bangladesh. DBBL has more than four million customers with 145 branches during 19 years of banking. In order to increase the penetration of debit card, all commercial banks should come forward with master-plan and consumer education regarding debit card facilities and advantages arising from it need to be taught.

Finally, all commercial banks in Bangladesh can carefully look into the identified factors (model summary) before they offer debit card to the user. Nevertheless, a comprehensive study can be done on debit cards and their linkages with many socio-economic factors so that the debit card industry can penetrate quickly and contribute more to in the country's financial market and gross domestic product.

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