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PERCEPTIONS ABOUT CREDIT CARDS

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Abstract *The present study seeks to identify the motivating factors of the respondents for using credit cards and to report the problems they are exposed to. Based on a pre-tested interview-schedule, with a sample size of 156 respondents, the empirical results have indicated principal and secondary benefits as influencing factors; and a significant relationship has been established between the demographics, impulsive & compulsive buying, and associated problems in accessing credit cards. Policy implications are derived, future research directions have indicated and it acknowledges few limitations.*

Keyword: *Survey, Credit Card, Inferential Statistics*

JEL Classification: *C83, C88, G02, Y10*

INTRODUCTION

Credit cards serve multiple purposes - payment option, a source of revolving credit, and a user friendly mode of payment (Lee & Hogarth, 1999; Starvins, 2000; Kaynak & Harcar, 2001; Bernthal, Crockett, & Rose, 2005). Since customers prefer to use plastic cards for payments instead of cash and cheques (Borzekowski, Elizabeth, & Ahmed, 2006; Courtless, 1993; Heck, 1987; Hirschman, 1981; Yeo, 1990), the popularity of credit cards has continued to rise worldwide. This is evidenced by the increased number of credit cards in circulation in many countries and economists prefer to work on it (Agarwal, Chomsisengphet, & Liu, 2010). Online and off-line shopping are common activities of everyday life (Baker, 2006) and the relevance of credit cards, both as a payment and short-term financing medium to today's consumers, is non-debatable (Chakravorti & Emmons, 2001; Hayhoe, Leach, Turner, Bruin, & Lawrence, 2000). Credit cards serve dual functions - a payment option and a source of credit (Ausubel, 1991; Chakravorti, 1997, 2000; Chakravorti & Emmons, 2001; Slocum & Matthews, 1970; Stavins, 2000). On the basis of use credit cards are divided into as convenience users and revolvers (Lee & Hogarth, 1999). While the former tend to employ credit cards as an easy mode of payment and to typically pay their balance in full up on receiving the account statement, the latter use the card usually as a mode of financing for payment of equated monthly instalment (EMI). Credit cards, serves the purpose of emergency requirements and provide financial support (Davies & Lea, 1995; Lyons, 2004).

The literature indicates that a number of studies have been carried out on different dimensions of credit cards-like use (FINRA, 2009; Jones, Loibl, & Tennyson, 2012; Jiang & Dunn, 2013), reforms (Simkovic, 2009; Jones *et al*. 2012), impact on bankruptcy (Domowitz & Sartain, 1999; Pen ˜aloza & Barnhart, 2011; Zhu, 2011), valuation of loans and their asset-backed securities (Chang, Ho, & Lee, 2010); price (Ausubel, 1991; Calem & Mester, 1995; Parlour & Rajan, 2001; Nazareno, 2008; Agarwal *et al*. 2010; Jiang & Dunn, 2013), market (Ausubel, 1991; Calem & Mester, 1995; Stango, 2002; Berlin & Mester, 2004; Calem, Gordy, & Mester, 2006; Agarwal *et al*. 2010); the link between credit card debt and psychological well-being (Starobin, Hagedorna, Purnamasaria, & Chen, 2013) and depression (Berger, Collins, & Cuesta, 2013). But literature is scant on perception analysis of the credit card users especially in India in general and at Agartala in particular. Here lies a gap in the existing body of knowledge and this paper is an attempt to bridge that gap by contributing in the literature. The study is confined to the randomly selected credit card users of Agartala due to parsimony and time constraint.

The present study contributes to the literature in at least four ways. *Firstly*, the results of inferential statistics indicate that demographics positively impact the use of credit cards. It does not find any association between gender and the use of credit cards and contradicts the earlier studies of female preference in use (Hayhoe *et al*. 2000; Kaynak & Harcar, 2001). It supports the literature of positive correlation with age (Delener & Herbert, 1994; Heck, 1987) and majority of middle aged users (Abdul-Muhmin, 2008), but contradicts with the negative association (Adcock, Hirschman, & Goldstucker, 1977; Wasberg, Hira, & Fanslow, 1992) and young aged customers (Williams, 2004). It is in the same tune about the positive associations with marital status (Themba & Tumedi, 2012; Ahmed, Ismail, Sohail, Tabsh, & Alias, 2010), income level (Barker & Sekerkaya, 1992; Kaynak & Harcar, 2001), education level (Canner & Cyrnak, 1985; Heck, 1984) and financial literacy (Kim, Dunn, & Mumy,

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2005; Robb, 2011; Shim, Xiao, Barber, & Lyons, 2009). *Secondly*, the results correlate with literature in the use of cards for compulsive buying (O'Guinn & Faber, 1989; Hanley & Wilhelm, 1992; Roberts, 1998) and for impulsive buying (Strayhorn, 2002; Raghubir & Srivastava, 2008); also documented more use in impulsive buying. Thirdly, the findings support the literature of freedom from instant payment by using cards (Hirschman, 1981; Yeo, 1990) as a source of revolving credit (Kaynak & Harcar, 2001; Bernthal *et al*. 2005). Additionally, the present study pointed out features like greater network benefits, favourable credit limits, reward points and convenience during travelling also influence the credit card choices and uses. Finally, the results show that majority of the users encounter puzzles in accessing the cards, as reported in the literature like high credit cost, (Agarwal *et al*. 2010; Jiang & Dunn, 2013), switching costs (Chen, 1997; Zywicki, 2000). Moreover, the results pointed out inconveniences caused to the users in regard to hidden charges, exorbitant charges for exceeding credit limits and late payment, provision of caution deposits, and slower complaint redressal process.

The study has taken twin objectives, i.e. to spot the motivating factors of using credit card services and to report the problems they are exposed to in accessing the services in Agartala.

The next Section, literature review, explains the theoretical framework based on which the research hypotheses have framed and research paradigm is build. The research methods are discussed in third Section followed by the results of the study in fourth Section. Discussion of the results is offered in fifth Section and the conclusions of the study are incorporated in sixth Section.

RELATED LITERATURE, HYPOTHESES CONSTRUCTION & RESEARCH PARADIGM

The prior studies are reviewed to construct the theoretical framework, based on which hypotheses and pertinent items of the schedule have developed.

Demographics & Use of Credit Cards

Gender

Women have been found to use credit cards more for household goods, clothing and personal belongings than men (Lindley *et al*. 1989; Hayhoe *et al*. 2000; Kaynak & Harcar, 2001) and even female college students (Lyons, 2008). Few studies have reported that male students tend to show more positive attitude than female students (Xiao, Noring, & Anderson, 1995; Lachance & Legault, 2007) but no such difference in use has been shown based on gender (Joo, Grable, & Bagwell, 2003; Borden, Lee, Serido, & Collins, 2008).

Age

Studies are skewed regarding the relationship between age and use of credit cards e.g., negative relations (Adcock *et al*. 1977; Awh & Waters, 1974; Danes & Hira, 1990; Wasberg *et al*. 1992), having a positive association (Delener & Herbert, 1994; Heck, 1987), used extensively by middle-aged persons (Barker & Sekerkaya, 1992; Kaynak & Harcar, 2001; Abdul-Muhmin, 2008), and younger customers (Williams, 2004; Sumarwan & Hira, 1993).

Martial Status

Marital status has been found to be significant in determining consumers' use of credit cards and store cards (Kibria, 1993; Delener & Herbert, 1994; Kaynak & Harcar, 2001; Abdul-Muhmin & Umar, 2007; Gan, Maysami, & Koh, 2008; Wickramsinghe & Gurugamage, 2009; Ahmed *et al*. 2010; Wang, Lu, & Malhotra, 2011; Khare, Khare, & Singh, 2012; Themba & Tumedi, 2012).

Income Level

Income has been found to have a positive effect on credit card use (Kinsey, 1981; Heck, 1984; Barker & Sekerkaya, 1992; Kaynak & Harcar, 2001; Castellani & DeVaney, 2001; Chien & DeVaney, 2001). Cardholders with low income and socio-economic status use it to generate revolving credits with instalment feature (Mathews & Slocum, 1969; Bowers, 1979; Slocum & Mathews, 1970).

Education Level

Higher level of education is positively associated with credit card use (Adcock *et al*. 1977; Awh & Waters, 1974; Canner 1987; Canner & Cyrnak, 1985; Heck, 1984).

Financial Literacy

Financial literacy reflects an individual's knowledge and familiarity with financial matters (Hilgert & Hogarth, 2003; Fonseca, Mullen, Zamarro, & Zissmopoulos, 2012). Literacyon personal finance may result in more efficient use of credit cards (Feinberg, 1986; d'Astous & Miquelon, 1991; Berlin & Mester, 2004; Kim *et al*. 2005). Higher financial knowledge translated to positive behavioural outcomes like less risky use of credit cards (Robb, 2011; Shim *et al*. 2009). So, the first hypothesis is set as:

H_{01}: Demographics do not impact the use of credit cards.

H_{A1}: Demographics influence the use of credit cards.

Buying Behaviour and Credit Cards

Compulsive Buying

Compulsive buying is defined as 'chronic, repetitive purchasing that becomes a primary response to negative events or feelings' (O'Guinn & Faber, 1989). A compulsive buyer is an individual who experiences and routinely acts on powerful, uncontrollable urges to purchase (Edwards, 1993; Goldsmith & McElroy, 2000). Compulsive buyers are likely to have more credit cards and use these cards frequently (O'Guinn & Faber, 1989; Hanley & Wilhelm, 1992; Roberts, 1998).

Impulsive Buying

Impulse buying occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately (Beatty & Ferrell, 1998). People tend to spend more and act on impulse when they use credit cards than cash payment (Rook & Fisher, 1995; Baumeister, 2002; Strayhorn, 2002; Monger & Feinberg, 1997; Prelec & Simester, 2001; Raghubir & Srivastava, 2008). Thus, the study hypothesizes that:

H_{02}: Compulsive & Impulsive buying does not impact the use of credit cards.

H_{A2}: Compulsive & Impulsive buying influences the use of credit cards.

Unique Features and Credit Cards

Credit cards are used as a means of payment and a source of credit (Ausubel, 1991; Chakravorti, 1997; 2000; Chakravorti & Emmons, 2001; Slocum & Matthews, 1970; Stavins, 2000); a substitute for cash, cheques, and bank cards (Courtless, 1993; Heck, 1987; Hirschman 1981; Yeo, 1990); a source of revolving credit and a lifestyle-facilitating technology (Lee & Hogarth, 1999; Starvins, 2000; Kaynak & Harcar, 2001; Bernthal *et al*. 2005); to manage the exigencies (Davies & Lea, 1995; Lyons, 2004). So, the hypothesis is framed as:
H_{03}: Unique features do not impact the use of credit cards.

H_{A3}: Unique features influence the use of credit cards.

Puzzles and Credit Cards

A number of studies have indicated the high price of use of credit cards (Ausubel, 1991; Calem & Mester, 1995; Parlour & Rajan, 2001; Nazareno, 2008; Agarwal *et al*. 2010; Jiang & Dunn, 2013); high switching costs (Chen, 1997; Zywicki, 2000; Calem & Mester, 1995); psychological costs associated with high debt (Norvilitis & Santa Maria, 2002; Roberts & Jones, 2001; Holub, 2002; Parks-Yancy, DiTomaso, & Post, 2007) create problems to the users. Thus, it hypothesizes that:

H_{04}: Puzzles do not impact the use of credit cards.

H_{A4}: Puzzles influences the use of credit cards.

Research Paradigm

Research paradigm is the overall world views of the research problem i.e., the perceptions of the users of credit cards.

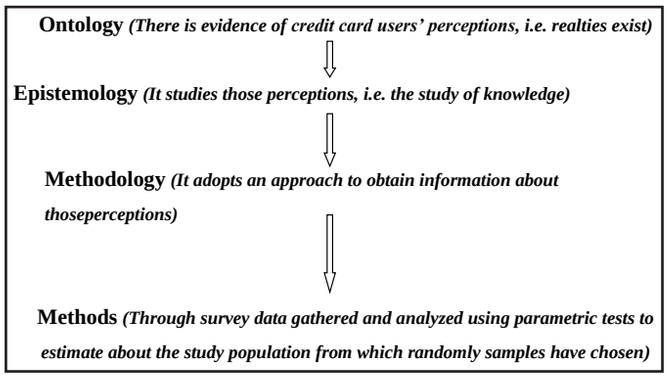

Fig. 1: Research Paradigm

RESEARCH METHODS

Research methods refer to the data gathering and analysis techniques. This section is divided into following sub-heads.

Research Design

Cross-sectional research design is used in this study to assess the perceptions of credit card users of Agartala as it is carried out at a particular point of time (during January-June, 2015). Survey approach is used as the study intends to unearth the broader view of the situation (Fisher, 2007) with quantitative descriptions (Pinsonneault & Kraemer, 1993; Groves, Fowler, Couper, Lepkowski, Singer, & Tourangeau, 2004).

Schedule Development

An interview-schedule is used as a tool to data collection since people are reluctant to share the questions that invade their 'personal finances' or financial behaviour (Churchill, 2001; Malhotra, 2005). The items in the schedule are developed in the following way:

Firstly, the Tripura University's digital library sources have been searched especially the academic journals of prominent publishers with the specific keywords such as credit cards, credit cards and financial literacy, gender, students, income level, impulsive buying, frauds. Subsequently 112 relevant papers were downloaded. Thereafter the papers have been extensively reviewed to generate a 60-items inventory.

Secondly, protocol interviews, as suggested by Diamantopoulos, Reynolds, and Schlegelmilch (1994) have been conducted with five experts to carefully assess their understanding of the items and doubts are clarified as per their suggestions based on mean results which have been fixed as three for each items of the questionnaire. The outcome of these interviews has filtered the items to 55 for carrying out the pilot study.

Thirdly, a pre-test is carried out with randomly chosen 30 respondents as suggested by Zikmund & Babin (2012) to check for clarity of items, relevance and completeness. The outcome of pre-test reduces the item to 50 for the final survey.

Finally, the survey is carried out with 50-item interview-schedule in Agartala.

Sampling Design

The study has assumed all the credit card users of Agartala as the study population as it is difficult to know the exact number of users, the sampling frame cannot fixed. The state of Tripura is divided into eight districts and since the capital city Agartala is situated in West Tripura district, it has been assumed that the number of credit card users is highest in Agartala. The researcher approached randomly selected 180 such customers to participate voluntarily in the study of which 156 respondents have given their nod; hence the eventual sample size is reduced to 156 customers (134 men and 22 women). The samples have been chosen from fifteen areas of Agartala with Roscoe's (1975) rule of thumb, which suggests that taking any sample between 30 and 500 is adequate; also recommended by Tabachnick & Fidell, (2013); MacCallum, Widaman, Zhang, and Hong (1999).

Data Collection Design

Primary Data

An interview-schedule along with a cover letter, as suggested by Dillman (1978) is used in the survey. A close ended pre-coded schedule with a 5-point interval Likert scale ranging from strongly disagree (1) to strongly agree (5) is used. Fixed alternative items are used as it is easier for the respondents to answer and enables comparability of answers; it also facilitates coding, tabulation, and interpretation of data. The respondents are requested to fill up the items of the schedule carefully and doubts have been clarified whenever requested and they are assured about maintaining anonymity (Jobber, 1985; Oppenheim, 1992). In order to minimise the risk of non-comprehension and ambiguity problems, definitions of key concepts and jargons have been made available to them especially the questions being translated into Bengali for their easy understanding; as suggested by Peytchev, Conrad, Couper, and Tourangeau (2010).

Secondary Data

Secondary data are collected from academic journals, books, theses, conference proceedings, magazines, business newspapers and websites.

Variables

The variables of the study are categorised as predictors which include selective demographic factors, compulsive & impulsive buying, puzzles in use, and the unique features of credit cards; the outcome - use of credit cards, and the confounding - influence of referral group members.

Statistical Power & Significance Level

To test the hypotheses the study assumes the significance level (α) as 5%. The Statistical Power analysis is carried out using G*3 software and the results document that the power is 82 percent; exceeding the conventional threshold limit of 80 percent as suggested by Cohen (1988).

Data Analysis Strategy

The data collected through schedule have further been processed by using IBM SPSS-20. Research questions are addressed either through simple descriptive statistics (means, modes and standard deviations) or through inferential statistics (cross tabulations, correlation analysis, regression analysis).

Choice and Rationality of Tests

The objectives for using different inferential statistics to tests the hypotheses are summarised in Tables 1 and 2.

Table 1: Objectives for using Different Inferential Statistics

Tests	Measurement	Variables				Purposes	Null Hypotheses
		Predictors	No.	Outcome	No.		
Cross Tabulation	Nominal (Categorical)	Demographics	6	Credit card use	1	To know the relationships among two or more of the variables.	H_{01}
Forced Entry Regression	Interval	Compulsive & Impulsive buying	2	Credit card use	1	To predict the impact of two predictors on one outcome.	H_{02}
Pearson's Correlation	Nominal	Unique Features	1	Credit card use	1	To measure relationships between two variables- predictor and an outcome.	H_{03}
Simple Regression	Interval	Puzzles	1	Credit card use	1	To predict the impact of a predictor on one outcome.	H_{04}

Table 2: Rationale for Statistical Tests

Tests	Type	Rationale
Cross Tabulation	Joint Probability Distribution	Random Sample, Independent Observations, Mutually exclusive row and column variable categories that include all observations, Large expected frequencies.
Forced Entry Regression	Parametric	Interval Data, linearly related, Sample size (n)>30, Sampling distribution is multivariate normally distributed, Homogeneity of variance.
Pearson's Correlation	Parametric	Linearly related, Sample size (n)>30, Sampling distribution is bivariate and normally distributed.
Simple Regression	Parametric	Interval Data, linearly related, Sample size (n)>30, Sampling distribution is bivariate and normally distributed, Homogeneity of variance.

Instrument Validation

The statistical tests provide different types of validities such as internal (based on findings), construct (the items has measured hypotheses), content (items has been able to measure the research questions), concurrent (results correlate with prior researches), and conclusion (generalisation of findings is possible based on statistical evidence). To counter the internal validity threats, the respondents are selected randomly (selection threat), separately (diffusion treatment threat), judiciously (regression threat), controlled the variables (history threat). The external validity threats are controlled by restricting the results for its generalisation to those beyond study groups, settings and history (threats of selection, new settings treatment and history).

RESULTS

Descriptive Statistics

Descriptive statistics is used to summarise the information about the samples. The study has revealed that majority of the respondents are men (85.9 percent), Hindus (94.2 percent), general (76.3 percent), having education up to graduation (37.2 percent), married (72 percent), in their middle age (30.8 percent), service holders (49.4 percent), monthly income INR 0.02 million and above (39.1 percent), monthly expenditure using credit cards range between INR 0.005-0.015 million (79.5 percent), having credit cards with SBI (63.5 percent), using more than one credit cards (62.8 percent) and influenced by salesmen (79.5 percent).

With respect to principal unique features, mean values indicate that respondents conceptualise the prime benefits (Average Mean=4.18, S. D. =.62), excluding the reversed score item 'withdrawal of money against the credit limit.' In the second factor secondary unique features, mean values document that respondents agreed about the additional benefits of using credit cards (Average Mean=4.07, S. D. =0.79). Mean score for items ranged from 4.01 to 4.14. In the third factor compulsive buying, mean values suggest that respondents agreed about the use of cards in compulsory purchases (Average Mean=4.13, S. D. =.65). Mean score for items ranged from 4.05 to 4.23. The mean scores of fourth factor impulsive buying, indicates that respondents agreed about their impulsive shopping through credit cards (Average Mean=4.37, S. D. =.90). Mean score for items ranged from 4.15 to 4.76. The mean scores of fifth factor puzzles in using credit cards report that respondents have highlighted the problems of accessing credit cards (Average Mean=3.93, S. D. =.72). Mean score for items ranged from 4.07 to 4.36 excluding the reversed score items 'Customer lock-in can be

exploited by charging higher prices' and 'minimum payment amount might also be used to attenuate adverse selection'.

Factor Analysis

A total of 156 respondents have been asked questions on 34 key items,the reliability of which is checked using Cronbach's alpha, which stands at .813. Cronbach's alpha is used to assess the degree of consistency between multiple measurements of a variable (Hair, Black, Anderson, & Tatham, 2005). The Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy (MSA) is a statistic that indicates proportion of variance in variables that may be caused by underlying factors value .734, exceeding the recommended value of 0.6 pointing out data adequacy for factor analysis (Kaiser & Rice, 1974). The overall significance of correlation metrics is tested with Bartlett Test of Sphericity (approx. Chi square =1264.268 and significant at .000) provides as well as supports for validity of the factor analysis of the data set. A small value less than .05 of significance level has been recommended suitable for the study (Kline, 1994).

Table 3: Factors Extracted through PCA

(Factors: Principal Unique Features, Secondary Unique Features, Compulsive Buying, Impulsive Buying, Puzzles in using cards)

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.840	18.689	18.689	4.840	18.689	18.689	3.922	16.077	16.077
2	3.381	16.221	34.910	3.381	16.221	34.910	3.581	13.999	30.076
3	2.255	14.114	49.024	2.255	14.114	49.024	2.487	11.577	41.653
4	2.004	13.991	63.015	2.004	13.991	63.015	2.116	9.296	50.949
5	1.567	12.589	75.604	1.567	12.589	75.604	2.991	7.864	58.813

From Table 3, the Eigen values have been computed by using PCA method. Five factors having Eigen values exceeding 1, which explains nearly 76 percent of the total variables are considered for the study. This percentage of the variance is regarded as sufficient to represent the data (Pett, Lackey, & Sullivan, 2003). Single item factors are also excluded from the analysis from the standpoint of parsimony (Lawson-Body, Willoughby & Logossah, 2010). Varimax rotation, which tries to maximise the variance of each of the factors amongst the extracted factors, is used in this study.

Inferential Statistics

Inferential statistics implies the numerical techniques used for drawing inferences about the study population based on the randomly drawn samples.

Cross Tabulations

To know the relationships between demographics and use of credit cards cross tabulations and Chi-square tests are carried out. The findings obtained are shown in Table 4.

Table 4: Summary Results of Cross Tabulations*

Variables		***Results***		
Demographics (Predictors)	**Use of Credit Cards (Outcome)**	**Pearson Chi-Square value**	**Likelihood Ratio**	**Significance Value****
Gender	Use of Credit Cards	32.546	45.128	.000
Age	Use of Credit Cards	29.805	42.825	.000
Marital Status	Use of Credit Cards	27.872	38.093	.000
Levels of Income	Use of Credit Cards	28.096	36.956	.000
Levels of Education	Use of Credit Cards	25.981	37.876	.000
Financial Literacy	Use of Credit Cards	26.874	33.873	.000
*Authors' calculations,**p<.05				

The respondents' demographics and use of credit cards have been tested using cross tabulations and in all the tests significant results have been produced between the variables; providing support to reject H_{01}.

Regression Analysis

To predict how well the puzzles, compulsive & impulsive buying affect the use of credit cards, the study has run simple and multiple regression methods. The results are presented in Table 5.

Table 5: Model Summary[c]

Model	R	R^2	Adjusted R^2	Standard error of estimate	Change Statistics					Durbin-Watson
					R^2 Change	F Change	df1	df2	Sig. F Change	
1	.623[a]	.455	.448	63.22	.335	77.57	1	154	.000	
2	.804[b]	.963	.969	49.45	.329	56.30	3	152	.000	1.957
a. Predictor: (Constant),Compulsive buying b. Predictor: (Constant), Compulsive buying, Impulsive buying c. Use of credit cards										

From Table 5, Model 1 refers to the first stage when only compulsive buying is used as predictor. Model 2 refers to when both the predictors are used. The column labelled R is the values of the multiple correlation coefficients between the variables. When first predator is used, it implies the simple correlation coefficients between predictor and outcome (.623). The next column R^2 shows the portion of variability in the outcome by the predictors. For Model 1 its value is .455, which implies that compulsive buying accounts for 45.5 percent of the variation in the use of credit cards. However, when the other predictor is included (Model 2), this value increases to 96.3 percent. So, if compulsive buying accounts for only 45.5 percent, we can conclude the impulsive buying of using credit cards account for an additional 50.7 (96.3 - 45.5) percent. The adjusted R^2 provides idea of how well our model generalises and ideally the study would like its value to be the same or very close to R^2 (.06 percent). In the change statistics, the significance of R^2 is tested using F-ratio. Model 1 causes R^2 changes from 0 to .335 and this change in the amount of variance explained gives rise to an F-ratio of 77.57, which is significant with a probability less than .001[since it has one predictor(k) and sample size=156].

The addition of new predictor (Model 2) causes R^2 to increase by .329. Using $R^2_{change,}$ $k_{change=}$ 3-1=2,the F_{change} calculated as 56.30, which is again significant (p<.001). This change indicates about the difference made by adding new predictor in Model 2. The Durbin-Watson statistic shows whether the assumption of independent errors is tenable and in the model it stands as 1.957, which is close to 2 that the assumption has certainly met.

Table 6 reports the analysis of variance (ANOVA) that tests whether the model is significantly better at predicting the outcome. For Model 1 the F-ratio is 70.22, which is very unlikely to have happened by chance (p<.001). For the second model, the value of F is increased to 70.83, which is also highly significant (p<.001). It can be concluded that Model 1 significantly improved the ability to predict the outcome, but Model 2 (with additional predictor) is even better (as the F-ratio is more significant) and likely supports to reject H_{02}.

Table 6: ANOVA[c] Results

Model	Sum of Squares (SS)	d. f.	Mean Square [SS/d. f.]	F(MS_M/ MS_R)	Sig.
Regression	403861.295	1	403861.295		
Model 1Residual	885680.673	154	5751.173	70.22	.000*
Total	1289541.968	155			
Regression	1231438.983	2	615719.491		
Model 2Residual	847521.563	153	5539.356	70.83	.000*
Total	2078960.546	155			
a. Predictor: (Constant), Compulsive buying b. Predictor:(Constant), Compulsive buying, Impulsive buying c. Use of credit cards					

Table 7: Model Summaries and ANOVA for Puzzles of Credit Card Use

Model	R	R^2	Adjusted R^2	Standard error of estimate	F	Sig.
1	.807	.792	.783	.720	76.65	.000*
Notes: Predictor: (Constant):Use of credit cards*p<.05						

From Table 7, the value of R represents the simple correlation between the predictor and the outcome. The value of R^2 which refers to the proportion of variance in the outcome that can be explained by the predictor is .792, which indicates that puzzles caused to customers explain 79.2 percent of the variation in use of credit cards. The adjusted R^2 is an adjustment of R^2 that penalizes the addition of extraneous predictors to the model and indicates the fitness of a model. In this model the value of adjusted R^2 is .783, which is close to the value of R^2 .792, thus indicating the fitness of the model. The standard error of the estimate is .720 which signifies that the value is good enough to imply reliable prediction of the model. The value of F is 76.65, with a significance level of ($p<0.05$) which indicates that the model is statistically significant.

Table 8: ANOVA[b] Results

Model	Sum of Squares (SS)	d. f.	Mean Square (MS) [SS/d. f.]	F	Sig.
Regression Residual Total	417459.761 1002765.129 1420224.89	1 154 155	417459.761 6511.461 9162.74	97.654	.000*
[b.] Outcome: Use of credit cards					

Table 8 shows the output of analysis of variance (ANOVA), which indicates whether this model provides any significantly better result in predicting the outcome than using the mean value. The summary table shows the various sums of squares and the degrees of freedom. The average sums of squares (the mean squares) are calculated by dividing the sums of squares by the degrees of freedom. The F-ratio is computed as 97.654, which stands as significant at $p<.05$ and the model result as [F (1, 154) = 417459.761, p=.000]. Based on this the study concludes that the regression model overall predicts the use of credit cards significantly well and likely it get support to reject H_{04}.

Pearson Correlation Analysis

Table 9: Correlations of Unique Features with Use of Credit Cards

	r
Unique Features	.014*
*p<.05	

On the basis of correlation analysis (Table 9) between the unique features with use of credit cards it has been found that they have significant relationship ($r = .014$, $p<.05$). It is likely that the predictor extracted is significant indicator of use of credit cards and provides support to reject H_{03} i.e., the research hypothesis is likely to be accepted.

DISCUSSION

PCA has identified five underlying constructs which explain perceptions of credit card users. Table 10 presents the summary of the Reliability & Descriptive Statistical Measurement.

Table 10: Summary Results of Reliability & Descriptive Statistical Measurement

Factors	No. of Items	Cronbach's Alpha	Mean	S. D.
Principal Unique Features	6	. 89	4.18	.62
Secondary Unique Features	4	.93	4.07	.79
Compulsive Buying	4	.88	4.13	.65
Impulsive Buying	3	.84	4.37	.90
Puzzles in using cards	8	.78	3.93	.72

The hypotheses of the study are tested and inferences are taken. The association (i.e. different from no relationship) between demographics of the respondents and their perceptions regarding the use of credit cards has been tested using cross tabulations and the outcome documents that it has statistical significance hence likely to reject H_{01}. To test whether impulsive & compulsive buying has any influence on uses of credit cards, Stepwise Backward regression analysis has conducted and the significant results suggest likely rejecting the H_{02}. To assess the strength of a relationship between predictor and an outcome, the third hypothesis has been tested using Pearson's Correlation and the result documents that it has statistical significance; hence the study is likely to reject H_{03}. To test whether puzzles has any influence on credit card use, the simple regression analysis has been conducted and the significant result indicates to likely reject the H_{04}. So, the study is likely to accept all the research hypotheses.

CONCLUSION

The purpose of this study is to document the various motivating factors of using credit card services and to report the problems they are exposed to in accessing the services in Agartala. Through interview schedule perceptions of 156 respondents are collected which were subsequently

processed using SPSS-20. The schedule is tested for validity by protocol interviews and pre-test followed by the reliability test (Cronbach's Alpha) and sample adequacy test (KMO and Bartlett's Test of Sphericity). The data dimension test (Factor analysis) extracts five factors viz. Principal Unique Features, Secondary Unique Features, Compulsive buying, Impulsive buying and Puzzles in using cards. The hypotheses have been tested using different parametric tests and based on the results it likely gets evidence to reject all of them, or in other words, the research hypotheses are found to be true.

The study acknowledges few of its limitations. Firstly, survey respondents may not be representative of the entire credit card users of Agartala. Secondly, the application of interview-schedule and hence the cause-effect of credit card pricing (interest payment) and their returns (benefits) cannot be established. Thirdly, in the line of the objectives, use of credit cards has only been taken as the outcome variable and other variables are excluded from the scope of the study, which limits the generalisation of the findings. Fourthly, the sample size taken is low due to parsimony and time constraint may again be the shortcomings of the study to generalize the findings. Fifthly, the statistical techniques applied for data analysis has their inherent limitations, which may reduce the statistical power while drawing inferences. Finally, the survey has to rely on the integrity of respondents, which may not be entirely unbiased.

The results obtained from the study have practical implications for existing and potential credit card users of Agartala as well as from different parts of the world. The motivational forces may also attract the potential users to choose appropriate type of credit card with a proper due diligence by considering the problems indicated from the outcome of the study. The service providers may also take note of the findings especially the problems highlighted by the respondents for their quick and permanent robust solution to increase their customer base. These findings indicate a number of issues which need to be addressed to retain the customers; as tapping new customers is much more costly than serving the existing one (Reich held, 1996). Further, the management of the banks and financial institutions should realise the fact that customer satisfaction is a key consequence of service quality and can determine the long term success as these are service organisations (Parsuraman, Zeithaml & Berry, 1994).

Researches in future may be endeavoured by collecting samples from all the districts of Tripura using databases from banks. Further, comparative studies may also be carried out between men and women, rural and urban customers across cities, districts and states. Due to time and resource constraints only few variables have been considered in the present study and in future the research agenda may incorporate additional variables, may take service providers as sample in cause and effect analyses.

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SCHEDULE

Note: The schedule has four sections, namely A, B, C and D. For each section the response style is mentioned at the beginning. You are requested to follow the response style and mark your response category accordingly.

SECTION - A

General Profile of the Respondents

(Please put tick mark in the applicable box)

1. Name of the Respondent :
2. Date of Birth (DD/MM/YYYY) :
3. Contact No. :
4. E-Mail ID (If any) :
5. Gender : Male ☐ Female ☐
6. Marital Status : Single Married ☐ Divorcee ☐
7. Age Group :
   - 18 - 25 years ☐
   - 26 - 35 years ☐
   - 36 - 45 years ☐
   - 46 - 65 years ☐
   - 66 and above ☐
8. Educational Qualification :
   - Under Matriculation ☐
   - Higher Secondary ☐
   - Graduate ☐
   - Post-Graduate ☐
9. Religion :
   - Hinduism ☐
   - Muslim ☐
   - Christian ☐

Buddhism

Other

Caste: General ☐ SC ☐ ST ☐ OBC ☐

11. Occupation : Student ☐

Business ☐

Service ☐

Others ☐

12. Do you have any Credit Card : Yes ☐

No ☐

13. In which Bank you have Account : SBI ☐

ICICI ☐

AXIS ☐

Others ☐

14. Influencer to take Credit card : Family ☐

Other ☐

Advertisement ☐

15. Monthly income :Less than INR 10,000 ☐

INR 10,001-15,000 ☐

INR 15,001-20,000 ☐

INR 20,001 and above ☐

16. Monthly Amount of Expenditure done by Credit Card :

Less than INR 5,000 ☐

INR 5,001-15,000 ☐

INR 15,001 and above ☐

SECTION - B

Motivating Factors for Accessing Credit Cards

Please read each of the statement carefully and indicate your level of agreement or disagreement that you think is the best describing your perception about the motivating factors for using Credit card. Indicate your response by changing the response category into 5-Point Likert scale as: **1= Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree** and put your response in this scale in the given box.

Statements	Response
Credit cards do not require any pin code and it differs from debit card.	
Credit cards have a variety of characteristics from which customers can choose.	
Credit card gives freedom from instant payment liability.	
Credit card is relatively better paying option rather than Debit card.	
Credit card gives you reward points, cash back offers, gift vouchers.	
During travelling credit cards are used extensively as it is safe and convenient to carry instead of liquid cash.	
Credit card can also be used to withdraw money against the credit limit extended to the card.	
You may earn additional points while shopping in the POPs with which your credit cards have tied ups.	

Statements	Response
You prefer to use credit card for compulsive buying as well as prompts for impulse buying.	
Credit card provides financial back up in the event of an emergency, such as an unexpected healthcare cost, job loss or auto repairs.	
Credit cards keep a record of your expenses, helping you to monitor your financial activities.	
Credit cards allow you the right to settle disputed billing errors and defective merchandise.	
When customers establish a good reputation with their current card issuer they are granted favourable credit limits compared to those offered by a rival issuer.	
Credit cards can also be differentiated on whether they charge fixed or variable rates.	
Customers gain greater network benefits from being part of the larger payment systems especially who use it for compulsive buying.	

SECTION - C

Perceptions about the Problems Of Holding Credit Card Service

Please read each of the statements carefully and indicate your level of agreement or disagreement that you think is the best describing your perception about the problems of holding credit card services. Indicate your response by changing the response category into 5-Point Likert scale as: **1=Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree** and put your response in the scale in the given box.

Table A1: Response Sheet

Statements	Response
Credit card has many hidden charges which should be clearly disclosed.	
The availability of credit card swappers should be increased in the point of purchases (POPs).	
The provision of caution deposit for poor credit history should be scrapped.	
You can only get a credit card with a very low credit limit and you have a hard time staying under the balance.	
The fees for exceeding your credit limit are costly.	
Interest and late fee charges are high for payment defaults.	
Credit card fraud is another problem to hold or to get a credit card service.	
Customers with high outstanding balances find it more difficult to switch because issuers are concerned about default risk.	
Customer complaints redressal is a slow process.	
The minimum payment amount might also be used to attenuate adverse selection.	

SECTION D

Overall Perception

The last section of this schedule deals with the summary of your holistic overview about the items stated above. You are requested to follow the response style and mark your response category accordingly.

1. Do you believe that gender has any influence on use of credit cards?
   Yes No
2. Do you believe that age has any influence on use of credit cards?
   Yes No
3. Do you believe that marital status has any influence on use of credit cards?
   Yes No
4. Do you believe that income level has any influence on use of credit cards?

Yes No

5. Do you believe that education level has any influence on use of credit cards?
   Yes No
6. Do you believe that financial literacy has any influence on use of credit cards?
   Yes No
7. Compulsive & impulsive buying is positively influence the use of credit cards.
   Strongly Disagree Disagree Undecided Agree Strongly Agree
8. The puzzles you face influence your credit use of credit cards.
   Strongly Disagree Disagree Undecided Agree Strongly Agree
9. The unique features of credit cards are positively influence the use of credit cards.
   Yes No

APPENDIX: 2

Table A2: Reliability Statistics

Cranach's Alpha	Cranach's Alpha Based on Standardised Items	No. of Items
.813	.813	34

Table A3: Sample Adequacy Statistics

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.734
Bartlett's Test of Sphericity	Approx. Chi-Square	1264.268
	d. f.	272
	Sig.	**.000**

STATISTICAL MEASUREMENTS

Table A4: Gender

	Male	Female	Total
No. of Respondents	134	22	156
Percentage	**85.9**	14.1	100.0

Table A5: Marital Status

	Single	Married	Total
No. of Respondents	44	112	156
Percentage	28.20	**71.80**	100.0

Table A6: Age

	18-25 years	26-35 years	36-45 years	46-65 years	66 years and above	Total
No. of Respondents	48	45	17	42	4	156
Percentage	28.8	**30.8**	10.9	26.9	2.6	100.0

Table A7: Education Qualification

	Under Matriculation	Higher Secondary	Graduation	Post-Graduation	Total
No. of Respondents	21	20	58	57	156
Percentage	13.5	12.8	**37.2**	36.5	100.0

Table A8: Religion

	Hinduism	Islam	Christianity	Buddhism	Other	Total
No. of Respondents	147	6	3	0	0	156
Percentage	**94.2**	3.8	1.9	0.0	0.0	100.0

Table A9: Caste

	General	Scheduled Caste	Scheduled Tribe	Other Backward Caste	Total
No. of Respondents	119	5	9	23	156
Percentage	**76.3**	3.2	5.8	14.7	100.0

Table A10: Occupation

	Student	Business	Service	Others	Total
No. of Respondents	25	31	77	23	156
Percentage	16.0	19.9	**49.4**	14.7	100.0

Table A11: More than one Credit Cards

	1	2	More than 2	Total
No. of Respondents	32	98	26	156
Percentage	20.5	**62.8**	16.67	100.0

Table A12: Issuer of Credit Cards

	SBI	ICICI	AXIS	Others	Total
No. of Respondents	99	2	4	51	156
Percentage	**63.5**	1.3	2.6	32.7	100.0

Table A13: Influencer to take Credit Card

	Family	Others	Advertisement	Salesman	Total
No. of Respondents	12	14	6	124	156
Percentage	7.7	9.0	3.8	**79.5**	100.0

Table 14: Monthly Income (INR)

	Less than 10,000	10,001-15,000	15,001-20,000	20,001 and above	Total
No. of Respondents	41	44	10	61	156
Percentage	26.3	28.2	6.4	**39.1**	100.0

Table A15: Monthly expenditure using Credit Card (INR)

	Less than 5,000	5,001-15,000	15,001 -20,000	20,000 and above	Total
No. of Respondents	8	124	4	20	156
Percentage	5.1	**79.5**	2.6	12.8	100.0

FACTOR ANALYSES

Table A16: Factor1: Principal Unique Features

Items	Mean	SD	Factor Loadings	Communalities
Not requires any pin code and it differs from debit card	4.871	.33	.869	.804
Variety of characteristics	4.338	.61	.763	.702
Freedom from instant payment liability	4.419	.54	.742	.702
Better paying option rather than Debit card	4.500	.66	.675	.668
During travelling credit cards are used extensively as it is safe and convenient	4.088	.77	.562	.639
Withdrawal of money against the credit limit	2.887*	.84	.543	.623
Total (6 items)	4.183	.62	-	-
*Reversed score item Factor 1 -Principal Unique Features Factor 1 is assigned the name of *Principal Unique Features* which explains 18.689 percent of the variables and includes six items with statistically significant factor loadings ranging from .543 to .869 and Cronbach's alpha .89.				

Table A17: Factor2: Secondary Unique Features

Items	Mean	SD	Factor Loadings	Communalities
Reward points, cash back offers, gift vouchers	4.01	0.88	.717	.810
Financial back up in the event of an emergency	4.02	0.86	.622	.719
Right to settle disputed billing errors and defective merchandise	4.13	0.67	.533	.677
Favourable credit limits	4.14	0.78	.529	.613
Total (4 items)	**4.07**	**0.79**	-	-
Factor 2 -Secondary Unique Features Factor 2 is assigned the name of *Secondary Unique Features* which explains 16.221 percent of the variables and includes four items with statistically significant factor loadings ranging from .529 to .717 and Cronbach's alpha .92.				

Table 18: Factor 3: Compulsive Buying

Items	Mean	SD	Factor Loadings	Communalities
Prefer to use credit card for compulsive buying	4.11	.98	.799	.794
Earning of additional points while shopping in the POPs	4.23	.62	.695	.694
Differentiated charges	4.05	.44	.694	.670
Availability of credit card swappers	4.16	.59	.662	.683
Total (4 items)	4.13	.65	-	-
Factor 3 - Compulsive Buying Factor 3 is assigned the name of *Compulsive Buying* explains 14.114 percent of the variables and includes seven items with statistically significant factor loadings ranging from .307 to .799 and Cronbach's alpha .88.				

Table A19: Factor 4: Impulsive Buying

Items	Mean	SD	Factor Ladings	Communalities
Prompts you for impulse buying	4.15	.88	.825	.780
Greater network benefits	4.27	.83	.735	.688
Very low credit limit	4.76	.94	.721	.753
Total (3 items)	4.37	0.90	-	-
Factor 4 -Impulsive Buying Factor 4 is assigned the name of *Impulsive Buying* which explains 13.991 percent of the variables and includes four items with statistically significant factor loadings ranging from .640 to .825 and Cronbach's alpha .840.				

Table A20: Factor 5:Puzzles in using credit cards

Items	Mean	SD	Factor Loadings	Communalities
Hidden charges	4.36	.45	.886	.834
Provision of caution deposit should be scrapped	4.21	.70	.795	.692
Higher charges for payment defaults.	4.20	.58	.644	.742
Credit card fraud	4.25	.63	.587	.673
Customer complaints redressal is a slow process	4.34	.63	.623	.580
The fees for exceeding your credit limit are costly	4.07	.92	.550	.572
High outstanding balances and switching	3.28*	.87	.522	.578
The minimum payment and attenuate adverse selection	2.73*	1.04	.514	.533
Total (8 items)	**3.93**	**0.72**	-	-
*Reversed score items Factor 5 - Puzzles in using credit cards Factor 5 is assigned the name of *Puzzles in using credit cards* which explains 12.589 percent of the variables and includes eight items with statistically significant factor loadings ranging from .514 to .886 and Cronbach's alpha .784.				