A Study on the Perceived Usefulness of Debit and Credit Cards – Am Empirical Analysis

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Abstract
The present research paper is intended to address the various reason which effects the usage of debit and credit cards and their usefulness in India. The researcher identified that the factors such as ease of use, relative advantage, social influence and perceived risk are influencing the perceived usefulness. The study considered 120 respondents as the sample subjects. The collected has been analyzed by using correlation and regression analysis. The detailed analysis and the conclusion are provided in the paper.

Keywords: Debit Cards, Credit Cards, Ease of Use, Relative Advantage, Social Influence.

1. Introduction

The Indian banking sector is witnessed for rapid changes in the last two decades. Especially the technological changes aspects left the great impact over the banking sector. The prevailed excessive competition among the players in the banking sector thrown a great challenge for the banks to retain their customers. In order to attract the new customers and to retain the existing customers the bankers have been trying to render their services with more customers centric. Even the bankers are coming forward to provide the customized services to the customers. Compared to the private and the foreign banks, the government banks are little back in providing the e-services to their customers. This phenomenon fetches the advantage to the private and foreign banks to get the upper hand over the government sector banks in India. Though there might be the quality difference in the other matters, it is assumed that all the banks have been providing the paying card services.

The Indian banks are catering the paying cards for their customers in two broad categories namely debit and credit cards. The author explained the number of active debit and credit details in India in the chapter -1 of this research project. Furthermore, the researcher also explained the month wise number of transactions held with ATM and POS by using both the debit and credit cards in the year of 2018. The rapid development in the usage of debit and credit cards is

observed in the last few years. There is a need to understand the customer's attitude towards the usage of debit and credit cards in the Indian banking sector. Hence, the researcher considered it as the research problem and decided to know the customer's perceptions and to know the various factors which are effecting the usage of debit and credit cards in Indian context. To consolidate the research problem the researcher conducted an exploratory study and concluded that the factors such as ease of use, relative advantage, social influence and perceived risk are influencing the cards usage in India. So, we conclude that the current research study considered the factors like ease of use, relative advantage, social influence and perceived risk are the independent variables of the study and perceived usefulness is the dependent variable of the study.

2. Review of Literature:

The inception of technology in the banking sector brought the revolutionary changes which allow their customers to accomplish their routine banking related works so easily. For instance, the e-banking services facilitate the customers to operate majority of their works from their place only. This phenomenon helped the internet banking services to attain the competitive advantage over the traditional banking functions. It is believed that the electronic services of the banks provide timely and accurate flow of information to their customer to take the appropriate decisions. The e-banking has been offering certain delivery channels such as Automated Teller Machine (ATM), Internet or Online banking, tele-banking, mobile banking, debit card and credit card (Shirisha & Sivakoti Reddy, 2019). The current study focused on usage of debit and

credit cards in India and emphasized to explore the different factors which are effecting the usage of debit and credit cards in India.

Debit card is an instrument which is used for the withdrawals from the automated teller machines and the cash-based transactions. According to the statistics of Reserve Bank of India, there are 980.19 million debit cards and 410.29 million credit cards by the end of August – 2018. The statistics also revealed the transactions held at ATMs and POS in India, there are 608.15 million transactions held at ATMs and 267.16 million transactions held at POS by August – 2018 with the debit cards. It is noted that there are 0.613 million transactions held at ATMs and 106.74 million transactions with credit cards by the end of August – 2018. As the role of debit and credit cards is very crucial the researcher focused to know the correlation between the various demographic factors of the payment card users. Further, emphasized to explore and to examine the various factors effecting the usage of debit and credit cards.

In the technology related research, technology acceptance model (TAM) is considered to be the most widely used and vigorous model to predict the individual adoption of a new technology (Venkatesh and Davis, 1996; Venkatesh and Davis, 2000; Venkatesh and Bala, 2008; Yusoff et al., 2009). Technology acceptance model (TAM) is used as the base for this research work. The researcher considered the ease of use, relative advantage, social influence and perceived risk as the independent variables and perceived usefulness as the dependent variable of the model. The researcher assumed that this model is appropriate to test determine the customer's perception towards the usage of debit and credit cards.

Hypotheses Development
Ease of Use

The term ease of use is defined as the degree to which a person believes that using a concerned system would be free of effort i.e freedom from difficulty or great effort (Radner and Rothschild (1975). The studies of Venkatesh (2000) experimented about the various internal controllable factors and external controllable factors of ease of use and further tested in integrating the concerned variables in the technology acceptance model.There are some other research studies disclosed that there is a positive association between the ease of use and the perceived usefulness. The studies also recognized that the relationship between ease of use and perceived usefulness is highly significant too (Wang et al., (2005). Thus, the researcher assumed that there is an ease of use in using the debit and credit cards to attain the timely with drawl of the money and the secured transaction at ATMs and POS. Hence, the researcher formulated the hypotheses as mentioned below:

H20. Ease of Use will not have significant affect over Perceived Usefulness.

Relative Advantage:

The innovation diffusion theory acclaimed that the consumers take technology adoption decisions based on the relative advantages what they gain out of the technological innovations. Some other research findings stated that the relative advantage can be assessed over three dimension i.e convenience, trust and usefulness of the concerned technological innovations (Choudhury & Karahanna (2008). Based on these conclusions the researcher formulated a hypothesis as mentioned below:

H30: Relative Advantage will not have significant affect over Perceived Usefulness.

Social Influence:

Wide literature is available to prove the relationship between the social influence and the technology acceptance behavior. The term social influence is defined as it is a societal pressure on users to engage in a certain behavior (Bhatnagar (2000)). The research findings of Venkatesh and Davis (2000) elicited that social influence has significant impact over technology adoption in a certain condition only and facilitates the users to acquire the direct experience with the prescribed system. However, some other research studies contradicted with this phenomenon. Therefore researcher formulated the hypothesis to assess the relationship between the social influence and perceived usefulness in the usage of debit and credit cards. The proposed hypothesis is as mentioned below:

H40: Social Influence will not have significant affect over Perceived Usefulness.

Perceived Risk:

The perceived risk is defined as the uncertainty and unfavorable consequences which are associated with customers' expectations while using a new technology (Bauer (1960)). Many authors such as Ndubisi and Sinti (2006), Rotchanakitumnuai and Speece (2003) in their studies stated that perceived risk will influence the technology acceptance levels by the consumers (Hymavathi, Ch. (2019). Hence, the researcher formulated a hypothetical relationship between the perceived risk and the perceived usefulness and the proposed hypothesis is as mentioned below:

H50: Perceived Risk will not have significant affect over Perceived Usefulness.

3. Objectives of the study:

The researcher aimed to know the customer's perceptions towards the usage of debit and credit cards. It is also emphasized to reveal the exact factors that are effecting to usage the cards. To disclose the above said issues, the researcher framed certain objectives and they are as follows:

1. To determine the factors that effects the usage of debit and credit cards in the Indian context.
2. The study is aimed to assess the impact of ease of use over the perceived usefulness of both the debit and credit cards usage.
3. This research project is focused to know the impact of relative advantage's impact over the perceived usefulness in using the debit and credit cards.
4. The project is emphasized to disclose the impact of social influence over the perceived usefulness while using the debit and credit cards.
5. This study intended to understand the perceived risk's effect over the perceived usefulness in the usage of debit and credit cards.

Hypothesis statement:

To align with the proposed objectives of the study, the researcher framed the required hypotheses. There are totally five hypotheses in this research project. The first hypothesis is aimed to test the correlation between the various demographic factors of the customers such as age, education, gender and the occupation. The hypotheses from 2 to 5 are aimed to assess the impact of concerned independent variables impact over the dependent variables which are proposed in the conceptual model of the study. As the study is exploratory in nature, the researcher framed the hypotheses in the null form and the proposed hypotheses of the study are as mentioned below:

$H1_0$: The usage of debit and credit cards has no correlation with the user's age; education; sex and occupation.

$H2_0$: Ease of Use will not have significant affect over Perceived Usefulness.

$H3_0$: Relative Advantage will not have significant affect over Perceived Usefulness.

$H4_0$: Social Influence will not have significant affect over Perceived Usefulness.

$H5_0$: Perceived Risk will not have significant affect over Perceived Usefulness.

Research Questions:

An exploratory research is conducted to develop the research problem. Based on the implications of the concerned study, the following research questions are framed:

1. What is the correlation between the demographic factors like age, gender, education, occupation and the usage of debit and credit cards?
2. What are the determinants factors that affect the usage of debit/credit cards by the users?
3. Does the Ease of Use affect the Perceived Usefulness of the debit/credit cards?
4. Does the Relative Advantage affect the Perceived Usefulness of the debit/credit cards?
5. Does the Social Influence affect the Perceived Usefulness of the debit/credit cards?
6. Does the Perceive Risk affect the Perceived Usefulness of the debit/credit cards?

Data Analysis:

Testing of Hypothesis – 1:

H1$_0$: The usage of debit and credit cards has no correlation with the user's age; education; sex and occupation.

To correlation between the respondent's age, education, sex and occupation is analysed by using Karl Pearson Correlation method. The results are tabulated in the following table - 1.

Table – 1: Correlations between User's age, education, gender and occupation with the usage of debit and credit cards

Correlations		Age	Education	Sex	Occupation	Usage of Debit Card	Usage of Credit Card
Age	Pearson Correlation	1	0.103	0.205	0.065	0.478	0.171
Education	Pearson Correlation	0.103	1	0.029	0.009	0.346	0.175
Sex	Pearson Correlation	0.205	0.029	1	0.215	0.621	0.087
Occupation	Pearson Correlation	0.065	0.009	0.215	1	0.759	0.060

The statistic results found that there is a positive correlation between the age and usage of debit card. The correlation coefficient between the age and usage of debit card is 0.478 which is considered to be a positive moderate correlation. The correlation between the age and usage of credit card is also found to be significant and the correlation coefficient is 0.171. This clearly indicated that there is a weak positive correlation between the age and usage of credit card.The correlation between educational qualification of the respondents and the usage of debit card is also found to significant and the derived correlation coefficient value is 0.346. With this evidence we understood that there is a positive moderate impact over the educational qualifications and the usage of debit card. The relationship between the education and usage of credit card is also found to be significant and the correlation coefficient (0.175) depicted that there is a weak positive correlation.

The respondent's gender and the usage of debit card are found to be significant and the correlation coefficient is estimated as 0.621 which designates that that there is a strong positive correlation between the concerned variables. The correlation between the gender of the respondents and the usage of the credit cards is also found to be significant. Though it is found to be significant the correlation coefficient (0.087) revealed that there is a weak positive correlation between the gender and the usage of credit cards.The association between the respondent's occupation and the usage of debit cards is found to be significant. The derived correlation coefficient 0.759 evidenced that there is a strong positive correlation between the users of debit cards and their occupation. The results of the association between the occupation and usage of credit cards yielded the correlation coefficient of 0.060 which is considered to be weak positive correlation between the concerned variables. The following table - 2

summarizes the correlation between the demographic factors of the respondent and usage of debit and credit cards.

Table – 2: Summary of Correlation Coefficients

	Usage of Debit Card	Usage of Credit Card
Age	Moderate Positive Correlation	Weak Positive Correlation
Education	Moderate Positive Correlation	Weak Positive Correlation
Sex	Strong Positive Correlation	Weak Positive Correlation
Occupation	Strong Positive Correlation	Weak Positive Correlation

Testing of Hypothesis – 2

H2₀: Ease of Use will not have significant effect over Perceived Usefulness.

Simple linear regression analysis is applied to test the hypothetical relationship between ease of use and perceived usefulness. The mean scores of independent variable i.e ease of use is regressed upon the mean scores of dependent variable i.e perceived usefulness. The results are presented in the following table – 3. The SLRA results disclosed that the predictor variable contributes significantly and had considerable impact as it's R^2 is denoted as 0.456. The F-value of the model is found to be 96.550 and the p-value is 0.000, which designates that the model is significant and had the validation with the dependent variable i.e perceive usefulness.

Table - 3 Regression Model Summaries for the Ease of use on Perceived Usefulness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F-Value	df1	df2	Sig.
1	0.676[a]	0.456	0.452	0.55379	96.550	1	115	0.000
a. Predictors: (Constant), Ease of Use								

The following table-5.4 revealed the coefficient summaries of the model. The results disclosed that the beta value of the ease of use is 0.816; t-value is found to be 9.826 and the p-value of the model is 0.000. This phenomenon clearly indicates that the concerned independent variable i.e ease of use is the significant predictor of the dependent variable i.e perceived usefulness. Based on these results we conclude that the null hypothesis of the model is disassociated and the alternative hypothesis is accepted. The regression equation of the model is as follows:

Perceived Usefulness (Y) = 0.381+ 0.816 (Ease of Use) X

Table - 4: Predictor effects and Beta Estimates (Unstandardized) for Perceived Usefulness   associated with the Ease of Use.

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.381	0.342	-	1.114	0.000
	Perceived value	0.816	0.083	0.676	9.826	0.000
a. Dependent Variable: Perceived Usefulness						

Testing of hypothesis – 3

H3$_0$: Relative Advantage will not have significant effect over Perceived Usefulness.

The proposed relationship between relative advantage and perceived usefulness in using the debit and credit cards is analyzed by using the simple linear regression analysis. The mean scores of the independent variable is regressed upon the mean scores of the dependent variable and the concerned results are presented in the following table – 5. The SLRA results evidenced that the predictor variable contributes significantly and had moderate impact with R^2 is 0.341. The F-value of the model is found to be 59.553 and the p-value is 0.000, which designates that the model is significant and had the validation with the dependent variable i.e perceive usefulness.

Table - 5 Regression Model Summaries for the Relative Advantage on Perceived Usefulness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F-Value	df1	df2	Sig.
1	0.584[a]	0.341	0.335	0.60966	59.553	1	115	0.000
a. Predictors: (Constant), Relative Advantage								

The following table-6 disclosed the coefficient summaries of the model. The results elicited that the beta value of the relative advantage is 0.863; t-value is found to be 7.717 and the p-value of the model is 0.000. This phenomenon clearly indicates that the concerned independent variable i.e relative advantage is the significant predictor of the dependent variable. Based on these results we conclude that the null hypothesis of the model is disassociated and the alternative hypothesis is accepted. The regression equation of the model is as follows:

Perceive Usefulness (Y) = 0.205+ 0.863 (Relative Advantage) X

Table - 6: Predictor effects and Beta Estimates (Unstandardized) for Perceived Usefulness   associated with Relative Advantage.

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.205	0.457	-	0.448	0.655
	Relative Advantage	0.863	0.112	0.584	7.717	0.000
a. Dependent Variable: Perceived Usefulness						

Testing of hypothesis – 4

H40: Social Influence will not have significant effect over Perceived Usefulness.

The proposed relationship between social influence and perceived usefulness in using the debit and credit cards is analyzed by using the simple linear regression analysis. The mean scores of the independent variable is regressed upon the mean scores of the dependent variable and the concerned results are presented in the following table – 7. The SLRA results evidenced that the predictor variable contributes significantly and had low impact with R^2 is 0.097. The F-value of the model is found to be 12.399 and the p-value is 0.000, which designates that the model is significant and had the validation

with the dependent variable i.e perceive usefulness.

Table - 7 Regression Model Summaries for the Social Influence on Perceived Usefulness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F-Value	df1	df2	Sig.
1	0.312[a]	0.097	0.089	0.71363	12.399	1	115	0.000
a. Predictors: (Constant), Social Influence								

The following table-8 disclosed the coefficient summaries of the model. The results elicited that the beta value of the social influence is 0.506; t-value is found to be 3.521 and the p-value of the model is 0.001. This phenomenon clearly indicates that the concerned independent variable i.e social influence is the significant predictor of the dependent variable. Based on these results we conclude that the null hypothesis of the model is disassociated and the alternative hypothesis is accepted. The regression equation of the model is as follows:

Perceive Usefulness (Y) = 1.581+ 0.506 (Social Influence) X

Table - 8: Predictor effects and Beta Estimates (Unstandardized) for Perceived Usefulness   associated with Social Influence.

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.581	0.606	-	2.609	0.010
	Social Influence	0.506	0.144	0.312	3.521	0.001
a. Dependent Variable: Perceived Usefulness						

Testing of hypothesis – 5

H5$_0$: Perceived Risk will not have significant effect over Perceived Usefulness.

The proposed relationship between perceived risk and perceived usefulness in using the debit and credit cards is analyzed by using the simple linear regression analysis. The mean scores of the independent variable is regressed upon the mean scores of the dependent variable and the concerned results are presented in the following table – 9. The SLRA results evidenced that the predictor variable contributes significantly and had low impact with R^2 is 0.061. The F-value of the model is found to be 7.428 and the p-value is 0.000, which designates that the model is significant and had the validation with the dependent variable i.e perceive usefulness.

Table - 9 Regression Model Summaries for the Perceived Risk on Perceived Usefulness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F-Value	df1	df2	Sig.
1	0.246[a]	0.061	0.053	0.72797	7.428	1	115	0.000
a. Predictors: (Constant), Perceived Risk								

The following table-10 disclosed the coefficient summaries of the model. The results elicited that the beta value of the perceived risk is 0.326; t-value is found to be -2.725 and the p-value of the model is 0.007. This phenomenon clearly indicates that the concerned independent variable i.e social perceived risk is the significant predictor of the dependent variable. Based on these results we conclude that the null hypothesis of the model is disassociated and the alternative hypothesis is accepted. The regression equation of the model is as follows:

Perceive Usefulness (Y) = 2.304 - 0.326 (Perceived Risk) X

Table - 10: Predictor effects and Beta Estimates (Unstandardized) for Perceived Usefulness   associated with Perceived Risk.

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.304	0.518	-	4.452	0.000
	Perceived Risk	-0.326	0.120	0.246	-2.725	0.007
a. Dependent Variable: Perceived Risk						

4. Conclusion:

Majority of the respondents of the study i.e 65 % are using the debit cards more than three years of tenure. Among the credit card holders 63 % of the respondents using the credit cards below three years of tenure. This scenario explained clearly that the periodicity of the usage of debit cards is more when compared to the credit cards usage among the Indian paying card users.The results indicated that irrespective of the location they are living (Urban, Semi – Urban, Rural) customers are using the debit card in equal proportions. With this we can understand the penetration of the banking is in high phase.When compared to the usage of debit card, the usage of credit card recorded the low proportions in the entire areas i.e urban, semi – urban and rural. This phenomenon clearly indicates that there is some vacuum is there in the Indian market for the growth of Credit card marketing. The results elicited that irrespective of the type of the banks i.e public sector, private sector and co-operative, majority of the customers are using the debit cards for the transactions.The research findings of the study disclosed that the private banks are ahead in issuing the credit cards to their customers when compared to public sector and co-operative banks. The respondents of the study opinioned that the co-operative banks have to develop certain strategies to enhance their credit card marketing.Majority of the debit card holders opinioned that they have been using the cards for the on-line purchase and then using at POS. Surprisingly the results are same even for the consumption of credit card also.The never used debit card percentage is recorded as 5.8 percent only in the usage of debit cards. This indicates that the rest of the customers are using the debit card comfortably. In the context of using the credit card, the never used percentage is appeared to be 40.8. This scenario prompt that there is a need to provide the orientation among the customers to use the credit cards.The paying card holders in India are feeling ease to use both the debit and credit cards as the regression statistics derived a moderate variation in the proposed model of the study. This situation

depicts that the card holders are quite comfortable in usage of paying cards in India.

The bank customers are well known about the usage of debit and credit cards as they have an opinion that the usage of the cards is advantage than to attain the physical bank transactions.

The role of social influence is recorded very low variation in the model, which designates that the Indian card holders don't have any impact by the third party. It is clearly indicating that the customers have self-efficacy while using the debit and credit cards.The card holders in India evidenced for the low perceived risk factor while using the debit and credit cards. The statistic results also supported with low variation in the model. This is clearly indicating that the customers are believing the security standards of the Indian banking and are using their debit and credit cards abundantly.With respect to the perceived usefulness of the debit and credit cards, all the independent variables are significantly associated. Though there might be changes in the variation levels all the variables are considered to be aligned with the perceived usefulness.Finally, we conclude that the debit card activities are pretty good with respect to various demographic factors such as age, gender, education and occupation when compared to the credit cards usage.

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