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Correlates' of different types of factors and credit card usage of employees: Empirical evidence from Colombo District, Sri Lanka

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Abstract

Credit card is one of the mostly used cashless transaction method with economic growth and adapting new technology in the banking industry. Credit card plays major role in contemporary business world. So, there are a number of service providers are engaged in issuing credit cards and customers tend to use credit cards due to different reasons. Therefore, this study is focused to identify the relationship between different type of factors and the credit card usage of employees in Colombo district. Required data collected from 385 respondents with the aid of a structured questionnaire. The sampling techniques were simple random sampling, stratified random sampling and multi-stage cluster sampling. Descriptive analysis and correlation analysis was done to attain the objective of the study. The results revealed that gross monthly income, social status of credit card used employee, attitude, financial optimism, perceived financial cost are significant positively correlate with the credit card usage of employees in Colombo district, while the monthly expenses done through credit card, age, user patterns and convenience are not significantly correlated with the credit card usage. These results can be used to stakeholders to enhance the services, facilities related to the credit cards.

Keywords: Colombo district, credit card usage, credit card, employees

1. Introduction

Complicated and diversified human needs and wants changed the ancient self-sufficient economy. With the changing of self-sufficient economy, the medium of exchange was also gradually developed. 'Barter system' which is the earlier exchange method that exchange the goods and services instead of particular goods and services, had been changed. Due to the inherently inconvenience of that exchange method, the medium of exchange was developed. (Business and Accounting Studies-Grade 10,2015) ^[1] With the inspection of the banking system and by the 21st century, rapid development of technology also influenced to the exchange methods. Rapidly people tend to use cashless transactions via e-money due to different reasons. In Sri Lanka licensed service provider issues four types of payment cards, namely debit card, credit cards, charge cards and stored value cards. (Payment Bulletin, 2015) ^[2]. As defined in the Cambridge Dictionary a credit card is a small plastic card that can be used to buy goods or services and then pay for them at a later time ^[3]. Credit cards are one of the main methods of cashless transaction in today's contemporary business world. Nowadays people use credit card as a simple of prestige and credit card users can spend future money today. Most of the service providers' issues local and international credit cards. Customers can purchase goods and services through credit cards from domestic ad foreign market with reasonable price. Therefore, there is a considerable increasement in the issuing credit cards in Sri Lanka during the past few years. Due to the reasons like transaction convenience, safety, less time consume and discount offers, customers tend to use credit cards. Furthermore, the employees who are the target group of credit card licensed service providers are the group that have paid less attention in the field of research done related to credit card usage in the Colombo district. Colombo district is the district which has the highest population in Sri Lanka indicate 2,324,349 (Population and Housing, 2012) ^[4] and the commercial hub of Sri Lanka while the highest number of branches of credit card service providers are located in the Colombo district.

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Therefore, the study is trying to identify the relationship between different types of factors and the credit card usage of employees in Colombo district.

As reviewed in the literature Malaysian customers with different monthly gross income differ in their credit card usage in terms of repayment preference and frequency of credit card use (Husain et al., 2013)^[5]. With 2018 customers in the Kottawa urban area in Sri Lanka implies a strong positive relationship between the level of monthly income and credit card usage^[6]. In 2014 Atienza revealed that the ownership of credit card is not influenced by the level of income while the type of commodities purchased through credit card is influenced by age, gender marital status, education attainment and the level of income^[7]. Among the executives in Sri Lanka age is a significant factor in the credit card debt^[8]. The income of the respondents were insignificant economic factor to have a credit card and with social capital like the degree of participations in social activities, membership in credit associations and membership in the professional body have shown as significant determinants of credit card usage (Kuruppuge et al. 2017)^[9]. Attitudes towards credit cards and income had been identified as the effected factors on credit card usage in Kenya bankers (Mwakidedi, 2009)^[10]. In India younger people are more likely to use credit cards while older people are comfortable with cash payment methods. (Khare et al. 2012)^[11]. Furthermore, in 2010 Ahmed et al. Exposed that users need credit cards for their convenience. Therefore, there was no significant impact of attitude on credit card debts^[12]. Perceived financial cost has a negative impact on intension to Islamic credit cards (Ali et al. 2017)^[13]. Considering about the Indian context customer user pattern and convenience was a major determinant of credit card usage (Khare et al 2012)^[11]. In 1998 Ahmad tried to find out the impact of financial optimism on the level of credit card usage of Malaysian customers (Ahmed 1998)^[14].

2. Material and methods

In order to identify the relationship between different type of factors on credit card usage of employees in Colombo district, to collect correct and accurate data structured questionnaire was the main research instrument which is relevant to the primary data collection method of self-enumeration. A questionnaire was consisting with ten-point Likert scale statements to measure the qualitative data which are the user patterns, convenience, social status, attitude, financial optimism and perceived financial cost while age, gross monthly income and monthly expenses done through credit cards measured as the quantitative data. For the Likert scale '1' indicates 'totally disagree' and '10' indicates 'totally agree'. While the above factors were the independent variables or the explanation of this study and the credit card usage was the dependent variable or the response variable of this study. Credit card usage was measured by considering about the frequency of the items purchased through credit cards. Food & beverages, clothing, medical & health services, education, bill payments, travelling, fuel, entertainment, insurance and cash advances were the considered items purchased through credit cards while never, rarely, sometimes, very often and always were the frequency of purchasing items through credit cards. Random sample of 385 units was selected with the aid of simple random sampling, stratified random sampling and

cluster sampling which are the probabilities sampling methods. All the credit card users in Sri Lanka were considered as the population, while credit card users in Colombo district were the target population. The Colombo district geographical map was the sampling frame of this study. Based on the high population, top five divisional secretariats (DSs) were selected as the sampled population among 13 divisional secretariats in the Colombo district. By using stratified random sampling method, select sufficient number of Grama Niladhari Divisions (GND) from the DSs. Then considered the lanes in selected GNDs are clusters and these lanes can be identified as primary sampling units in this survey. So, each and every household within that particular selected lane were observed and the households in that particular lane were the secondary sampling unit in accordance with the multistage cluster sampling. For this study a household who were the employee as well as the credit card holder can be identified as a sampling unit.

Descriptive analysis was carried out to get an overall idea about the distribution of data and a correlation done to measure the direction and strength of the relationship between variables. Based on the Pearsons' product moment correlation coefficient measured the linear correlation between variables and the scatter matrix of variable illustrate the graphical representation of the relationship between dependent variable and independent variables.

3. Results and discussion

3.1 Descriptive Analysis of the Variables

Table 1 and Table 2 reflects the summary measurements of dependent variable and independent variables. According to Table 1 the minimum level of credit card usage of employees was recorded as 5.36 while the maximum credit card usage of employees was recorded as 22.99. The average level of credit card usage is 11.03. Most of the employees' credit card usage is 8.56 which indicates the mode of the distribution. The deviation of the credit card usage from the average is 3.24. Since the coefficient of Skewness is recorded as 1.14 it can be decided that the distribution of credit card usage of employees' in Colombo district is not much skewed. It seems as approximately normal distribution. Furthermore, Table 1 shows the minimum monthly income of an employee was recorded as Rs.25, 000 while the maximum monthly income was recorded as Rs.500, 000. Most of the employees who included in this study earn Rs.50, 000 for the month. The deviation of the monthly gross income distribution of the average monthly income is 47594.7 shows a considerable amount of deviation in the monthly income of employees by their occupations. The Skewness value is 3.473 implies that the monthly gross income of employees who use credit cards had positively skewed distribution.

As shown in Table 1 the minimum expenses done through credit cards is recorded in this sample as Rs.4, 000 while the maximum is Rs.100, 000. Monthly average expenses done through credit cards is around Rs.25183. Most of the respondent employees expense through credit cards Rs.10, 000 which indicates the mode of the distribution. The deviation of the expenses done through credit cards from the average is 18,756.7. Also, the coefficient of Skewness is recorded as 1.35. Therefore, it can be decided that the expenses done through credit cards have positive skewed distribution.

Table 1: Summary Statistics of Variables

Summary Statistic	Variables				
	Credit card usage	Monthly income	Monthly expenses done through credit card	Age	User Pattern
Mean	11.0388	75839.17	25183.12	38.32	44.055
Median	10.2373	60000.00	20000.00	38.00	46.117
Mode	8.56	50000	10000	27	8.60
Standard Deviation	3.24093	47594.7	18756.700	10.351	18.649
Variance	10.504	226525600	351813803.647	107.15	347.81
Skewness	1.143	3.478	1.358	0.532	-0.097
Kurtosis	1.119	21.470	1.814	-0.484	-0.805
Minimum	5.36	25000	4000	22	8.60
Maximum	24.82	500000	100000	72	85.99

Minimum age of employees was recorded as 22 years while the maximum age of employees who use credit cards is recorded as 72 years as recorded in Table 1. The average age of the employees who use credit cards was around 38 years. Most of the credit card used employees were at age 27. The deviation of the age distribution of the average age is 10.3. Also, the coefficient of Skewness is recorded as 0.532. Therefore, it can be decided that the age distribution of employees who use credit cards is not much skewed.

According to Table 1 minimum level of credit card user pattern was recorded as 8.6 while the maximum level of credit card user pattern is 85.99. The average level of credit card user pattern of employees is 44.05 with the standard deviation of 18.65. Since the coefficient of Skewness is recorded as -0.097, it can be decided that the distribution of credit card user pattern has approximately normal distribution.

Table 2: Summary Statistics of Variables (Cont.)

Summary Statistic	Variables				
	Convenience	Social Status	Attitude	Financial Optimism	Perceived Financial Cost
Mean	66.1149	42.370	45.688	60.031	44.848
Median	72.5535	30.279	41.951	62.447	44.023
Mode	99.87	12.53	11.11	86.64	44.73
Standard Deviation	25.5076	32.913	25.013	18.812	17.865
Variance	650.642	1083.3	625.68	353.89	319.19
Skewness	-0.684	1.623	0.656	-0.758	0.302
Kurtosis	-0.524	3.597	-0.281	0.136	-0.440
Minimum	9.99	12.53	11.11	8.66	9.41
Maximum	99.87	236.84	111.06	86.64	90.14

According to Table 2 minimum level of convenience of the credit card used employees is 9.99 while the maximum level of convenience of credit cards is recorded as 99.87. The average level of convenience of credit cards of employees is 66.11 with the standard deviation of 25.51. Since the coefficient of Skewness is recorded as -0.68, it can be decided that the level of convenience of credit cards of employees has negatively skewed distribution. According to the Table 2 the level of social status, of the credit card used employees has 12.53 minimum value while 236.84 is the maximum. The average value of level of status is 42.3 with a standard deviation of 32.91. Since the coefficient of Skewness is recorded as 1.623. It can be decided that the credit card status negatively skewed distribution.

As shown in the Table 2 minimum level of attitude of the credit card used employees from the total respondents is recorded as 11.11 while the maximum level of convenience of credit cards is recorded as 111.06. The average level of convenience of credit cards of employees is 45.7 with the standard deviation of 25.01. Since the coefficient of Skewness is recorded as 0.656. Therefore it can be decided that the level of attitude of the employees who used credit cards has positively skewed distribution. According to Table 2 minimum level of financial optimism of the credit card used employees is recorded as 8.66 while the maximum is 86.64. The average level of financial optimism of respondents is 60.03 with the standard deviation of 18.81. Since the coefficient of Skewness is recorded as -0.758, it

can be concluded that the level of financial optimism of employees who use credit cards has negatively skewed distribution. Table 2 shows the minimum level of perceived financial cost of the credit card used employees from the total respondents is recorded as 9.41 while the maximum is 90.14. The average level of perceived financial cost is 44.84 with the standard deviation of 17.86. Since the coefficient of Skewness is recorded as -0.44 and it can be concluded that the level of perceived financial cost has approximately normal distribution.

3.2 Correlation Analysis

In order to attain the objective of identifying the relationship between different type of factors and credit card usage of employees in Colombo district, a correlation analysis had carried out.

Credit card usage level is the dependent variable (Y) or response variable while gross monthly income (X_1), monthly expenses done through credit cards (X_2), age (X_3), user pattern (X_4), convenience (X_5), social status (X_6), attitude (X_7), financial optimism (X_8) and perceived financial cost (X_9) were the independent or explanatory variables in this study.

Table 3 indicates the summary results of correlation analysis, among credit card usage and other explanatory variables.

According to Table 3 there are significant moderate positive linear relationship between credit card usage and gross

monthly income ($r=0.47/P=0.000$) and between credit card usage and monthly expenses done through credit cards has significant strong positive linear relationship ($r=0.74/P=0.000$). Relationship between credit card usage and age of the employees ($r=0.096/P=0.088$), the relationship between credit card usage and convenience ($r=0.095/P=0.092$) are negligible and not significant. Furthermore, the credit card usage and financial optimism also negligible and not significant ($r=0.10/P=0.072$). Credit card usage and user pattern ($r= 0.31/P=0.00$), credit card usage and social status ($r= 0.12/P=0.041$), credit card usage and perceived financial cost ($r= 0.23/P=0.00$), credit card usage and attitude of the respondents ($r= 0.26/P=0.00$) have a significant weak positive relationship. Furthermore, according to Table 3 there is a significant moderate positive relationship between gross monthly

income and expense is done through credit cards ($r=0.51/P=0.00$) while there is a significant weak correlation between gross monthly income and age ($r=0.21/P=0.0002$), user pattern ($r=0.19/0.0005$), attitude ($r=0.14/P=0.012$) respectively. Gross monthly income has no significant relationship between credit card usage and convenience ($r=0.013/P=0.807$), financial optimism ($r=0.05/P=0.33$) and perceived financial cost ($r=0.06/P=0.25$) respectively. Table 3 also indicates that there is a significant relationship between monthly expenses done through credit cards and age ($r=0.16/P=0.002$), user patterns ($r=0.26/P=0.00$), attitude ($r=0.17/P=0.0015$), financial optimism ($r=0.16/P=0.0045$) and perceived financial cost ($r=0.14/P=0.0089$) respectively. And expenses done through credit cards are not significantly related to convenience ($r=0.06/P=0.25$), social status ($r=0.09/P=0.08$).

Table 3: Results of Correlation Analysis

Correlation										
P-value	Y	X1	X2	X3	X4	X5	X6	X7	X8	X9
Y	1.0000									

X1	0.4781	1.0000								
	0.0000	-----								
X2	0.7349	0.5120	1.0000							
	0.0000	0.0000	-----							
X3	0.0964	0.2113	0.1692	1.0000						
	0.0880	0.0002	0.0026	-----						
X4	0.3124	0.1949	0.2622	-0.0339	1.0000					
	0.0000	0.0005	0.0000	0.5492	-----					
X5	0.0950	0.0138	0.0650	-0.1727	0.2207	1.0000				
	0.0927	0.8071	0.2502	0.0021	0.0001	-----				
X6	0.1154	0.0122	0.0982	-0.1144	0.3348	-0.2548	1.0000			
	0.0410	0.8288	0.0822	0.0427	0.0000	0.0000	-----			
X7	0.2612	0.1403	0.1780	-0.1594	0.3337	-0.1639	0.7163	1.0000		
	0.0000	0.0128	0.0015	0.0046	0.0000	0.0036	0.0000	-----		
X8	0.1019	0.0547	0.1600	-0.0434	0.0117	0.4045	-0.3550	-0.2076	1.0000	
	0.0712	0.3332	0.0045	0.4425	0.8352	0.0000	0.0000	0.0002	-----	
X9	0.2303	0.0647	0.1475	-0.0822	0.2578	-0.0650	0.4617	0.4606	0.0083	1.0000
	0.0000	0.2527	0.0089	0.1461	0.0000	0.2507	0.0000	0.0000	0.8829	-----

According to Table 3, age of the employees and convenience ($r=-0.17/P=0.0021$), age and attitude ($r=-0.15/P=0.004$) have a significant weak negative linear relationship while user patterns ($r=-0.03/P=0.54$), financial optimism ($r=-0.04/P=0.044$), perceived financial cost ($r=0.08/P=0.14$) have no significance linear relationship with age of the credit card used employees.

As Table 3 shows user pattern and convenience ($r=0.2/P=0.0001$), user pattern and social status ($r=0.33/P=0.00$), user pattern and attitude ($r=0.33/P=0.00$), user pattern and perceived financial cost ($r=0.25/P=0.00$) have a significant moderate positive linear relationship while user pattern and financial optimism ($r=0.01/P=0.83$) have not significant linear relationship.

According to the Table 3 convenience and social status ($r=-0.25/P=0.00$), convenience and attitude ($r=-0.16/P=0.0036$) have significant moderate negative linear relationship and the linear relationship between convenience and perceived financial cost ($r=0.065/P=80$) is not significant.

As shown in the Table 3 there is a significant strong positive linear relationship between social status and attitude ($r=0.71/P=0.00$) while social status and perceived financial cost have a significant moderate positive relationship

($r=0.46/P=0.00$). And there is a significant weak negative linear relationship exist between social status and financial optimism ($r=-0.35/P=0.00$).

As Table 3 shows there is a significant weak negative linear relationship between attitude of respondents and the financial optimism ($r=-0.21/P=0.0002$) while there is a significant moderate positive linear relationship exist between attitude and the perceived financial cost. Furthermore, the relationship between financial optimism and perceived financial cost is not significant ($r=0.008/P=0.88$).

4. Conclusion

As for the results of the analysis, gross monthly income, social status of a credit card used employee, attitudes, financial optimism and perceived financial cost is positively correlated with the credit card usage of employees' in the Colombo district. The monthly expenses done through credit card, age, user patterns and convenience are not significantly correlated factors with the credit card usage of employees in the Colombo district. Moreover, gross monthly income correlated with average expenses done through credit cards, age, user patterns and attitudes while

expenses done through credit card are correlated with age, user pattern, attitude, financial optimism and perceived financial cost.

In the modern contemporary business world cashless money is the trend. So, if the customers must tend to use cash less transactions not only credit cards, but also using other payment cards, government can reduce the cost of printing coins and notes. Directly or indirectly credit card through transaction save money for the government. Though there are ten employee categories exist according to the Department of Census and Statistics, this research focused mainly only for executive level, professionals and technical & associate professionals due to the limitations. Furthermore, this research will provide the literature for the future researchers and recommend for future researchers to test the similarity variables which is used in this study in all the types of employee categories, districts and licensed service providers separately. It will reveal more results for the stakeholders.

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