Credit Card Practices, Attitudes, Problems and Risks among Individuals: Empirical Findings Using Structural Equation Model

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Abstract

Credit card unhealthy practices have been a world-wide challenge in the global business environment for years. The effect of default hits not only the victim, but also the banks, credit card companies and merchants. The objective of this paper is to examine the relationship amongst practices, attitudes, problems and risks related to credit card usage. A literature review on prior studies has indicated that there is a methodological gap to be filled in this area. Novelty is achieved by the usage of partial least square (PLS) model in answering the hypotheses. Multilevel method analysis using PLS allows for efficiency, convergence and power when investigating the causal effects in the two-level data, ensuring that the support for hypothesis is much more acceptable. Out of the 150 total survey questionnaires distributed, 114 were returned and used. Face to face data collection method was employed to enhance the response rate. Prior to collecting the data, the content of the survey questionnaire was reviewed by a content expert to enhance the understandability of the instrument. Mean analysis was performed to describe the profile of respondents. Mann Whitney test reports (p = 0.71) indicated that bias did not exist in this study, whereas Kolmogorov-Smirnov test in this paper showed (p > 0.05) proving normality in the data distribution. Convergent validity (average variance extracted > 0.50; composite reliability > 0.80) was also reported prior to presenting the final model. There is a relationship between problem, reason and risks related to credit card usage (p < 0.01). Missing bill payment due dates and paying the debts late could lead to many risks to the users. Poor financing habits can jeopardise relationships and can lead people to spend more than what is necessary. However, the relationship between the reason of using credit cards and the risk related to it is not significant (p = 0.13). Future researchers are suggested to include moderating and mediating factors in the structural equation model to narrow down the methodological gap available in this area.

1.0 BACKGROUND INFORMATION AND OBJECTIVE

Although the emergence of settlement methods like debit card and cash exist, credit card services have been present for almost four decades. Besides providing benefits like being a convenient method of payment for shopping, credit card holders have received considerable attention given the upward trend in bankruptcies due to bad debts. Based on the report summarised by Bank Negara (2007), a total of 10.8 million new credit cards were approved in Malaysia, indicating a high potential risk of non-performing loan. This is evident by the non-performing credit card debt with an upward trend from year 2000 to 2009 as reviewed by Loke et al. (2013). In their discussion, they have indicated that card holders who earn RM36, 000 or less are allowed to hold cards for a maximum of two issuers only, starting from March 18, 2011. Credit card unhealthy practices have been a world-wide problem for years. The effect of default hits not only the victim, but also the banks, credit card companies and merchants. This is marked by the statistics given by the Malaysian Department of Insolvency (MDI). The statistics were reported in The Star newspaper, dated October 31, 2013. As reported by MDI, 13,238 people were declared bankrupt in 2007, 13,855 in 2008, 16,228 in 2009, 18,119 in 2010, 19,167 in 2011 and 19,575 in 2012. The alarming figures underscore the need for more conceptual and theoretical informed studies to be conducted in this area. Previous studies have been conducted over the years (Ahmed et al., 2010; Arias & Miller, 2009; Awanis & Chi Cui, 2014; Jusoh & Lin, 2012; Khare, 2013; Sharma et al., 2014; Teoh et al., 2008) to understand the attitudes, problems, purchasing behavior and risk factors attached to credit cards. However, this present study will contribute to this field by providing empirical evidence on the relationship amongst constructs like credit card practices, attitudes, problems and risks. Secondly, the hypotheses of this paper will be answered by using a structural equation model, which is an immense contribution to the literature.

2.0 GAPS FROM FOCAL LITERATURE

Previous literature have focused on variables such as demographics (Geetha et al., 2014; Jusoh & Lin, 2012; Khare, 2013; Limerick & Peltier, 2014; Ming et al., 2013; Teoh et al., 2008) and attitude (Ahmed et al., 2010; Khare, 2013). With reference to Ming et al. (2013), the findings in their studies indicated that age, income, and marital status have significant correlation with credit card holders' spending behavior. Geetha et al. (2014) extended the literature by examining whether certain demographic variables have an effect on the financial wellbeing among young workers by observing the purchasing behavior in terms of asset ownership. The study of Ahmed et al. (2010) found that credit cards across Malaysia might lead to compulsive shopping behavior causing heavy debts.

Less emphasis has been given to the risk factor related to credit card attitude. In view of this elaboration, the first literature gap is identified to provide empirical evidence proving the relationship between credit card behaviors and risk to the users. Teo et al. (2008) have also supported this notion by suggesting an extension in research work covering more variables in different economies so as to increase the generalsability of the results obtained. Existing tools like regression analysis using SPSS are somewhat criticized in research. The first limitation of multiple regressions is that it allows outliers to have a huge effect on the results. Secondly, linear regression assumes that the data are independent of each other. These limitations and assumptions can be challenged if partial least square modeling is used. This present study will narrow the methodological gap in the area. By obtaining a larger sample size and applying the partial least square methodology, this study will offer an extension to the knowledge provided by Arias & Miller (2009), Devlin et al. (2006) and Jusoh & Lin (2012). In their suggestions, they have clearly stated that future researchers should focus on larger sample size. Arias & Miller (2009) have also recommended the use of modeling to enrich the findings in this area of study.

3.0 RESEARCH DESIGN

The researchers adopted a face-to-face distribution of questionnaire to the respondents of this study in scrutiny of obtaining a higher response rate. The sampling frame of this study comprises of learners from Open University Malaysia. The data for this study were collected using survey questionnaires. All questionnaires were accompanied with a cover letter stating the purpose of this study. The cover letter also guaranteed anonymity of respondents. Each questionnaire item was scored on a seven point Likert Scale (1 = strongly disagree to 7 = strongly agree). Right before collecting data from the final respondents, the instrument was reviewed by an expert in the area to provide justification for the content validity. Using a convenient sampling methodology, the researchers gathered 114 usable replies for this study. Upon data coding and entry, data analysis was conducted using the SEM methodology. Nevertheless, convergent validity proved to enhance the acceptability of the results. It had been clearly stated by Sachdeva (2009, pg. 54) that samples and designs do not have validity. Conversely, only conclusions and inferences can be valid. There are three hypotheses in this paper.

H1: There is a relationship between problem of using credit card and risk related to it.
H2: There is a relationship between attitude of using credit card and risk related to it.
H3: There is a relationship between reason of using credit card and risk related to it.

4.0 DESCRIPTIVE STATISTICS

The mean age of respondents in this survey is 37 years old, thus indicating that the majority of the respondents are in their prime. On average, they have worked for 14 years. This study has also investigated on other demographic characteristics such as average income per month and number of credit per person. Sample survey reports an average monthly income of RM5, 316 and 1.4 credit cards per person. In terms of credit card usage, the reported percentages (42% are max payers, 39% are moderate users and 11% are revolvers) indicated that almost half of the respondents pay their debts on time. For this particular demographic question, some of the replies were incomplete. This is probably due to the sensitivity of the question. As stated earlier, a total of 114 questionnaires were usable for the purpose of the analysis of this study. In terms of the gender of the respondents, it was found that they were somewhat representative, whereby 47 males and 67 females provided their views in this survey. Of the sample, 86 (75%) are Malays, 12 (11%) are Chinese, 13 (11%) are Indians and 3 (3%) are from the other category. Majority of the respondents (40%) of this study are working as middle level managers. Finally, in terms of education, a majority of 57% of them owned a bachelor degree, indicating that the sample size is well educated and informed.

5.0 NORMALITY AND NON RESPONSE BIAS

A number of research strategies as explained by Shenton (2004) assure credibility. The researchers in maintaining the trustworthiness of the data given applied the strategies given by Shenton (2004). They are 1) cover letter provided opportunity to the respondents to refuse to participate at any point of time 2) scrutiny of a content expert when reviewing the instrument and most importantly 3) statistical prove that the data show normal distribution. The data validation procedure started with proving that the distributions are normal and no bias is found in the response. According to Rahim et al. (2012), procedure such as Mann Whitney U test is to be performed to assess whether samples are from the same population. The sample of 114 was divided into two parts basing on gender. Mann Whitney U Test was undertaken to test the responses from the dependent variable (risk) of the survey instrument. Before the test was conducted, the mean value for the dependent variable was calculated and used as a basis to compute this test. Mann Whitney test reports ($p = 0.71$) indicating that bias did not exist ($p > 0.05$) in this study. It is concluded that there are no major differences in the responses of the males as compared to the responses of the females. Subsequently, the p-value calculated in Kolmogorov -Smirnov test of normality in this paper ($p=0.44$) was found to be higher than ($p=0.05$) and it was determined that scores showed normal distribution as recommended by Ingec (2014).

6.0 CONVERGENT VALIDITY AND RELIABILITY

According to the evaluation of Dowling (2007), reliability of constructs can be measured by reporting Cronbach alpha and composite reliability indices. Cronbach alpha represents the lower bound of reliability whereas composite reliability incorporates the loading weights of the items, which makes it a more superior method in ascertaining reliability of the constructs. Zikmund et al. (2010) had recommended a cut-off point of 0.80 for the assessment of reliability. As reported in Table 1, all the indices for composite reliability and Cronbach alpha are above 0.80 showing internal consistency in the measurement. Consistent with the view provided by the pioneer research of Fornell & Larcker (1981), the cutoff point for average variance extracted (AVE) is at 0.50. Table 1 portrays the indices for AVE showing values above the cutoff point. The AVE statistic states how much variance captured by the latent variable in a structural equation model is shared among other variables. In assessing the validity and reliability of the model, some of the items were deleted. The model R square reported is 0.35. Subsequently, Table 2 describes the items that were used in the research instrument.

Table 1:   Validity and Reliability of the SEM

	AVE	Composite Reliability	R Square	Cronbach Alpha
ATTITUDE	0.62	0.89		0.84
PROBLEM	0.70	0.87		0.80
REASON	0.65	0.93		0.91
RISK	0.65	0.90	0.35	0.87

Table 2: Items in the Research Instrument

NO	PERSONAL ATTITUDE ON USING CREDIT CARD
B1	I feel proud when using credit cards.
B2	I prefer to buy goods using a credit card because it is easy.
B3	The use of credit card allows me to obtain goods and services within the shortest period.
B4	I still use a credit card upon purchase, even though I could buy with cash.
B10	Credit card usage is convenient payment made for me.

NO	REASONS FOR CREDIT CARD
C1	I can pay back the credit card debts on the prescribed period.
C2	I can keep the credit card payment slips for reference.
C4	I allocate a certain amount of money each month to pay debts.
C5	I am able to make credit card purchases without interfering with spending on daily necessities.
C6	I do not need to carry too much cash.
C8	I can manage my debt well as monthly statement is provided.
C9	I can limit the number of credit cards based on my needs and payment capability.
C10	I can use credit card during emergencies.
NO	PROBLEMS RELATED TO CREDIT CARD USAGE
D3	I perceive investing in a credit card as a problem.
D4	I perceive missing bill payment due dates as a problem.
D5	I perceive late payment for my credit card as a problem.
NO	MANAGING RISK RELATED TO CREDIT CARD
E2	I report lost or stolen cards immediately.
E3	I use secure websites for online purchases.
E4	I use an online verification scheme.
E5	My cards are always on my sight.
E6	I check my statement each month

7.0 STRUCTURAL EQUATION MODEL (SEM)

In view of Curran (2003), the multilevel SEM provides a powerful and flexible analytic framework for answering the research hypotheses in social sciences. The first advantage of using multilevel SEM is that the data need not be balanced and missing data are easily accommodated (Hesketh et al., 2007). Preacher et al. (2011) further explained that multilevel SEM is to test the hypothesis as the method reduces bias in the estimates. In addition, they also indicated in their study that the multilevel method allows for efficiency, convergence and power when investigating causal effects in two-level data.

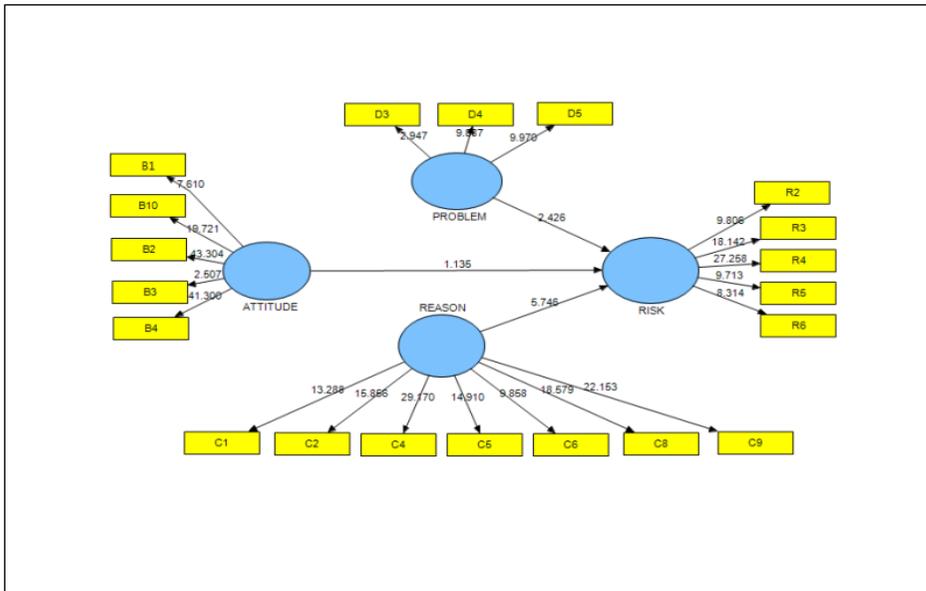Figure 1:   Structural Equation Model

Figure 1 above represents the SEM performed to examine the three hypotheses of this study. Following that, Table 3 below is given to summarise the indices for the respective model which will achieve the research objective of this study. For each data set, a bootstrap sample of n cases was generated by drawing from the primary sample. According to the recommendation of Hayes & Scharkow (2013), the process should be repeated 5000 times for each data set. With this statistical procedure, it can be assumed that the sample size is improved from (n =114) to (n = 5000) which leads to the generalsability of the results.

Table 3:   Research Hypotheses and Findings

	Hypotheses	t-values	p-values
H1	There is a relationship between problem of using credit card and risk related to it.	2.43	0.01
H2	There is a relationship between attitude of using credit card and risk related to it.	1.14	0.13
H3	There is a relationship between reason of using credit card and risk related to it.	5.75	0.01

8.0 DISCUSSION OF FINDINGS

There is a significant relationship (t = 2.43; p = 0.01) between the problem of using credit card and risk related to it as shown by the structural model. Thus, H1 is supported in this study as indicated in Table 3. Missing bill payment due dates and paying debts late could lead to many risks for the users. Purchasing becomes much more expensive if a payment is missed. The famous economics term coined 'there is no free lunch' seem to be real because the high cost of money and annual fees associated with credit cards often outweigh the benefits received. This is why clever users will always ensure that their cards are always on their sight and they check their statements every month consistently. Furthermore, if there is a default, then the risk can be very devastating because it takes time to rebuild and establish credibility again with the financial institutions. Based on the explanation of Awanis & Chi Cui (2014), if individuals understand the essence of credit card effect, they can avoid accepting credit card debts. The finding of this study can be associated with the evidence shown by Teoh et al. (2008). In their paper, a significant relationship between awareness of debt and spending behavior was reported. The evidence given in this paper builds upon the findings of Teoh et al. (2008) and narrows the literature gap.

There are several attitudes of users such as 1) feeling proud when holding credit cards 2) making unplanned purchases 3) making convenient payments and 4) buying goods because it is easy. These behaviors cannot cause damage to a person so long as they use secure websites for online purchases and they always have a proper online verification scheme upon every purchase. The analysis found H2 to be insignificant (t = 1.14, p > 0.05) as disclosed in Table 3. There is no relationship between attitude of using credit card and risk related to it. In fact, credit card enables users to make unplanned purchases in a convenient manner. They do not need to carry a huge amount of cash and this can reduce the risk of physical theft. In addition, the attitude of understanding the confidentiality of the credit card creates an internal control mechanism and eliminates the opportunity and risk of theft. Users are normally advised not to share their passwords and identification numbers for their own wellbeing and safety. The findings discussed from this model provide contribution to the academia because it has extended the model discussed by Arias & Miller (2009). They have only conducted correlation analysis in examining the association between student's attitudes to credit card use and the awareness of the mechanics of how credit works.

A number of users take advantage when there is a sale or promotion by making extra purchases to get involved in some kind of reward programme. Above all, they make credit card purchases without interfering with spending on daily necessities. Some credit card users believe that if a product should be purchased, then it can be purchased

without making further considerations, as long as they own a credit card. Most of them make instantaneous purchases without considering their credit status because of the convenience provided by their credit cards. Psychologically, they often suppose that they can pay back their credit card debts in the prescribed period. The reasons discussed above causes risk to the credit card users because H3 is supported (t = 5.75; p = 0.01) by this study. Poor financing habits can jeopardise relationships and can lead people to spend more than what is necessary. As a result, couples and families fight. Equally important, the reason for people financing purchases means that they are not sticking to their budget. Sometimes, this can lead to loss in peace of mind and worst still, bankruptcy. In conclusion, the statistical evidence provided in Table 3 portrayed that there is a significant relationship between reason of using credit card and risk related to it. To reiterate, the study of Ahmed et al. (2010) found that credit cards across Malaysia might lead to compulsive shopping behavior causing heavy debt. The findings in H3 have shed light to the discussion provided by them which is a contribution because it narrows the literature gap.

9.0 SUGGESTION FOR FUTURE STUDIES

In this paper, we provide two suggestions to future researchers for observation of extending the knowledge in this area. Future researchers could conduct qualitative interviews to gauge the in-depth explanations on why attitude of using credit card is insignificant to risk. The findings of this study can be fabricated by some qualitative justifications and this will be very interesting to read. Secondly, moderating and mediating factors can be included in the structural model proposed by this study. Perhaps demographic factors such as age and gender can be treated as moderating factors in constricting the methodological gaps.

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