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RESEARCH ARTICLE

The factors affecting consumer's perception about credit cards usage: A study in Melaka, Malaysia

Tay Loong An, Suganthi Ramasamy*, Yuen Yee Yen

Faculty of Business, Multimedia University, Jalan Ayer Keroh Lama, Melaka 75450, Malaysia

*** Corresponding author:** Suganthi Ramasamy, suganthi.ramasamy@mmu.edu.my

ABSTRACT

The objective of this study is to examine factors affecting consumers' perception on credit card usage. This study implemented the non-probability sampling technique as it is the most convenience sampling method for the questionnaire survey for this study. The analysis was conducted by collecting 200 samples in Melaka, Malaysia and applying SERVQUAL model as the base model for this study. The model examines the impact of service quality, perceived benefits, bank policies and consumers' attitude in influencing consumers' perception on credit card usage. This study used multiple linear regression to analyze the factors affecting consumers' perception on credit card usage. The findings conclude that service quality, perceived benefits, bank policies and consumers' attitude have significant positive effect on the consumers' perception on credit card usage.

Keywords: service quality; perceived benefits; bank policies; consumers' attitude; consumers' perception

1. Introduction

The cashless payment system established by Malaysian financial institution plays an essential role in its consumers' daily life. Literally credit card refers to a mode of payment which illustrates the buying first and paying later concept[1]. The main feature of credit card is simply the extension of a loan to the consumer which does not required to be paid off immediately. Unlike the conventional bank note, this plastic card allows consumer to make a payment without the need of carrying out cash. This feature is extremely essential given the digitalization of the economy move by the Malaysian government. Most online transaction nowadays requires credit cards details to complete a particular purchase. Another type of plastic card that has been increasing used by the consumers is the debit card. Debit card is simply a payment method where operates on buying now and paying now concept. In other word, there must be sufficient balances in the card in order for the card to be used.

The modern consumers are more willing to use plastic cards; being credit card or debit card, due to its features. It is much safer transacting with plastic cards as consumers no longer need to physically carry cash around to make payment. Besides, using credit card as a mode of payment and punctually paying its due could build a good credit score for the consumers in the future should they decide to take up loans from the financial institutions. Another feature that makes credit card becomes more favorable as compared to other mode of payment is the reward programs and cash back benefits that are offered to cardholders. Cardholders able to

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enjoy various benefits and cash back rewards with certainly play a vital role in encouraging them to use the cards.

Though credit card offers various benefits and features that ease consumers' purchases, nevertheless the usage of the credit differs greatly among different generation. Based on **Table 1**, U.S consumers from generation Y and Z illustrate the highest utilization of credit card at 37% utilization of their credit limit and closely followed by those from generation X. On the other hand, baby boomers are seen to only utilize 28% of their credit limit while silent generation are seen to have the lowest credit utilization at 15%. The differences in the level of credit card utilization among different generation is ought to be studied in order to provide better credit facilities to the consumers.

Table 1. Credit card utilization rates[2].

Ages	Average revolving credit utilization
Gen Z (between 4–24 years old)	37%
Gen Y (between 25–39 years old)	37%
Gen X (between 40–54 years old)	36%
Baby boomers (between 55–75 years old)	28%
Silent generation	15%

In Malaysia, the introduction of different types of plastic cards influence consumer's perception towards credit card adoption. This could be due to limited information accessible[3] to consumers to better understand the different features and benefits of these plastic cards had to offer. In addition to that, the feature of buy now and pay later in the form of short term loan which need to be honored with a stipulated time frame. Nonetheless, consumer is then given a choice either paying the minimum amount, or settle the outstanding balances or pay any amount on the due date. These options encourage consumers to delay their payment which is supported by Perera et al.[4] who found that most of the consumers did not settle their statement balances and rather continuously using their credit cards after paying the minimum amount. The study further found that the number of consumers holding and using credit card with revolving features and with outstanding balance has increased significantly.

With the modernization of the way people shop, the payment mode has evolved to accommodate to modern needs of the consumers. This gives away to payment gateway technology which affects consumers' perception on the credit card usage. This technology is run by banks to establish fast connection between merchants' accounts and consumers' accounts. It helps the merchants to receive the credit card payments online. However, there are many issues are arising towards the payment gateway in the banks. The merchants have been complaining about instability in the payment processing which eventually lead to a failure to facilitate huge amount of transactions per day. Due to this, merchants are decreasing the acceptance of credit card for online transactions. Hence it is essential for financial institutions to identify ways to overcome this technical issue in order to promote the usage of credit card.

Hence, the objectives of this study are to determine the determinants that affect the consumers' perception of credit card usage. This is essential for financial institutions to design their credit card facilities in order to attract more consumers to apply and use credit cards. The following objectives are set for this study:

1) To determine the effect between service qualities with the consumer's perception of credit card usage.
2) To analyze the effect between perceived benefits with the consumer's perception of credit card usage.
3) To investigate the effect between banks policies with the consumer's perception of credit card usage.
4) To examine the effect between consumers' attitude with the consumer's perception of credit card usage.

2. Literature review

Solomon[5] studied the consumer purchasing behavior as a procedure of selecting, acquiring, utilizing and discarding of the products and services by the people so as to fulfill their needs and wants. The consumer buying behavior that the consumers express their need and desires by utilizing their accessible resources in order to select and buy the products and services by the study of Schiffman[6]. This study attempts to describe the usage of credit card through the consumer decision model (CDM) by the study of Engel et al.[7]. According to the authors, consumer decisions took place in five stages; acknowledgement of needs, searching for information, assessing available alternatives, buying and finally post purchase reflection. Hence this study attempts to relate the consumers' decision to use credit card based on this consumer decision model.

To achieve the objectives of this study, SERVQUAL model are applied to evaluate consumers' perceived service quality. Five determinants of the consumers' perceived service quality; reliability, assurance, tangibles, empathy and responsiveness. Reliability is defined as the ability of the services provided to accurately meet the consumers' needs and wants. While assurance defined as the security provided together with the services. Tangibility are reflected through the appearance of the service providers' appearance and well-developed facilities and equipment used during the execution of the services. Empathy on the other hand refers to how the service provider able to satisfactorily solve consumers' problem. While responsive refers to how the service provider design their services to accommodate different situation.

By the study of Gilmore and Szwarc[8,9] assert that the SERVQUAL model measures the criticism based on the different kind of expectations for the validity of the research. These expectations can change easily in according to the people's experiences and lead to a poor quality of perception. Sometimes, the people's experiences able to produce the wrong expectations.

2.1. Consumer's perception about credit card usage

Perception is characterized by the study of Raji and Zainal[10] as an expansive creative mind of people which store in a greater meaningful picture. For instances, consumers are likely to evaluate the value of the products or service based on their perception that is preset in the mind. The consumers' willingness to pay for a particular product or service depends on how they value it. Similarly, if consumers' highly value something they are more willing to purchase it no matter what, hence credit card will come into the picture should the consumer in need of instant "cash".

The study of Amini et al.[11] defined perception as the initial impression towards the products. Before buying any products, the consumer assesses the items whether it is a valuable product that they desired based on the past experience. Their judgement is based on relevant experiences by comparing the similar products that they have seen and/or used before. Likewise, in adopting and using credit card, consumers tend to compare their past experience in order to decide whether or not to proceed with the usage of credit card or choose other mode of payment.

Besides that, consumers' perception is highly dependent on their satisfactory towards the consumer services, perceived benefits, bank policies and customer attitude provided. The high the efficiency of the consumer services the higher the satisfaction level of the consumers which in return will improve the image of the company. Solvang et al.[12] discovered consumer service and consumers' perceptions able to influence the success of the business. Businesses which can provide reliable advices and services to their consumers are able to maintain its consumers' loyalty and satisfaction.

2.2. Service quality

Electronic service quality is a way to find out how a website can facilitate user activities which include

purchasing transactions and product delivery efficiently and effectively. Quality of service has been defined as an overall evaluation done by the customer service[13], while other researchers have defined the customer service as the extent to which services meet customers' needs or expectations. The degree of satisfaction is the result of the service quality provided to them. While Czepiel[14] described that consumer perception on the service quality is expressed as the consumer expectations being met or surpassed from the service performance and the service quality plays a main role or a basic essential and competitiveness' determinant to establish an association between the businesses and its consumers. Shah Mohd Dali et al.[15] assert that service quality is an expectation in the mind of consumers which influences the consumers' satisfaction towards the service provided. Service quality draws the differences between desire for service and quality of services received, in other word service quality is the correlation between what the consumers expect to receive from such service and what actually they experience from the services received[16].

Iacobucci and Ostrom[17] describe that the services provided by the front-line employees can differentiate into two categories; core service and relational service. The core service is defined as the types of services that should be offered to their consumers and it also known as the consumer's minimum expectation toward the core services. The relational service is defined as the introduction of the methods used by the front-line employees to perform or support the core service in order to render such services effectively and efficiently. Consequently, providing both the core and relational services are said to enhance consumers' positivity towards service provider which eventually affect their satisfaction towards the service delivery[18,19].

Levy[20] studied the poor service quality can lead to disappointment in consumers as their expectation are not net. In contrast, a good service can produce more opportunities to retain the consumers loyalty. The consumer satisfaction impacts the growth of the banking industry. Therefore, it is essential for the banking industry to consider and appropriately take actions on complains and recommendations made by its clients. This is vital in order to promote clients' satisfaction and retain their loyalty towards the bank.

2.3. Perceived benefits

The perceived benefits are a combination of a number of elements such as physical attributes, service attributes, and technical support obtained in using the product. Chakravorti[21] studied the relation between the various benefits provided by the credit card issuer with the usage of the credit card. The benefits are categorized as dispute resolution services, frequent-use awards, and interest-free short-term loans. The card issuers provide these benefits with the aim to attract more new clients and to increase the usage of the credit card. Besides, to further promote and encourage clients to use the credit card, credit card issuers design the credit card with security features that protect consumers from the privacy risk and security risk.

Chakravorti and Ted[22] examined the relationship between the various initiatives by the credit card issuers and the usage of credit card among different credit card issuers. The study found that, consumers tend to use credit card that frequently offer them with reward program and incentives. This occurs as consumers tend to compare the features offered among different credit card issuers to get the best deal. Those credit card issuers that able to provide the most attractive reward and incentive program will able to attract and retain their credit card clients and promote usage among the credit card clients. To effective service its credit card clients, credit card issuers ten to provide different reward program and incentives based on its clients' geographical location, social classes and business environment[23]. This strategy is found to be effective as it has help to boost the growth of credit card utilization among vast users of credit card services. The users of credit card are majorly categorized as the consumers (end user), issuers, merchants, acquirers, and network operators.

Gurusamy[24] studied the impact of credit card reward on the merchants. The author assert that merchants encourage the usage of credit card by the consumers because they can rip the benefits from it. This is because,

the more the consumers used credit card as their mode of payment the more benefits earned by the merchants as well as the credit card issuers. Therefore, the consumers perceived the reward or incentive of the credit card as the benefits not only to them, but also the card issuer and merchants as at advantages.

2.4. Bank policies

Bank policies also play significant role in determining credit card behavior. The policies can be further divided into benefits and convenience during application. First, there are different incentives or benefits provided by issuing bank to entice customer to use credit card. These incentives consisting of fee waiver, point rewards, rebates, free airline trip, discount of selected items and services and easy instalment plan[25]. Zywicki[26] evaluated the different ways that the credit card issuers used to execute their credit payment system to their consumers who are holding the specific credit card in the respective banks. There are several policies of the bank introduced to the cardholders which includes repayment installment, auto-charge facility, e-banking, least installment 10% and the balance imposed by the interest rate, interbank clearing, and pay at any sum among 10% and all reimbursement. Eventually those cardholders choose to default their credit card payment will be risking to accumulated debt in the long run since as per bank policies interest will be continuously charge to outstanding balances until it is being settled.

Another bank policies that need to be emphasized on are the qualifications and requirements that must be met by the applicants of credit card[27]. There minimum requirement that must be met in order for the applicant to be successful in their credit card applications. Firstly, the applicants must be at least 21 years and above in order to be eligible for credit card applications. Nevertheless, if the applicant is below 21, application can still be made provided that it is applied under their parents' name, this is to protect the banks from unnecessary financial risk. Besides that, applicants personal information are gathered from their personal identification number and income tax statement (if any) in order to assess their credit history and their capability to meet credit card obligations. In addition to that, applicants are also required to answer to answer relevant questions by the credit card issuers in order to facilitate their approval on the credit card applications.

Hunt[28] found that the card issuers offer the cash rebate to the cardholders in order to encourage them utilizing the credit card. The cardholders can use the cash rebate to offset the tax imposed by the card issuers. For examples, annual service tax of RM50 for each principal credit card and RM25 for each supplementary card. The different service tax has different redeemable bonus points. For examples, 10,000 bonus points used to redeem the RM50 service tax charge while 5000 bonus points used to redeem RM25 service tax charge. The cardholders also can get the discounts and promotion when they achieve certain level in the credit card transactions.

2.5. Consumer attitude

Consumer attitude generally refers to the customer satisfaction. Davis[29] affirmed that consumer's attitude depends on perceived ease of use towards the innovations of the information technology system (IT) and its applications. The consumer's attitude becomes better once the IT system and its application is seen to be useful in their daily life. The credit card issuers implement various benefits and incentive programs to encourage consumers to continuously use credit card as their main mode of payment. Since the consumers perceive that the benefits and incentives offered by the credit card are useful and beneficial to them, it will eventually lead to an increase in the usage of credit card[30].

By the study of Chien and Devaney[31], examined net effect of attitude on the usage of the credit card. The net effect of attitude refers to economic factor and demographic factor. The economic factor explains the consumers' working status as in whether they are employed or unemployed while the demographic factors describes the age and income level of the consumers. These two considerations are important to assess the

usage of the credit card in the current environment. The employed consumers are identified as those with good attitude towards their credit card spending since they are employed and has more income to meet their credit card debts while the unemployed users have low to no income to meet their credit card obligations which may lead to a periodic outburst of temper and fail to handle their debts. Hence, the study found that, the credit card usage are much higher by the employed consumers as compared to unemployed consumers.

By the study of Durkin[32] studied the consumers' experience and spending behavior affect their personal attitude toward the usage of credit card. The author categorized credit cardholders into two main group; good attitude clients and bad attitude clients. Good attitude clients are defined as those clients who has not more than three credit card as they perceived it will affect their credit score. While on the other hand, bad attitude clients are those who are considered as installment users. These are people who generally has more than three credit cards who normally make installment payments for their credit card debts. These group of clients are identified as those with huge credit balance in their credit card statement. In contrast with the good attitude clients, bad attitude clients that to use credit card more frequently and recklessly.

3. Research method

Figure 1 exhibits the theoretical framework of this study where those variables on the left side are the independent variables while the variable on the right side of the framework is the dependent variable. Four independent variables are identified to be tested against the dependent variable. These variables are service quality, perceived benefits, bank policies and consumers' attitude. The dependent variable identified for this study is consumers' perception about credit card usage.

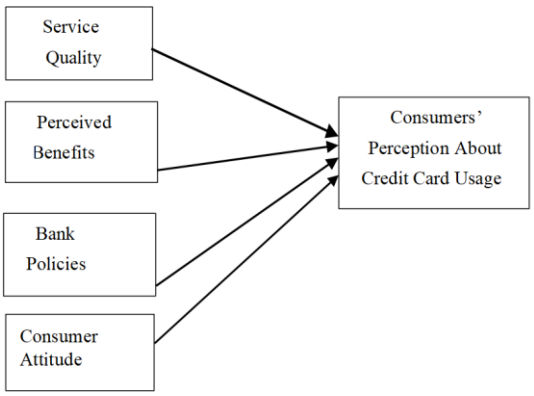

Figure 1. Theoretical framework.

3.1. Hypothesis

The following hypotheses are developed to achieve the objectives of this study.

H1: There is a significant effect between service quality and consumers' perception about credit card usage.

H2: There is a significant effect between the perceived benefits and consumers' perception about credit card usage.

H3: There is a significant effect between the bank policies and consumers' perception about credit card usage.

H4: There is a significant effect between the consumer attitude and consumers' perception about credit card usage.

3.2. Research instrument

The data gathering tool used in this study is questionnaires which is adapted from previous research studies. The questionnaires are distributed to 200 respondents from the general public who used credit card in their daily life.

The questionnaire designs are in the form of nominal scale and 5-point Likert scale. Section A of the questionnaire is nominal scale for the demographic questions while the section B is using 5-point Likert scale for the dependent variable and independent variables' items. There are 5 measurement statements for each variables.

3.3. Sampling design

The population will be the people using credit card in Melaka, Malaysia. This study implemented the non-probability sampling technique as it is the most convenience sampling method for the questionnaire survey for this study. The convenience sampling method used by the researcher to select anyone he or she happens to come across and it can be accessed easily. The reason of selecting this method because it is a less complex method compare to the probability random sampling technique.

3.4. Sample size

G*Power is a program used to evaluate and assess the size of the sample for research purposes. Based on the outcome of the G*Power (with 4 predictors), the sample size suggested by the software is 129 (**Figure 2**). Therefore, this study has distributed a total 200 sets of questionnaire to the targeted respondents to gather data.

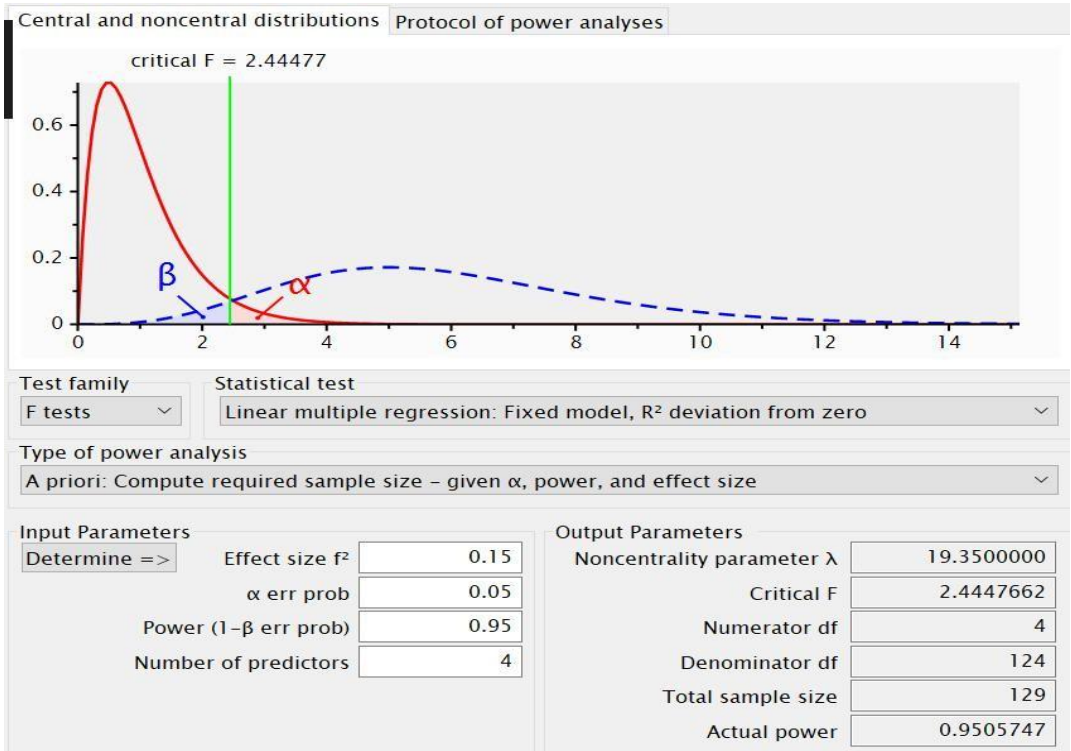

Figure 2. G*Power—sample predictor.

3.5. Data analysis method

The IBM Statistical Package Social Science (SPSS) version 26 is used to analyze the data collected from the targeted respondents. The data analysis method consists descriptive analysis, reliability analysis, Pearson's correlation analysis, normality analysis and multiple linear regression analysis. Each analysis addresses

different areas of the study to achieve the objective set for this study.

3.5.1. Descriptive analysis

The descriptive analysis is a technique used to summarize and measure the data based on the central tendency. The measures of central tendency consist of mean, median and mode. The calculation of mean is the sum of all figures divided by the total number of figures within the data set. To mode appears the most frequent in the data set while the median indicates the data which is stated in the middle of the data set. It is situated in between the highest value and lowest value and known as the less common types among the mean and mode.

3.5.2. Reliability analysis

Cronbach's alpha is used to check the reliability of the measures. Cronbach's alpha is an indicator of internal consistency, the close relationship of a group of projects as a whole. The Cronbach's alpha explains that the closer the reliability coefficient to 1.0, the more accurate the measurement is. The reliability below 0.60 is generally regarded as weak, reliability between 0.70 and 0.80 is considered normal, and reliability above 0.80 range is considered strong. On the side note, all the negative statements of the items in the questionnaire should be reversed first in advance before reliability test are carried out.

3.5.3. Normality test

In statistics, the normality test is used to analyze the data to determine whether it is well modeled by a normal distribution and the possibility of a normal distribution of random variables is calculated based on the data set. The normality test is in the form of model selection and it divided into several approaches which are included descriptive statistics, frequency statistics statistical hypothesis testing and Bayesian statistics. The normal probability plot acts as the graphical tool to analyze the normality of the data from the standard normal distribution and it also known as quantile-quantile plot (QQ). The correlation is a measure of the goodness of fit that used to examine the data in the normal distribution. If the QQ indicate the points of the normal data plotted below the straight line, resulting a high positive correlation.

3.5.4. Multiple regression analysis

Multiple linear regression is a measure to test the relationships between the dependent variable and independent variables. The multiple regressions consist of various elements, namely R square in model summary, significance level in ANOVA table and coefficient level for each independent variable. R square is the proposition in the variation in the dependent variable explained by the independent variables. The significance level in ANOVA shows the usefulness of the model while the coefficient level results the specific independent variables whether there is a most influential predictor or least influential predictor to the dependent variable. The *P*-value indicates the significance level of the variables. If the *P*-value is less than 0.05, this implies that the independent variables are substantially related to the dependent. Furthermore, if the *P*-value reaches 5 percent, the variables are not connected to each other in any significant way.

4. Findings and analysis

In the 200 respondents collected as the sample for this study, female respondent is represented by 54% of the total sample while male respondent occupies 46% of the sample. The highest respondent of this study constitute of Chinese respondent who represent 74% of the sample size, followed by Malay respondent at 36%, Indian respondent at 7.5% and other 0.5%.

Majority of the responded age between 21 to 30 years where they constitute of 55.5% of the sample, while those below 20 years old is 12% and closely followed by those age between 41 to 50, 31 to 40 years old and above 50 years old at 11%, 10.5% and 10.5% respectively.

More than half of the sample size constitute of responded who has degree (54%), followed by others and diploma level at 22% and 21.5% respectively and respondent with pre-university qualification represent 2.5% of the sample size.

Single respondents represent 66% of the sample while married respondent constitute 31.5% and other marital status is 2.5%.

Responded with income less than RM2000 consist of 43.5% of the sample, those with income between RM2001 to RM4000 is 23%. Between RM4001 to RM6000 is 16.5%, RM8001 and above is 12% and RM6001 to RM8000 is 5% of the sample size.

69% of the respondent only holds one credit card, 13% of them hold 2 cards, 10% hold 3 cards, 4.5% holds 4 cards and 3.5% of the respondents have more than 4 cards.

4.1. Reliability analysis

Cronbach's alpha is applied to determine the reliability of the measures. Cronbach's alpha is an indicator of internal consistency. The closer the Cronbach's alpha is to 1.0, the more reliable the measurement of the variables. A value of greater than 0.70, shows that it is acceptable.

Table 2 shows the reliability of Cronbach's alpha analysis on the variables. All the variables are acceptable since the Cronbach's alpha are greater than 0.70. Service quality displays the highest internal consistency with Cronbach's alpha 0.833 closely followed by bank policies at 0.808, consumer perception at 0.795, consumer attitude at 0.743 and perceived benefits at 0.713. The result suggests that all the variables are reliable.

Table 2. Cronbach's alpha of variables.

Variables	Cronbach's alpha
Consumer perception (Cp)	0.795
Service quality (Sq)	0.833
Perceived benefits (Pb)	0.713
Bank policies (Bp)	0.808
Consumer attitude (Ca)	0.743

4.2. Descriptive statistics

Table 3 describes the descriptive statistics for consumer perception. The result shows that Cp1 has the highest standard deviation, 0.974 while Cp5 has the lowest standard deviation, 0.854 among the other items of the consumers' perception. Besides, the result indicates that Cp2 has the highest mean, 3.680 while Cp5 has the lowest mean, 3.210 as compared to other variables in the consumer perception.

Table 3. Descriptive statistics of consumer perception.

Variables	Mean	Standard deviation
Cp1	3.5750	0.97423
Cp2	3.6800	0.97073
Cp3	3.5650	0.91100
Cp4	3.2150	0.91266
Cp5	3.2100	0.85414

Table 4 exhibit the results for service quality descriptive statistics. The table suggest that, Sq3 has the

highest standard deviation, 0.95863 while Sq1 has the lowest standard deviation, 0.87028 among the other items of the service quality. Besides, the result also reflects that Sq1 has the highest mean, 3.580 while Sq4 has the lowest mean, 3.320 as compared to other items in the service quality. All the items measuring service quality in the survey are tested with a significant disagreement at minimum value of 1 and high agreement at value of 5 on the Likert scale.

Table 4. Descriptive statistics of service quality.

Variables	Mean	Standard deviation
Sq1	3.5800	0.87028
Sq2	3.5550	0.95474
Sq3	3.3750	0.95863
Sq4	3.3200	0.94980
Sq5	3.3650	0.94139

Table 5 describe the outcomes of the descriptive statistics of perceived benefits. **Table 5** explains that Pb1 has the highest standard deviation, 1.06375 while Pb3 has the lowest standard deviation, 0.93496 among the items of the perceived benefits. Besides, the result also suggest that Pb5 has the highest mean, 3.5500 while Pb1 has the lowest mean, 2.7900 as compared to other items in the perceived benefits. All the items measuring service quality in the survey are tested with a significant disagreement at minimum value of 1 and high agreement at value of 5 on the Likert scale.

Table 5. Descriptive statistics of perceived benefits.

Variables	Mean	Standard deviation
Pb1	2.7900	1.06375
Pb2	3.3950	1.00700
Pb3	3.5150	0.93496
Pb4	3.2200	1.04742
Pb5	3.5500	1.04545

Table 6 explains the outcome of the descriptive statistics of bank policies**. Table 6** explains that Bp5 has the highest standard deviation, 1.127 while Bp2 has the lowest standard deviation, 0.914 among the other variables. The result also suggest that Bp3 has the highest mean, 3.380 while Bp1 has the lowest mean, 2.995 as compared to other variables in the bank policies. All the items measuring service quality in the survey are tested with a significant disagreement at minimum value of 1 and high agreement at value of 5 on the Likert scale.

Table 6. Descriptive statistics of bank policies.

Variables	Mean	Standard deviation
Bp1	2.9950	0.98989
Bp2	3.2800	0.91421
Bp3	3.3800	0.97486
Bp4	3.2150	1.05086
Bp5	3.0450	1.12664

Table 7 exhibit the results of descriptive statistics of consumers' attitude. The table suggest that, Ca2 has

the highest standard deviation, 1.05570 while Ca4 has the lowest standard deviation, 0.883 among the other variables. Besides, the result also explains that Ca5 has the highest mean, 4.010 while Ca2 has the lowest mean, 3.111 as compared to other variables in the consumer attitude. All the items measuring service quality in the survey are tested with a significant disagreement at minimum value of 1 and high agreement at value of 5 on the Likert scale.

Table 7. Descriptive statistics of consumer attitude.

Variables	Mean	Standard deviation
Ca1	3.8232	0.94738
Ca2	3.1111	1.05570
Ca3	3.4040	1.00677
Ca4	3.9495	0.88270
Ca5	4.0101	0.90677

4.3. Pearson's correlation analysis

Table 8 explains the relationship between predictors such as the quality of service, perceived benefits, bank policies and consumer attitude with the consumer's perception on the usage of the credit cards using the Pearson's correlation model. The results show that the variable that exhibit the strongest correlation is the service quality and consumer perception on credit card usage, which the correlation value is 0.628. On the contrary, variable with weakest correlation with the perception on the usage of credit card is the bank policies at 0.461. The perceived benefits and consumer attitude variables are considered to have moderate correlation with the dependent variable. In general, all independent variables are related to the dependent variable positively.

Table 8. Correlations of variables.

Variables	Cp	Sq	Pb	Bp	Ca
Consumer perception (Cp)	1	0.628**	0.487**	0.461**	0.470**
Service quality (Sq)		1	0.455**	0.396**	0.400**
Perceived benefits (Pb)			1	0.455**	0.418**
Bank policies (Bp)				1	0.388**
Consumer attitude (Ca)					1

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

4.4. Normality test

This study run the normality test to examine whether or not the variables; consumer perception, service quality, perceived benefits, bank policies and consumer attitude, are normally distributed.

The normality test also examines if the data fulfill the normality assumption through Kolmogorov-Smirnov[a].

Table 9 exhibit the normality test result of the dependent variable; consumer perception and independent variables; service quality, perceived benefits, bank policies and consumer attitude. The result suggest that consumer perception and consumer attitude were the strongest variables to distribute normally in the survey. All the variables are normally distributed since the p-values of the normality test for all the variable are less than 0.05. Therefore, all the variables are used in the multiple regression analysis.

Table 9. Normality test of the variables.

Tests of normality	
Kolmogorov-Smirnov	
Variables	**Sig.**
Consumer perception (Cp)	0.000
Service quality (Sq)	0.001
Perceived benefits (Pb)	0.001
Bank policies (Bp)	0.006
Consumer attitude (Ca)	0.000

4.6. Multiple regression analysis

Multiple linear regression test is run to examine the effect of the independent variables such as service quality, perceived benefits, bank policies and consumer attitude on the consumer perception on credit card usage.

Based on **Table 10** the independent variables are seen to affect 48.7% of the dependent variable, while 51.3% of the dependent variables are affected by other factors that are not examined in this study.

Table 10. Model summary.

R	**R square**	**Adjusted R square**	**Std. error of the estimate**
0.705	0.498	0.487	2.22068

Note: Predictors: (constant): consumer attitude, bank policies, service quality, perceived benefits.

Table 11 describes the results of variance analysis (ANOVA). The F test value is 47.80 and the significance value is 0.00. The ANOVA result suggest that all the variables is significant with each other. This result further indicates that at least one variable is significant. The Sig. value is associated to the level of alpha which measures the null hypothesis of the model's coefficients and the 0.000 value indicate that the regression model is significant.

Table 11. ANOVA.

Model	**Sum of Square**	**df**	**Mean square**	**F**	**Sig.**
Regression	942.800	4	235.700	47.795	0.000[b]
Residual	951.768	193	4.931	-	-
Total	1894.568	197	-	-	-

Note: a) Dependent variable: consumer perception. b) Predictors: (constant): consumer attitude, bank policies, service quality, perceived benefits.

Based on the results shown in **Table 12**, it can be deduced that service quality, perceived benefits, bank policies and consumer attitude have significant positive relationship with the consumer perception on the credit card usage since the *p*-value (refer to Sig.) is less than 0.05 (P-value ≤ 0.05) for all the variables. The beta value reflects the directions of the relationship between the independent variables and dependent variable. **Table 12** result indicates that all the independent variables have positive betas hence suggesting that service quality, perceived benefits, bank policies and consumer attitude have positive relationship with consumer perception on the credit card usage. In other word, an increase in independent variable will lead to an increase in dependent variable.

Table 12. Coefficient result of multiple regression analysis.

Coefficients		
Model	**Unstandardized coefficients**	**Standardized coefficients**
	B	**Sig.**
(Constant)	1.407	0.170
Service quality	0.431	0.000
Perceived benefits	0.151	0.024
Bank policies	0.148	0.012
Consumer	0.195	0.003
attitude	-	-

Note: a) Dependent variable: consumer perception.

5. Findings and conclusion

This study examines the effect of service quality, perceived benefit, bank policies and consumer's attitude on the consumers' perception on credit card usage. This study found that service quality has significant positive effect on consumers' perception on credit card usage. This indicates if the service provided meet the consumers' expectation and satisfy them this will influence their perception towards the usage of credit card. This result is consistent with previous study by the study of Czepiel[14] who emphasize that when service quality able to meet or exceed the expectations of the consumers it will influence their consumption decision. In addition, the study of Bilika et al.[33] also stated that the services quality can affect the consumer perception.

Similarly perceived benefits also are found to have significant positive relationship with the consumers' perception on credit card usage. This is because, when the benefits and incentives are offered to consumers as they spend, it will encourage consumers to spend more because they want to earn more benefits and incentives. This is consistent with the study of Lee[34] finding where he established the perceived benefits have positive influence on the credit card usage. This is attested by the study of Pudaruth et al.[35] who also found that perceived benefits has a positive relationship with consumers' perception on credit card usage.

Bank policies are also found to have significant positive effect on the consumers' perception on credit card usage. This means that, when bank policies are favorable to the consumers this will influence their perception on the credit card usage. This is in line with the study of Teoh et al.[36] the more financial institutions willing to provide benefits through bank policies, the more it will be attractive to consumers to increase their consumption via credit card.

Consumer attitude is also found to have significant positive effect on consumers' perception on credit card usage. If the consumers are prone to shop beyond their available resources, they will turn towards credit card as a mean for short-term borrowings to supplement their spending behavior. This is consistent with the study of Shafinar Ismail[37] and Godwin[30] whom indicated that there is a positive relationship between the general attitudes of consumers toward credit usage. The study of Ismail[38] stated that the family, teachers, friends and media affect the consumers' credit awareness on the credit card usage. Consumers' credit awareness has a positive influence their attitude and perception toward the credit card spending.

6. Research implication

The main objective of this study is to determine factors that affects consumer's perception on credit card usage. This is essential because in the current economic environment, the financial technology has been evolving rapidly therefore it is vital for every segment of the financial market to develop and enhance their

features and services to be on par with the development occurring in the financial industry. In this digital economy, transactions have evolved from mere paper and coins to digital currency where people are beginning to transaction online. Most online transaction requires consumers to either have online banking or credit or debit cards in order to proceed. Therefore, this is one of the factors that must be considered by all the financial institutions in order to design their credit cards in a way that could attract consumers to apply and encourage them to use the credit cards frequently.

In addition to that, it is essential to identify which group of consumers that are more prone to consumption through credit card. This is important in order to design the marketing plan to target the right segment of the consumers in order to encourage the application and usage of credit card. Targeting the wrong segment of the market might be very harmful to the company's performance and profitability.

Besides that, this study also provides an insight to policy makers to be considered during the policy making process. It is essential to develop and implement policies that are consumers friendly. This is because, if the policies are not in favor of the consumers, it will discourage the consumers from the products offered by that particular financial institutions. Hence, each financial institution must have developed their policies in such a way that can attract, encourage and retain its consumers.

Consumers' perception on credit card usage influences their attitude. Therefore, it is vital for financial institutions to consider consumer attitude towards the usage of credit cards. There are several factors such as income level, education level, purchases pattern will influence the consumer attitude on using the credit cards. Therefore, the financial institutions may consider to design their marketing plan to serve the consumers from different demographic background to appropriately motivate them towards the credit card usage.

7. Research limitations and future research

This study's outcome is limited to the sample collected around Melaka. To enhance the generalizability of this proposed model, it is suggested to examine the model with different sets of sample to provide out of sample insight. Besides that, other factors also can be determined and tested against the consumers' perception on credit card usage to explore further the factors affecting the financial market's products. Future studies may also consider including samples from different level of professional workers to determine their credit card usage appetite. The future study also may consider to expand the sample to cover students and retired consumers.

Author contributions

Conceptualization, TLA and SR; methodology, TLA and SR; software, TLA and SR; validation, TLA, SR and YYY; formal analysis, TLA; investigation, TLA; resources, TLA, SR and YYY; data curation, TLA; writing—original draft preparation, TLA; writing—review and editing, SR and YYY; visualization, TLA, SR and YYY; supervision, SR and YYY; project administration, TLA, SR and YYY; funding acquisition, SR. All authors have read and agreed to the published version of the manuscript.

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Conflict of interest

The authors declare no conflict of interest.

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