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The Impact of financial knowledge and Risk aversion on credit card usage with moderating role of income level

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ABSTRACT

The objective of this study is to identify the personal financial knowledge and risk aversion towards credit card using among the university student. This study also identifies respondents' gender, education level and monthly income towards credit card usage. This study is conduct at Rawalpindi and Islamabad sector. The primary data was used for analysis. The data was collected through structured questionnaire, this survey involves total sample of 200 questionnaires. We use SPSS software for analysis. *Regression analysis was used to analyze the data. Results of data analysis showed that financial knowledge has a strong positive effect on the credit card usage. On the opposing, Risk aversion exhibits no significant effect on credit card usage. A positive direct effect of Income level on a credit card usage is also confirmed. It is also established that income level do not moderate the relation of risk aversion and credit card usage; however a moderation effect of Income level is establish in the relationship between job financial knowledge and credit card usage.* The findings can be of immense use to international and Pakistani banks in marketing of credit cards. The convenience attribute can be emphasized to instill confidence among consumers and motivate them to use credit card.

Keyword; Financial knowledge, risk aversion, Credit card use, and income level

Introduction

The financial knowledge is key element to manage any type of funds. The financial management is called as the management of funds; it may include the management of an individual's funds or the management of the funds of a big organization. With out of financial knowledge it difficult to meet the highly requirements of today's modern world. With the help of knowledge it can be easily to understand the flow of funds it may inflow or out flow. Event, appreciated ones, among singular experience are the for the main methodology of learning toward use credit proficiently and they are additionally the significant wellsprings of monetary information (Hilgert and Hogarth, 2003) Concurring toward Worthington (2006), low-pay families are basic of financial anxiety. In any case, there is no evidence to show that low-pay families have less financial information.

Risk aversion is another important thing all the investors or other finance holders are also don't like risk but it is a truth that to earn high profit it must deal with high risk. Risk is a chance of loss as the rate of profit will increase then the risk level will also increase. Risk can be minimized by diversification when investing in a portfolio then the risk level is decreases because if one investment sector will decline profits or going to be in loss than the other sector will give profit and overall investor will save form loss.

The risk aversion person more less then use the credit cards. In this point of view purchased using credit card is more expensive with the fee or interest charged. Therefore, no interested in credit card using. There is a income level no effect with risk aversion and credit card usage. The credit card use is very important thing in financial knowledge and risk aversion the credit card increase the purchasing power of consumers. In addition reedit card holder's gain in term of convenience where they can axis funds at anytime and anywhere in the world in order to purchase goods and services.

if a person has financial knowledge then he can easily understand the use and importance of credit card use because the facility of credit card use is provide facility to purchase credit but it is also important to understand to use it just for important needs because have to pay it later. Following examined about the benefits of credit card, we should decide about the drawback of Visa. One of the significant issues is buyers yet to be paid a lot of credit card obligations with the shrouded charge and expenses, which emerges when one conveys an equilibrium on the credit card while paying conclusively the base every month.

This factor may likewise prompt the decrease of future pay as consumers need to repay the credit with interest charged. Things bought utilizing credit card is more costly with the expense or interest charged. In this manner, credit card clients are really spending more than the genuine expense of merchandise and ventures. This could cause financial burden, for example, past due installments if buyers can't repay the advance. Another difficult that occurs with credit cards is that individuals basically get such a large number of them.

From the conversation above, we can see that credit cards are empowering the expanding of Master-card obligations. The Income level is moderating variable which effects on these there variables, as much the income level then they will use financial knowledge. The persons who have lower level of income they have limited financial knowledge and not know well use of credit card as they have lower level of financial management.

2 .Literature review

2.1 Credit Card usage

Students credit market should be well evidence (Kara et, al 1994).Nallice Mac (2005) is refer to the decreasing credit card between ungratuated persons (Rate is fall 83% to 76% in 2004). But new data describe the more confidence toward credit card by college student, with unevenly 84% of well educated result tenure at least one credit card and there average balance is $3176 (Sallie Mac 2009). High rates of credit card between college student and many researchers are known to understand increasing around student how usage cards (Robert and Jones 2001). Exploration by Roberts and Jones (2001) support these findings, reminiscent of that charge card use fill in as a middle person in a few cases. Specifically, the examination that demonstrated bigger credit card use was connected by methods for a more grounded connection between cash mentalities and impulsive purchasing conduct, characteristic of an encourage result with respect to credit card (Roberts and Jones 2001).

2.2Financial Knowledge and Credit Card usage

This general lack of financial knowledge encouraged a fundamental fit of financial education programs in the US all through the 1990s, however specific issues covered and objective audiences have varied significantly (Fox et al. 2005). Robb and Sharpe (2009) refer important a relationship among credit card amount behavior and financial knowledge not in guide direction expect. To measure for financial knowledge 6-item score are use and result improved credit card direction of behavior Robb (2010) in before researches. (Moore 2004) define 2.113 students of collages given that elements which effects on the level of credit card information like variable such as (parents income financial support to job/scholarship and life time a business major.

Examining the connection among level of financial information on understudies and their credit card utilization practices, Robb (2011), directed a review with 2.723 understudies. Study results show critical relations between financial proficiency level and charge card use practices. As per end, understudies with low degree of information might want to utilize charge card with a higher limit. Students with low degree of information inconsistently cover their Visa obligations when contrasted and students who have significant degree of information. The significant degree of financial information utilize less loans and they pay more than least sum offset when contrasted and students with low level information.

(H1): *There is a financial knowledge has a positive impact on credit card usage.*

2.3Risk Aversion and Credit Card usage

Fall and Mekenzinc (2004) and Worthington (2006) define that all result show the gender play a very important party in general risk aversion. Associated to personal finance, two studies have a through behavior upon in this study. Hessing, Elffers and Weigle (1988) consider attitudes towards paying duty with settle tax argument (e.g., tax evasion). They find attitudes toward taxes (i.e., intention) and biased norms are greatly connected with self-reported behavior, but not with executive tax documents. Bolton, Cohen and Bloom (2006) look into the effects of risk avoidance base upon behavioral intentions.

They find that a cure message (media message for debt combination) really subverts insolvency risk insights and expanding hazardous financial conduct expectation as credit card use wrongly increments. Thusly, when risk is brought down right through a cure (e.g., obligation union), there is an increment in another conduct goals for hazard related financial conduct (e.g., charge card abuse). The open writing examine higher than recommends in order to chance shirking ought to be identified with social aims related with individual finance. It is believed that the higher the degree of risk aversion, the lower the conduct goals ought to be to participate in arranged portfolio the executives. Subsequently, the associated hypothesis is proposed.

(H2): *Risk aversion has a negative impact on credit card usage.*

2.6 Moderating Income level

Mostly student have more knowledge about high level credit card because they are relevant with business depart Wickramasinghe and Gurugamage (2012) define that demographic and social economic factor which are affect on credit card knowledge. And Rathakrishnan D.Sellappan (2010) To day's students has limited concept understanding about finance and its setting up. The which has passed show that England collage and undergraduate student lack of economic information American and Australia more point of liability, insolvency danger and there is no giving up work planning skill among the young.

But Malaysia, credit license insolvency increase three time from 2006 to 2007 and103 % increase in study borrow fail to pay in the similar stage time Goi and Nee(2008).

There is an examination show that there is huge connection among age and credit card use. Yieh (1996) report that, as heads of families be more youthful, the probability of have a negative disposition toward portion obligation declined and arriving at the absolute bottom at age 43, and afterward expanding forcefully. during this investigation, which plans to set up degree of credit card education of undergrads, cards proficiency level of the understudies is determined as 43%. The little degree of Visa proficiency shows in order to understudies need more data with respect to credit card they are utilizing. Among the discoveries of the investigation are; understudies who use credit card by and large have low-pay, 33% of month to month uses of understudies are finished with credit card and for the most part Visa adjusts are not paid in full(Cengiz Toraman at, al.2016).

As indicated by the investigation of Slocum and Mathews (1970) and Mathews and Slocum (1972), higher-pay shoppers have more uplifting mentalities toward credit card use contrast with lower-pay purchasers. then again, Joo, Grable, and Bagwell (contrasts between sexual orientations in states of the quantity of credit card held, balances, measure of regularly scheduled installment, or general mentalities toward credit 2001) report no.

H3: *The income level* has *a positive impact on credit card usage.*

2.4 Moderating income level effect with financial knowledge and credit card usage

Occurrence, friends and family, among individual experience are the for the most important approach of learning toward use credit efficiently and they are also the major sources of financial knowledge. (Hilgert and Hogarth, 2003) As per Worthington (2006), low-pay families are basic of financial anxiety. Yet, there is no verification to show that low-pay families have less financial knowledge.

Center gathering information break down because of Cude, Lawrence, Lyons, Metzger, LeJeune, Imprints, and Machtmes (2006) suggested that understudies who scored upper on a financial wellness test were more reasonable to report paying their equilibrium in complete every month and were less inclined to hold a credit card as look at through understudies who had lower scores on the test. Study between auxiliary school understudies has proposed that financial guidance has a positive outcome on financial experience (Langrehr, 1979; Tennyson and Nguyen, 200.

Based on their exploration, Chen and Volpe (1998) contended that an individual's degree of financial knowledge will in general impact their feelings and influence their financial choices. Their examination was among the first to build up a connection, but a dubious one, among information and conduct among understudies.

People with more elevated levels of financial information were bound to settle on great financial choices in a speculative circumstance (Chen and Volpe, 1998).).In this Posits that more knowledgeable individuals will be likely to carry lower log balances, the opposite effect is noted. Among revolvers, level of balance revolved is, in fact, positively related to financial knowledge.

H4: *Income level moderates the positive relationship financial knowledge with credit card usage in such that relationship will be stronger in case of user whose income level is high.*

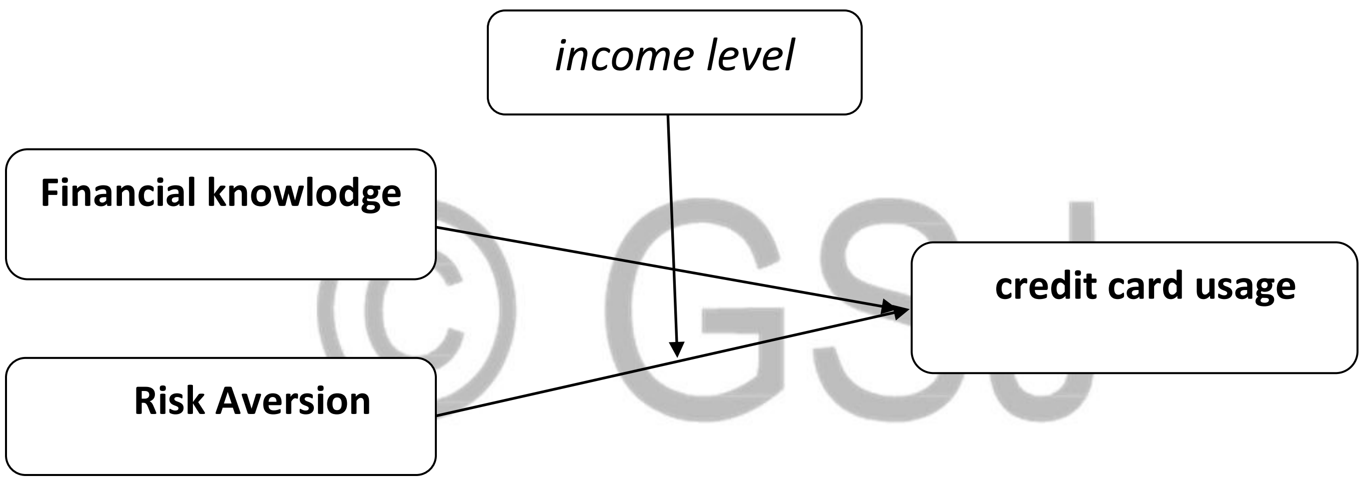
2.5 Moderating Income Level effect with Risk Aversion and credit card usage:

Current research result suggests so as to college students could not be at risk to the degree firstly feared, on the other hand. regardless of whether a few undergraduates do experience issues with credit, when all is said in done, undergrads are in any event as responsible as their age peers in overseeing credit card use and credit card obligation (Braunsberger, Lucas, and Bug, 2004; Draut and Silva, 2004). Proof recommends to there is little contrast in states of credit card rights dependent on undergrads' experience. In an investigation of Louisiana Understudies, Lawrence et al. (2003) noted in order to 45% of card holders be Caucasian, 23% were African American, 19% were Asian, concerning 6% were Hispanic and the rest of Local American or extra race and identities.

These rates mirrored the race and ethnic assignment in the general understudy body, implying that nationality was not an issue in allotment of credit card holders on that grounds. There is a couple of past investigates, and then again, that demonstrated that elective understudies are bound to be monetarily in danger when contrasted and different understudies (Lyons, 2004). Draut and Silva (2004) establish that students from lower income households were more likely to expand moderately high credit card balances ($7,000 or more) as compared with their peers. These result suggest that possibly such students do not have as much experience in financial markets as their peers as of middle- and high-income families..

H5: *Income levels moderate the negative relationship Risk aversion with credit card usage with such as that the relationship will be weaker in case of credit card user whose income level is high. :*

Research model



RESEARCH METHODOLOGY

This study was taking place in Ipoh. The sample technique carried out in this find out about was easy randomized in which questionnaires were distributed to 200 randomly selected workers. All selected respondents work with at least one credit card, regardless of government or private sector. In this study, questionnaires had been used to collect data and information. A complete of 200 questionnaires was randomly distributed to people who had at least one credit card.

Data collected were analyzed using the Statistical put together for Social Science (SPSS). Descriptive statistics consisting of frequencies, means and percentages, where appropriate, have been also used to describe responses to impartial variables such as respondents' socio-demographic and socio-economic characteristics, personal financial knowledge of the credit card and risk aversion and also the dependent variable which is the use of the credit card.

The majority of the participants were single (55.9%) males (69.25) and female (30.8%) with average ages from 21 to 25 years (30.4%). Most of were business persons (63.7%) who had been mostly students as job holder working with the less than 1 year (23.4%). Their average education was a Master's degree (62.1%).

Scales/ Measures Used

All study variables were measured using a 5 point Likert scale where 1 represented Strongly Agree and 5 represented Strongly Disagree.

Credit Card usage

Credit card usage of participants was measured using an 6 item scale developed by (Robert and Jones 2001). **).** Sample items included "Lose my job and be moved to a lower level job within the organization?" The alpha for this scale was found to be 0.852.

Income level

Income level were measured using a 1 item scale developed by Slocum and Mathews (1970**),** upper-income consumers have more favorable attitudes toward credit card usage compared to lower-income consumers**.** The alpha reliability of this scale was 0.680.

Financial Knowledge

(Hilgert and Hogarth, 2003) 5 item scale was used to measure the financial knowledge of participants**.** With personal experience are the most important way of learning to use credit effectively and they are also the main sources of financial knowledge. The alpha of this scale was 0.717.

Risk Aversion

This scale, which is based on the theoretical work of Slovic (1972) and the operationalization of Gupta and Govndarajan (1984). 4 item scales was used to measure the risk aversion of participants. The alpha for this scale was found to be 0.56

Control Variables

A one-way ANOVA was performing to control the variation in credit card usage on the basis of demographic variables used in the study. Result obtain from the one-way ANOVA (see Table 1) indicated significant differences in the credit card usage dependent variable across age ($F=3.880$, $p < .05$), Education ($F= .4.855$, $p < .05$), and occupation($F= 2.713$, $p < .05$).

Table 1: One-way ANOVA

Credit card usage		
Sources of Variables	**F Statistics**	**P Value**
What is your Gender?	1.398	.037
What is your Age?	3.880	.053
What is your m status?	2.605	.093
What is your education level?	4.855	.033
What is your occupation?	2.713	.052

CCU= credit card usage

At the same time as no significant difference was found in mean values of credit card usage on the bases of gender and M, status. Afterward, factors recognized as significant were entered as control variables in step 1 of regression analysis for both variables

2. Correlations

Means, standard deviation and correlation matrix are presented in Table 2

Correlations											
	Mean	SD	Gender	age	M Status	Education	Occupation	Ccuse	Income	FK	RA
Gender	1.3650	.48264	1								
Age	1.7850	.89598	.066	1							
M-status	1.3150	.46568	.358*	-.018	1						
Education	2.2750	1.02206	.142*	.081	.134	1					
Occupation	2.1900	.97913	-.031	-.051	.055	.083	1				
CC-usage	2.3242	.58149	-.024	-.163*	.039	-.113	.013	1			
Income	2.1250	.94010	-.024	.014	-.090	.011	.034	.038	1		
FK	2.3410	.71896	.103	.090	-.004	.063	.140*	.044	.091	1	
RA	2.4863	.55320	-.057	-.034	.036	.004	.005	-.057	.020	-.010	1

**. Correlation is significant-at the 0.01 level (2-tailed).

*. Correlation is significant-at the 0.05 level (2-tailed).

The table indicates that financial knowledge has a strong positive correlation with credit card usage (0.044, $p< 0.05$), which provides initial support for hypothesis 1. However, Risk aversion negative correlation (-0.057, p = ns), which is contrary to hypothesis 2. On the other hand income level exhibited a strong degree of association with credit card usage (0.038, $p< 0.05$) thus on condition that preliminary support for hypothesis 3 and 4, respectively.

Regression Analysis

Multiple regression examination was utilized to test the principle impacts as well as the moderation effects of the variables. The outcomes acquired from regression analysis are introduced in Table 3. The outcomes show that financial knowledge positively affects credit card use ($\beta = 0.155$, $p>0.001$), accordingly Speculation 1 is acknowledged. The relationship of Risk aversion with credit card use was discovered to be insignificant ($\beta = - 0.010$, p = ns), consequently speculation H2.

TABLE 3: Moderated Regression Analysis:

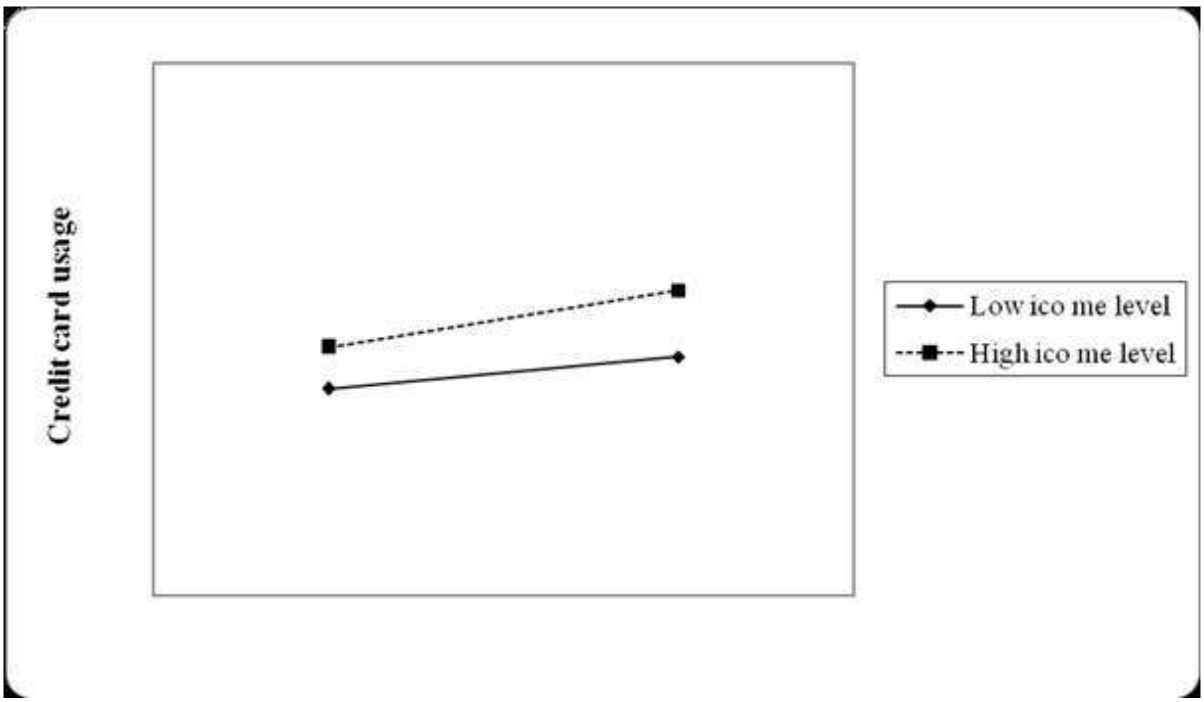
	Credit card usage		
Predictors	**B**	**R^2**	**ΔR^2**
STEP1			
Contorl variable		0.045	
Step2			
Financial knowledge(iv)	.155		
Risk aversion(iv)	.010		
Income level(mod)	.138	0.491	
Step3			
Income lev* F_K	.336	0.561	0.542
Income lev* R_A	-.130	0.444	0.432

n = 200. F_K = Financial knowledge; INC_LE = INCOME LEVEL

*=*p* < .05. **=*p* < .01. ***=*p* < .001. ns = not significant

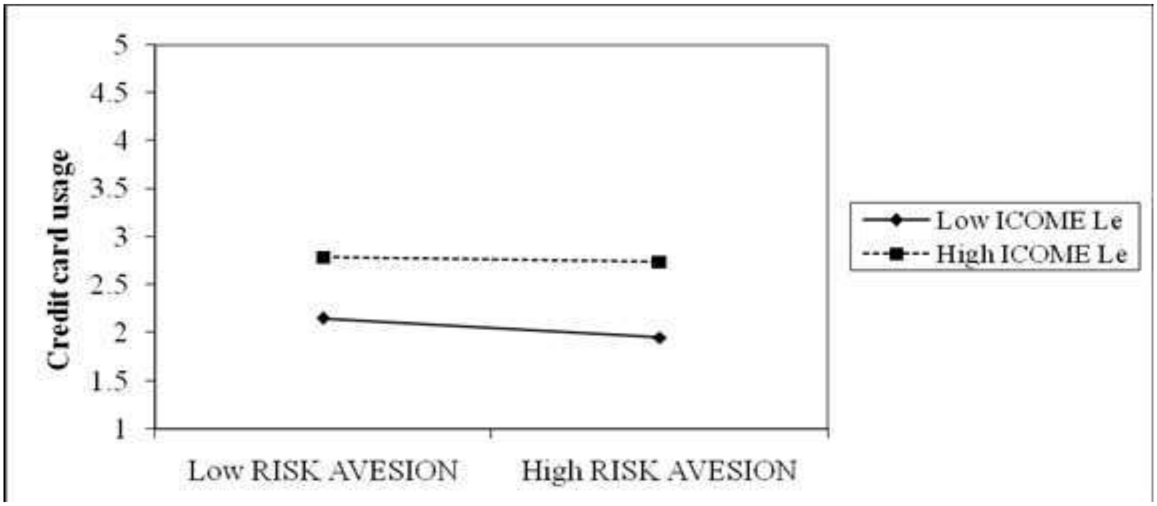
Regression examination further demonstrates that Pay level have a solid constructive outcome on credit card use ($\beta = 0.138$, $p>0.001$), therefore hypothesis 3 is accepted, Leading to the acceptance of hypothesis 4. Hypotheses 4 and 5 were tested using moderated regression analysis technique developed by; where control factors were entered in 1. In step 2 independent and moderator variables were entered. At long last, in sync 3 the connection term (result of free and moderator factors) was entered, which if huge, verifies moderation.

The results of moderated regression analysis in Table 3 (step 3) show that Income level moderate the relationship of financial knowledge and credit card usage ($\beta = 0.336$, $p > 0.01$; $\Delta R^2 = 0.542$, $p > 0.01$), and, as a result, hypothesis 4 was accepted. Similarly, the moderation effect of Income level on the relationship of risk aversion and organizational credit card usage was also found to be negative significant ($\beta = -0.130$, $p > 0.01$; $\Delta R^2 = 0.432$, $p > 0.01$), therefore hypothesis 5 was also accepted.



FK =financial knowledge; Inc le =income level; ccu credit card usage

Figure 2: Interactive Effect of financial knowledge and income level on credit card usage



RA =Risk Aversion; Inc le =income level; ccu credit card usage

Figure 3: Interactive Effect of Risk Aversion and income level on credit card usage.

Significant interactions for high and low values of the moderator are shown in Figures 1 and 2. Figure 1 illustrates the positive financial knowledge– credit card usage relationship was r behavior relationship was also much stronger when income level was high, thus confirming hypothesis4 Similarly, Figure 2 shows that negative Risk Aversion- credit card usage relationship change relationship was weaker when income level was high, which supports hypothesis 5.

Discussion

Experimental analysis supported most of the proposed hypotheses of this study. That financial knowledge has a strong positive correlation with credit card usage. Analyzing the relationship between college students' level of financial knowledge and their credit card use behavior, Robb (2011) conduct a assessment of 2,723 students. The study results show significant relationships between the level of financial knowledge and the use of credit cards. According to the conclusion, low-level students would like to use a credit card with a higher limit. Students with a low level of knowledge rarely pay all their credit card debt compared to students who have a high level of knowledge.

The relationship of Risk aversion with credit card usage was found to be insignificant. They find that a remedy message (media message for debt consolidation) actually undermines bankruptcy risk perceptions and increasing risky financial behavioral intention as credit card use wrongly increases. Therefore, when risk is lowered all the way through a remedy (e.g., debt consolidation), there is an increase in another behavioral intentions for risk related financial behavior (e.g., credit card usage.

The income level has more significant positive relationship with credit card usage. The income level has low or high more effect in the credit card usage. According to the study of in support of previous studies conducted by Slocum and Mathews (1970) and Mathews and Slocum (1972), higher-income consumers have more positive attitudes toward credit card usage compare to lower-income consumers. on the other hand, Joo, Grable, and Bagwell (differences between genders in conditions of the number of credit cards held, balances, amount of monthly payment, or general attitudes toward credit 2001) report no.

Results of the interactive effect of financial knowledge and on credit card usage recommended that individuals with high income level direction showed a highly positive. Show that Income level moderate the relationship of financial knowledge and credit card usage ($\beta = 0.336$, $p > 0.01$; $\Delta R^2 = 0.542$, $p > 0.01$) There used to be a significant distinction between monthly earnings and credit card practices. Therefore, this assumption can't be rejected considering that the p-value is increased than 0.05. The end result acquired looks regular with previous research in which lookup studies show that low-income households are frequent due to financial stress (Worthington, 2006). However, there is no proof to show that these low-income households are much less financially savvy. Financial stress should be associated to many social problems such as unemployment, large households and bad finances.

Consequences of the interactive effect of risk aversion and income level on credit card usage recommended that individuals with high Income level orientation showed a highly credit card usage. That negative impact Risk Aversion- credit card usage relationship change relationship was weaker when income level was high, which supports hypothesis 5. Previous researches, on the additional hand, that indicated that other students are more likely to be financially at risk when compared with other students (Lyons, 2004). Draut and Silva (2004) determined that college students from low-income households have been extra probably to expand reasonably high deposit card balances ($ 7,000 or more) than their peers. These findings endorse that these college students might also now not have the identical experience in the financial markets as their peers from middle- and high-income families.
Contrary to expectations, the effects from the path ride had been mixed. While college students who said taking a path have been extra in all likelihood to usually pay for their cards, as expected, the direction ride used to be additionally related with a greater possibility that college students have a maximum credit card or elevate solely the minimum payments

Managerial Implications

This concludes that young workers who have high financial literacy and a positive attitude do not necessarily have best credit card practices. This proves that working adults with good personal financial knowledge did not apply when using the credit card. Based on these findings, the government could organize some sort of seminar to guide working adults on how to apply their financial knowledge to the use of credit cards. This study provides evidence that financial literacy is associated with more positive credit card use among college students. What is missing from this study is a clear understanding of how financial knowledge is obtained or developed. It’s generally accepted that financial education programs can improve knowledge, but the measure of financial education (course-exposure) did not be have a predicted. However, as not the discussion, this may have more to do with the weakness of the variable than it does with financial education.

Limitations and Directions for Future Research

The information for this find out about was once collected from the instructional institutions of a range of universities and from the public and personal sectors only. Future researchers are suggested to carry out the equal research in different sectors such as differentiated banks; telecommunications companies and different corporations in the classification to improve the generalizability of our result. This research used to be based totally on a sample of 200 respondents who had been selected the usage of comfort sampling techniques. To make sure the generalizability of the research, it is suggested that potential researchers use a large and more numerous sample size. This research studies the mutual impact of financial knowledge, risk aversion and earnings on this outcome. Current research incorporating Social Learning Theory and the Theory of Planned Behavior into an understanding of credit card usage financial behavior and knowledge development looks capable.

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