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The Effect of Financial Literacy and Attitude Toward Credit Cards on Financial Well-Being among Undergraduates in East Malaysia

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Abstract: In this era of globalization, the society encounters complex changes whether socioculturally or socioeconomically. This change brings about a shift in lifestyle and it is affecting the society, especially those who are imprudent financially. People who lack knowledge in financial management and at the same time are irresponsible in using credit cards will make them vulnerable to serious financial problems. The aim of this study was to find the significant determinants of student's financial well-being. Financial literacy and attitude toward credit cards were proposed as predictors. A total of 434 undergraduates from two public universities and one private university have participated in this study. It was found that all predictors played a significant role in financial well-being. Understanding the influential factors of financial well-being among undergraduate students would benefit several parties, especially the young people and government, by regarding the key determinants of financial well-being.

Key words: Financial literacy, financial well-being, attitude towards credit cards, participated, regarding

INTRODUCTION

In 2010, a total of 87,583 individuals were declared bankrupt and from that group, a total of 4,651 (5.1%) were declared bankrupt due to credit card debts and from that figure, 23% of credit card users are young people. Apart from that, the increased level of household debt was recorded at 77% of the gross domestic product in 2009 where it was 63.9% in the previous year. The household debt in Malaysia is the highest compared to the other countries in Asia.

One of the causes of household debt problem is related to the intensified use of credit cards among the young people. Credit cards are easily obtained where banks provide easy application conditions. One of the banks in the country was estimated to have around half a million credit card users with a maximum credit limit that amounts to RM 60,000,00 for platinum users. Moreover, users could apply for credit cards in various places, whether shopping malls or gas stations. Therefore, one of the ways to solve the household debt problem is by establishing stringent conditions for credit cards application.

As a developing country, Malaysia must take this issue seriously and initiate proactive actions to promote financial literacy among its citizens. The society's level of knowledge on issues like budgeting, savings, investment and insurance are still at a minimal level. Nevertheless, the topic of financial management in the society is on the rise. Various sources such as books, seminars and banking institutions provide basic information about financial management to people who want to improve and increase their financial knowledge. Furthermore, financial institutions took active measures in promoting their services which includes investment consultations and other activities that are related to prudent financial management. For instance, the Malaysian Ministry of Higher Education, in partnership with the Credit Counselling and Debt Management Agency has introduced personal financial management courses to help university students in financial management. However, those who received professional services were professionals, semi-professionals and those individuals who are exposed to financial management. Whereas programs that cater children and young people are still rarely organized. Consequently that has significantly limited the level of financial knowledge of young people.

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Financial literacy is defined as an individual ability to make judgements and take effective decisions related to financial procedures and management (Noctor *et al*., 1992). Individuals with financial literacy are more likely to be wise consumers, manufacturers, investors and citizens (Borodich *et al*., 2010). Many studies have reported that young people were not ready to face future financial challenges. In addition, research linking financial literacy and financial well-being are still lacking (Sabri and Falahati, 2012; Subramaniam *et al*., 2014). Therefore, the current study aims to identify the predictors of financial well-being among university students. Particularly, the study has proposed two variables which are financial literacy and attitude toward credit cards as predictors of financial well-being.

Research model: The financial model of wellness by Joo (2008) was used as the theoretical model for the study. Joo (2008)'s model was based on the double ABCX model by Mccubbin and Patterson (1983). The personal financial wellness is very popular but it is not well understood due to the unavailability of instruments to measure it. Joo described personal financial well-being as a set of concepts that are comprehensive and multi-dimensional. Joo's model considers the financial well-being as branches of personal well-being that consists of financial satisfaction, desires related to own financial status, positive financial attitude, healthy financial behaviour and financial knowledge.

By following Joo's model of financial wellness, researchers have developed a research framework which consists of two independent variables and one dependent variable. In this study, financial well-being is the dependent variable which is measured by two subscales, namely individual control and the lack of materialistic attitude. Financial literacy or financial knowledge is measured in terms of financial planning knowledge, financial general knowledge and financial interest knowledge. Whereas, attitude towards credit card is measured by three subscales, namely positive attitude, absence of negative attitude and open attitude.

Literature review and hypotheses

Financial well-being: According to Joo (2008), financial well-being is defined as an individual in a healthy financial situation, happy and free from any anxiety based on a subjective situation. In other words, that particular individual has a good financial well-being if he or she has a low level of loans, active savings, retirement plans and well-organized expenses (Joo and Grable, 2004). Delafrooz and Paim (2011) asserted that economic well-being, financial wellness and financial satisfaction are interchangeable terms for financial well-being. The economic well-being includes the individual's happiness and general satisfaction towards the financial or material situation and the complex perception towards his or her own financial situation whether material or non-material. The complex perception involves income and saving satisfaction, opportunity awareness, the ability to make decisions, feelings towards the material objects and the sense of justice towards the reward distribution system. In addition, asserted that the economic well-being is based on the individual's material and non-material aspects. Being over materialistic is related to a lower level of well-being and happiness. In the current study, the financial well-being is measured through the individual ability to control the financial and the materialistic attitudes.

Financial literacy: The reported that credit card users in Malaysia have increased from RM 10.2 mln. users in 2003 to RM 12 mln. in 2006. Meanwhile, most of those who signed up between 1999 and 2005 were university students. This change was associated with the constant change of student's lifestyles as well as due to their independence from their parents in making decisions about spending. Sabri and Falahati (2012) in their study on Malaysian college students have reported that financial literacy has greatly influenced the financial management which in turn has increased the level of financial well-being. Similarly, Sabri and Zakaria (2015) found a significant association between financial literacy and financial well-being among young employees in Malaysia. In contrast, Delafrozz and Paim (2011) did not find a significant association between financial literacy and financial wellness among Malaysian workers. In addition, the lack of personal financial knowledge among students may affect academic achievements, mental and physical well-being among students. Previous works have also reported that the lack of financial literacy among students was linked to poor financial management (Chen and Volpe, 1998; Markovich and DeVaney, 1997; Murphy, 2005) and impulsive buying (Henry *et al*., 2001). Moreover, financial literacy was also found to have a significant impact towards the cognitive ability (Lusardi *et al*., 2010). Nevertheless, some studies reported that financial literacy did not influence financial well-being (Sabri *et al*., 2008).

Attitude towards credit cards: Past literatures have reported mixed findings regarding individual perception

towards credit cards and financial well-being. Some studies found a positive association (Baek and Devaney, 2004; Durkin, 2000; Rutherford and Fox, 2010) and other studies found that positive attitudes towards credit cards leads to lower financial wellness (Hayhoe, 2002; Rutherford and Devaney, 2009). A study conducted by Rutherford and Devaney (2009) reported that one's attitude towards credit cards could influence the likelihood of being a convenient user. Generally, if someone perceived that credit cards are practical and helpful to them they are more likely to have outstanding balances on their credit cards. Thus, it could have an adverse effect on the long term financial well-being. In accordance with the research model, the following hypothesized relationships were developed to be tested:

- H_1: financial literacy will positively affect financial well-being
- H_2: positive attitude towards credit card will negatively affect financial well-being

MATERIALS AND METHODS

The current study employed a cross-sectional design by using a questionnaire in gathering data. Specifically, the study focused on the association between financial literacy, attitude towards credit cards and financial well-being constructs.

Participants: The targeted population was undergraduate students from public and private universities in East Malaysia. In order to determine the minimum sample required, GPower Software was used. The maximum predictor of the current research model was two and used a medium effect size (0.15), a needed power of 0.95 and the minimum sample obtained was 107. Through random sampling, 434 undergraduate students were chosen as respondents. Table 1 shows the demographic profile of the respondents. The majority were females with a percentage of 76.5% (N = 332). For religion, the majority were Muslims with 61.8%, followed by Christians (20.7%), Buddhists (14.7%) and Hindus (2.8%). For ethnicity, majority were Malay with 45.4%, followed by Bumiputera (Natives) of Sabah and Sarawak (29.9%) and Non-Bumiputera (Chinese and Indians) with 24.7%.

Table 1: Demographical profile

Demographic	Frequency	Percentage
Gender		
Male	102	23.5
Female	332	76.5
Religion		
Islam	268	61.8
Buddha	64	14.7
Christian	90	20.7
Hindu	12	2.8
Ethnicity		
Malay	197	45.4
Bumiputera Sabah and Sarawak	130	29.9
Non-Bumiputera (Chinese and Indian)	107	24.7
Credit card		
Holder	31	403.0
Non-holder	7.1	92.9

Procedure: Prior to the actual study, a preliminary study was conducted among 60 students to test the reliability of the research instruments. The results showed a substantial internal consistency for all four instruments. A complete set of questionnaire was administered to the three chosen universities. Respondents were gathered in classrooms and administration rooms and were briefed about the purpose of the study before they began to answer the questionnaires. They were given approximately one hour to answer. The completed questionnaires were then collected and checked for any missing responses. All data were computed in the IBM Statistical Package for Social Sciences (SPSS) Version 21.0. In order to test the hypothesized relationships, the SmartPLS 2.0 M3 Software was used. As recommended by Anderson and Gerbing (1988), two-stage analytical procedures were conducted. Firstly, the measurement model was tested for validity and reliability of the instruments then followed by the structural model in testing the research model (Hair *et al*., 2014). Chin (1998) suggestion of using 500 resamples for the bootstrapping method in determining the significant path coefficients was followed.

Measures: A set of questionnaire was designed by the research team (FRGS0299/SS/1/2011) which consisted of five sections. The measures were adapted from various literatures such as the financial management survey (Robb, 2007), the credit attitudes survey questions (Hayhoe *et al*., 1999), the financial well-being in buying behaviour (Malone *et al*., 2010), the money belief and behaviour (Furnham, 1984) and the money attitude scale (Yamauchi and Templer, 1982). A factor analysis was also conducted. The use, scoring and interpretation are described in greater detail below.

Demography: The demographic information consisted of two sections, namely A and B. Section A contained information about gender, age, ethnicity, religion, current living situation, year of study, course, faculty, parent's monthly income, respondent's monthly income, student's loan/scholar ship and birthplace. On the other hand, Section B contained measures related to the respondent's assets, monthly expenses, expenditure on human capital

development within four months and financial events within four months. However, for the purpose of this study, only gender, religion and ethnicity were used.

Attitude towards credit cards: The modelling of attitude towards credit cards was adapted from Hayhoe *et al.* (1999). After conducting the factors analysis, three components were established. The first factor is a positive attitude with three items (e.g., I think a credit card could make me feel happy), a negative attitude with four items (e.g., frequent use of credit cards results in heavy debts) and an open attitude with two items (e.g., I would like to apply for more credit cards in the future). Attitude towards credit card constructs were superordinate multidimensional construct design under three reflective first-order constructs (positive attitude, negative attitude, open attitude), second-order reflective. Respondents could rate each item on a scale of 1 (strongly disagree) to 5 (strongly agree). The items of negative attitude subscales were reversely coded. The Cronbach's alpha values for three components ranged from 0.823-0.873, thus indicated a good internal consistency.

Financial literacy: The financial literacy for the current study aimed to measure the respondent's general financial knowledge, the knowledge of financial usage planning and the knowledge regarding the interest of finance. This measure was adapted from Furnham (1984). After conducting a factors analysis, 19 items measuring financial planning knowledge (e.g., I always know how much i have in my savings account), financial general knowledge (e.g., Personal literacy could help you avoid being victimized by financial scams) and financial interest knowledge (e.g., I read to increase my financial knowledge) were formed. The financial literacy is also a superordinate multidimensional construct design with three reflective first order constructs (financial planning knowledge, financial general knowledge and financial interest knowledge). The response format used a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha for all components ranged from 0.718-0.879.

Financial well-being: This section aims to measure the financial well-being which are related to the use of financial resources in fulfilling the needs and personal security. Financial well-being covers the learning of how to use financial resources wisely, financial planning and management for the current and future life. This measure was adapted from Malone *et al.* (2010). However, for the purpose of the study, only two subscales were used, namely control (e.g., I usually buy only the things I need) and materialism (e.g., the things i own aren't important to me). The financial well-being is also a superordinate multidimensional construct design with two reflective first order constructs (control and materialism). All items in the materialism construct were reversely coded whereas two items (CTL7 and CTL9) in the control subscale were reversely coded. The Cronbach's alpha for materialism and control were 0.715 and 0.763, respectively.

RESULTS AND DISCUSSION

Measurement model assessment: In examining the reflective measurement model, the reliability and validity were tested. For validity, two types of validity were examined. Firstly, the convergent validity of the measurement was examined by determining the factor loadings, Average Variance Extracted (AVE) and Composite Reliability (CR) (Gholami *et al.*, 2013). A sufficient convergent validity was determined by loadings and AVE of >0.70 and 0.50, respectively as well as CR of above 0.70 (Hair *et al.*, 2014). However, Hair *et al.* (2014) asserted that an indicator with loadings below 0.70 shall be deleted only if deleting the particular indicator will leads to an increased CR or AVE and indicators below 0.40 should always be deleted (Hair *et al.*, 2011). Based on Table 2, the loadings were all >0.40, ranging from 0.626-0.927. Meanwhile, the AVE ranged from 0.512-0.843, which exceeded the threshold value of 0.50. Whereas, all CRs were above 0.70, ranging from 0.753-0.934. Secondly, discriminant validity was tested by examining the correlations between the measures of potentially overlapping constructs by following the Fornell and Larcker (1981) criterion. Based on the results of discriminant validity in Table 3, all constructs (square root of AVEs) correlated more strongly with its own measures compared to the other constructs in their corresponding rows and columns. Overall, the measurement model demonstrated a sufficient convergent and discriminant validity.

Structural model assessment: Hair *et al.* (2014) recommended looking at the R^2, β, t-values, predictive relevance (Q^2) and the effect size (f^2) when assessing a structural model. The findings of the study show that the R^2 value for financial well-being is 0.443, suggesting that 44.3% of the variance in financial well-being could be explained by the student's financial literacy and the attitudes towards credit cards. The results revealed that financial literacy has a positive relationship with financial well-being with $\beta = 0.590$, $p<0.01$. Meanwhile, the attitude towards credit cards has a negative relationship with financial well-being with $\beta = -0.185$, $p<0.01$. Therefore, all hypotheses (H_1 and H_2) were supported. Table 4 demonstrates the full results.

Table 2: Measurement model results

First order reflective	Second order reflective	Items	Convergent validity: Factor loadings	Convergent validity: AVE	Convergent validity: CR	Total item deleted
	Financial literacy			0.631	0.836	
Financial planning knowledge		FPK3	0.811	0.624	0.832	3
		FPK5	0.847			
		FPK6	0.705			
Financial general knowledge		FGK1	0.830	0.701	0.934	0
		FGK2	0.802			
		FGK3	0.851			
		FGK4	0.873			
		FGK5	0.825			
		FGK6	0.841			
Financial interest knowledge		FIK4	0.777	0.653	0.882	3
		FIK5	0.861			
		FIK6	0.843			
		FIK7	0.746			
	Attitude towards credit card			0.512	0.753	
Positive attitude		PAT1	0.879	0.759	0.904	0
		PAT2	0.924			
		PAT3	0.807			
Negative attitude		NAT3_R	0.905	0.788	0.882	2
		NAT4_R	0.871			
Open attitude		OAT1	0.909	0.843	0.915	0
		OAT2	0.927			
	Financial well-being			0.633	0.769	
Control		CTL1	0.846	0.677	0.862	6
		CTL2	0.856			
		CTL5	0.762			
Materialism		MTE2_R	0.915	0.614	0.755	3
		MTE5_R	0.626			

CTL3, CTL4, CTL6, CTL7_R,CTL8, CTL9_R, FPK1, FPK2_R, FPK4, FIK1, FIK2_R, FIK3, MTE1_R, MTE3_R, MTE4_R, NAT1_R, and NAT 2_R were deleted due to low loading.

Table 3: Discriminant validity

Variables	1	2	3
Attitude towards credit card	0.726		
Financial literacy	-0.277	0.794	
Financial well-being	-0.349	0.641	0.796

The values that bolded are the square root of the AVEs while the off-diagonals are correlations

Table 4: Hypothesis testing

Hypothesis/Relationship	SBeta	SE	t-value	Decision	R^2	f^2
H_1: Financial literacy_Financial well-being	0.590	0.035	16.78**	Supported	0.443	0.555
H_2: Attitude towards credit card_Financial well-being	-0.185	0.044	4.188**	Supported		0.038

**p<0.01

As posited by, it is important to report both the effect size and the p-value in interpreting the research findings. Although, the p-value could inform the reader about the existing effect but the p-value itself does not reveal the effect size. Cohen's (1988) recommendation was used in order to measure the effect size. From Table 4, it could be observed that all relationships demonstrated an adequate impact with one large effect and one small effect. Next, we examined the predictive relevance (Q^2) of the model by using the blindfolding procedure. Hair *et al.* (2014) asserted that the model has predictive relevance if the value of Q^2 for its endogenous constructs is >0. The Q^2 value for financial well-being is 0.267, suggesting an adequate predictive relevance.

CONCLUSION

Summary of findings: In the current study, we proposed determinants of financial well-being among university students. We adapted Joo (2008)'s financial model of wellness in the context of Malaysian undergraduate students. As hypothesized, the findings of this study revealed that positive attitude towards credit cards is negatively related to financial well-being; whereas financial literacy was positively related to financial well-being.

The results of our study suggested that the financial well-being of undergraduate students was driven primarily by their financial knowledge. This result was consistent with past studies (Joo and Grable, 2004; Shim *et al.*, 2009;

Sabri and Falahati, 2012; Sabri and Zakaria, 2015). Students with a low financial literacy tend to make inaccurate decisions in terms of general knowledge, savings, loans and investments (Chen and Volpe, 1998). Whereby, individuals with higher financial literacy tend to make more savings compared to individual with lower financial literacy (Jonubi and Abad, 2013).

This study constructed the financial literacy in relation to how a person plans their general knowledge and his or her knowledge on importance of finance. This study suggested that in order for students to propel financial literacy they need to keep track of how much money, they have in their savings. Students also need to consider all costs prior to making a purchase. Other than that, students are encouraged to better equip themselves with general financial knowledges such as financial scams, appropriate insurance, right investments, health financial habits, financial record system and future financial planning. In addition, students could enhance their interest and knowledge about money by doing financial budgeting and tracking, maintaining balance in a savings account and always compare prices when purchasing goods.

The financial well-being is also negatively related with attitude towards credit card usage. Thus, it corroborated the findings of Hayhoe (2002) and Rutherford and Devaney (2009). The findings of the current study suggested that if students perceived that having a credit card will make them happy, not causing debt problems, lower the costs and wish have multiple credit cards in the future will affect their financial well-being in a negative way. As discussed thoroughly in the literatures, positive attitudes towards credit card will lead to a higher amount of outstanding credit card debts compared to those with negative attitudes (Rutherford and Fox, 2010).

LIMITATIONS

Because this study was conducted mainly in the East Malaysia, the generalisation cannot be done to the entire population of undergraduate students in Malaysia. Moreover, the financial and economic pattern is different than of in West Malaysia; since the cost of goods, services, transportation and foods are generally higher than in most states in Peninsular Malaysia. Therefore, spending pattern might be different and this variable could be included or considered in the future research as moderator. Therefore, the research findings need to be cautiously interpreted by the readers. In future, this study could be replicated by using a more diverse sample throughout Malaysia. Secondly, the majority of this study's respondents did not hold a credit card (92.9%), therefore this situation might not fully portray the issue of the study. In future, it would be interesting to investigate the financial well-being of students who are credit card holders.

IMPLICATIONS

The findings of this study could serve as a guide in giving information in designing programs and modules associated with financial well-being and management that target young people, especially university students in Malaysia. The program design needs to cater the aspects of financial literacy and attitude toward credit cards. By introducing a program to university students on the topic of financial literacy and credit card usage, issues such as debt habits and lack of awareness towards financial literacy and management could be controlled and prevented. Financial program such as personal financial management module with the cooperation of Credit Counselling and Debt Management Agency is appropriate to be conducted. Although, the implementation has been done since 2011, the program needs to be intensified again by the university. The implementation should be done on a large scale and the commitment and attention of the university is warranted. Moreover, financial institutions need to take a more proactive ways in promoting their credit card consultation and advisory services to university students. This is due to the fact that university students receive less exposure towards a right and prudent way of managing finances.

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