A STUDY ON LITERACY AND USAGE BEHAVIOUR OF CREDIT CARDS USERS IN INDIA

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Abstract

Purpose of the study: This study aims to find credit card literacy (henceforward CCL) and credit card usage behavior (henceforward CCUB) in India.

Methodology: A survey was conducted on 400 respondents who were using a credit card in India. The questionnaire used for collecting data consisted of three sections; demographic information, CCL, and CCUB. To check the CCL, the customers were asked to rate their awareness of the terms and conditions of the credit card providers, while CCUB was measured using five questions.

Main findings: CCL is found to be 34% and the results of logistic regression show that CCL and demographic factors influence the CCUB.

Implications of this study: An understanding of the CCUB will be helpful in controlling excessive debt and high-interest payments.

Novelty/Originality of this study: This paper gives a unique insight into CCL and CCUB in India.

Keywords: Behavior, Credit Card, Demographics, India, Literacy, Logistic Regression.

JEL Code: G20, I25, D10, J10, C00.

INTRODUCTION

Credit card usage started in the USA in the 1940s, and their usage became common due to their convenience and use in online transactions. Initially, cash and then cheques were mainly used for monetary transactions. As of now, the credit card is also a popular means for payment The wide acceptability of cards the world over can be gauged by the large numbers of credit cards worldwide. A credit card offers a number of advantages as compared to cash for users such as; safety, convenience, short-term free credit, rewards points, etc. Merchants also benefit from credit cards as people incline to spend more while using credit cards.

Credit card usage offers a number of benefits and drawbacks subject to user behavior. Sensible and correct use of credit cards increases the liquidity and offers supplementary funds. Conversely, credit card transactions done in excess of the financial limits of the user results in unnecessary debt. The increased spending due to credit cards results in excessive credit card debts. Debt due to a credit card has risen more rapidly than the disposable income; this has alarmed policymakers and governments. Though the increase in consumption is encouraging for the economy high levels of debt may create financial difficulties or lead to bankruptcy, hence in the long-term, it will result in slower economic growth. Apart from misuse by consumers, sometimes the credit card companies exploit the customers through high-interest rates and hidden fees (Tidwell, Bexley & Maniam 2010).

CCL is the awareness of the terms and conditions of a credit card. Due to the lack of research on CCL, many researchers have so far used financial literacy as a proxy for CCL. As per OECD-INFE (2012), "Financial literacy consists of awareness, knowledge, skill, attitude, and behavior required for taking wide-ranging financial decisions resulting in an individual's financial wellbeing". Lesser financial knowledge results in more debt and risky behavior (Norvilitis, Merwin, Osberg, Roehling, Young & Kamas, 2006; Robb, 2011). In general, though there is proof that financial literacy positively encourages individuals to exhibit a more conscious financial behavior there are contradictions in the previous research. The results of the previous study vary based on the topic or population of the study (Robb 2011).

Figure 1 shows the status of credit cards in India. The number of credit cards has increased 2 times from 24.4 million in 2015-16 to 48.9 million in 2018-19. The transaction amount has increased almost 3 times from Rs.2.4 Trillion in 2015-16 to Rs. 6.07 Trillion. in 2018-19. The number of transactions has also increased 2 times from 0.8 billion in 2015-16 to 1.7 billion in 2018-19.

This study aims to find the CCL and examine the CCUB in India. Given the inconsistencies in the previous studies and the lack of similar studies in India, there is a need to research CCL and CCUB in India. This study will be helpful to individuals, researchers, regulating bodies, businesses, and banks.

LITERATURE REVIEW

Usage of credit cards is increasing, and individuals and businesses all over the world are moving from cash to cards in their day-to-day transactions. Reasons for using credit cards are easy to fulfill eligibility conditions (Canner & Luckett

1992), providing an opportunity of investing the available cash (Chang & Hanna 1992), easy to borrow money and higher spending by the holder (Cargill & Wendell, 1996), convenience and safety (Mayer 1997), esteem and acceptability (Medina & Chau 1998), cardholders do not need to carry cash (Lee & Kwon, 2002) and consumers spend more with credit cards as they facilitate spending (McCall & Belmont 2002). Humphrey (2004) through an econometric model, showed that during a twenty-five-year period the use of cash has fallen as people are going in for cashless transactions. For Indians, the major determinants are the use and convenience of the credit card (Khare, Khare, & Singh, 2012).
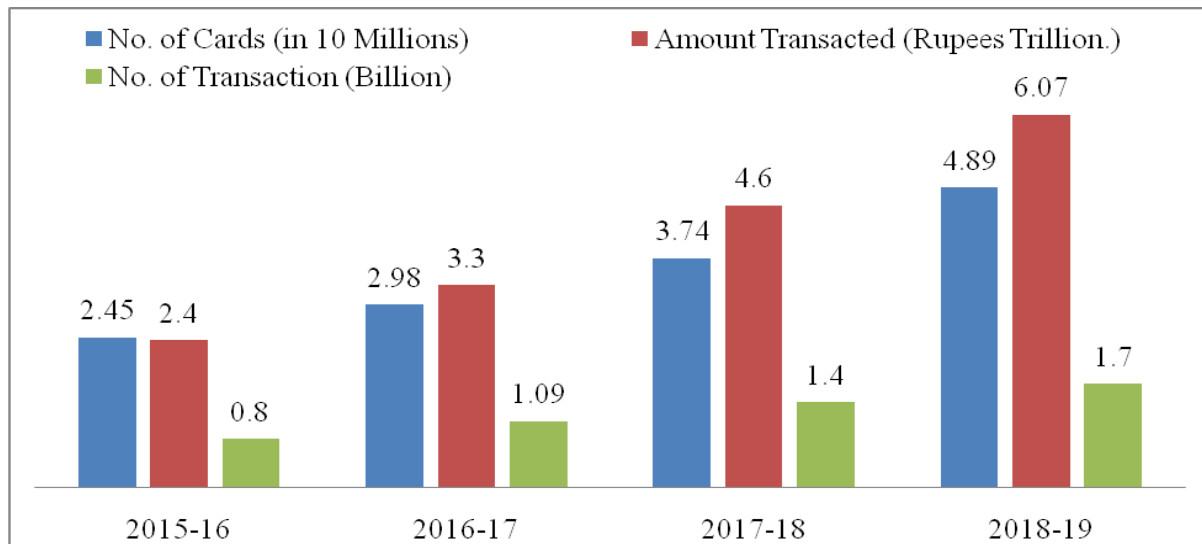

Figure 1: Status of Credit Card in India

Source: https://economictimes.indiatimes.com/industry/banking/finance/banking/credit-card-usage-rides-on-digital-push-grows-27/articleshow/70580357.cms?from=mdr

Demographics and Card Usage Behavior

Researchers have studied how the various demographic factors (gender, age, ethnic background, education, income) affect the use of a credit card. Credit card companies also consider the demographic factors while issuing the cards, for example, preference is given to individuals with high income and education.

Reasie, Janice & Weber (2001) found that women were more likely to limit their spending. Researchers, such as Mandell (2004) found that family income and education were the major indicators. Keeping in control the cost, convenience, and security, the payment behavior depends on the consumers' socio-demographic attributes such as age, education, and race and income. Low income and low education and minorities are more likely to use cash. Safakli (2007) in Northern Cyprus using factor analysis found that for credit card selection, education and family income are important. The financial decisions of older adults are more likely to be suboptimal (Agarwal, Driscoll, Gabaix & Laibson 2009; Choi, Laibson & Madrian, 2011).

Khare, Khare, & Singh (2012) using multiple linear Regression showed that in India young customers were likely to use credit cards. Themba & Tumedi (2012) used chi-square and cross-tabulation and found that education, gender and marital status influence card usage in Botswana. Men have higher financial literacy than women (Fonseca et al. 2012). The lower financial literacy of women impacts their general financial well-being such as the behavior of late payment and overuse of credit cards. (Allgood & Walstad, 2011; Mottola, 2012).

In Canada, the relationship between wealth/income and credit card repayment shows that due to their low financial literacy, persons with low-income make credit card payment mistakes (Scholnick, Massoudan & Saunders, 2013). Also, men and single persons use more cash (Connolly & Stavins, 2015; Stavins, 2016). Nai (2018) analyzed the data of Survey of Consumer Payment Choice and found that the use of credit card declines after the age of 26 to the age of 58 and thereafter it starts to rise again. Youths are likely to borrow more but at the same time pay less interest than older credit card customers.

Credit card payment behavior

A considerable number of credit card holders (about 40%) given a choice will select a more expensive credit card (Agarwal, Chomsisengphet, Liu & Souleles, 2015). Researchers have also highlighted the phenomenon of credit card debt puzzle whereby low-interest monetary assets and low-interest credit cards are available but they are not used to pay the high-interest credit card debt (Gathergood, Mahoney, Stewart & Weber, 2018); Gorbachev & Luengo-Prado, 2017; Ponce, Seira & Zamarripa, 2017 and Zinman; 2015).

Instead of rational optimization, heuristics are used which leads to bias in credit card behavior. Mental accounting and limited attention are also prevalent. (Attention is stretched thusa people have a difficult time focusing on both the benefits and consequences of their choice related to card repayment (Ponce et al. 2017). Barboza (2018) and Kuchler & Pagel (2017) empirically showed that card holder's exhibit present-bias resulting in overuse of their cards and delay in the repayments. Heuristics like balance matching are also used for card repayment. Bannier, Gartner & Semmler (2018) and Gathergood et al. 2018 found that allocation error (cuckoo fallacy) is exhibited in the repayment of credit card debt whereby repayment of the card that produces more new debts are usually done.

Financial Knowledge and Cards Usage Behavior

Hilgert, Hogarth & Beverly (2003) examined the behavior of households and concluded that credit management depends on financial knowledge. While Jones (2005) concluded that knowledge didn't influence behavior. Thus the relationship between financial knowledge and card usage behavior has been varied and conflicting. The results of the studies vary depending on the behaviors studied, methods of measuring financial knowledge and the populations used in the study (Peng, Bartholomae, Fox & Cravener, 2007).

Future financial problems can be avoided through financial knowledge (Avard, Manton, English & Walker 2005; Braunsberger, Lucas & Roach, 2004, Shim, Barber, Card, Xiao & Serido, 2010). Contrarily, Robb & Sharpe (2009) used six-questions to measure financial knowledge and found that knowledgeable individuals have higher balances. Woodyard, Robb, Babiarz & Jung Woodyard (2017) used logistic regressions to analyze four types of financial behavior and found that financial behavior is influenced by the level of knowledge. Credit card literacy positively influences financial wellbeing especially when college students own fewer credit cards (Limbu & Sato, 2019).

MATERIALS AND METHODS

Sample Frame and Sampling Procedures

Data were collected using a convenient sample of credit card users from various socio-economic backgrounds in India. The total numbers of respondents were 400.

Development of the Questionnaire

The questionnaire used for collecting data consisted of three sections; demographic information, CCL, and CCUB. A literature review formed the basis for developing the questionnaires. The content validity of questionnaires was checked by academic and industry experts and then a pilot study was conducted to test the reliability. Based on their advice the items in the scale were later modified. Data were collected from June 2018 to January 2019.

In this study, CCL was measured by the response to questions shown in table 1. Customers were asked to rate their awareness of the terms and conditions of credit card providers. On a scale of 1-5, the average score 1-2 were classified as low, 3 as medium and 4-5 as high credit card knowledge. For measuring CCUB table 2 was used. Risky responses serve as the reference group.

Table 1: Awareness of terms and conditions

1. Most Important Terms and Conditions (MITCs)	1.Not at all aware	5. Fully aware
(a) Fees and Charges		
i. Joining fees for primary card holder and for add-on card holder		
ii. Annual membership fees for primary and add-on card holder		
iii. Cash advance fee		
iv. Service charges levied for certain transactions		
v. Interest free (grace) period		
vi. Finance charges for both revolving credit and cash advances		
vii. Overdue interest charges - to be given on monthly & annualised basis		
viii. Charges in case of default		
(b) Drawal Limits		
i. Credit limit		
ii. Available credit limit		
iii. Cash withdrawal limit		
(c) Billing		
i. Billing statements - periodicity and mode of sending		
ii. Minimum amount payable		

iii. Method of payment
iv. Billing disputes resolution
v. Contact particulars of 24 hour call centres of card issuer
vi. Grievances contact particulars of officers to be contacted
vii. Complete postal address of card issuing bank
viii. Toll free number for customer care services
(d) Default and Circumstances
i. Procedure including notice period for reporting a card holder as defaulter
ii. Procedure for withdrawal of default report
iii. Recovery procedure in case of default
iv. Recovery of dues in case of death/permanent incapacitance of cardholder
v. Available insurance cover for card holder and date of activation of policy
(e) Termination/Revocation of Card Membership
(i) Procedure for surrender of card by card holder - due notice
(f) Loss/Theft/Misuse of Card
i. Procedure to be followed in case of loss/theft/ misuse of card
ii. Liability of card holder in case of (i) above
(g) Disclosure
Type of information be disclosed with and without approval of card holder

Source: RBI/2015-16/31 DBR.No.FSD.BC.18/24.01.009/2015-16
https://www.rbi.org.in/Scripts/BS_ViewMasCirculardetails.aspx?id=9838

Table 2: Credit card usage behavior

Questions	**Almost Always**	**Never**
Maximum Credit Limit		
Timely payment of dues		
Only minimum payment		
Delinquency in payment		
Maximum Cash Withdrawl		

Source: Adopted from Robb (2011)

Research Variables and Their Measurement

Variables included demographics, CCL and CCUB (Table 3). Demographic variables included education, age, gender, and Occupation.

Table 3: Measurement of variables used in regression

CCUB	1=Risky Behavior 1; 2=Non-risky Behavior (RG);
CCL	1=Low (RG);2=Medium;3=High
Education	1=Up to High School (RG); 2=Intermediate; 3=Graduate
Age	1=18-30 (RG);2=31-40; 3=41-50; 4=Above 50
Gender	1 = Female (RG); 2 = Male
Occupation	1 = Service (RG); 2 = Business

RESEARCH METHODS

Risky credit card behavior is predicted using variables. As the prediction is dichotomous logistic regression is suitable. The equation for logistic regression is given as;

$$P(Y) = 1/\{1 + e - (b0 + b1X1i + b2X2i + \cdots + bnXni)\}$$

Where P(Y) is the probability of Risky Behavior; Xi predictor variable; bi coefficient of predictor variable; e is the base of natural logarithms and b0 is a constant.

Results and discussion

The CCL was found to be 34 percent. The results of the logistic regression are shown in table 4.

Maximum Credit Limit

The independent variables can predict between 24.4% and 33.6% of the spending and the overall correct prediction is 73%. Literates, males and educated persons are less likely to spend up to the maximum credit limit. Age and occupation are not significant.

Timely Payment

The independent variables can predict between 16.8% and 23.2% of the spending and the overall correct prediction is 69%. Higher CCL persons, higher age groups, educated and salaried persons are more likely to pay on time. Gender is not significant.

Only Minimum Payment

The independent variables can predict between 11.6% and 16% of the spending the overall correct prediction is 74%. Higher CCL persons, higher educated and business persons are less likely to make only minimum payments. Females are more likely to make only minimum payments. Age is not significant.

Delinquent in payment

The independent variables can predict between 15.4% and 21.1 of the spending and the overall correct prediction is 68.7%. Higher CCL persons and males have a lesser likelihood of delinquency in payment. Age, education, and occupation are not significant

Advances on Credit Card

The independent variables can predict between 15.9% and 21.6 of the spending and the overall correct prediction is 67%. Higher CCL and persons in the age group of 41-50 and above 50 are less likely to take an advance on credit cards. While males and persons engaged in business are more likely to make advances on credit cards. Education is not significant.

CONCLUSIONS AND SUGGESTIONS

The CCL was found to be low (34 percent) as compared to previous studies such as 53 percent Chen & Volpe (1998), 52 percent Mandell (2004), 56 percent Jones (2005), and 37 percent by Lusardi, Mitchell & Curto (2010). Individuals with higher CCL have been found to engage in less risky behaviors such as spending up to a maximum credit limit, making the due payment on time, the lesser likelihood of delinquency in payment and taking lesser cash advances. Previous studies such as Norvilitis et al. (2006) and Robb (2011) also found that lower financial knowledge results in more credit card debt and riskier use of credit cards.

Gender wise differences are found related to the credit limit, minimum payment amount, delinquency in payment and advance on credit cards. On some parameters, males show a riskier behavior while other females have been found to engage in riskier behavior. Age is significant as respondents from higher age groups are more likely to pay on time. Also, the age groups of 41-50 and above 50 are less likely to take an advance on credit cards. Lastly, salaried persons are more likely to pay on time, to make only minimum payments and less likely to take a cash advance. Previous studies such as Chien & DeVaney (2001) and Gartner & Todd (2005) also found that CCL and education were important factors. Previous studies such as (Themba & Tumedi, 2012) have also highlighted the demographic differences in CCUB.

Thus, it is important to increase the knowledge of the terms and conditions associated with credit cards in India, as this will encourage a more conscious usage. We can increase the CCL through a financial education program on credit cards. Also, the outreach strategy should be as per the stages of the life cycle of a card user. Apart from traditional methods digital methods such as short films, cartoons and quizzes should be promoted. There is also a need to account for the demographic differences in credit card behavior while conducting the training program. Training programs for the credit card holder should be conducted by the Reserve Bank of India and NGOs for consumer protection, in collaboration with credit card providers.

LIMITATIONS

The present study supports that higher CCL is associated with more beneficial credit card usage. Due to the lack of a standardized tool to measure CCL, the findings of this study may be restricted. There is a need to develop a consistent and common measure of credit card knowledge for future studies. Another limitation is that some demographic factors

such as family size, ethnicity and location have not been included in this study. Future research should also focus on factors that can improve CCL as it is associated with better credit card usage behavior.

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Table 4: Results of Logistic Regression

	Maximum Credit Limit			Timely Payment			Only Minimum Payment			Delinquent in payment			Advances on Credit Card		
	B	S.E	Exp (B)	B	S.E	Exp (B)	B	S.E	Exp (B)	B	S.E	Exp (B)	B	S.E	Exp (B)
CCL- L															
CCL- M	-1.734	.367	.177*	1.016	.333	.362*	-.568	.318	.566*	-1.142	.325	.319*	-1.035	.319	.355*
CCL- H	-.635	.371	.530*	.334	.361	.716*	-.449	.358	.638*	-.374	.355	.688*	-.507	.356	.602*
Gender-F	-.994	.359	.370**	-.816	.331	.442	-.809	.316	.445*	-.965	.324	.381*	.905	.316	.405**
Age															
Age(31-40)	.328	.543	1.388	.627	.533	1.872*	.285	.512	1.329	-.102	.499	.903	.141	.495	1.151
Age(41-50)	1.100	.681	3.003	1.288	.654	3.625*	.951	.619	2.587	-.007	.606	.993	-.997	.600	2.709*
Age(Above 50)	1.896	.789	6.662	1.717	.739	5.571*	1.364	.701	3.912	.614	.690	1.849	-1.981	.698	7.251*
Education															
Education(Intermediate)	-.535	.524	.586**	.065	.491	.937*	-.088	.481	.915**	-.136	.488	.873	-.261	.499	.771
Education(Graduate)	-1.812	.574	.163**	1.418	.537	.242*	-1.185	.518	.306**	-.638	.504	.528	-.755	.522	.470
Occupation-Salaried	-1.920	.692	.147	1.486	.627	.226*	-1.219	.591	.296*	-.575	.573	.563	1.727	.593	.178*
Constant	1.250	.666	3.490	.252	.628	1.287	.211	.605	1.235	.627	.603	1.872	.602	.617	1.826

-2LL	304.585	333.224	350.244	344.002	347.595
Cox , Snell R^2	0.244	0.168	0.116	0.154	0.159
Nagelkerke R^2	0.336	0.232	0.160	0.211	0.216
Classification Accuracy	73	69	74	68.7	67

*Statistically Significant (P<0.05)

**Statistically Highly Significant (P<0.001)