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INNOVATION FOR TECHNOLOGY

**DEVELOPING AND TESTING
A CONCEPTUAL MODEL ON
PLASTIC CARD ADOPTION
FOR EMERGING
COUNTRIES: A CASE OF
MAURITIUS**

Final Report

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PLASTIC CARDS



*“Developing and Testing a
Conceptual Model on Plastic Card
Adoption for
Emerging Countries: A Case of Mauritius.”*
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**Faculty of Law And Management
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1. ATM	Automated Teller Machine
2. CCM	Competition Commission of Mauritius
3. IIF	Issuer Interchange Fee
4. MDR	Merchant Discount Rate
5. MSC	Merchant Service Commission
6. POS	Point of sales

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Mrs Sharmila Pudaruth – Principal Investigator

Associate Professor Thanika Devi Juwaheer – Investigator

ABSTRACT

Purpose – The project aims to provide insights on plastic card adoption by adopting the views of banking professionals/plastic card executives, customers and merchants. The purpose of this study is to develop and test a conceptual model on plastic card adoption for an emerging country such as Mauritius.

Research Methodology – Both qualitative and quantitative research approaches have been adopted for the research project, whereby a focus group discussion was conducted with banking professionals and executives to obtain insights on the adoption of plastic cards. An interview was conducted with the Executive Director of CCM to obtain insights on the competitive aspects of banking landscape in terms of plastic card adoption. The perceptions of customers and merchants have been tapped by adopting quantitative research techniques, by conducting a large-scale survey with 800 customers and 200 merchants across the 9 districts of Mauritius respectively.

Findings – Key insights from the qualitative findings have highlighted that there has been an increase in cashless transactions in Mauritius during the past years. However, with the substantial cash-based transaction, Mauritius is still at an Infant stage. Empirical estimates from the quantitative findings have revealed that around 77.1% of respondents are plastic card users. Most respondents adopt plastic cards because of its convenience, safety and security aspects. The descriptive analysis has highlighted, ‘the convenience of using plastic cards’ ($\bar{x} = 3.95$), ‘the geographic dispersion of ATMs’ ($\bar{x} = 3.80$) and ‘security risks’ ($\bar{x} = 3.70$) as the most important factors in determining the sustained adoption of plastic cards. As far as the perception of merchants is concerned for plastic card adoption, only 37% of merchants accept plastic card payments and they have highlighted the factors ‘to increase frequency sales (60.8%)’, ‘to increase competitiveness (58.1%)’ and ‘lower risks of theft and counterfeit (55.4%)’ as the main reasons for adopting plastic card payment.

Practical implications – This research has made a valuable contribution to the body of literature as there is a lack of empirical and holistic studies on plastic card adoption in Mauritius. Therefore, the research project has enough concrete and empirical findings that would serve as a roadmap for banking executives, credit card companies, policy makers of banking industry and merchants to

better promote and sustain the adoption of plastic cards by devising appealing marketing strategies such as offering greater convenience to customers, improving the trust issues and security aspect of plastic cards and promoting the wider geographical dispersion of ATMs across Mauritius. The research project has provided merchants with insightful ideas related to perceptions of customers towards the significant factors impacting on the adoption of plastic cards as they are in direct touch with customers in the retail outlets.

Originality – This research project is innovative since it has adopted both qualitative and quantitative research approaches to deepen insights into the factors impacting on the adoption of plastic cards among merchants and customers in Mauritius. This research project provides a holistic perspective in understanding the emerging phenomenon of plastic card adoption by integrating the views of multi-stakeholders such as banking professionals, merchants and customers. It is also to be noted that the research has been extended to merchants to sustain the adoption of plastic cards unlike other studies which have concentrated on plastic card adoption only from a customers’ point of view.

Keywords: Plastic cards, plastic card adoption, cashless society, customers, merchants, survey, Mauritius.

CHAPTER 1**INTRODUCTION****1.0 Introduction**

The project aims to provide insights on plastic card adoption by tapping the views of banking professionals/plastic card executives, customers and merchants. The purpose of this study is to develop and test a conceptual model on plastic card adoption for an emerging country such as Mauritius. Cash has always been a popular method of payment for customers to pay for goods and services from merchants at the point of sale, particularly, for small value transactions. However, several studies have depicted that the use of plastic cards has been accelerating and that the use of cash to conduct payments have been decreasing (Sameer Govil, 2015; Charlie Sorrel, 2016; Rupert Jones, 2017; Fung *et al.*, 2018). In fact, different factors have been identified behind this shift from cash to cashless payments. Arango *et al.*, (2015) have depicted that credit cards rewards and merchant's acceptance of plastic cards have a contribution in the shift from cash to plastic cards. Moreover, the plastic card market together with financial institutions are offering customers with a wide range of plastic card products with various features, benefits, annual fees, lower interest rates and rewards programs that are boosting the adoption of plastic cards among customers (Fung *et al.*, 2018).

This research offers an innovative perspective of understanding plastic card adoption by uncovering the extensive literature review on plastic cards comprising the broad factors impacting on the adoption of plastic cards, the benefits of using plastic cards, the impact of social class on plastic card adoption, socio-demographics related factors and the hindrance factors for non-adoption of plastic cards since existing research on the adoption of plastic cards is limited only for developed countries and from a customer's perspective. Likewise, no study has explored plastic card adoption from customers' and merchants' perspective in Mauritius. Thus, this research project is innovative in the sense that it has provided deep insights into the factors impacting on the adoption of plastic cards among both merchants and customers in Mauritius. The research project will also present a new landmark to improve the views and understanding of banking professionals, plastic card executives, policy makers in the banking and financial institutions, customers and merchants about the factors influencing on the adoption of plastic cards in Mauritius.

The research project has also contributed to the limited literature review on plastic card adoption by providing meaningful understandings into the different constructs promoting plastic card adoption in Mauritius. This first chapter starts with a framework of the research problem, the main objectives of the research study along with the research questions, hypothesis development and expected benefits of the research study for banking contexts.

1.1 Background of study

Plastic cards in the form of debit and credit cards have fruitfully become an indispensable part of the modern payment method, providing the customers with a wide range of services. The adoption of plastic cards for the payment of goods and services has served as a vital driving force and implementer for both the financial and business growth through capital accumulation, augmented consumer spending, improved tax revenues and prevent black money and money laundering (Rajani, 2009). According to the World Payments Report (2018), plastic cards are gaining the market share globally, with debit card transactions growing by 14.7% - the fastest rate among all the non-cash payment instruments during 2016. The next highest growth rates were noted by credit cards, which rose at 10.9% and credit transfers at 7.2%.

Likewise, plastic cards have achieved much acceptance around the world and have gained considerable growth over the years because of its multiple advantages to customers, merchants and banks (Kaur, 2018; Mukaria, 2018). The usage of debit cards increased from 18% in 1995 to about 59% in 2004 (Mester, 2006). Several studies have shown that the size and value of card-based payments has augmented at an unprecedented pace over the past ten years in several developed countries such as U.K and USA (Bank for International Settlements, 2003; Klee, 2006). In Netherlands, Debit card transactions have surpassed cash transactions and have been positioned number 1 with respect to total value.

Anneke Kosse (2011) mentioned that *“in 2009 around 54% of total sales at the counter were paid by debit card versus 43% in cash”*. In Japan, *“the use of non-paper instruments such as direct debits, credit transfers, credit cards and debit cards, which enable account holders to instruct institutions to make payments out of their deposit accounts, has been increasing”* (Nyasha Kaseke, 2012 pp. 107). According to Bech *et al.*, (2018) the value of card payments for the committee of payment and market infrastructure member countries (Australia, Brazil, Canada, India, Korea,

Mexico, Russia, Singapore, Sweden and Switzerland) has increased from 13% in 2000 to 25% in 2016.

Various studies have depicted that customers are choosing plastic cards as compared to cash payments (Stanhouse and Ingram, 2007; Steele, 2008; Amromin and Charkravorti, 2009; Runnemark *et al.*, 2015). Similarly, Garcia-Swartz *et al.*, (2006) and Shaun O'Brien (2014) have identified a substantial decrease in the use of cash in many countries and customers are more likely to pay for groceries using their plastic cards in supermarkets such as Tesco, Asda, and Sainsbury. Besides, the business benefits from the advantages of accepting plastic card as a mode of payment (Rajani, 2009).

However, several studies have concentrated on plastic card adoption from a purely quantitative approach. To the investigators' best knowledge, no academic study has explored the factors that have contributed towards both customers and merchants' adoption for plastic cards adoption in the context of developing countries like Mauritius. Hence, this research project is innovative in a way that it has used both qualitative and quantitative research approaches to deepen understandings into the factors impacting on the adoption of plastic cards among both merchants and customers in Mauritius.

Moreover, a merchant survey has been supplemented to have a broader perspective of the main factors which influence on plastic card adoption for Mauritius, which is striving towards a cashless economy. The research project has identified concrete and empirical findings that would serve as a roadmap for banking executives, credit card companies and policy makers of banking industry so as to better promote and sustain the adoption of plastic cards by gaining the trust of cardholders on plastic card services and reassuring them about the benefits associated with the adoption of plastic cards.

1.1.1 Innovative Payment Solutions and the emerging cashless society

The electronic payment systems are at the beginning of a new period that is ready to welcome innovative solutions into the existing payment structures. Innovative payment solution has been the top research among research scholars for the booming financial sector for the past few years. According to The Boston Consulting Group (2016) the way consumers make their payments are evolving digitally from cash/cheque/card to "online single channel closed models" during the first few years of the century to "mobile multichannel, open and fragmented models" in the next few years to the "Internet of Things, multidevice, social models" by the year 2020 and beyond. Intense

research has been conducted on the adoption of plastic cards in developing countries since this innovative payment solution is the next challenging payment option for customer around the globe.

Since limited studies has explored the concept of plastic cards for developing countries, this present research project has aimed at exploring the various factors impacting on the sustained adoption of plastic cards for an emerging country such as Mauritius. Voluminous studies have been done on the consumers' attitudes towards using credit cards where researchers have highlighted that plastic cards allow customers to pay their bills, get free access to ATM and control their spending habits (Soman, 2001; Massoud and Bernhardt, 2006 cited Bukhari *et al.*, 2015). Similarly, several studies have shown that the geographic dispersion of ATMs can also influence the adoption of plastic cards (Caskey and Sellon, 1994; Saloner and Shepard, 1995; Berger and DeYoung, 2006; Bukhari *et al.*, 2015; Kaur and Kaur, 2018). Customers are choosing to adopt plastic cards due to the convenience associated with plastic cards and comparatively painless way of spending (Caskey and Sellon, 1994; Bukhari *et al.*, 2015; Dave, 2016; Dhanda, 2016; Sultana and Hasan 2016; Malagi and Shelar, 2017).

These recent technological developments are further leading to the emergence of a cashless society. Similarly, the last few decades have witnessed an incredible increase in cashless transactions around the world (Ghassani *et al.*, 2017). While the market for electronic payments is extremely vigorous, the most vital emerging payments types today are plastic card payment, people to people and account to account payments and e-money payments. Markets are in a transition stage, from grocery stores to hyper markets to electronic markets. Electronic payment, plastic card service and online payment are gathering momentum. In Sweden, the demand for cash payment has substantially declined over the last few years, which have led to many bank branches to become cashless (Engert *et al.*, 2018).

Canada is facing a similar situation as payment through cash has been declining and electronic payment such as credit cards is increasing. At the same pace, the adoption of several payment innovations, such as contactless cards and Interac e-Transfer (person-to-person (P2P) – Payment conducted by sending an email) are increasing rapidly and will likely to overcome the use of cash (Fung *et al.*, 2017). Recently, a new trend has started to dominate the market. It is the 'No-Cash Policy'. Tompor (2016) has taken the example of Kit and Ace in the United States which has adopted the no-cash policy. Since January 2018, money holds no importance at the café inside the Russell Investments Center except if it is in the form of plastic money. Similarly, Grunbaum (2018) has highlighted that Starbucks had refused cash at a posh location in down Seattle. Nevertheless,

the idea of Starbucks adopting a no-cash policy has resulted in severe criticism such as discrimination against unbanked people, who do not have a bank account and thus reducing their likeliness to buy something at Starbucks.

Despite the fact that plastic money is being accepted as a convenient payment method around the world, there are several factors acting as obstacles towards the successful adoption of plastic cards. Several theories and studies (Jonker, 2007; Bolt and Chakravoti, 2008; He *et al.*, 2008; Kosse, 2013) have highlighted that security is one of the drivers when customers decide on their payment behaviors. Several studies have proved that a user would spend more with a credit card as compared to using cash in a similar situation (Feinberg, 1986; Prelec and Semeter, 2001; Park and Burns, 2005).

1.2 Main Objectives of the Study

1. To gain insights on plastic card payments from banking and plastic card executives of different banking and financial institutions in Mauritius.
2. To explore the broad factors and significant benefits of plastic cards and their impact on plastic card adoption among customers in Mauritius.
3. To assess the extent to which social class related factors and perceived risks and hindrances can influence the adoption of plastic cards among customers in Mauritius.
4. To explore the perception of merchants on the phenomenon of plastic cards in Mauritius.
5. To propose a conceptual model on plastic card adoption for emerging countries such as Mauritius.

1.3 The Research Questions

1. What are the views of banking professionals and executives on the determining factors impacting on plastic card adoption among customers in Mauritius?
2. What are the broad factors and significant benefits of plastic cards and how do they impact on the adoption of plastic cards among customers?
3. How can social class related factors and perceived risks and hindrances influence the adoption of plastic cards among customers in Mauritius?
4. What are the perceptions of merchants on plastic card payment?

1.4 Development of Hypothesis

Conceptual Framework

The research project has been conducted based on a graphical representation which display the interconnections of plastic card adoption among some variables which have been identified in the literature review.

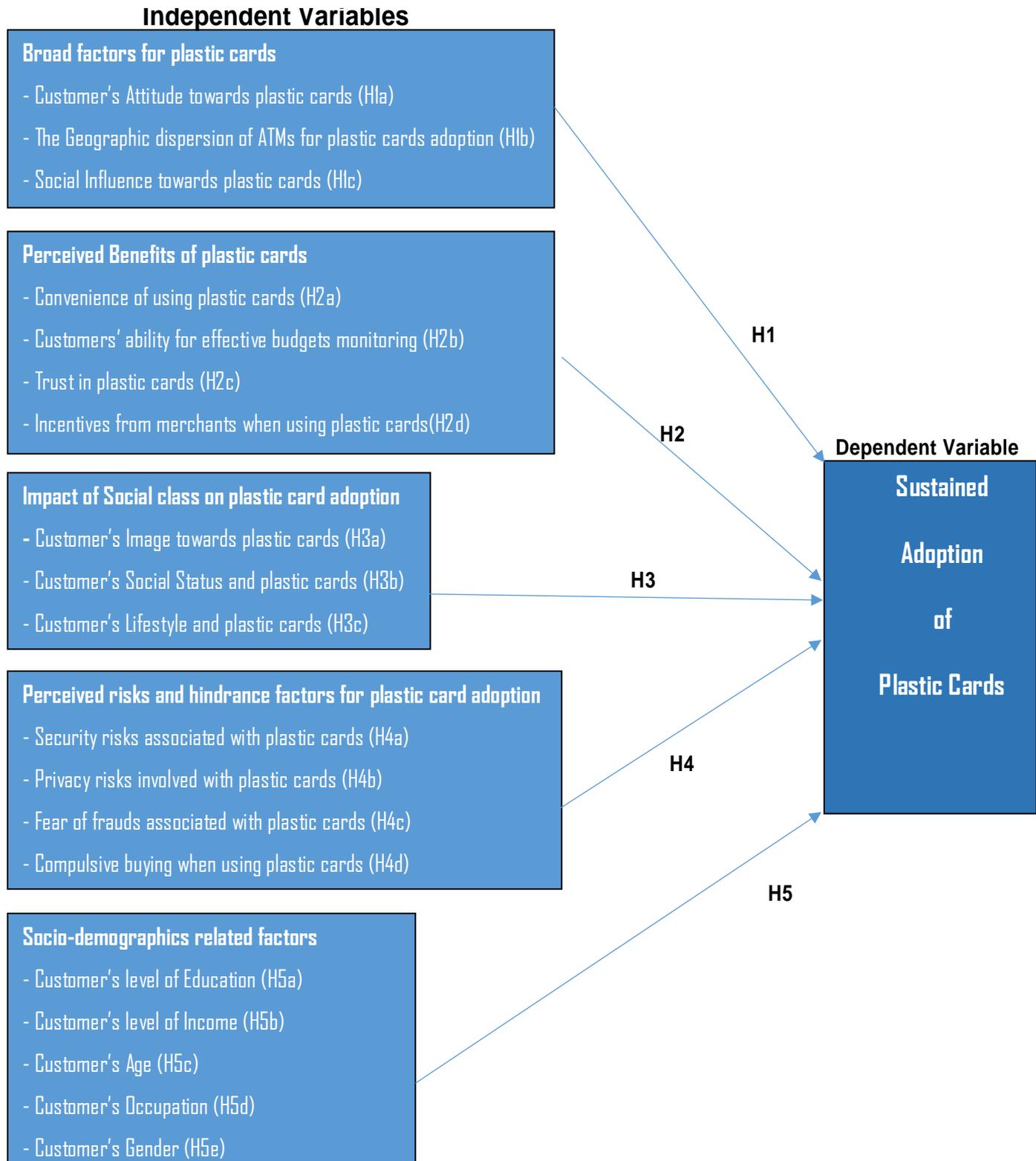


Figure 1.1: Proposed Conceptual Model for Sustaining the Adoption of Plastic Cards in Mauritius

1.5 Benefits of the study

The main benefits of the study can be summarized into three broad categories: theoretical development and understanding of plastic cards, practical contribution towards plastic card adoption and the managerial implication of the study.

1.5.1 Theoretical Development and Understanding of Plastic Card Adoption

The plastic card services sector has been gaining great significance and interest among researchers in a cashless society. Hence, the importance of this study is being highlighted both by theoretical and empirical perspective. From a theoretical perspective, this research project has provided a novel conceptual definition of plastic card adoption along with the different dimensions of plastic cards which has filled the gap in the established literature by further modifying plastic cards for banking contexts. Drawing upon the extensive literature review, a thorough investigation of plastic card adoption has been conducted across the broad factors impacting on the adoption of plastic cards, the benefits of using plastic cards, the impact of social class on plastic card adoption, socio-demographics related factors and the hindrance factors for non-adoption of plastic cards to better understand the background of plastic cards phenomenon.

From the constructive literature review, a conceptual model has been developed based upon existing set of constructs, which were already established in the literature and based upon new set of constructs pertaining to incentives from merchants where there exist various lacunas on the impact of certain specific constructs on plastic card adoption. The proposed conceptual framework will help financial institutions, business analysts and banking professionals in the plastic card services department and other stakeholders enhance the adoption of plastic cards for an emerging country like Mauritius, which is striving towards a cashless society. The theoretical findings of this study will contribute to the contemporary body of empirical and conceptual knowledge by providing updates to the existing work of other researchers and scholars and thus, adding new contributions to the body of knowledge pertaining to plastic card adoption.

1.5.2 Practical Contribution towards the sustained adoption of plastic cards

The present study has shown that due to the competitive aspect and challenges involved in the banking sector, the banks are urged to review their present plastic card strategies and to focus on increasing the adoption rate of their plastic card services among customers and merchants. This study will benefit banking professionals and digital marketing managers in the plastic card department of financial institutions by enabling them to highlight the important dimensions of plastic cards that will boost the adoption of plastic cards. Banking and financial institutions will have enough empirical evidence on the adoption of plastic cards.

The proposed model has been designed to serve as a practical tool to assess plastic card adoption in the banking sector and can be prolonged to other sectors within the financial services sector. The model could be a useful tool for plastic card services departments, financial institutions, plastic card professionals and executives, digital executives in plastic card department and senior business analyst of the booming banking financial industry to sustain the adoption of plastic cards and also to analyse the opportunities to enhance and improve customers and merchants' adoption of plastic card services.

There is a pressing need to understand the adoption of plastic cards among customers and merchants for a developing country such as Mauritius as no academic research has studied the phenomenon of plastic card adoption from both customers and merchants' perspectives. This research project will help cardholders to have better insights on the hindrance related factors associated with the adoption of plastic cards. Cardholders will be advised on how to make proper use of their plastic cards and enjoy the different benefits associated with the adoption of plastic cards. The research project will provide merchants with enough concrete evidence on the perceptions of customers towards the significant factors impacting on the adoption of plastic cards since the merchants are in direct touch with customers in the retail outlets.

1.5.3 Managerial implications of the study

This study has several managerial implications for professionals and executives in the plastic card services, digital executives, senior business analyst, financial institutions in plastic card department, customers and merchants. The present research has shed light on some interesting findings that are very important for policy makers, banking institutions, customers, merchants and other stakeholders in the plastic card network, to increase their plastic card services among customers and merchants in an emerging economy such as Mauritius.

The research project will provide banking executives and professionals from the plastic card section of banking institutions with deep insights on how to better sustain the adoption of plastic cards by providing further training to merchants on the factors that customers take into consideration while adopting plastic card services. Banking professionals and executives in the plastic card department should ensure regular courtesy visit in several retail outlets across Mauritius, whereby merchants and retailers are empowered about the benefits of plastic card payment. Moreover, banks should maintain good relationship with merchants by visiting merchants regularly to ensure POS is working smoothly. In addition, courtesy visit of plastic card executives from the different banking institutions will enable to cultivate the relationship with retail merchants.

The research project will provide customers will concrete evidence and enhance their understanding on the phenomenon of plastic card adoption. The cardholders will be advised on how to make proper use of their plastic cards, how plastic cards help for budget monitoring and the importance of plastic cards in emergency situations. Moreover, this research project will act as a guideline for the non-users who have mentioned that they are likely and very likely to adopt plastic cards in the future.

The research project will also educate merchants about the benefits of accepting plastic card services from their clients and how they can enhance the adoption of plastic cards by providing their customers with regular gifts and rewards. Merchants should also ensure that they have enough knowledge on different factors such as ‘Merchant service commission’ and ‘Issuer interchange fee’. In addition, by attending regular training sessions and seminars conducted by the banking and financial institutions will enable merchants to conduct transaction using point of sales terminals more effectively. Moreover, merchants should avoid the arbitrary fixing of minimum and maximum amount of purchases if they want to enlarge their plastic card services network.

1.6 Layout of the Study**Table 1.1**
Layout of study

<i>Chapter One</i>	Introduction	This chapter gives the reader an overview on the chosen topic, the problem definition, the main objectives, the research questions and hypotheses.
<i>Chapter Two</i>	Literature Review	This chapter checks out and compare all the existing literatures as well as show the relationships among the different studies.
<i>Chapter Three</i>	Research Methodology	This chapter outlines the research plan that will be conducted through the research paper. That is, the data collection method, the sampling type and the limitations of the research.
<i>Chapter Four</i>	Analysis and discussion findings	Research findings will be discussed, and meaningful information will be extracted from the analysis to answer the research questions and test the hypotheses using the SPSS 20.0 software.
<i>Chapter Five</i>	Recommendation	Chapter Five will provide suggestions about how banks, government, customers and merchants can promote and motivate the adoption of plastic cards in Mauritius.
<i>Chapter Six</i>	Conclusion	Major results will be weighed against the objectives of the study. It will address the research limitations and direction for future works.

1.7 Summary

This chapter laid the groundwork for this study by presenting the research problem together with the research objectives, hypothesis development and the conceptual framework. The next chapter will examine the literature on the sustained adoption of plastic cards and the dimensions of plastic card adoption from both merchants and customers' perspectives.

CHAPTER 2**LITERATURE REVIEW****2.0 Introduction**

The current chapter provides a detailed review of the existing literature for the research on plastic card adoption. Firstly, the first part explores the shift from conventional payment to innovative payment methods, the cashless society and the emergence of plastic cards and customer's habits towards the adoption of plastic cards. The second part sheds light on the first objective for the present research; this part focuses and elaborates on the broad factors impacting on the sustained adoption of plastic cards and the relationships between these dimensions and plastic card adoption. The literature review also explores the different benefits of plastic cards and how social class have an impact on the adoption of plastic cards. The last section explores the different hindrance related factors and socio-demographics related factors towards the adoption of plastic cards. This research also extends to uncover the adoption of plastic card from merchant's perspective. This part explores the benefits and hindrances merchants face when adopting plastic card payments. Lastly, the research examines the sustained adoption of plastic cards. Despite the existence of card payment systems for more than 50 years, economic analysis of this type of market is a comparatively new type of research (Maurer, 2009).

2.1 Shift from conventional payments to innovative payments methods

One of the key pillars of the modern society has been the civilized and organized exchange of goods and services. Several studies have postulated that an organized method of payment has evolved overtime, moving from a barter system to a more complex form of money transactions (Kaur, 2011; American Bankers Association, 2013; Dhanda and Arora, 2017). The predominant form of payment in the 20th century has been coins, cash and cheques, moving into the 21st century, payments through cash and cheque itself have undergone a major transformation. There has been a shift from being a physical paper-based exchange of value to a computer-generated electronic one. Likewise, according to a recent study by Dhanda and Arora (2017), cheques has been forecasted to become obsolete by 2018 as per the Payment Council of India.

Eli Blumenthal (2017) has argued that plastic card is the new king in town when it comes to making payments. Recent studies done by the Euromonitor International have showed that credit cards, debit cards and other cards payments had overcome cash payments internationally for the first time in 2016. Registered figures showed that consumer purchasing with cards amounted to \$23.1 trillion compared to cash's \$22.6 trillion. The senior consumer finance analyst at Euromonitor International, Mr. Kendrick Sands said in a press conference that "this stagnant growth of cash payments signals a shift... and is a major victory for card and electronic payments".

Michelle Evans, digital consumer manager at Euromonitor further explained how consumer is going to benefit from the switch of cash to debit and credit. One possible benefit of cards payment methods is that consumers can stay in control and managed their debt effectively as well as stay in line with the interest rates and fees. Another benefit is that consumers can more easily control their budgets, especially with debit cards, which do not require the same monthly payments as with credit cards. "*Debit is the payment card that is more like cash,*" Evans added, "*so if consumers like to use cash as a way to monitor their budgets, then debit is the best vehicle for that.*"

2.2 Plastic cards and the banking sector

The service sector is treated as the main pillar that help to support any country's economic health through well-organized financial services. Likewise, they provide a mechanism to accumulate savings and convert them into investment. Recently, due to changes associated with globalization and financial liberalization (AL-Smadi, 2012; Patil, 2014), banks have enlarged their services offered to customers by making use of new technology. Moreover, banks are looking for new markets to expand and increasing their number of financial institutions so as to gain competitive advantage. Therefore, banks are offering services and products as per their customers' needs and requirements (Patil, 2014; Neelavathi *et al.*, 2017). They are not only focusing to their particular branch customers but "*customer is now treated as customers of banks as a whole*" (Patil, 2014 pp. 225; Neelavathi *et al.*, 2017). This notion has helped banks to establish long term relationship with their customers.

Recent studies have highlighted that money has always been seen as an essential medium of exchange and payment tool (Patil, 2014; Sindhu, 2016). However, it has been found that over the years, money has transformed its form from coins to paper cash and it is now available in formless form as electronic money or plastic money. Hence, electronic money is the new trend significantly adopted by banks worldwide to enhance the usefulness of distribution networks through the

reduction of transaction costs and increasing the speed of facilities (Neelavathi *et al.*, 2017). One form of electronic payments that we are going to use to focus in our study is electronic money or plastic money.

Sumi *et al.*, (2012 cited Munyoro 2016) have defined plastic card as “*an electronic module which stores all information about the card holder and the bank and can be executed through the use of Automated Teller Machine (ATM) and point of sales (POS) terminal*” (pp.3). Plastic cards were introduced in the 1950’s (Evans *et al.*, 2013) and since then payments through plastic cards have been accelerating at an extraordinary pace (Ching and Hayashi, 2006). Plastic cards have become a popular mode of payment used by many people in this modern era (Mohamed *et al.*, 2016) and this major change in banking systems has been accelerated by the advancement in technology.

Information technology has taken the place of traditional banking through the introduction of e-banking products and services such as Automated Teller Machines (ATMs), Internet banking, debit cards, credit cards, personal computer banking and smart cards (Patil, 2014). Plastic card is one of the biggest innovations made by banks to replace cash or paper money. This innovation has been used for many years now and has gradually become a preferred mode for making payments.

2.2.1 The way forward towards a cashless society

In this modern era, the society is moving towards a brand-new age where money is outlawed, and a cashless society is taking the leap and turning into a fact (Dhanda and Arora, 2017). Moreover, “*the developed world has rapt markedly to plastic money and payment gateways*” (pp.478). Nowadays, plastic money is viewed as an indicator of cashless society. The latter allows high tech infrastructure to be carried out in developed countries through the usage of plastic money (Ramayah *et al.*, 2002). David and Gantori (2018) have defined a cashless society as a society that has shifted beyond cash by storing and replacing currency in digital forms.

A recent study done by Rao and Sripada (2017, pp.304) has depicted that India are involved in many cash transactions and “*the ratio of cash to gross domestic product is one of the highest in the world- 12.2% in 2014, compared with 9.47% in China or 4% in Brazil*”. Therefore, India is also making a tremendous effort to get rid of the traditional practices by accepting the new advanced technologies (Dhanda and Arora, 2017) and embracing a cashless society (Rao and Sripada, 2017). In the budget speech 2016, the Finance Minister of India proposed that the main aim behind making India a cashless society is to “*curb the flow of black money*” (Rao and Sripada,

2017, pp. 304). Therefore, the primary advantage that India has benefited by moving towards a cashless transaction economy is the elimination of black money.

Recently, a new trend has started to dominate the market, the 'No-Cash Policy'. Tompor (2016) has taken the example of Kit and Ace store in the United States which has adopted the no-cash policy. Since January 2018, your money holds no importance at the café inside the Russell Investments Center except if it is in the form of plastic money. Similarly, Grunbaum (2018) has highlighted that Starbucks has to refuse cash at a posh location in down Seattle. Nevertheless, the idea of Starbucks adopting a no-cash policy has resulted in severe criticism such as discrimination against unbanked people, who do not have a bank account.

The latest World Payments Report (2017) have showed that the number of global non-cash transactions volumes grew 11.2% during 2014-2015 to reach 433.1 billion. This has been viewed as the highest growth of the past decades and slightly above last year's prediction. The report also depicted that the leading digital instruments in 2015 was debit cards and credit transfers while cheques usage continued to decline globally. These statements showed that people are already living in this cashless future and make people really think how close they are to a cashless society. In a similar vein, David and Gantori (2018) have mentioned in their study that cashless payments are gaining importance globally.

From another perspective, 'Cash is not going away'. Several studies have depicted that despite the great advancement in Information Technology and strong advances in e-payments, cash payment is still going to be of great importance to the society (Guadamillas, 2008; Mandeep and Kamal, 2008; Boston Federal Reserve, 2013; Dhanda and Arora, 2017; World Payments Report, 2018). Results of the Survey of Consumer Payment Choice for the year 2013 have showed that 31.1% of monthly payments were done by debit cards followed by 26.3% by cash payments. In 2013, almost one quarter of payments made by individuals were done by cash.

Likewise, Mandeep and Kamal (2008) have concluded that the Indian banking sector is embracing challenges offered by Information Technology as they have now recognized its potential and ability for future growth. Despite the remarkable advancement, 90% of personal consumption expenses in India is still being done by cash (Mandeep and Kamal, 2008; Rao and Sripada, 2017). This indicates that cash payment is still largely popular. According to Dhanda and Arora (2017), the cashlessness is only possible if all the stakeholders in a society (governments, financial institutions and individuals) accept and invest fully in the plastic card payment. Therefore, cash is neither dead nor dying, though some businesses wish that paper money would vanish.

2.2.2 Underlying reasons for adoption of plastic cards

Plastic cards have been one of the most significant developments in electronic communications. Research has proven that plastic card has magnificently surpass traditional cash and has now become an essential part of the modern payment system and human life (Pudaruth *et al.*, 2013). There has been an increase in the use of plastic cards especially in developed countries such as United States of America and United Kingdom, where they are engaged in replacing traditional cash with plastic cards for advantages such as convenience and ease of use. Several studies have shown that businesses believed that by going cashless, reduces the chance of being robbed, eradicates the temptation for employees to steal money, saves time as customers do not need to travel to and from the bank and even eliminates the need to carry large amount of cash (Jay, 2016; Tompor, 2016; Dhanda and Arora, 2017).

Several authors have cited different reasons for adopting plastic money over paper money. Patil (2014) highlighted that people are choosing plastic money because of more security, no need to carry bundle of money, discounts, handy and loan facilities on credit cards (Doost, 1997; Patil, 2014; Dhanda and Arora, 2017; David and Gantori, 2018). This study was supported by Doost (1997, cited Patil, 2014) who has mentioned that some bad risks are always involved when handling cash and cheques as there are always some bad cheques and unmanageable notes, however, this is not the case with plastic money. Similarly, David and Gantori (2018) have showed in their study that plastic cards transactions are more convenient, faster and cheaper as compared to traditional cash payments.

In a similar vein, Patel and Amin (2012) highlighted that plastic cards have become a vital part of our lives and are involved in almost all of our day to day transactions. Though, previously plastic cards were regarded as a luxury that were only available to rich urban residents but now it has become a need, to the whole population. However, Caskey and Sellon (1994) have contradicted the above studies by identifying reasons for people preferring cash payments. They have cited anonymity of cash payments, easier to control their expenses and restricting themselves to remove large sum of money from ATMs every week as the main reasons for favoring cash payment.

Similarly, Jonker (2005) survey results have showed that Dutch consumer identify cash payment as relatively cheap as compared to card payment. Arango *et al.*, (2011) have highlighted that consumers preferred cash because it is less costly, safe, more easy to use and widely accepted than cards. Grunbaum (2018) has mentioned that cashless society acts as an obstacle for those people who do have a bank account, Jay (2016) elaborated that these unbanked families having no direct

access to financial services such as debit and credit cards may find it a hardship to abandon cash. David and Gantori (2018) mentioned that at the end, cashless transactions benefit both consumers and retailers.

2.2.3 Emergence of plastic cards in different countries

The last few decades have been known for its technological activities. According to Wani and Ali (2015, pp.102) *“An innovation or an innovative product or service is useless and fruitless until it is properly diffused to the final user”*. Plastic card is one such service that falls under the category of innovation. Plastic cards as an innovation or innovative products have been diffused at an unprecedented rate since its introduction. Oksana and Alexander (2013) concluded in their study that this fast growth of plastic card is mainly due to preserve the bank’s competitive advantage and market share in this extremely competitive environment.

In Netherlands, debit cards have quickly gained a lot of acceptance since its introduction in the late 1980s. Debit card transactions have surpassed cash transactions and have been positioned number 1 with respect to total value. Anneke Kosse (2011) mentioned that *“in 2009 around 54% of total sales at the counter were paid by debit card versus 43% in cash”*. Moreover, the replacement is still going on as recent figures indicates that the debit card transactions is still growing whereas the number of cash payments and withdrawals have alleviated.

In China and India, card is the new cash as almost all customers are using their debit/credit cards to buy everything ranging from train tickets to antiques. Similarly, according to Bank for International Settlements (1987) in most western nations, the volume of plastic card transactions is increasing. Additionally, Multibanco, an interbank network in Portugal has supplied 500,000 electronic purse cards only in 1995 (Wolffe, 1995 cited Nyasha Kaseke, 2012). These purse cards can be used for 26 services like energy bills, train reservations, taxes and investment in stocks.

In Japan, *“the use of non-paper instruments such as direct debits, credit transfers, credit cards and debit cards, which enable account holders to instruct institutions to make payments out of their deposit accounts, has been increasing”* (Nyasha Kaseke, 2012 pp. 107). At the same time, the use of cash and cheques have been decreasing. All these examples show that developed countries have been using more plastic money to conduct transactions, which is bringing economies closer to cashless society as cards (plastic money) are replacing tangible currency (cash) and physical payments.

A research by Sultana and Hasan (2016) has demonstrated that in developing countries like Bangladesh, plastic card is a relatively new concept. With the introduction of plastic card, Bangladesh has witnessed a dramatic change in financial sector. Due to high competition, banks are now providing online transaction facilities, bill payment facilities and so on so as to attract more customers to use plastic money. At the same time, they are trying to enhance their debit and credit card services. The rapid diffusion of plastic card has transformed the ways of conducting payment transactions because of its special functions such as fast payments, easy access, deposit and 24/7 cash withdrawal.

2.2.3.1 Emergence of plastic cards through communication channels

Plastic cards can be communicated through mass media and interpersonal channels. Wani *et al.*, (2015, pp.104) have defined communication systems as “a means that handles the to and fro movement of the information between users”. Plastic card is expanding due to the widespread promotion given to it (Dhanda and Arora, 2017). Appealing advertising, media and aggressive promotions are influencing people to adopt plastic card. Mwiwaki (2015) and Matiru (2016) have highlighted that during the last decade, the banking sector of Kenya has been doing excessive marketing campaigns to boost the adoption of plastic card. This has led to a remarkable increased of plastic money, specially debit cards. Various credit cards companies have established extensive marketing campaigns with the help of the local media so as to compete aggressively and to increase the adoption of credit cards.

Media also plays a crucial role in influencing people to use credit cards (Ismail *et al.*, 2014). Media is designed mostly to target a large audience or viewers (Daley, 2003), however, it has also contributed largely to the great interest among college students to adopt credit cards (Hayhoe, 2002; Ismail *et al.*, 2011). Additionally, credit card issuers are also advertising their products using different mass media platforms such as radio, television, newspaper and magazines with the motives of targeting and persuading professionals and white-collar workers to become heavy and active cardholders (Ramayah *et al.*, 2002). In a similar vein, Ismail *et al.*, (2014) have highlighted that most banks that issue credit cards prefer to advertise on television just after the business news programs with the motive to create awareness and good impression among the professionals and white-collar workers.

Jonker *et al.*, (2015) have showed that there are different media campaigns to promote the use of electronic payment methods. In their study, Jonker *et al.*, (2015) have analyzed whether public campaign such as “Small amount? Debit card allowed!” has an impact on consumer’s payment behavior and if it motivates them to use their debit cards more often. Results have showed positive impacts of a national campaign to encourage debit card usage both in the long and short run. Moreover, debit card usage has increased by 2% during the initial stages of the campaign while it started to wear off after a few years of intercessions. *“The results suggest that high campaign intensity had a positive impact, as did a focus on certain large retail chains”* (pp.1).

Moreover, mass promotions are being done to draw the attention of people to use credit cards while doing shopping. In Malaysia, banks are doing a lot of promotions to attract customers to use credit cards. Chee *et al.*, (2017) has cited the example of Citibank in Malaysia, that has created an AirAsia-Citi MasterCard which provides credit cardholders with travel privileges from Air Asia and acquired Air Asia Big Points. Most of the banking and financial institutions and companies are aiming at the young and career people as customers. A study done by Robb and Sharpe (2009) have stated that back in the late 1980s, credit card companies have started aiming at college students to use their credit cards so as to increase their market share. This was being done by direct mail promotions, on and off campus advertisement and on campus recruitment.

2.3 Customer’s payment habit and plastic card adoption

Dahlberg and Oorni (2007) have defined payment habit as the use of payment device to conduct a payment. According to Crujisen and Horst (2016), payment habits play a vital role in explaining how customers pay. Several studies have shown that consumers’ payment choices are made automatically and to a large extend depend on habits (Van Der Horst and Matthijsen 2013; Van Der Horst *et al.*, 2014). During the past few decades, the payment habits of consumers globally have changed significantly. Traditional methods of conducting payment have been replaced by electronic payment methods. Crowe *et al.*, (2006) have highlighted that debit cards as a payment instrument have been growing at a fast pace at point of sale. However, neoclassical economic models have predicted that customers prefer credit card because of the float and benefits it offers. Nevertheless, other determinants like self-control and hate to carry a balance on credit card may change a consumer’s intention as to whether to adopt a debit or credit card.

In Netherlands, the two key payment instruments which are adopted by almost all customers are the debit card and cash (Jonker *et al.*, 2015; Cruijssen and Horst 2016). In a survey, Dahlberg and Oorni (2007, pp.8-9) have investigated six payment habits of Finnish consumers and how they are likely to change their payment habits. Results have shown that during the research, cash was the most used payment habit followed by on-line banks cards, credit cards, internet bank buttons, Visa Electron and mobile payments. However, when they were asked about their payment habits in five years, “*bank cards (off-line and On-line) seem to become the most used payment habit*”. According to Leinonen (2009), customers’ payment habits are depended on other criteria than prices. He has highlighted that free credits tend to attract customers to use certain types of credit cards instead of using cards with explicit charges.

A research by Cruijssen and Horst (2016) has focused their study on the choice between cash and electronic payments. In 2015, 49.5% of purchases were paid by cash, 50% by debit cards and 0.5% by credit cards. They have also found that payment habits vary differently across different sectors; “*for example, at petrol stations consumers made 72% of their purchases by debit card, 24% in cash and 3% by credit card, whereas in the catering industry 37% paid by debit card, 71% in cash and 1% by credit card*” (p.8). In a similar vein, the Central Bank of Malta (2014) has conducted a survey on local payment habits of the Maltese. Results have shown that paper-based instruments are still heavily used followed but cheques. “*Moreover, Malta still lags behind in the use of electronic payment instruments.*” The results have also depicted that the Maltese’s payment habits tend to change based on the nature of the purchase. People prefer to use cash for their everyday essentials such as groceries. However, for high-value items cheques were recorded as one of the top channels.

However, Eschelbach and Schmidt (2013) have showed that the German consumers do make conscious decision when deciding which payment instruments to use taking into consideration future barriers in using cash or cards while making payments. Assuming there are two customers, one with solid cash habits and one with solid electronic habits. Then, it is expected that the customer with solid cash habits is less likely to pay electronically than the customer with strong electronic habits. Van Der Horst and Matthijsen (2013) have also found similar findings in their study, that is, paying by cash or by card is mainly habitual. They also highlighted that the habit of paying by cash plays an important part in explaining customers’ overestimation of debit card usage and the reason why payment behaviour changes slower than predicted.

2.4 Broad factors for plastic card adoption

The plastic card system is a developing technology that focuses on changing the ways in which people conduct their payments. Considered as a new technology in almost all parts of the world, plastic cards can be either accepted or rejected by users depending on several factors (Ngugi *et al.*, 2010). Statistics have showed that more than fifty percent of information technologies are treated as disasters as they are unable to meet user's expectations and therefore are rejected (Lippert and Davis, 2006). Therefore, understanding and anticipating factors that would impact on plastic card system is very important.

2.4.1 Customer's attitude towards plastic card adoption

Several studies (Rogers, 2003; Chandon *et al.*, 2005; Talke and Heidenreich, 2013) have depicted that customers are experiencing numerous technological innovations, therefore, they are more likely to form favorable and unfavorable attitudes towards these innovations irrespective of whether they have used them or not. Voluminous studies have been done on the consumers' attitudes towards using credit cards whereby researchers have highlighted that plastic cards allow customers to pay their bills, get free access to ATM and control their spending habits (Soman, 2001; Massoud and Bernhardt, 2006 cited Bukhari *et al.*, 2015).

In a similar vein, several researches have depicted that customers are more likely to form positive attitude towards plastic cards because of its convenience, portability and ease of use while paying or doing shopping (Ahmed *et al.*, 2009; Sharma *et al.*, 2015; Munyoro and Matinde, 2016; Kaur and Sharma; 2017; Kaur, 2018). Similarly, different studies (Godwin, 1998; Hasba Laila, 2001; Ismail *et al.*, 2011) have found a positive relationship between the general attitudes of consumers toward credit card usage. However, Mohamed *et al.*, (2016, pp.40) have shown that “*younger consumers have more positive attitudes towards credit card use than the older consumers, because younger consumers believe in the potential to earn more money in the future, thus they are willing to adjourn their payment*”.

According to Yang *et al.*, (2007) and Kahre *et al.*, (2012), the behavior and attitude of customers towards the usage and acceptability of credit cards vary for psychographic reasons. Xiao *et al.*, (1995) have made use of a 38-item scale to measure effectiveness, cognitive and behavioral attitudes towards credit cards. Affective attitudes comprise of emotional feelings such as “*my credit card makes me feel happy*”, cognitive attitudes comprise of thoughts such as “*heavy use of*

credit cards results in heavy debt” and lastly, behavioral attitudes comprise of actions, captured through statement such as *“I use my credit card frequently”*.

Several studies (Bangura, 2011; Soodan and Pandey, 2014; Runnemark *et al.*, 2015) have shown that customers attitudes differ when deciding on payment methods. It was found that customers tend to spend relatively more when paying with plastic cards than with cash moreover plastic cards allow for larger share of payments (Prelec and Semeter, 2001; Soman, 2001; Raghbir and Srivastava, 2008; Runnemark *et al.*, 2015). In a similar vein, Dewri *et al.*, (2016, pp.299) have investigated the behavioral patterns of credit card users in emerging economies and how the external factors have an impact on credit card users to use their credit cards on a daily basis. Their study has shown that *“there is significant relationship among earnings and using full credit limit; different age group has diverse density to use credit cards and repayment attitudes; profession and usage of credit card; e-repayment attitudes to pay bill by different age groups”*.

Mwihaki (2015) has highlighted that factors such as short-term loan, different types of cards, Chip and Pin technology to reduce frauds and loyalty programs by banks have an influence on customers’ attitude towards the usage of credit cards. He has further elaborated that all these factors influencing attitude will automatically have an influence on the adoption of credit cards. Hence, he has concluded that since attitude influence the way people act, therefore, it is vital for marketers to examine them to understand how customers behave. At the same time, credit cards are believed to generate positive customer satisfaction, hence, banks need to understand consumers’ attitudes to influence their uptake of credit cards.

On this note, the following hypothesis has been formulated:

H1a: Customer’s attitude has an impact on the sustained adoption of plastic cards

2.4.2 The geographic dispersion of Automated Teller Machines for plastic card adoption

Automation became predominant in the banking sector decades ago which made bankers realized that they could convert their labour-intensive information handling processes automated by making use of computers. This new concept of ATM, developed by Don Wetzel (1968), is still considered as the best accomplishment of online and real time automation for the commercial banks (Bernhardt and Massoud, 2004; Atima, 2010; Rasheed and Latif, 2011; Chattopadhyay and Saralelimath, 2012). Atima (2010) has highlighted that there exist over 2.1 million of ATMs and every 215 seconds that is every 3.5 minutes, a new ATM is installed. In a similar vein, Qureshi *et al.*, (2018) have depicted that thousands of ATMs are installed in Pakistan which is considered as an impressive growth over a period due to issuance of plastic cards to millions of cardholders.

Several studies have shown that the geographic dispersion of ATMs can also influence the adoption of plastic cards (Caskey and Sellon, 1994; Saloner and Shepard, 1995; Berger and DeYoung, 2006; Bukhari *et al.*, 2015; Kaur and Kaur, 2018). The introduction of ATM technologies has made banks fruitful in attracting customers towards the adoption of plastic cards (Maerkose and Loke, 2003; Bukhari *et al.*, 2015). Similarly, Joseph *et al.*, (1999) have taken the example of how customers are using the touch screen “kiosks” to order take-away food, equally banks are placing automated teller machines everywhere to facilitate withdrawal, transfer money or make deposits into accounts using their plastic cards.

With the advancement and development of reasonable technologies and new innovations, banks are able to target and motivate customers to use the card systems though they make less than \$100 a month or even if they have a minimum balance of \$100 in their bank accounts. Several researchers (Atima 2010; Bashir Idris, 2014; Jegede, 2014) believed that introducing ATM machines in banking services will facilitate customers access to their finances as they only need their plastic cards to operate the ATM. Voluminous studies have mentioned accessibility as a measurement dimension to approachability and ease of contact to services (Johnston, 1995; Joseph *et al.*, 1999; Oppewal and Vriens, 2000; Atima, 2010; Idris, 2014).

“With the touch of a few buttons, they can withdraw cash, make deposits, pay bills, do balance enquires, buy tickets, top up cell phone air time, send remittances and transfer funds” (Atima, 2010 pp.2). Moreover, ATMs are very easy as well as very convenient to operate instead of queuing up in banks (Mumin *et al.*, 2014; Mwatsika, 2016). In a recent study by Kamalpreet Kaur and Mandeep Kaur (2018), they have highlighted that though banks have less number of branches, they have focused on expanding their network by installing more ATMs across the country so as

to attract the customers who find difficulties to find a branch near them. Hence, according to this view, plastic money is considered as the substitute to the branch activity.

Giridhar and Krupa (2013) have mentioned in their study that the wide dispersion of ATMs in different branches and also at busy locations such as restaurants, shopping malls, petrol pumps and hospitals, allowed customers to withdraw money using their plastic cards at any time as ATMs are better known worldwide for their 24 hours quick services. However, to make ATMs more approachable and accessible, Bashir Idris (2014) posited that ATMs should be widely available to all geographical areas, enabling customers to easily access their bank accounts using their plastic cards from any location they want. At the same time, banks should place ATMs booths in both on-banks and off-banks locations in order to eliminate congestion at ATM branches.

On this note, the following hypothesis has been formulated:

H1b: The geographic dispersion of ATMs impacts on the sustained adoption of plastic cards

2.4.3 Social Influences towards the adoption of plastic cards

Taylor and Todd (1995) have highlighted social influences as equivalent to subjective norms and defined it as other people's view, higher influence and peer influence. Montazemi and Qahri-Saremi (2013, pp.4669) have defined social influence as "*perceived influence from social networks and important others for/against a certain behavior*". They have clearly elaborated in their study that since potential users are normally doubtful about an innovation and at the same time uncertain about the expected results, they are more likely to consult their social network before deciding whether to adopt the innovation or not.

Peers, schools, parents and media are all responsible for a young person's learning and socialization from birth to adulthood (Mansfield *et al.*, 2003; Perez-Felkner, 2013). "*All of these factors affect a young person's credit consciousness or awareness of the advantages and problems involved with credit cards*" (Ismail *et al.*, 2014, pp.147). In a similar view, several studies (Penman *et al.*, 2008; Wang and Xiao, 2008; Gilman *et al.*, 2014) have shown that social pressure is the reason behind impulsive consumption habits among youngsters in the society. Peer influence and society pressures are motivating young adults to form a particular consumption habit and attitude towards money and debt (Makgosa and Mohube, 2007; Mahrunnisya *et al.*, 2018).

According to a report by Rebecca (2006), almost half of young adults are influenced or being pressured by friends to spend beyond their means. She also added that among these young adults “many are happier to go into the red and be part of the in-crowd rather than start good savings habits”. Voluminous studies (Jorgensen , 2007; Subhani *et al.*, 2011) have also highlighted that parent and peers have majority influence on students’ attitudes and behaviors towards credit cards. Other studies (Palmer *et al.*, 2001; Hilgert and Hogarth, 2003; Ismail *et al.*, 2014) have identified family influence as another factor that affected credit card usage.

They have highlighted in their study that people learn to use credit effectively and get the main sources of financial knowledge from family influence and personal experience. Similarly, Ismail *et al.*, (2011) have found in their article that parents are the biggest influencer on a young person’s credit card behavior. Nevertheless, parents tend to influence on a younger age (Ismail *et al.*, 2011) while peers tend to influence as and when the student becomes older, normally after becoming a college student (Jorgensen, 2007).

On this note, the following hypothesis has been formulated:

H1c: Social influence towards plastic cards has an impact on the sustained adoption of plastic cards

2.5 Perceived benefits of plastic cards

Regardless of the various challenges involved in the use of plastic cards, the benefits far outweigh the drawbacks; particularly now that many customers have in their possession one or more cards.. According to Arango and Taylor (2009), the Bank of Canada acknowledged that, although bank notes are the most popular and commonly used means of payment, the demand for electronic payments is increasing and customers take into consideration factors such as speed, wide acceptance, record keeping, costs and rewards in addition to risks and convenience.

2.5.1 Convenience of using plastic cards

Several studies have depicted plastic cards are a convenient and comparatively painless way of spending (Caskey and Sellon, 1994; Bukhari *et al.*, 2015; Dave, 2016; Dhanda, 2016; Sultana and Hasan 2016; Malagi and Shelar, 2017; Qureshi *et al.*, 2018). Convenience is considered as the main reason for using plastic cards (Borzekowski *et al.*, 2006; Nirmala and Sonu, 2015). Plastic

cards are likely to be more convenient than traditional paper-based payment in terms of its portability, that is, it removes the inconvenience of carrying cash in a physical wallet (Sumi and Safiullah, 2014; Kaur, 2018). This improved portability has allowed consumers to use their plastic cards for small value transactions, eliminating the inconvenience of carrying cash and coins.

Several researchers (Sharma *et al.*, 2015; Bama and Gunasundari, 2016; Dave, 2016; Kaur, 2018) have also agreed that convenience of not carrying cash, speed, security and ease of transaction are considered as the influencing factors that boost the use of plastic money over paper money. In a similar vein, several studies (Soodan and Pandey, 2014; Sumi and Safiullah, 2014; Bisht, 2015) have depicted that plastic cards have increased the convenience of people from travelling abroad to online shopping and from enjoying dinner in a hotel to paying through online transactions. Similarly, in Pakistan, the debit and credit cards are widely recognized among other types of plastic money, as a convenient method of payment (Qureshi *et al.*, 2018).

With plastic cards, customers can purchase things easily without the need to carry a large amount of cash. Vora and Gidwani (1993) in their research ‘Plastic at a premium’ have explored the usage facilities and varieties of cards. They have also mentioned plastic cards as extremely useful for those people using it as a way to increase their purchasing power. Customers enjoy great rapidity when paying with cards than cash payment (Klee, 2006; Borzekowski *et al.*, 2008; Pudaruth *et al.*, 2013). Moreover, Kong Han (2003) and Lim (2014) researches have indicated that credit card is more convenient as compared to debit card. Han also wrote that “*credit card is acceptable around the world, but the other payment cards may not be accepted in other countries*” (p.9).

On this note, the following hypothesis has been formulated:

H2a: Convenience of using plastic cards impacts on the sustained adoption of plastic cards

2.5.2 Customers’ ability for effective budget monitoring

One area that is rightfully getting a lot of attention and importance in the day to day life of customers is how to monitor and control spending (Ochei, 2012). It is of no doubt that having two or more credit cards, becomes a burden to keep track of perks and points. Monitoring budgets and managing expenses requires customers to recall all expenses made, which is not so easy (Srivastava and Raghubir, 2002; Arango and Taylor, 2009; Jonker and Kosse, 2013; Hernandez *et al.*, 2014). It has been pointed out by Ochei, (2012) that many customers lose focus and control of

their budget and are more likely to be short of money at the counter. Hence, with technological advancements in Internet and electronic money, consumers can now get insight into their total expenses by accessing their bank account at any time and any place.

Hernandez *et al.*, (2014) have mentioned in their study that, with the wide availability of payment cards, Dutch consumers can now keep track of their expenditures through their payment cards. Their research has also indicated that more than 90% of their respondents agreed that it is important to have deep insights into their budget and spending. An article by Dave (2016) has highlighted that according to Manoj Nagpal, the CEO of Outlook Asia Capital “*If all transactions are on record, it will be very easy for people to keep track of their spending. It will also help while filing income tax returns and, in case of a scrutiny, people will find it easy to explain their spends*”. Likewise, Caskey and Sellon (1994) have mentioned that plastic cards are more secured compared to other modes of payment and at the same time paying by cards bring transparency, making it more easy for customers to keep track of their expenses and cut down expenses.

Kalckreuth *et al.*, (2011) have shown that since individuals differ in different respects, their way to monitor their budget also vary. Some individuals found debit cards as more useful and suitable for monitoring their budgets as compared to cash. However, those people who are in favor of cash as a monitoring and budgeting tool, consist mostly of the low earners or the liquidity constraints. Hernandez *et al.*, (2014) have highlighted that cash is more efficient as it only requires a quick scan of the wallet, memorizing your initial amount and calculate the difference left would provide an accurate picture of the total value of expenses conducted. The calculation need to be done for plastic cards, but with the help of a bank statement. Mahima Rama (2018) concluded that bank cards transactions help to keep a sequential and comprehensive record of payments which can be useful in case of fraudulent activity or any discrepancies in bank account.

On this note, the following hypothesis has been formulated:

H2b: Customers’ ability for effective budget monitoring impacts on the sustained adoption of plastic cards

2.5.3 Trust in plastic cards

While there are many contextual factors that contribute towards the successful adoption of electronic payments, Morgan and Hunt (1994) found that the presence of commitment and trust is most essential to achieve this particular success. Trust is defined as the readiness to rely over someone whom you have confidence and as confidence that the person is reliable, trustworthy, knowledgeable, dependable, fair, responsible and helpful (Morgan and Hunt, 1994). Lim *et al.*, (2007) have highlighted that if an electronic payment system does not deliver a secure service and maintain itself as trustworthy, users will hesitate to use the system thus hindering its ability to acquire widespread acceptability.

Swaminathan *et al.*, (1999, pp.5) mentioned that “*reliability is related to the construct of trust*”. If business marketers want to maintain long lasting relationship with their customers, trust is crucial. Hong Kong’s octopus smart card system developed in 1997 has been a successful case in terms of electronic payment. Chau and Poon (2003) have classified trust as the backbone of this success. Similarly, in 2004 Liao and Wong (cited Lim *et al.*, 2007) studied the Octopus system and surprisingly they found that users choose the Octopus system as they perceive it to be trustworthy. Moreover, these findings are supported by a user survey done by Abrazhevich (2001) where he found that users will hesitate to use a system which they feel is not trustworthy.

Another study by Montazemi and Qahri-Saremi (2013) stated that trust is a factor that involves a lot of uncertainty. Plastic card is a payment method that users can perceive as being of high risk this is so because the temporal and spatial separation between consumers and the bank are not similar as in face to face interaction. According to Maqableh *et al.*, (2015), trust issues are important for the successful adoption of plastic money. Therefore, banking and financial institutions in collaboration with the government should work towards reinforcing the laws and regulations of plastic card payment and strengthening the security measures to increase customer’s trust in plastic cards.

On this note, the following hypothesis has been formulated:

H2c: Trust in plastic cards impact on the sustained adoption of plastic cards

2.5.4 Incentives from merchants when using plastic cards

Many financial institutions are depended on incentive programs as their chief strategic driver to augment electronic payments such as credit cards or debit cards use among their customers (Chakravorti, 2000; Carbo-Valverde and Linares-Zegarra, 2011; Mwendu *et al.*, 2017). Several studies (Ching and Hayashi, 2008; Agarwal *et al.*, 2010; Carbo-Valverde and Linares-Zegarra, 2011) have highlighted that many card issuers are providing attractive reward programs to increase their market shares as well as card usage by their existing customers.

Thipe (2016) and Mwendu *et al.*, (2017) have also found that the main reason for customers to adopt credit cards were because of credit card incentives. According to Chakravorti (2003), credit card users usually benefit from incentives such as interest-free short-term loans, dispute resolution services and frequent-use awards when making a purchase with their credit cards. These incentives often act as a medium to attract new users and thus increase sales. Similarly, Ching and Hiyashi (2008) and Salman and Munir (2015) results have depicted that incentives are positively correlated with the adoption of credit cards.

An increase in the incentives would lead to an increase of credit cards usage while a decrease in incentives would demotivate cardholders to use their plastic cards. Hayashi (2008,2009) has depicted that plastic card rewards plans have become progressively famous in the United States. Almost all the large credit card issuers offer their customers with rewards for using their cards, and depository institutions for using debit cards. Hayashi (2009, pp.37) also elaborated that “*rewards are becoming more generous and diversified, ranging from 5 percent cash-back bonuses for gasoline purchases, to free airline miles, to gifts to charity.*”

On this note, the following hypothesis has been formulated:

H2d: Incentives from merchants related to plastic cards impact on the sustained adoption of plastic cards

2.6 Social class and adoption of plastic cards

2.6.1 Customer's image (Self-esteem) and adoption of plastic cards

Kendra Cherry (2018) has depicted that individuals are likely to react to social normative influences so as to form or keep a positive image within the reference group. From the diffusion of innovations theory, Moore and Benbasat (1991, pp.195) have defined image as “*the degree to which use of an innovation is perceived to enhance one's image or status in one's social system*”. Social image is often associated with the usage and possession of credit card (Penman and McNeil *et al.*, 2008 cited Pudaruth *et al.*, 2013).

Several studies (Twenge and Campbell, 2008; Silvera *et al.*, 2008; Pudaruth *et al.*, 2013) have depicted that customers particularly young people are more willing to take on risk and enjoy life since they often possessed by instant gratification to maintain a social image and self-esteem while adopting plastic cards and at the same time they tend to see money as a way of achieving a prestigious image. Hence, Phau and woo (2008) have suggested that adults have the tendency to view plastic money as a tool to achieve impressive and respectable image in search of self-realization.

On this note, the following hypothesis has been formulated:

H3a: Customer's image toward plastic cards influences the sustained adoption of plastic cards

2.6.2 Customer's social status and adoption of plastic cards

Timonah (2012) and Ismail *et al.*, (2014) have highlighted in their studies that customers are adopting plastic cards in order to establish a sense of identity and maintain their social status. Nonetheless, Rogers also agreed that “*undoubtedly one of the most important motivations for almost any individual to adopt an innovation is the desire to gain social status*” (1983, pp.215). In a similar vein, Ismail *et al.*, (2014) have found in their study that owing a credit card represents one's social status and this is contributing to the number of cards in circulation in Malaysia.

Hence, it is highlighted that one of the main reasons for almost anyone to adopt plastic cards is the yearning to gain social status. However, Bukhari *et al.*, (2015) have contradicted that consumers in Pakistan use credit card as a financial facility rather than as a symbol of status. Khare (2013) has depicted that credit cards represent money and status and aids in improving one's status in a social setting. A recent study done by Dhanda and Arora (2017, pp.480) has shown that the perception of Indian consumers towards the adoption of plastic money can be associated with "contentment" and a "sense of gratification".

Despite, the Indian card users do not link "status" with the usage of credit cards (Arpita Khare, 2011 cited Dhanda, 2017), this is not the same for Chinese (Worthington *et al.*, 2007) and Australian (Phau and Woo, 2008) users. Nevertheless, Worthington *et al.*, (2007) have identified purchase assembling points, which showed that the affluent Chinese consumers in urban areas already have in their possessions plastic cards which encourage they conduct their high value purchases.

On this note, the following hypothesis has been formulated:

H3b: Customer's social status impacts on the sustained adoption of plastic cards

2.6.3 Customer's lifestyle and adoption of plastic cards

Several studies (Plummer, 1971; Bernthal *et al.*, 2005; Bukhari *et al.*, 2015) have depicted that customers' lifestyle has a huge impact on credit card purchasing behavior. Credit card use displays a customer lifestyle and improve standard of living (Bernthal *et al.*, 2005; Khare *et al.*, 2011). Ahmed *et al.*, (2010, cited Bernthal *et al.*, 2005) have studied the impact of personal attributes on credit card use and customers' attitudes towards credit card debts. Their findings revealed that lifestyle has an influence on credit card use in Malaysia.

Similarly, Mohamed *et al.*, (2016) stated that in Malaysia, customers are becoming more brand-conscious and they are adopting quality and standard products that suit their lifestyle and satisfaction. In a similar vein, Dhanda and Arora (2017) have agreed that the usage of plastic cards show a consumer's values and lifestyle. However, how an individual controlled or uncontrolled his credit card largely depend on "*internationalizing of ideologies of entitlement and frugality*" (pp.480).

Sultana and Hasan (2016) have studied consumers' perceptions towards usage of plastic money in Bangladesh and found that people are mostly influenced to purchase expensive goods using plastic money because they think this is going to add value to their lifestyle. Moreover, Cohen (2007) has highlighted that credit cards permit a cardholder to enjoy a lifestyle beyond their immediate financial means.

On this note, the following hypothesis has been formulated:

H3c: Customer's lifestyle impacts on the sustained adoption of plastic cards

2.7 Perceived risks and hindrance factors associated with plastic card adoption

Although plastic cards are widely accepted in the world, studies on the hindrances and risks associated with plastic cards are relatively inadequate. Perceived risk has not been cited as a determinant of intention to adopt plastic cards in previous studies although it plays an important role in the acceptance of electronic services such as electronic commerce, electronic payment or electronic banking services (Quan and Nam, 2017). Swaminathan *et al.*, (1999) defined perceived risk as the total perceived security of transactions in an online setting and it is not only linked to one vendor. In brief, perceived risk or ambiguity affects people's assurance in their decisions (IM *et al.*, 2008).

In their study, Hamid and Khatibi (2006) argued that users will gradually learn about the usefulness as well as risk associated with technology as and when they will interact with new technology. Al-Smadi (2012) also agreed that implementing a new technology involves both risks and benefits to the user, therefore before adopting a new technology the user may want to weigh both the risks and benefits. Plastic card is of no exception to this general rule. Among other factors that affect the adoption of plastic money, "*perceived risk is an impediment to the repatronage and purchase on the internet*" as highlighted by Hamid and Khatibi (2006). Al-Smadi (2012) also viewed perceived risk as a major factor influencing the adoption of plastic cards.

Several authors (Li and Huang, 2009; Bukhari *et al.*, 2015; Neelavathi *et al.*, 2017) have classified perceived lack of security and privacy as an obstacle towards the adoption of plastic money. Therefore, it is important to note that perceived security of transactions and concern for privacy are two predecessors to electronic interactions.

2.7.1 Security risk associated with plastic card adoption

As we move into the 21st century, plastic card payment systems are being used in a much more larger scale than in the past (Russell Smith, 1997). One of the main reasons for the introduction of these systems was to reduce the security risks and privacy risk associated with cash. “Unfortunately, as with other areas of regulation, a novel crime prevention strategy has created new risks which may have far worse consequences than the problem which was sought to be avoided” (Russell Smith, 1997 pp.1). Therefore, the reasons why customers feel reluctant to purchase products or services online are the security of their credit cards information when purchasing a product.

The topic of security has become a debated and disputed subject within the ground of payments. Several theories and studies (Jonker, 2007; Bolt and Chakravoti, 2008; He *et al.*, 2008; Kosse, 2013) have highlighted that security is one of the drivers when customers decide on their payment behaviors. Customers also feel a sense of insecurity when giving out their financial and personal information via the internet. Banks should work towards increasing the security of electronic transactions. Han (2003) has observed that 60% of respondents approved that online dealings should be safer and under secured system. Moreover, he also found that 72% of respondents avoid or clearly stop using plastic cards if they hear about a security breach in plastic card transactions.

However, despites all this Jonker *et al.*, (2015) found that there is an increase in plastic card usage at the expense of traditional paper-based payment instruments. Plastic cards may be beneficial to the society as it augments safety and contributes to a more cost-efficient payment system. Moreover, Kaur and Sharma (2017) and Sultana and Hasan (2016) found that customer feel motivated to use plastic card because it is more secured than cash. Similarly, plastic cards are more secured as if stolen, it is easy to block a credit card, which is not the case with cash. This can be especially true in the case of travelling, particularly abroad, where losing money can cause great inconvenience.

On this note, the following hypothesis has been formulated:

H4a: Security risks associated with plastic cards influences the sustained adoption of plastic cards

2.7.2 Privacy risk involved with plastic card adoption

Together with the security issue, there is also consumers' concern for privacy. While buying over the internet, consumers may be unwilling to disclose their credit card information as they find it risky and they have no control over this. Adequately, a pilot test conducted by Featherman and Pavlou (2002) revealed that users were worried about theft of their private information or companies misusing the information. They also conducted a focus group interview which also referred to concerns for the loss of privacy of personal financial information. Indeed, doubts about how their financial information will be operated by merchants will increase perceived risk linked with online dealings.

Kong Han (2003) conducted his research on security and problems in credit card online transaction and results disclosed that most of the respondents are not pleased with the level of privacy provided by the merchants. They are afraid about their confidential identity or credit card number being stolen. This particular problem is acting as an obstacle in the adoption of credit card and ultimately leads to the reduction of about millions potential users in electronic commerce. Therefore, this goes in line with Davis (1989) TAM model where it suggests that the higher the perceived risk (perception) the lower the adoption level.

On this note, the following hypothesis has been formulated:

H4b: Privacy risks involved with plastic cards impacts on the sustained adoption of plastic cards

2.7.3 Fear of frauds associated with plastic cards

As highlighted above, plastic cards provide a secure and generally convenient medium of payment with which people can conduct different kind of transactions. Their convenience, in concurrence with mass advertising, has witnessed a remarkable growth in the number of plastic card transactions occurred over the past decade (Mohamad, 2011). However, with new commercial opportunities comes new crime opportunities. According to Mohamad (2011), plastic card fraud is the illegal use of payment cards such as ATM, debit and credit cards without the knowledge or permission of the banks or cardholder. Similarly, according to the Crime Survey for England and Wales (CSEW, 2013), 4.7% of plastic card owners were found to be victims of plastic card fraud. This survey has also depicted that plastic card frauds are more likely to take place with middle age

groups and those with higher incomes. Since, plastic card frauds and hackers invasions are a daily thing, customers became afraid of using it.

The techniques like skimming, phishing and counterfeit cards are used by fraudsters (Dhansa and Arora, 2017). Anneke Kosse (2011) has identified skimming fraud also known as counterfeit card fraud as the most central type of debit card fraud in Netherlands. Kosse has elaborated that incidents on frauds have received a lot of media attraction and they are not only targeting victims but also the population. *“This might affect overall payment behavior in as much as consumers may lose confidence in their debit cards and may shift to other means of payment”* (p.78). In a study, Jegede (2014) has highlighted that although ATMs offer the possibility to conduct banking transactions from almost all ATMs around the world, *“the spread of the machines has been generating a lot of heat”* such as most of the customers have been encountering the problem of scam. ATM fraud has been an international challenge that has received international attention among researchers of the banking industries worldwide. These frauds are spread at different phases, ranging from pin fraud, card theft, skimming, hacking.

Shewangu Dzomira (2017) and Dave (2016) have pointed financial identity theft fraud as another factor hindering the adoption of plastic card. He has described this fraud as the malevolent use of personal data or the deliberate withdrawal of money by the identity theft by using the victim personal information from his bank account. Likewise, Kahn and Zegarra (2013) results have showed that specific identity theft incidents affect the likelihood of adopting cash, money transfer, credit cards, bank payment and online banking payment. Dzomira (2017) findings have revealed that *“there is very little financial identity theft awareness in Zimbabwe by the banking sector through their websites to the general public whilst there is amplified adoption of plastic money and electronic banking adoption”* (pp.255). Therefore, he has proposed the need to educate plastic card customers as well as electronic banking customers about the different types of frauds that exist. He also added that awareness creation is one of the most important steps in combatting identity thefts and at the same time banks will be able to regain the confidence of their customers.

On this note, the following hypothesis has been formulated:

H4c: Fear of frauds associated with plastic cards impact on the sustained adoption of plastic cards

2.7.4 Compulsive buying when using plastic cards

One of the major drawbacks of credit card is that it leads to a common habit known as “compulsive buying” (Bukhari *et al.*, 2015; Dave, 2016). Compulsive buyers are more likely to have several credit cards and make use of them frequently. Users of credit cards become a prey of excessive purchase on debt and this lead to a contrary impact such as addictive spending and pointless debt. Several studies have proved that a user would spend more with a credit card as compared to using cash in a similar situation (Feinberg, 1986; Prelec and Semeter, 2001; Park and Burns, 2005). Similarly, several studies (O’Guinn and Faber, 1989; Park and Burns, 2005; Phau and Woo, 2008; Pirog and Roberts, 2007; Simanjuntak and Rosifa, 2016) have identified a significant relationship between credit card use and compulsive buying.

According to Omar *et al.*, (2013) most Malaysian consumers are likely to display compulsive buying behavior. *“Though, it facilitates the benefit of delaying payments, but these delays or default ends up with a penalty of huge interests which piles up your payments”* (Bukhari *et al.*, 2015, pp.1). The reason behind compulsive buying is the mismanagement and misuse of credit cards. These problems lead to debt that can take months, years or even decades to eliminate this financial burden. A survey done by the USA Federal Reserve Board’s Survey of 2007 in relation to Consumer Finance has showed that 46.1% of families carry credit card debts and this eventually lead to bankruptcy.

On this note, the following hypothesis has been formulated:

H4d: Compulsive buying when using plastic cards impacts on the sustained adoption of plastic cards

2.8 Socio-demographics factors and plastic card adoption

Several previous studies have explored demographics patterns in the adoption of payment approaches and shown that demographics factors also play an important role in making decision and using plastic money as a mode of convenience (Sharma *et al.*, 2015). Numerous studies have showed that young and more educated people with higher income find debit/credit cards more convenient as they are more proficient in new technologies (Barker and Sekerkaya, 1993; Anguelov *et al.*, 2004; Ahmed *et al.*, 2006; Ching and Hayashi, 2006; Arango and Taylor, 2009; Sharma *et al.*, 2015). A study conducted by Jean Kinsey (1981 cited Sharma *et al.*, 2015) has shown that the likelihood of using plastic money and the amount held was strongly correlated with age and occupation. Another supporting study conducted in Singapore by Gan and Maysami (2006) also found that education, income and age is positively related to the number of credit card owned.

Moreover, Gan and Maysami (2006) also stated that Singaporeans view of credit card selection criteria is much alike with those of developing and advanced nations. This is due to a positive correlation between education and level of internet literacy (Burke, 2002). Richer users, who engage in high-valued purchases find card payments more convenient and less risky because of instant access to fund, benefits of record keeping and the adoption of contactless ‘tap and go’ functionality at the point of sale (Doyle *et al.*, 2017). Similarly, Borzekowski *et al.*, (2006) have explained that different authors have made use of the multiple versions of the Survey of Consumer Finances (SCF) and they have found similar results: New technologies such as online banking and electronic payment or debit cards are mostly used by youngsters and well-educated individuals. They have also stated that *“Income appears to be non-linearly related to debit card use in these studies, with the probability of use rising with income at first and then declining among the wealthiest households”* (pp.4).

2.8.1 Customer’s level of education and plastic card adoption

Education is also, as anticipated, prognostic of debit card usage among checking account users (Jin and DeVaney, 2005; Borzekowski *et al.*, 2006). Customers possessing higher education level are more likely to use debit cards. Mandeep Kaur (2011) and Nyasha Kaske (2012) have highlighted education of card users as a vital parameter in their studies. Baharun *et al.*, (2017) have highlighted that customers’ level of education contributed to their level of awareness on debit card adoption.

Moreover, Mandeep Kaur's result indicated that majority of the respondents that use plastic cards were post graduates (50.7%) whereas 3.8% were graduates and others respectively. His result also showed that "*plastic money is perceived to be essential for educated people as they use their cards 6-10 times in a month*" (2011, pp.6). While Nyasha's (2012) result showed that respondents having degrees and diplomas are the ones who used plastic cards the most. This showed that users who have adopted plastic money are well qualified while those without good academic qualifications are reluctant to use plastic money.

On this note, the following hypothesis has been formulated:

H5a: Customer's level of education influences the sustained adoption of plastic cards

2.8.2 Customer's level of income and plastic card adoption

Mantel and McHugh (2001) and Jin and DeVaney (2005) have found that consumer financial characteristics have an influence on debit card usage. Mantel and McHugh (2001) results have showed that 89% of respondents are more likely to use debit cards are those with high income levels, that is, between \$40,000 and \$74,999 compared to those with income below \$20,000. 93% of respondents were classified as 'heavy' users of debit cards. Similarly, Jin and DeVaney (2005) results have showed that compared to households of income below \$25,000, households having an income between \$25,000 and \$49,999, between \$50,000 and \$74,999 and higher than \$75,000 were 75%, 117% and 71%, respectively, more likely to use debit cards.

Mathur and George (1994) in their study, have showed two ways how income may have the tendency to affect an individual's proclivity to use credit cards in different ways. First of all, credit availability (credit line) would affect one's capability to use credit cards in different occasions as those having low income will have low credit lines. Secondly, the person's income is expected to influence his/her inclination to buy something, that is, people with higher income are heavy users of credit cards as compared to low income earners. Several studies (Plummer, 1971; Jeans, 1979, cited Bukhari, 2015) have showed that low income customers use credit card mainly for future instalment features and easy credit availability rather than for safety, convenience and identification purposes.

Likewise, Slocum and Mathew (1970) have studied the usage of credit cards among cardholders in USA. They have found that the lower income users use their cards for instalment purposes much more than the higher income users. Thus, Mathur and George (1994, pp.30) concluded that “*it was expected that those with higher incomes would be also heavier users of credit cards, regardless of age*”. However, Gan, Mayrami and Koh (2008, cited Bhukari, 2015) have highlighted that credit card usage is not only limited to high class, but it is being used by middle and lower middle classes respectively.

On this note, the following hypothesis has been formulated:

H5b: Customer’s level of income influences the sustained adoption of plastic cards

2.8.3 Customer’s age and plastic card adoption

Numerous studies (Jin and DeVaney, 2005; Ahmed *et al.*, 2006; Borzekowski *et al.*, 2006) have pointed out that age is a strong forecaster of debit card usage. In 2006, Borzekowski *et al.*, made use of a new nationally representative consumer survey to define the current use of debit cards among U.S consumers and how demographics affect use. Results have showed that debit card use varies accordingly with different demographics variables. As anticipated, age is a robust predictor of debit card usage: Amid checking account users, the likelihood of using a debit card is declining monotonically with age. This finding is similar with other research on debit card usage as well as with other research on electronic payment systems cited before.

Evans *et al.*, (2014) and Jin and DeVaney (2005) in their study have depicted that young people are the ones who are more likely to adopt new payment innovations than old aged people. Young people are also more likely to use their debit cards at point of sale to pay for small expenses. Practitioners and consumer researchers widely believed that older people make low use of credit cards. Mathur and Moschis (1994) have taken the example of a recent national survey which showed that a smaller percentage (63%) of old people aged 65 or over compared to younger adults (74%) possessed one or more credit cards. Wegner (1988, cited Mathur and Moschis, 1994) also found that credit card ownership drops with age. Likewise, Mandeep Kaur (2011) found that age wise analysis, frequency of card usage and monthly spending on plastic cards are dominated by the young middle age people (31-45 years old).

Despite being the heavy user who have 4-5 cards in their possession, they are not satisfied over the legal protection that the government of India is providing them. Another recent study by Neelavathi *et al.*, (2017) has showed that respondents who had more interest towards the usage of plastic money were of the age group more 18-25 years old (84%) while only 10% consisted of the age group of 25-35 years old and 35-45 years old. However, only a small percentage (5%) were of the age group 50 years and above. Crowe *et al.*, (2006) have identified that customers have the tendency to choose the payment method that they have grown up with. It is normal to see the older generation paying with cash or cheque while the baby boomer generation paying with credit card and the younger generation paying with debit card.

On this note, the following hypothesis has been formulated:

H5c: Customer's age influences the sustained adoption of plastic cards

2.8.4 Customer's occupation and plastic card adoption

Occupation is one of the demographic factors that may directly affect the usage of credit cards (Khalid *et al.*, 2013). Soodan and Chandra Pandey (2014, pp.8) study revealed that “*respondents with different occupation were indifferent towards their attitudes on adopting credit cards*”. Their study has also showed that professionals are more likely to use credit cards than other people followed by respondents who had business as occupation. On the contrary, retired peoples do not show much interest in credit cards. According to Mandeep Kaur (2011) most of respondents who use plastic money in their daily lives are from service class followed by professional and business class. Business class people are the least interested to use plastic money. On the other hand, Diza *et al.*, (2017) have found in their study that 41.9% of the respondents who are willing to use plastic money consisted of farmers while only 8.1% of the civil servants agreed that they are willing to use plastic money. Similarly, Delener and Katzenstein (1994, cited Khalid *et al.*, 2013) have depicted that 25.1% of cardholders in the Asian and Hispanic cultures belonged to labor category.

On this note, the following hypothesis has been formulated:

H5d: Customer's occupation influences the sustained adoption of plastic cards

2.8.5 Customer's gender and plastic card adoption

The impact of demographic factor like gender on the adoption of plastic cards have been studied by different researchers in various settings. Several studies (Nyasha Kaske, 2012; Sumi and Safiullah, 2014; Mwiwaki, 2015; Sultana and Hasan 2016) have showed that males are more likely to use plastic money than females. Another study by Mandeep Kaur (2011) have shown that males prefer to credit cards over debit cards while females prefer debit cards over credit cards. His study also depicted that males have more cards in their possession and use their cards more frequently than females. However, the study of Neelavathi *et al.*, (2017) have contradicted the above point as their results indicated that females (51.5%) were more motivated towards the usage of plastic money as compared to males (48.5%). Their survey also showed that females are more at ease and comfortable in using plastic money as compared to men.

Similarly, Gan *et al.*, (2008, cited Khalid *et al.*, 2013) have found that females possessed more credit cards than males. In a similar vein, Armstrong and Craven (1993, cited Carpenter and Moore, 2008) have highlighted that females have the tendency to hold a higher number of credit cards than males, but on average females have lower balances. Neelavathi *et al.*, (2017, p.67) added another interesting fact that “*banks and financial institutions are in pace to capture the female population higher than the male population for avoidance of credit default which is observed to be less among the female population*”. Nevertheless, both genders are conscious about the importance of plastic cards in their day-to-day life.

On this note, the following hypothesis has been formulated:

H5e: Customer's gender influences the sustained adoption of plastic card

2.9 Conceptual Framework

The research study has been developed and adapted based on a graphical representation which display the interconnections of plastic card adoption among some variables which have been identified in the literature review, namely, the broad factors impacting on plastic card adoption, the perceived benefits associated with plastic cards, the impact of social class on plastic card adoption, the perceived risks and hindrances involved with the adoption of plastic cards and socio-demographic related factors and plastic card adoption.

The first hypothesis is based upon **the broad factors impacting on the sustained adoption of plastic cards**. Different factors such as customer's attitude towards plastic cards, the geographic dispersion of ATMs for plastic card adoption and social influence towards plastic cards will be tested empirically to see whether they have a significant impact on the sustained adoption of plastic cards for an emerging country like Mauritius.

The second hypothesis denotes that **the perceived benefits of plastic cards** such as the convenience of using plastic cards, the ability to monitor budgets effectively using plastic cards, trust in plastic cards and incentives from merchants when using plastic cards which has been uncovered during our focus group discussion.

The third hypothesis aims at identifying **the impact of social class related factors** such as customer's image, customer's social status and customer's lifestyle on the sustained adoption of plastic cards. Moreover, the fourth hypothesis comprises of **the perceived risks and hindrance factors for plastic card adoption**. Security risks associated with plastic cards, privacy risks involved with plastic cards, fear of frauds associated with plastic cards and compulsive buying when using plastic cards have been identified as the main risks and hindrances towards the sustained adoption of plastic cards.

The last and fifth hypothesis is based upon **the socio-demographics related factors** such as customer's level of education, customer's level of income, customer's age, customer's occupation and customer's gender and its impact on the sustained adoption of plastic cards. The conceptual model has emerged from the different research hypotheses that the research study is aiming to answer and the above hypotheses will be tested empirically.

Conceptual Framework

The research project has been conducted based on a graphical representation which display the interconnections of plastic card adoption among some variables which have been identified in the literature review.

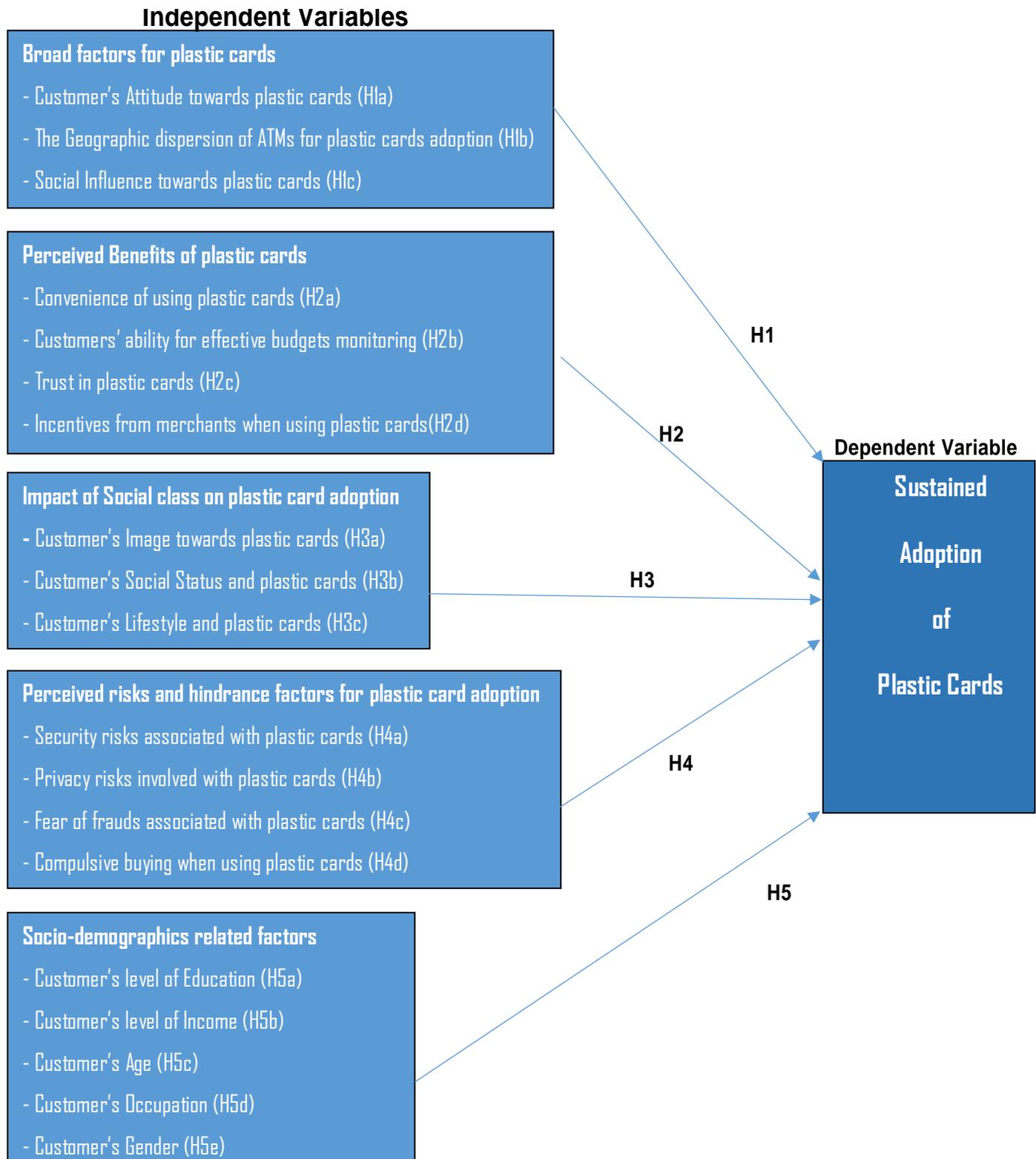


Figure 2.1: Proposed Conceptual Model for Sustaining the Adoption of Plastic Cards in Mauritius

2.10 Merchants' acceptance and adoption of plastic cards

Although cash is considered as the cheapest method of payment for merchants to accept, merchants normally do not want to encourage and promote cash payments (Levitin, 2008). In a similar vein, Shodhganga (2006) found that the majority of merchants in India are still cash-based although there has been an increase in merchants accepting card payments. According to the World Economic Forum (2016), developing economies have a greater percentage of paper-based payment transactions. Micro-retailers such as self-employed firms and small stores have the tendency to stay away from electronic transactions because of the high costs, lack of awareness and other challenges. However, Plastic cards (debit and credit) offer merchants a wide variety of benefits that paper money (cash and cheque) do not (Chakravorti, 2000). Merchants and banks are expecting a ration of debit card payments relative to cash payments of 60% to 40% by 2019 (DeNederlandsche Bank, 2015).

According to the World Economic Forum (2016), a study was conducted in India to analysed merchants' payment behavior. Results have indicated that 89% of merchants who accept debit card confirmed that they would recommend other merchants to accept electronic payments. They have also highlighted several benefits of acceptance such as safety, quicker transaction speed, ease of use and save time in finding change. Similarly, Bolt and Chakravorti (2008) have highlighted that lately, some merchants have started accepting card payments for safety and convenience purposes. It is important to note that merchants are benefiting from easier accounting and cash management with plastic payments. For instance, since 1st June 2009 American Airlines started to accept only card payments for inflight procurements on all its domestic routes (Chakravorti, 2010).

2.10.1 Perceived risks and hindrances of plastic cards to merchants**2.10.1.1 Fees associated with the adoption of plastic cards**

Customers are being more and more implored to use new payment methods. Normally, the products that are marketed to be 'free on usage' with appealing rewards are actually not free but represent a multi-billion industry. According to the Bank of Mauritius, the total value of payments made at point of sale (POS) in Mauritius consisted approximately Rs 146 billion in 2015. There was also an estimated amount of Rs 3.6 billion that was shared as 'fees' among payment system operators. Rochet and Wright (2009) have depicted in their study that although plastic card

payments are gaining popularity and achieving great heights, merchants often complain that the fees they have to pay in order to accept credit cards payments are out of proportion.

Payment of fees at different levels are indeed viewed as a really complicated structure that regrettably very often acts as a pain to merchants who have to settle the bill for electronic payments as well as for customers who are trapped through ambiguous contracts and associated hidden costs. Additionally, the habit to use cash, complexity of card payment and fees associated with the adoption of payment cards pose significant barriers for merchants in adopting plastic cards.

2.10.1.1.1 Merchant Discount Rate (MDR) or Merchant Service Commission (MSC)

The merchant discount rate is the rate charged to a merchant for payment processing through debit and credit card transactions. According to the Competition Commission of Mauritius, the MSC comprises of three main components, that is, the Issuer Interchange Fee, network costs allocated to Visa and MasterCard, and the acquirer's own costs and mark up. In their study, Arango and Taylor (2008) have highlighted that acquirers offer merchants specific rates depending on their monthly sales volumes and risk calculation. Therefore, the higher the credit card sales the lower the rates (to encourage economies of scale). While higher risk, as viewed by acquirers, is associated with higher rates.

In Mauritius, the merchant discount rate has risen significantly in the recent years and actually ranges from just under 2% to over 3% of the total transaction amount. According to Bank of Mauritius, about 35% of the merchant discount is paid to the acquirer, 10% - 15% is paid to the credit card company while the largest portion – 50% - 60% goes to the issuer as interchange, a fee paid by the merchants to compensate the credit card issuers (usually banks) for assuming the costs and risks associated with credit cards. Therefore, the Competitive Commission of Mauritius (2016) has highlighted in their study that a large number of merchants do not accept cards at point of sales. According to CCM's merchant survey, only 48% of merchants in Mauritius accept payment cards. This figure of 2015 (48%) was more or less the same as the total number of merchants accepting cards in 2012, despite an increase in number of point of sales terminals has been registered.

However, in another study, the Bank of Canada has conducted a national survey of merchants in 2006. This survey has analyzed merchants' accepted modes of payment for point of sales transactions, how merchants view payment methods, the share of each payment method by annual

sales and the cost associated with accepting payment cards. Results have revealed that 89% of the merchants who answered to the survey accept cash, debit and credit card payments simultaneously. Despite the high acceptance rate by merchants, merchants have the tendency to view each means of payment differently. *“While 53 per cent of respondents prefer debit cards the most (followed by cash at 39 per cent), only 5 per cent say they prefer credit cards the most”* (Arango and Taylor, 2008 pp.2).

Merchants are not willing to accept payment by cards as the merchant fees are relatively high, controlled by high sub-component costs (issuer fees, acquirer fees and proprietary or network fees). A study by Chakravorti and Emmons (2001), has shed light on the fact that the choice to accept credit cards seems to reduce merchant revenues by one to three percent – the value of discount merchants faces while converting credit card receipts into bank funds. Merchant fees have a more significant impact on smaller merchants who have lower volumes of payments. Credit cards are less likely to be accepted at restaurants, general merchandise and personal service stores but are fully accepted at petrol pumps, in the furniture, trade and apparel service (Arango and Taylor, 2008). Therefore, CCM (2016, pp.10) has proposed that *“lower merchant fees could increase the level of card acceptance by merchants in Mauritius, which is currently relatively low at 48%, further enhancing the scope for growth in the acquiring market”*.

2.10.1.1.2 Issuer Interchange Fee (IIF)

Issuer Interchange Fee (IIF) refers to the fee paid by an acquirer (the merchants’ banks) to an issuer (the cardholders’ banks) for each point of sales transaction paid by a payment card issued by the latter (Rochet and Tirole, 2000). They have further elaborated that, *“in a payment card transaction, the consumer’s bank, called the issuer and the merchant’s bank, the acquirer, must cooperate in order to enable the transaction”* (pp.1). The Issuer Interchange Fee is usually allocated as a percentage of the transaction value. Interchange fees increase marginal cost for acquirers and decrease the marginal cost of issuers by the same amount. According to the European Commission Report (2015) profit-maximization firms respond to cost changes by adapting prices, hence interchange fees increase fees on one side of the market (merchant side) and decreases fees on the other side of the market (cardholder side).

The level of interchange fees affects merchants’ decision to accept or reject plastic cards. In some countries, the issuer interchange fees have seen sharp movements while in other countries they have remained moderately steady (Weiner and Wright, 2005). According to European Commission

Report (2015) merchants are forced to accept plastic cards even if they are far more expensive than other means of payments for several reasons. Nowadays, consumers carry cards instead of cash with them. Therefore, they fear that if they don't accept payment by cards their customers would switch to other merchants. It has also been argued that the level of interchange fees motivates merchants to discourage the use of plastic cards especially for lower value transactions.

Wright (2003) has highlighted in his research that several policymakers such as the European Commission and the Australian Central Bank have disputed that card associations, that is, Visa and MasterCard have set a too high interchange fee. This is acting as a hindrance towards merchants' acceptance of plastic cards as they have to pay a lot for accepting card payments. Similarly, the IIF applicable in Mauritius have been respectively set by Visa and MasterCard for their individual card network. Rochet and Tirole (2000, pp.3) have disputed that a merchant's total benefits and its decision of whether to accept a payment card does not only depend on technological benefits such as protection as theft, fraud control and rapid transactions but also "*on the product of its increase in demand due to system membership and its retail markup.*" Therefore, Baxter (1983) has overstated merchants' resistance to an increase in both merchant discount and interchange fee.

Borestam and Heiko Schmiedel (2011) have analysed the interchange fees of different countries (Belgium, France, Estonia, Portugal, Italy, and Spain) and found that the interchange fees have been declining over time. In Portugal, the interchange fee in 2010 was 0.57%, this was considered as the second lowest level over the previous nine years. This was mainly due to increased competition with international payment card schemes. In Germany, the interchange fee has remained almost constant since its introduction. In the United Kingdom, the interchange fee for credit card purchase have decreased while the interchange fee for debit card purchase have increased. In Slovenia, the interchange fee has remained constant at the same level for 15 years, except for one scheme in 2007 that rose the interchange fees by 16.7%.

2.10.1.1.3 High cost associated with Point of Sales terminal

According to a study by Dalberg (2016), entitled 'Small merchants, Big opportunity' results have revealed that more than 180 million micro and small merchants function across the developing world. Although independently these businesses are small, their influence within the global economy is quite significant. These micro and small merchants transact over \$6.5 trillion every year and interact with more than \$4.5 million customers on a daily basis. The study also explained

“Because these merchants typically have thin margins, low-income customers and small transaction values, and operate in cash-based ecosystems, little has been done to integrate them into the cashless economy”. They have also stressed out the fact that the hardware used in most of the digital payment systems is quite expensive to buy and maintain. They have to pay rent or else purchase the terminal which is quite expensive for them. Similarly, Chakravorti (2000) has depicted that merchants are unwillingly to adopt electronic payments due to the large transition costs involved in obtaining the necessary hardware and training of staffs.

In another study by the Bank of Canada’s survey (2006) results have depicted that merchants pay about \$45 to \$53 a month for their payment processing and banking services, this may also include terminal leasing. The survey also highlighted that although the questionnaire did not consist of questions on communication costs, 56 per cent of respondents revealed that they use dial-up lines and 30 per cent use high-speed lines and most of the respondents use only one connection. Similarly, Dalberg (2016) has highlighted that cashless acceptance is presently not the right time for micro and small merchants. This is so because, utmost micro and small merchants in developing countries operate within a cash-based ecosystem and hence making their income tied electronically is not a good idea. In order to get a payment terminal, these micro and small merchants need to go through lengthy and complex application procedures. According to one banking in Philippines, these terminals cost around \$150 to above \$700 depending on their capabilities, with the need for software upgrades costing around \$300 per year.

According to the Boston Consulting Group (2016), in India the merchant acceptance for cards has by and large been stagnant for the past few years. India is considered as one of the most underpenetrated with world, with approximately one million point of sales terminals accepting card payments at around 700,000 to 800,000 merchant outlets. The most significant reason for this low penetration is the high cost of ‘terminalizing’ merchants. On top of that, once they have the terminal in their possession, they often face much difficulty in processing transactions as they are frequent inconsistent electricity and faulty connection. Lastly, as stated above, merchants pay numerous fees to accept payment cards. Therefore, due to the fact of their thin margins and very few of their customers pay by cards, these small merchants do not perceive cashless acceptance as critical to their success (World Bank Group and World Economic Forum, 2016).

2.10.1.2 Time consuming, complex and potential for error for processing card's transactions

Merchants working in busy environment like markets and buses found processing cards transactions quite time consuming and complex as lots steps are involved. In the Dalberg report (2016, pp.11), they have cited the experience of an electronic shop owner: *“My customers tried to use his card, but it didn't work- he got impatient and left. I don't want this headache”*. In Columbia, merchants are required to enter their transaction value and tax amount separately whereas for debit card, customers are required to enter their PIN and also sign for most transactions. In the same study, they have cited another example of a restaurant owner in Indonesia facing frequent problem of employees entering the wrong amount. This cause the business to either overcharge or undercharge its customers. In Bogota, a tailor shop owner admitted that processing digital payments is actually too complicated for her employees. Therefore, it is important to note that *“the potential for error poses a significant barrier to merchant adoption of digital payment systems”* (pp.11).

2.10.2 Benefits of plastic cards to merchants

2.10.2.1 Increase in sales by adopting plastic cards

Several studies (Chakravorti, 2000; Arango and Taylor, 2008; Levitin, 2008; Dalberg, 2016) have shown that the biggest benefits that plastic payments provide merchants with is that, consumers considerably spend more when purchasing with plastic than with paper. The consumer price elasticity depends largely on the method of payment. In comparison to paper, plastic augments consumers' willingness to pay for their products and services and to make additional unplanned purchases. Nowadays, many restaurants and coffee shops are accepting payment cards because of their rapid transaction speed as well as to increase their sales (Chakravorti, 2010). Also, merchants that accept cards sell more in contrast to identical merchants and earn higher profits.

Similarly, a study by Dalberg (2016) has depicted that customers are willing to pay significantly more for the same product when paying with cards versus cash. Therefore, in order to benefit from greater consumer spending, merchants are ready to pay any price it. Although cash is perceived as cheaper on average for merchants, the overall benefits of cash acceptance is nothing compared to the increased spending that goes with debit and credit card usage. According to CCM's merchant survey (2016), merchants accept card payments for two most common reasons; 'risk of losing

sales' and 'increase frequency sales'. However, merchants do not want to distinguish between cash and credit prices but instead they want to distinguish between rewards and non-rewards cards and also between debit and credit cards so as to boost the use of payments systems with the lower net costs. They have already started doing so by introducing the no shipping fee.

Wright (2001) has highlighted that contrast to cash, plastic cards provide customers with instant access to cash or funds which ensure that customers will have the facility to make immediate purchase decisions. He has also identified two types of purchases: Impulse purchases and Normal purchases. Plastic cards provide customers with unlimited budgets which then lead to impulse purchases. However, this is not the same with cash payment, as customer already have a limited amount of cash in their pocket to tend to make normal purchases.

2.10.2.2 Attract customers who like card payments

Chakravoti and To (2007, cited Wright 2010) have provided a model to illustrate why merchants accept credit cards, grounded on the ability of credit cards to extend their illiquid customers' consumption ahead in time and assure sales today versus uncertain sales tomorrow. Merchants will also accept payment by cards for tactical reasons such as to attract those customers who like to pay by cards from competitors who do not accept card payments (Rochet and Tirole, 2000; Wright, 2001; Wright 2003; Weiner and Wright, 2005; Borestam and Schmiedel, 2011). According to the Capgemini report (2011), by accepting the most popular payment cards, merchants are able to increase sales as well as attract potential customers. In a similar vein, merchants may be obliged to accept cards out of fear that if they don't accept cards, their customers will go to other merchants.

According to the CCM's report (2016) merchants' willingness to accept cards depends largely on their competitive aspects to offer customers with the best service. However, Wright (2001) found that the interchange fee is much higher when merchants compete against other merchants to attract customers paying by cards. He has also highlighted that consumers do not select which industry to buy from based on whether merchants in that particular industry accept card payments or not but customers tend to purchase from the industry they are accustomed and matched to. Nevertheless, Chakravorti (2000) has contradicted that customers prefer to frequent merchants that accept plastic cards.

2.11 Sustained adoption of plastic cards

Plastic card is viewed as an important payment tool for customers all over the world and according to several studies (Garcia, 1980; Feinberg, 1986; Hayhoe *et al.*, 2000; Bernthal *et al.*, 2005; Pudaruth *et al.*, 2013), it will continue to be so in the future, particularly in the world of shopping. Numerous studies have depicted that there exists a significantly positive relationship between plastic card adoption and customer's future usage intention (Durkin and Prince, 2000; Chien and DeVaney, 2001; Joo and Grable, 2004; Pudaruth *et al.*, 2013). In a similar vein, a study by Zafar *et al.*, (2010) has highlighted that with time, the eligibility criteria to obtain a credit card have been increasingly relaxed and thus making the number of plastic cardholders reached to an amount of three million by the turn of the last century and will definitely continue to climb the ladder in the future. However, Sushma Patil (2014) has concluded in her study that the future growth of plastic cards would depend largely upon the banks' willingness and capacity to meet and satisfy the challenges involved with plastic card adoption. On the other hand, banks should make use of the opportunities available profitably to satisfy customers as customers' interest is of supreme importance.

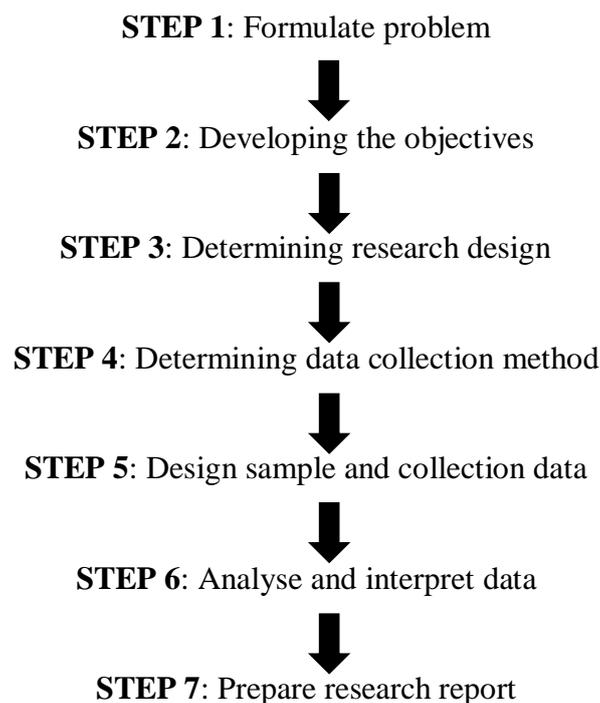
2.12 Summary

There is definitely a huge opportunity for investing in new technologies like plastic cards. Plastic cards have been evolving over the years and banks are very keen on improving their plastic card payment services so as to gain competitive advantage. Several studies have been done to better understand plastic cards and the benefits of moving towards a modern and cashless economy. The present study has highlighted that factors such as speed, convenience, tracking spends, and security of plastic cards are impacting on the adoption of plastic card. Further to these studies, more deep research should be done to gauge the most current practices due to the fast evolution of technology. The literature review has helped to develop the conceptual model which will have to be tested to demonstrate the interconnection between the different variables identified in the literature review. These studies would help policy makers and financial executives to know how plastic cards can contribute to their future success.

CHAPTER 3**RESEARCH METHODOLOGY****3.0 Introduction**

This chapter highlights and discusses the research design and methodology which have been adopted to attain the research objectives as mentioned in Chapter One. Limited academic study has been carried out to explore the concept of plastic card adoption in the context of emerging countries like Mauritius which is thriving toward a cashless economy. Moreover, previous research has concentrated on plastic card adoption from a customer's perspective and very few researches has tapped plastic card adoption from a merchant's perspective. In fact, no single study has addressed plastic card adoption from both customer and merchant's perspectives. Thus, for this project both qualitative and quantitative research have been carried out to tap plastic card adoption from both the customer and merchant's perspectives. This chapter also elaborates and justifies the different methodological choices which have been adopted for this present research. The research process as proposed by Kumar (2005) portrays very clearly the different steps that have been considered prior to pilot data collection stage. This chapter starts with the problem statement of the present research, research design, theoretical framework and hypothesis development, data collection, sampling design and data analysis techniques.

Kumar (2005) has identified several steps that are involved in the research process:



3.1 Formulate research problem of the study

The rapid development in the financial sector has urged banks to continuously keep pace with the fast-growing evolution of plastic cards. Mauritius is still a developing country and Mauritians are habituated with conventional banking practices. However, using traditional payment methods such as cash and cheques, there is a rise in problems associated with it, leading to it fade out (Shodhganga, 2009). However, she has also stated that to overcome the problems of traditional payment systems, plastic cards such as debit and credit cards are making their way into the society.

Both debit and credit cards are not only secured but are widely accepted as compared to cash. The development of plastic cards was quite obvious as customers are getting more and more dependent on technology and plastic cards are the best result of technology in banking industry. Plastic cards have already replaced the paper currency as well as have gained lot of importance in most of the developed countries. Mauritius emphasizes most of the time on traditional banking practices, hence it is vital for the population of Mauritius to accept a global outlook to be able to tap new opportunities evolving in the world.

In this respect, the assessment of whether the adoption of plastic cards will positively impact on the customers and merchants in Mauritius is of great concern. However, to the investigators' best knowledge, no academic study has explored the factors that have contributed towards plastic cards adoption for both customers and merchants in the context of developing countries like Mauritius. Hence, this research project is innovative in the sense that it will use both qualitative and quantitative research approaches to deepen insights into the factors impacting on the adoption of plastic cards among both merchants and customers in Mauritius.

Moreover, the research project has also supplemented a merchant survey to have a broader perspective on the factors impacting on plastic card adoption for Mauritius, which is striving towards a cashless economy. The research project would provide enough concrete and empirical findings that would serve as a roadmap for banking executives, credit card companies and policy makers of banking industry to better promote and sustain the adoption of plastic cards. Hence, this research project will provide an opportunity for stakeholders, banking and financial institutions to widen their range of plastic card services to tap the unbanked economy of Mauritius.

3.2 The main objectives of the research

Therefore, the aim of this present study is to investigate the broad factors impacting on the adoption of plastic cards among customers in Mauritius. The research will also accomplish the following specific objectives:

1. To gain insights on plastic card payments from banking and plastic card executives of different banking and financial institutions in Mauritius.
2. To explore the broad factors and significant benefits of plastic cards and their impact on plastic card adoption among customers in Mauritius.
3. To assess the extent to which social class related factors and perceived risks and hindrances can influence the adoption of plastic cards among customers in Mauritius.
4. To explore the perception of merchants on the phenomenon of plastic cards in Mauritius.
5. To propose a conceptual model on plastic card adoption for emerging countries such as Mauritius.

According to Churchill (1979) and Saunders *et al.*, (2016), the relevance of research design is highly important in business management research as well as in many other various fields. Research design is viewed as the road map that highlights how the researcher advances with answering the stated research questions. It is imperative to note that research design is governed by the research objectives that are in turn derived by the stated research questions. Thus, it is vital to have a clear picture and understanding of the research questions in order to recommend and explain an accurate research design.

In light of the above, the present research will address the following research questions:

1. What are the views of banking professionals and executives on the determining factors impacting on plastic card adoption among customers in Mauritius?
2. What are the broad factors and significant benefits of plastic cards and how do they impact on the adoption of plastic cards among customers?
3. How can social class related factors and perceived risks and hindrances influence the adoption of plastic cards among customers in Mauritius?
4. What are the perceptions of merchants on plastic card payment?

3.2.1 Research Hypotheses

Once the research objectives have firmly been established, the next step is to develop a set of hypotheses based on the questions put forward by the research study along with the different authors stating their views. Churchill (1995) has defined hypothesis as the statement that stipulates how two or more measurable variables are interconnected. Research hypotheses are vital as they provide the research with a sense of direction towards the right path (Pudaruth *et al.*, 2014). For the rationale of this study, the following hypotheses will be tested:

Hypothesis 1: Broad factors for plastic cards impact on the sustained adoption of plastic cards

Customers' attitudes towards Plastic Card Adoption

Several studies have been done on the consumers' attitudes towards the use of credit cards whereby researchers have highlighted that plastic cards allow customers to pay their bills, get free access to ATM and control their spending habits (Soman, 2001; Massoud and Bernhardt, 2006 cited Bukhari *et al.*, 2015). Similarly, several researches have portrayed that customers are more likely to form positive attitude towards plastic cards because of its convenience, portability and ease of use while paying or doing shopping (Ahmed *et al.*, 2009; Sharma *et al.*, 2015; Munyoro and Matinde, 2016; Kaur and Sharma; 2017; Kaur, 2018). On this note, customers' attitudes towards plastic cards will be tested based upon the following hypothesis:

H₀: Customers' attitudes do not have an impact on the sustained adoption of plastic cards

H_{1a}: Customers' attitudes have an impact on the sustained adoption of plastic cards

The geographic dispersion of Automated Teller Machines for Plastic Card Adoption

Voluminous studies have shown that the geographic dispersion of ATMs can also influence the adoption of plastic cards (Caskey and Sellon, 1994; Saloner and Shepard, 1995; Berger and DeYoung, 2006; Bukhari *et al.*, 2015; Kaur and Kaur, 2018). The introduction of ATM technologies has made banks fruitful in attracting customers towards the adoption of plastic cards (Maerkose and Loke, 2003; Bukhari *et al.*, 2015). Several researchers (Atima 2010; Bashir Idris, 2014; Jegede, 2014) have highlighted that introducing ATM machines in banking services will facilitate customers access to their finances as they only need their plastic cards to operate the ATM. The geographic dispersion of ATMs will be tested by doing the following hypothesis:

H₀: The geographic dispersion of ATMs does not impact on the sustained adoption of plastic cards

H_{1b}: The geographic dispersion of ATMs impacts on the sustained adoption of plastic cards

Social Influences towards the Adoption of Plastic Card

Several studies (Penman *et al.*, 2008; Wang and Xiao, 2008; Gilman *et al.*, 2014) have shown that social pressure is the reason behind impulsive consumption habits among youngsters in the society. Similarly, peer influence and society pressures are motivating young adults to form a particular consumption habit and attitude towards money and debt (Makgosa and Mohube, 2007; Mahrunnisya *et al.*, 2018). Voluminous studies (Jorgensen, 2007; Subhani *et al.*, 2011) have also highlighted that parent and peers have majority influence on students' attitudes and behaviors towards credit cards. Other studies (Palmer *et al.*, 2001; Hilgert and Hogarth, 2003; Ismail *et al.*, 2014) have identified family influence as another factor that affected credit card usage. Thus, the next hypothesis has been formulated which is as follows:

H₀: Social influence towards plastic cards does not have an impact on the sustained adoption of plastic cards

H_{1c}: Social influence towards plastic cards impacts on the sustained adoption of plastic cards

Hypothesis 2: Perceived benefits of plastic cards impact on the sustained adoption of plastic cards

Conveniences associated with the Adoption of Plastic Cards

Several studies have identified plastic cards are a convenient and comparatively painless way of spending (Caskey and Sellon, 1994; Bukhari *et al.*, 2015; Dave, 2016; Dhanda, 2016; Sultana and Hasan 2016; Malagi and Shelar, 2017; Qureshi *et al.*, 2018). Convenience is considered as the main reason for adopting plastic cards (Borzekowski *et al.*, 2006; Nirmala and Sonu, 2015). Several researchers (Sharma *et al.*, 2015; Bama and Gunasundari, 2016; Dave, 2016; Kaur, 2018) have also agreed that convenience of not carrying cash, speed, security and ease of transaction are considered as the influencing factors that boost the use of plastic money over paper money. In order to prove this hypothesis, the following hypothesis was carried out as follows:

H₀: Conveniences of using plastic cards do not impact on the sustained adoption of plastic cards

H_{2a}: Conveniences of using plastic cards impacts on the sustained adoption of plastic cards

Customers' ability for effective budget monitoring

Monitoring budgets and managing expenses requires customers to recall all expenses made, which is not so easy (Srivastava and Raghubir, 2002; Arango and Taylor, 2009; Jonker and Kosse, 2013; Hernandez *et al.*, 2014). Hernandez *et al.*, (2014) have mentioned in their study that, with the wide availability of payment cards, Dutch consumers can now keep track of their expenditures through their payment cards. Likewise, Caskey and Sellon (1994) have mentioned that plastic cards are more secured compared to other modes of payment and at the same time paying by cards bring transparency, making it easier for customers to keep track of their expenses and cut down expenses. Customers' ability for effective budget monitoring will be tested by doing the following hypothesis:

H₀: Customers' ability for effective budgets monitoring do not impact on the sustained adoption of plastic cards

H_{2b}: Customers' ability for effective budgets monitoring impacts on the sustained adoption of plastic cards

Trust in Plastic Cards

While there are many contextual factors that contribute towards the successful adoption of electronic payments, Morgan and Hunt (1994) found that the presence of commitment and trust is most essential to achieve this particular success. Lim *et al.*, (2007) have highlighted that if an electronic payment system does not deliver a secure service and maintain itself as trustworthy, users will hesitate to use the system thus hindering its ability to acquire widespread acceptability. Similarly, according to Maqableh *et al.*, (2015), trust issues are important for the successful adoption of plastic money. On this note, the following hypothesis has been formulated:

H₀: Trust in plastic cards do not impact on the sustained adoption of plastic cards

H_{2c}: Trust in plastic cards impacts on the sustained adoption of plastic cards

Incentives from merchants when using Plastic Cards

Many financial institutions are depended on incentive programs as their chief strategic driver to augment electronic payments such as credit cards or debit cards use among their customers (Chakravorti, 2000; Carbo-Valverde and Linares-Zegarra, 2011; Mwende *et al.*, 2017). Thipe (2016) and Mwende *et al.*, (2017) have also found that the main reason for customers to adopt credit cards were because of credit card incentives. Similarly, Ching and Hiyashi (2008) and Salman and Munir (2015) results have depicted that incentives are positively correlated with the adoption of credit cards. Several studies (Ching and Hayashi, 2008; Agarwal *et al.*, 2010; Carbo-Valverde and Linares-Zegarra, 2011) have highlighted that many card issuers are providing attractive reward programs to increase their market shares as well as card usage by their existing customers. Incentives from merchants when using plastic cards will be tested based upon the following hypothesis:

H₀: Incentives from merchants related to plastic cards do not impact on the sustained adoption of plastic cards

H_{2a}: Incentives from merchants related to plastic cards impact on the sustained adoption of plastic cards

Hypothesis 3: Social Class related factors impact on the sustained adoption of plastic cards

Customers' image (self-esteem) and Adoption of Plastic Cards

Several studies (Twenge and Campbell, 2008; Silvera *et al.*, 2008; Pudaruth *et al.*, 2013) have depicted that customers particularly young people are more willing to take on risk and enjoy life since they often possessed by instant gratification to maintain a social image and self-esteem while adopting plastic cards and at the same time they tend to see money as a way of achieving a prestigious image. Hence, Phau and woo (2008) have suggested that adults have the tendency to view plastic money as a tool to achieve impressive and respectable image in search of self-realization. On this note, the following hypothesis has been formulated:

H₀: Customers' image does not influence the sustained adoption of plastic cards

H_{3a}: Customers' image influences the sustained adoption of plastic cards

Customers' social status and Adoption of Plastic Cards

Timonah (2012) and Ismail *et al.*, (2014) have highlighted in their studies that customers are adopting plastic cards in order to establish a sense of identity and maintain their social status. In a similar vein, Ismail *et al.*, (2014) have found in their study that owing a credit card represents one's social status and this is contributing to the number of cards in circulation in Malaysia. A recent study done by Dhanda and Arora (2017, pp.480) has shown that the perception of Indian consumers towards the adoption of plastic money can be associated with "contentment" and a "sense of gratification". Hence, it is highlighted that one of the main reasons for almost anyone to adopt plastic cards is the yearning to gain social status. Thus, the next hypothesis has been formulated which is as follows:

H₀: Customers' social status does not impact on the sustained adoption of plastic cards

H_{3b}: Customers' social status impact on the sustained adoption of plastic cards

Customers' lifestyle and Adoption of Plastic Cards

Several studies (Plummer, 1971; Bernthal *et al.*, 2005; Bukhari *et al.*, 2015) have depicted that customers' lifestyle has a huge impact on credit card purchasing behavior. Credit card use displays a customer lifestyle and improve standard of living (Bernthal *et al.*, 2005; Khare *et al.*, 2011). Mohamed *et al.*, (2016) stated that in Malaysia, customers are becoming more brand-conscious and they are adopting quality and standard products that suit their lifestyle and satisfaction. In a similar vein, Dhanda and Arora (2017) have agreed that the usage of plastic cards show a consumer's values and lifestyle. Based on the following the next hypothesis has been formulated:

H₀: Customers' lifestyle does not impact on the sustained adoption of plastic cards

H_{3c}: Customers' lifestyle impact on the sustained adoption of plastic cards

Hypothesis 4: Perceived risks and hindrance factors impact on the sustained adoption of plastic cards

Security risks associated with Plastic Cards

The topic of security has become a debated and disputed subject within the ground of payments. Several theories and studies (Jonker, 2007; Bolt and Chakravoti, 2008; He *et al.*, 2008; Kosse, 2013) have highlighted that security is one of the drivers when customers decide on their payment behaviors. Customers also feel a sense of insecurity when giving out their financial and personal information via the internet. Han (2003) has observed that 60% of respondents approved that online dealings should be safer and under secured system. Therefore, the reasons why customers feel reluctant to purchase products or services online are the security of their credit cards information when purchasing a product. Security risks associated with plastic cards will be tested based upon the following hypothesis:

H₀: Security risks associated with plastic cards do not influence the sustained adoption of plastic cards

H_{4a}: Security risks associated with plastic cards influence the sustained adoption of plastic cards

Privacy risks involved with Plastic Cards

Together with the security issue, there is also consumers' concern for privacy. While buying over the internet, consumers may be unwilling to disclose their credit card information as they find it risky and they have no control over this. Kong Han (2003) conducted his research on security and problems in credit card online transaction and results disclosed that most of the respondents are not pleased with the level of privacy provided by the merchants. They are afraid about their confidential identity or credit card number being stolen. Adequately, a pilot test conducted by Featherman and Pavlou (2002) revealed that users were worried about theft of their private information or companies misusing the information. Based on this, the following hypothesis has been formulated:

H₀: Privacy risks involved with plastic cards do not impact on the sustained adoption of plastic cards

H_{4b}: Privacy risks involved with plastic cards impact the sustained adoption of plastic cards

Fear of fraud associated with Plastic Card Adoption

According to Mohamad (2011), plastic card fraud is the illegal use of payment cards such as ATM, debit and credit cards without the knowledge or permission of the banks or cardholder. Similarly, according to the Crime Survey for England and Wales (CSEW, 2013), 4.7% of plastic card owners were found to be victims of plastic card fraud. Anneke Kosse (2011) has identified skimming fraud also known as counterfeit card fraud as the most central type of debit card fraud in Netherlands. In a study, Jegede (2014) has highlighted that although ATMs offer the possibility to conduct banking transactions from almost all ATMs around the world, "*the spread of the machines has been generating a lot of heat*" such as most of the customers have been encountering the problem of scam. Fear of fraud associated with plastic cards will be tested based upon the following hypothesis:

H₀: Fear of fraud associated with plastic cards do not impact on the sustained adoption of plastic cards

H_{4c}: Fear of fraud associated with plastic cards impact on the sustained adoption of plastic cards

Compulsive buying when using Plastic Cards

One of the major drawbacks of credit card is that it leads to a common habit known as “compulsive buying” (Bukhari *et al.*, 2015; Dave, 2016). Several studies have proved that a user would spend more with a credit card as compared to using cash in a similar situation (Feinberg, 1986; Prelec and Semeter, 2001; Park and Burns, 2005). Similarly, several studies (O’Guinn and Faber, 1989; Park and Burns, 2005; Phau and Woo, 2008; Pirog and Roberts, 2007; Simanjuntak and Rosifa, 2016) have identified a significant relationship between credit card use and compulsive buying.

On this note, the following hypothesis has been formulated:

H₀: Compulsive buying when using plastic cards do not impact on the sustained adoption of plastic cards

H_{4d}: Compulsive buying when using plastic cards impact on the sustained adoption of plastic cards

Hypothesis 5: Socio-demographics factors impact on the sustained adoption of plastic cards**Customers’ level of education and Plastic Card Adoption**

Mandeep Kaur (2011) and Nyasha Kaske (2012) have highlighted education of card users as a vital parameter in their studies. Customers possessing higher education level are more likely to use debit cards. Baharun *et al.*, (2017) have highlighted that customers’ level of education contributed to their level of awareness on debit card adoption. Moreover, Mandeep Kaur’s result indicated that majority of the respondents that use plastic cards were post graduates (50.7%) whereas 3.8% were graduates and others respectively. While Nyasha’s (2012) result showed that respondents having degrees and diplomas are the ones who used plastic cards the most. Customers’ level of education will be tested based upon the following hypothesis:

H₀: Customers’ level of education does not influence the sustained adoption of plastic cards

H_{5a}: Customers’ level of education influences the sustained adoption of plastic cards

Customers' level of income and Plastic Card Adoption

Several studies (Plummer, 1971; Jeans, 1979, cited Bukhari, 2015) have showed that low income customers use credit card mainly for future instalment features and easy credit availability rather than for safety, convenience and identification purposes. Mantel and McHugh (2001) and Jin and DeVaney (2005) have found that consumer financial characteristics have an influence on debit card usage. Likewise, Slocum and Mathew (1970) have studied the usage of credit cards among cardholders in USA. They have found that the lower income users use their cards for instalment purposes much more than the higher income users. Based upon this the following hypothesis has been formulated:

H₀: Customers' level of income does not influence the sustained adoption of plastic cards

H_{5b}: Customers' level of income influences the sustained adoption of plastic cards

Customers' age and Plastic Card Adoption

Numerous studies (Jin and DeVaney, 2005; Ahmed *et al.*, 2006; Borzekowski *et al.*, 2006) have pointed out that age is a strong forecaster of debit card usage. Evans *et al.*, (2014) and Jin and DeVaney (2005) in their study have depicted that young people are the ones who are more likely to adopt new payment innovations than old aged people. Mathur and Moschis (1994) have taken the example of a recent national survey which showed that a smaller percentage (63%) of old people aged 65 or over compared to younger adults (74%) possessed one or more credit cards. Another recent study by Neelavathi *et al.*, (2017) has showed that respondents who had more interest towards the usage of plastic money were of the age group more 18-25 years old (84%) while only 10% consisted of the age group of 25-35 years old and 35-45 years old. Customers' age and plastic card adoption will be tested based upon the following hypothesis:

H₀: Customers' age does not influence the sustained adoption of plastic cards

H_{5c}: Customers' age influences the sustained adoption of plastic cards

Customers' occupation and Plastic Card Adoption

Occupation is one of the demographic factors that may directly affect the usage of credit cards (Khalid *et al.*, 2013). Soodan and Chandra Pandey (2014, pp.8) study revealed that “*respondents with different occupation were indifferent towards their attitudes on adopting credit cards*”. Their study has also showed that professionals are more likely to use credit cards than other people followed by respondents who had business as occupation. On the other hand, Diza *et al.*, (2017) have found in their study that 41.9% of the respondents who are willing to use plastic money consisted of farmers while only 8.1% of the civil servants agreed that they are willing to use plastic money. Based upon this, the following hypothesis has been formulated:

H₀: Customers' occupation does not influence the sustained adoption of plastic cards

H_{5d}: Customers' occupation influences the sustained adoption of plastic cards

Customers' gender and Plastic Card Adoption

Several studies (Nyasha Kaske, 2012; Sumi and Safiullah, 2014; Mwiwaki, 2015; Sultana and Hasan 2016) have showed that males are more likely to use plastic money than females. Another study by Mandeep Kaur (2011) have shown that males prefer to credit cards over debit cards while females prefer debit cards over credit cards. Gan *et al.*, (2008, cited Khalid *et al.*, 2013) have found that females possessed more credit cards than males. In a similar vein, Armstrong and Craven (1993, cited Carpenter and Moore, 2008) have highlighted that females have the tendency to hold a higher number of credit cards than males. Based upon the following, the following hypothesis will be tested:

H₀: Customers' gender does not influence the sustained adoption of plastic cards

H_{5e}: Customers' gender influences the sustained adoption of plastic cards

3.2.2 Conceptual Framework

The research project has been conducted based on a graphical representation which display the interconnections of plastic card adoption among some variables which have been identified in the literature review.

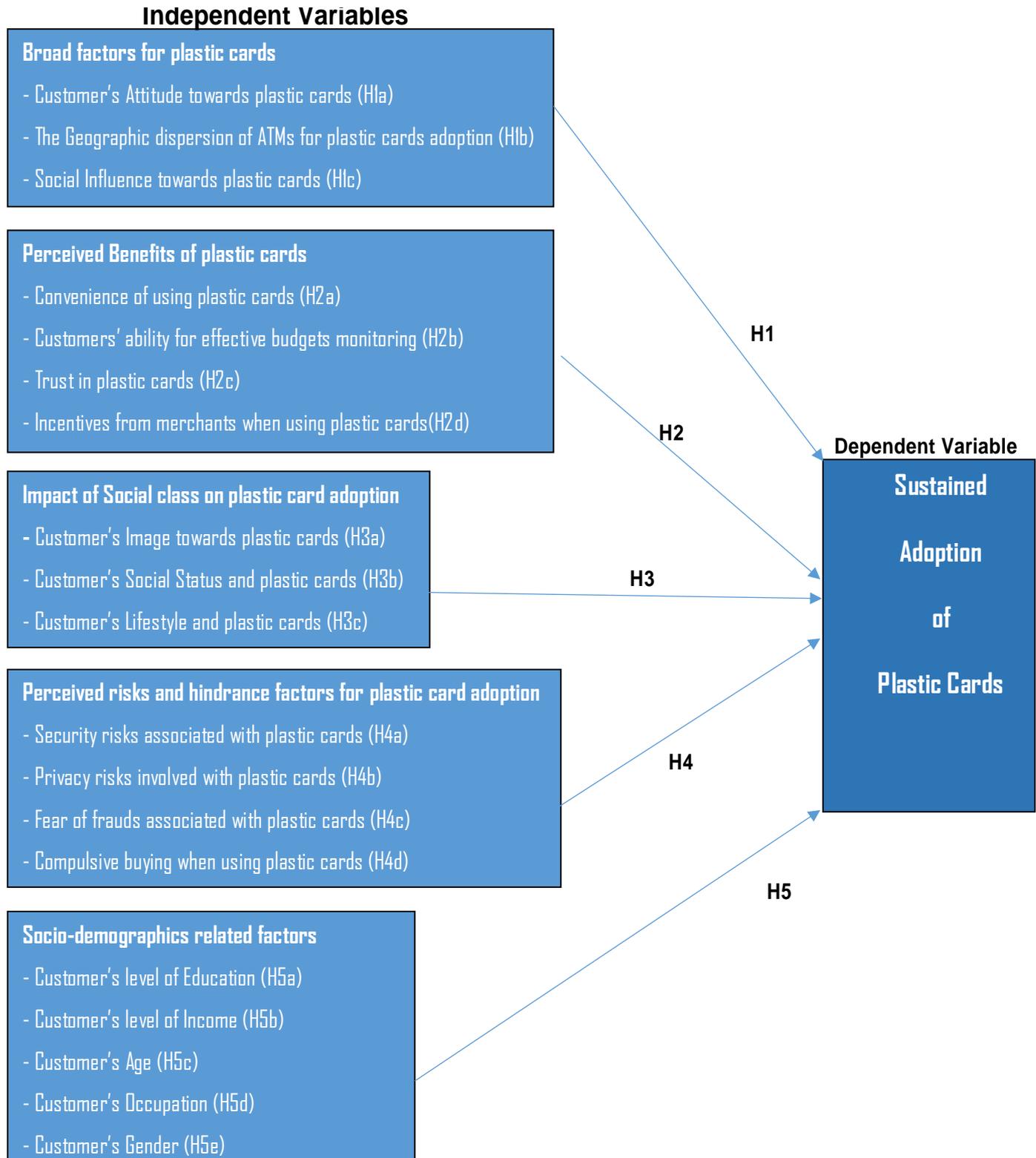


Figure 3.1: Proposed Conceptual Model for Sustaining the Adoption of Plastic Cards in Mauritius

3.3 Determine research design

Research design can be defined as a research process that constitutes of a sequence of steps in the methodical collection and analysis of data. For this study, both exploratory and descriptive research approaches have been adopted. Firstly, exploratory research was used in order to gain ideas about the subject under study.

3.3.1 Exploratory Research – Focus Group Interview with Banking Executives

The focus group is the first step of a two-staged methodological approach which the present study adopts.

The focus group was viewed as necessary so as to obtain insights of banking executives on the adoption of plastic (credit) cards and its barriers (if any) for our cashless society.

The hallmark of focus group is the explicit use of the demographically diverse group of interaction to produce data and insights that would be less possible without the interaction found in a group setting. Focus group discussion helps to verbalized experiences by listening to other participants stimulating memories, ideas and experiences. This is also known as the group effect where group members engage in “a kind of ‘chaining’ or ‘cascading’ effect; talk links to, or tumbles out of, the topics and expressions preceding it”.

Data collected from the focus group has been used to:

- ✓ develop the content of the structured questionnaire, making it more appropriate and relevant to the research objectives and the sample population of interest of Mauritius
- ✓ help to increase research based on “plastic card” and “cashless society” drawn from previous studies
- ✓ help in providing insights into the roots of the adoption of plastic (credit) cards and its barriers (if any) for our cashless society

For this study, **one** focus group was conducted with the aim of exploring the broad factors impacting on the adoption of plastic cards and its associated benefits among customers in Mauritius.

The discussion was centered on various themes such as the:

- ✓ General attitudes and benefits of plastic cards
- ✓ Broad factors and its impact on plastic card adoption
- ✓ Hindrance factors and associated risks with plastic cards
- ✓ Strategies and challenges for accelerating the adoption of plastic cards

Profile of Focus Group Participants

Detailed Profile of Focus Group Members

The focus group was conducted on **5th July 2018** and lasted for about one hour. The focus group was carried out with **6 participants**, who are banking executives of private banking institutions of Mauritius and Bank of Mauritius.

- ✓ In terms of their demographic and socio-economic profile, all the 6 participants were males.
- ✓ Concerning the occupational group, the respondents reported to work in the private sectors as head of e-business, digital channels and contact Centre manager, card issuing manager, chief payment systems and supervisor.
- ✓ All the participants are highly qualified personnel.

3.3.2 Qualitative Findings – Interview with Executive Director of Competition Commission of Mauritius (CCM)

The main purpose of the interview with the Executive Director of Competition Commission of Mauritius was to obtain some insights on the competitive aspects of banking landscape in terms of plastic card adoption for Mauritius.

The interview was conducted on **19th July 2018** and it lasted for around **one hour**.

It is interesting to note that the interview has enabled to shed lights on various themes related to competitive aspects in relation to plastic card adoption such as:

- ✓ Natural Monopoly for certain banks and Customer Welfare
- ✓ Issuer Interchange Fee and Merchant Service Commission
- ✓ Major competition in the market and network effect
- ✓ Switching costs and market concentration
- ✓ Awareness on plastic cards

- ✓ New payment solutions
- ✓ E commerce and Online shopping

3.3.3 Descriptive Research

Secondly, quantitative research was also executed to test the proposed conceptual model. The main motive for concluding with descriptive research is that it makes use of statistical methods that uses survey as a method to get facts and figures about certain features, for example, the extent to which people are willing to adopt plastic cards in Mauritius. Quantitative research in term of a large-scale survey was conducted with 800 customers and 200 merchants across the 9 districts of Mauritius to capture their perception on the concept plastic card adoption.

3.3.4 Survey Instrument

The target group was comprised of 800 debit and credit cardholders above 18 years in Mauritius and 200 merchants across the nine districts of the Island. The stratified sampling method and convenience sampling method were used respectively. Questionnaires were distributed proportionately among 1000 customers and merchants across the nine districts in Mauritius to ensure greater geographical representativeness of the sample.

3.4 Determine Data Collection Method

For the present study, both primary data and secondary data have been collected. Secondary data was gathered at the beginning of the study through detailed reading in book (Marketing research), thesis, Internet, web pages and journal articles available from electronic libraries like Emerald and Ebsco. It is also important to note that all the secondary data were referenced using the Harvard Style of Referencing.

The main journals used for this present research are listed as follows:

- Journal of internet banking and commerce
- Journal of comparative international management
- International journal of business and social science
- Journal of money, credit and banking
- Journal of banking and finance
- Journal of business research
- E- academia journal
- International journal of bank marketing
- Journal of law and economics
- European journal of marketing
- Journal of consumer research
- Journal of marketing and consumer research
- Global journal of management and business research
- International journal of marketing, financial services and management research

Primary research was also used as we often come up with outdated data from secondary research. For the present research, 18 interviewers were recruited, trained and several briefing sessions were organized to ensure interviewers understood the procedures involved in data collection. A team leader was also appointed to manage the survey team and ensure proper data collection. By carrying out surveys, we have obtained a superior collection of data from a sizeable population in an extremely reasonable way by using a questionnaire. These data were standardized to facilitate easy evaluation. The use of questionnaire as a method to collect primary data is a great way to obtain important information as it facilitates administering, coding, processing and analyzing of data. Face to face interviews was chosen as a method to collect data as it was the most appropriate method to achieve high response rate.

3.4.1 Pilot Testing

The questionnaires were pilot tested on 10 customers and 10 merchants to ensure validity and reliability of the instrument conducted from the 31st August 2018 to 4th September 2018. Respondents' feedback has helped in amending the questionnaires and after various changes have been made, the final questionnaires were drafted. The changes made are:

1. The customer's questionnaire was too lengthy; thus, some items were removed from the questionnaire. For examples:

Customer's habit and plastic card adoption

Statements: Habits and plastic card adoption		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
C1	I often pay by plastic cards	<input type="checkbox"/>				
C2	I often pay by cash	<input type="checkbox"/>				
C3	I have already been paying by plastic cards for a long time	<input type="checkbox"/>				
C4	I have already been paying by cash for a long time	<input type="checkbox"/>				
C5	I pay by plastic cards out of habit	<input type="checkbox"/>				
C6	I pay by cash out of habit	<input type="checkbox"/>				

Lack of awareness and plastic card adoption

Statements: Lack of awareness and plastic card adoption		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
G13	I am not aware of plastic card services that are available for use	<input type="checkbox"/>				
G14	I don't really understand all the different options available with plastic cards	<input type="checkbox"/>				
G15	I don't know how to use plastic cards	<input type="checkbox"/>				

2. Some questionnaires were not clear and confusing thus requiring modifications.

Example: What is your frequency of use of plastic cards? has been changed to how frequently do you use your plastic cards?

3. Some items were modified and adapted to plastic card adoption.

For example:

Before	After
1. My lifestyle has made me to acquire quality goods using my plastic cards	Plastic card has made me acquire quality goods
2. My lifestyle has made me to acquire standard goods using my plastic cards	Plastic card has enabled me to purchase standard goods
3. My lifestyle has made me to acquire expensive goods using my plastic cards	Plastic card has allowed me to buy expensive goods
4. My lifestyle has made me to acquire goods online using my plastic cards	Plastic card has enabled me to make online purchases

4. If customers do not adopt plastic cards, questions such as reason for non-adoption of plastic cards and likeliness to adopt plastic cards in the future was added.

If **NO**, what are the reasons for **non-adoption** of plastic cards? (Please tick all that apply)

a.	<input type="checkbox"/>	Security issues
b.	<input type="checkbox"/>	Fear of losing the cards
c.	<input type="checkbox"/>	Unnecessary formalities
d.	<input type="checkbox"/>	Lack of trust while making transactions
e.	<input type="checkbox"/>	Unacceptability at outlets
f.	<input type="checkbox"/>	Complexity of terms and conditions of banks
g.	<input type="checkbox"/>	Technology linkage issues

If you **don't adopt** plastic cards, please rate your **likeliness to adopt plastic cards** in the future?

		Very Unlikely	Unlikely	Neutral	Likely	Very Likely
		1	2	3	4	5
A6a	How likely are you to start using plastic cards?	<input type="checkbox"/>				

3.5 Design sample and collecting data

According to Pudaruth *et al.*, (2014) sampling has more benefits as compared to other modes of collecting data because smaller elements are gathered to simplify accuracy on designing and piloting of data collected. For this research, data was collected based on the nine districts of Mauritius. Information was gathered from the population of banking customers administered in each of the nine districts. The data for merchant's survey was collected among retail and non-retail sectors in the nine districts of Mauritius.

3.5.1 Sampling Frame

It is of utmost important for the sampling frame to be illustrative and cover the target groups uniformly. As such, information about the district wise classification of the population of Mauritius across the nine districts of Mauritius were retrieved and proportionate to each district, the number of customers to be surveyed was devised. Questionnaires were distributed according to the ratio of number of people residing in each districts of Mauritius. Furthermore, for the merchants' survey questionnaires were distributed among the retail and non-retail sectors of Mauritius.

3.5.2 Sample Size

The sample size is the number of elements of the population to be sampled and the minimum is determined by using the following formula:

Sample Size - Infinite Population (where the population is greater than 50,000)

$$\text{Sample Size (SS)} = \frac{Z^2 \times (p) \times (1-p)}{C^2}$$

<p><i>SS = Sample Size</i> <i>Z = Z-value A (e.g., 1.96 for a 95 percent confidence level)</i> <i>P = Percentage of population picking a choice, expressed as decimal</i> <i>B</i> <i>C = Confidence interval, expressed as decimal (e.g., .04 = +/- 4 percentage points)</i></p>	<p><i>The Z-values for confidence levels are:</i> <i>1.645 = 90 percent confidence level</i> <i>1.96 = 95 percent confidence level</i> <i>2.576 = 99 percent confidence level</i></p>
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$$\text{Sample Size (SS)} = \frac{1.96^2 \times (0.5) \times (0.5)}{0.0016} = 600$$

As the proposed theoretical model in this study contains 5 major constructs (broad factors, perceived benefits, social class, perceived risks and hindrances and socio-demographics), a sample size of 600 is considered relevant. However, due to the availability of resources, a sample size of 1000 respondents were chosen. Moreover, the data was gathered according to the chart below which was later taken for further analysis.

3.5.3 Allocation of questionnaire

1. Allocation of questionnaires for customers across the nine districts of Mauritius

Table 3.1: Allocation of questionnaires for customers across the nine districts of Mauritius

Administration of questionnaires	Districts	Population	Population (%)	Number of respondents
800 Customers (Across the nine districts of Mauritius) (Stratified Sampling)	Port Louis	119,018	10 %	78
	Pamplemousses	141,022	11 %	92
	Riviere du Rempart	108,036	9 %	71
	Flacq	138,721	11 %	91
	Grand Port	112,909	9 %	74
	Savanne	68,443	6 %	45
	Plaine Wilhems	367,865	30 %	241
	Moka	83,634	7 %	54
	Black River	82,569	7 %	54
TOTAL		1,222,217	100 %	800

* About 22% (272,100) of the whole population consists of children 0 - 17 years old.

2. Allocation of questionnaires for merchants across the nine districts of Mauritius

Table 3.2: Allocation of questionnaires for customers across the nine districts of Mauritius

Administration of questionnaires	Sectors	Number of respondents
200 Merchants (Convenience Sampling)	Retail	100
	Non-retail	100
TOTAL		200

3.5.4 Questionnaire Design and Organization

Both the customer and merchant questionnaires were designed by implementing what Crouch and Housden (2003, cited Pudaruth *et al.*, 2014) have said “*A poorly designed questionnaire will collect inappropriate or inaccurate data and so neglect the whole purpose of the research.*”

3.5.4.1 The customer’s questionnaire

The design of the customer’s questionnaire comprises of several sections:

- Section A: General perceptions on plastic cards

This part will ask respondents about their general perceptions towards plastic cards, for example, what types of cards do they use, since when they are using plastic cards, how often they use their plastic cards and different plastic card concepts. The next section that will follow will comprise of questions more precise to plastic card adoption.

- Section B: Broad factors for plastic cards impact on the sustained adoption of plastic cards

The broad factors for plastic card adoption has been measured by using construct related to customer’s attitude, the geographic dispersion of ATMs and social influence.

- Section C: Perceived benefits of plastic cards impact on the sustained adoption of plastic cards

The perceived benefits of plastic cards has been measured by using construct related to convenience, monitoring budgets effectively using plastic cards, trust and incentives from merchants.

- Section D: Social class related factors impact on the sustained adoption of plastic cards

Social class has been measured by using construct related to image, social status and lifestyle.

- Section E: Perceived risks and hindrance factors for plastic card adoption impact on the sustained adoption of plastic cards

The perceived risks and hindrances associated with plastic cards has been measured by using construct related to perceived security risks, perceived privacy risks, fraud and compulsive buying.

- Section F: Sustain Adoption and prospect of plastic cards

This section consists of questions related to the likeliness of customers to adopt plastic cards in the future. Customers are also asked to rate the future prospect of plastic cards in Mauritius.

- Section G: Demographic profile of respondents

Profiling of respondents was asked using multiple-choice questions. Seven questions were asked in order to get a detailed view on the demographic details of customers who agreed to participate in the survey. This has helped to analyse whether there is a relationship between demographic factors and plastic card adoption.

3.5.4.2 The merchant's questionnaire

The design of the merchant's questionnaire comprises of several sections as follows:

- Section A: Acceptance of plastic cards

This section will ask respondents about their acceptance of plastic cards, for example, what types of cards do they accept, since when are they accepting plastic cards, reasons for accepting card payments and their most preferred payment instrument. The next section that will follow will comprise of questions more precise to plastic card adoption.

- Section B: Perceived risks and hindrances of accepting plastic cards

The perceived risks and hindrances associated of accepting plastic cards as a payment instrument has been measured to evaluate the extent to which merchants agree or disagree that by accepting plastic card payments surely involved some risks.

- Section C: Benefits of accepting plastic cards

This section consists of questions related to the benefits that merchants enjoy by accepting first debit cards and second credit cards.

- Section D: Merchant's perception on customer's mode of payments

This section consists of questions related to the customer's mode of conducting payment in Mauritius.

- Section E: Future acceptance intention and prospect of plastic cards

This section consists of questions related to the likeliness of merchants to accept plastic cards in the future. Merchants are also asked to rate the future prospect of plastic cards in Mauritius.

- Section F: Demographic profile and details of business

In this section the profile of merchants was asked using multiple-choice questions. Five questions were asked in order to get a detailed view on the demographic and business details of merchants who agreed to participate in the survey.

3.5.4.3 Items for questionnaire design

Initial items that have been used in the questionnaires for measuring the different constructs- broad factors, perceived benefits, social class, perceived hindrances and future intention are adapted from existing literature; the items are considered as valid and reliable measures. Some of the items have been reworded, rephrased and adapted for the plastic card context. A brief explanation of the study instruments used to measure the different constructs are as follows.

PART 1: CUSTOMER'S SURVEY**Table 3.3: Scale items for questionnaire**

CONSTRUCTS	SCALE ITEMS	SOURCE
Customer's attitude towards plastic cards	<ul style="list-style-type: none"> • <i>Plastic card is a convenient payment method for me</i> • <i>There is an increase in my expenses when I use plastic cards</i> • <i>It is mandatory for me to use plastic cards to effect payments</i> • <i>The interest rates of plastic cards are reasonable</i> • <i>Plastic cards are helpful during emergency situations</i> • <i>When I use my plastic cards, I am able to buy expensive and luxury goods</i> 	Ismail <i>et al.</i> , (2014)
The geographic dispersion of ATMs for plastic card adoption	<ul style="list-style-type: none"> • <i>ATM has contributed towards my adoption of plastic cards</i> • <i>Technology facilities such as ATMS have encouraged me to use plastic cards</i> • <i>I use my plastic cards in ATMs that are available everywhere</i> • <i>I use my plastic cards in the ATMs that are always functioning</i> • <i>I use my plastic cards to access many ATM points at a very close distance</i> 	Bashir Idris (2014)
Social influence towards plastic cards	<ul style="list-style-type: none"> • <i>Reference group influence my adoption of plastic cards</i> • <i>Recommendations of friends influence my decision to use plastic cards</i> • <i>Recommendations of family influence my decision to use plastic cards</i> • <i>I will not use plastic cards if I receive bad feedback</i> • <i>Before using plastic cards, I would ask for the experiences of my family and friends</i> 	Hahn and Kodó (2017)
Convenience of using plastic cards	<ul style="list-style-type: none"> • <i>There are more advantages (speed, security and ease of transaction) associated with plastic cards than with cash</i> • <i>It is more convenient to use plastic cards than cash</i> • <i>Using a plastic card means that I do not have to worry about taking too much cash with me</i> • <i>It is important to have a plastic card with me when I travel abroad</i> • <i>Plastic cards transactions are more rapid and safer than cash</i> • <i>Worldwide purchases are more convenient with plastic cards</i> 	Khare <i>et al.</i> , (2012)

Customers' ability for effective budgets monitoring	<ul style="list-style-type: none"> • <i>Plastic cards help to get insight into my total expenses</i> • <i>Plastic cards help for budget control and to cut down expenses</i> • <i>Plastic cards help to keep track of the nature of my expenses</i> • <i>Plastic cards help to get insight into total expenses of my household</i> • <i>Plastic cards help to ensure that I'm not short of money at the counter</i> 	Hernandez <i>et al.</i> , (2014)
Trust in plastic cards	<ul style="list-style-type: none"> • <i>Trust is important in my decision to adopt plastic cards</i> • <i>I trust that banks keep the promises and commitment they make</i> • <i>I trust that merchants keep the promises and commitment they make</i> • <i>I trust that plastic card services are reliable</i> • <i>I trust that plastic card providers are honest</i> • <i>I trust that plastic card services are dependable</i> • <i>In general, I find plastic cards trustworthy</i> 	Munoz-Leiva <i>et al.</i> , (2010)
Customer's image towards plastic cards	<ul style="list-style-type: none"> • <i>Using plastic cards improve my image</i> • <i>People who use plastic cards are IT savvy</i> • <i>People who use plastic cards are trendy</i> • <i>Only young people use plastic cards</i> • <i>People who use plastic cards have more prestige</i> • <i>Using plastic cards improve my image</i> 	Teo and Pok (2003)
Customer's social status and plastic cards	<ul style="list-style-type: none"> • <i>Plastic cards are associated with affluent people (high income earners)</i> • <i>I am encouraged to buy things beyond my budget when I use plastic cards</i> • <i>I often come across financial difficulties when using plastic cards</i> • <i>Adoption of plastic cards makes me feel fashionable</i> • <i>Paying by plastic cards makes me feel wealthy</i> 	Khare <i>et al.</i> , (2012)

Customer's lifestyle and plastic cards	<ul style="list-style-type: none"> • <i>Plastic card has made me acquire quality goods</i> • <i>Plastic card has enabled me to purchase standard goods</i> • <i>Plastic card has allowed me to buy expensive goods</i> • <i>Plastic card has enabled me to make online purchases</i> • <i>Plastic card has allowed me to opt for branded products</i> • <i>Overall, plastic cards add value to my lifestyle</i> 	Alfred <i>et al.</i> , (2016)
Security risks associated with plastic cards	<ul style="list-style-type: none"> • <i>My personal payment information is kept safe when I use my plastic card to pay for a purchase</i> • <i>I am concerned about the security of plastic card payments</i> • <i>I am concerned about someone capturing my payment information or other data if I use plastic card services</i> 	Pinchot <i>et al.</i> , (2016)
Privacy risks involved with plastic cards	<ul style="list-style-type: none"> • <i>In general, I find it risky to give my personal information when using plastic cards</i> • <i>Using plastic cards involved high potential for privacy loss of personal information</i> • <i>Personal information could be inappropriately used by the plastic card issuer</i> • <i>Many unexpected problems could arise when giving my personal information to banks or merchants</i> 	Chang <i>et al.</i> , (2015)
Fear of frauds associated with plastic cards	<ul style="list-style-type: none"> • <i>ATMs that are located at isolated and high-risk areas contribute to ATM fraud and crime</i> • <i>Plastic card fraud are common frauds conducted by fraudsters</i> • <i>I feel afraid to use my plastic cards because of fraudulent activities</i> • <i>Financial awareness of plastic cards are not well communicated to customers in Mauritius</i> 	Adepoju and Alhassan (2010)
Compulsive buying when using plastic cards	<ul style="list-style-type: none"> • <i>Spending money using my plastic cards makes me feel better</i> • <i>I often act impulsive when I do my purchases with plastic cards</i> • <i>I lose control of my budget and do purchases that I cannot afford with my plastic cards</i> 	Kaporal and Calik (2014)
Sustain Adoption of plastic cards	<ul style="list-style-type: none"> • <i>How likely are you to adopt plastic cards in the future</i> • <i>How likely are you to use plastic cards more than 10 times monthly</i> 	Pudaruth <i>et al.</i> , (2013)

PART 2: MERCHANT'S SURVEY**Table 3.4: Scale items for questionnaire**

CONSTRUCTS	SCALE ITEMS	SOURCE
Credit card limit	<ul style="list-style-type: none"> • <i>Costs have increased</i> • <i>Takes too much time to operate</i> • <i>It takes too long to get paid</i> • <i>It has increased my tax burden</i> 	Rajani (2009)
Hindrances towards plastic card acceptance	<ul style="list-style-type: none"> • <i>Banks charge merchants high commission (MSC) for accepting plastic card payment</i> • <i>Banks charge high interchange fees for accepting card payment</i> • <i>The fees involved in renting of point of sales terminals are too high</i> • <i>There is delay in payment from bank due to lack of trained personnel</i> • <i>Banks lack appropriate measures to handle cardholder's problems</i> • <i>I am required to install high screening systems to prevent fraud</i> • <i>Pos terminals often reject customer's transactions</i> • <i>It is difficult to cancel the purchases after processing a card payment</i> 	Rajani (2009)
Benefits of accepting Debit cards	<ul style="list-style-type: none"> • <i>Debit cards help to increase the sales of small amount items</i> • <i>There is less charge back problems compared to credit cards</i> • <i>I am able to attract all level customers by accepting debit cards</i> 	Rajani (2009)
Benefits of accepting Credit cards	<ul style="list-style-type: none"> • <i>I am able to attract both middle and high-income level customers using credit cards</i> • <i>Acceptance of credit cards help to increases the sales of big ticket items both traditional and online</i> • <i>Accepting credit cards reduces bad debts</i> • <i>Credit cards acceptance help me to achieve impulse sales</i> 	Rajani (2009)
Future acceptance intention	<ul style="list-style-type: none"> • <i>How likely are you to continue accepting plastic cards in the future</i> • <i>How likely are you to encourage customers to pay by plastic cards in the future</i> 	

3.6 Analyze and Interpret Data

The information collected from data collection will have no meaning, if they are not analyzed and interpreted. Hence, proper editing and coding were done before analyzing and interpreting. Several tests have been carried out and these consisted of: The Reliability test to analyze whether the constructs were reliable for further testing: Anova test to know the existence of differences among several constructs means and the Multiple Regression analysis was used to evaluate the relationship between the constructs.

3.6.1 Data cleaning, Editing and Coding of responses

After having collected the data from respondents, the data should be organized and transformed in an appropriate format for further analysis. Data editing has been done by the 18 fieldworkers to pinpoint omissions, doubts and errors. According to Sekaran (2003), data have to be edited on the very same day of data collection. Respondents were contacted in case the researcher should require additional information. All the questionnaires have been checked on the same day by the 18 interviewers and all the discrepancies in the questionnaires were identified to guarantee that the data were clean for further coding of responses. After the data were cleaned and cleared by the interviewers, a final editing has been done by the team leader. After which the responses were input by the 18 interviewers on the SPSS template created by the research assistant.

Moreover, coding of responses involves identification, classification and allocation of numeric for data that can be performed through pre-coding and post-coding. For this research project, some responses have been pre-coded while for some questions post-coding has been performed. For example, all the Likert scales questions were coded as 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. For the open-ended questions, the answers were grouped with a proposed key word to gather likely results together. And for the close ended questions, in the demographic profile, for example, for the marital status questions, 1= Single, 2= Married, 3= Divorced, 4= Widowed. Alternately, these keywords were put into SPSS and coded numerically as follows:

<u>Statements: Attitudes and plastic card adoption</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
B1	Plastic card is a convenient payment method for me	<input type="checkbox"/>				
B2	There is an increase in my expenses when I use plastic cards	<input type="checkbox"/>				
B3	It is mandatory for me to use plastic cards to effect payments	<input type="checkbox"/>				
B4	The interest rates of plastic cards are reasonable	<input type="checkbox"/>				
B5	Plastic cards are helpful during emergency situations	<input type="checkbox"/>				
B6	When I use my plastic cards, I am able to buy expensive and luxury goods	<input type="checkbox"/>				

For example, responses for Gender have been post-coded as 1= Male and 2= Females in demographic section. Moreover, responses for Age Group have been post-coded as 1= Between 18 and 24; 2 = Between 25 – 34; 3 = Between 35 and 44; 4 = Between 45 and 54 and 5 = 55 and Above. The table below provides a detailed coding structure of the demographic profile of respondents.

1. Gender	[1] Male	[2] Female					
2. Age Group	[1] Between 18 and 24	[2] Between 25 and 34	[3] Between 35 and 44	[4] Between 45 and 54	[5] 55 and above		
3. Marital Status	[1] Single	[2] Married	[3] Divorced	[4] Widowed			
4. Educational Level	[1] Primary Certificate	[2] School Certificate	[3] Higher School Certificate	[4] Diploma Degree	[5] Bachelor Degree	[6] Master Degree	[7] PhD
5. Occupational Group	[1] Professional/Executives	[2] Clerical and service workers	[3] Unemployed	[4] Manual and Elementary Workers	[5] Students	[6] Self-employed	[7] Retired
6. District	[1] <u>Riviere du Rempart</u>	[2] Black River	[3] <u>Savanne</u>	[4] Grand Port	[5] <u>Flacq</u>	[6] <u>Moka</u>	
	[7] <u>Pamplemousses</u>	[8] Port Louis	[9] <u>Plaine Wilhems</u>				
7. Income Level (Rs)	[1] Between 10,000 - 14,999	[2] Between 15,000 – 19,999	[3] Between 20,000 – 24,999	[4] Between 25,000 – 29,999	[5] Between 30,000 – 34,999		
	[6] Between 35,000 - 39,999	[7] Between 40,000 – 44,999	[8] Above 45,000	[9] No income			

3.6.2 Selecting a Data Analysis Strategy

The last stage comprises of choosing suitable statistical analysis techniques which are aligned with the research problem, research objectives, features of data and the essential properties for statistical techniques. As far as measurement in research is concerned, Jupp (2006) has outlined four ways of measurement that are briefly explained:

1. Nominal Measurement - use of numbers for representing categories, like for instance, 1= Males and 2= Females
2. Ordinal Measurement – the ranking of the categories is based upon scale 1-5 ranging from Strongly Disagree to Strongly Agree,
3. Interval Measurement, for example, the number of years the customers are dealing with the banks, and
4. Ratio Measurement comprising of income group and age classification

For the purpose of the current study, both descriptive and inferential analyses have been adopted. Descriptive statistical approach for data analysis has been applied since it is a common method for quantitative business and social research, followed by inferential data analysis.

3.6.3 Exploratory data analysis and Descriptive statistics

After having coded the data, they are input on a spreadsheet and on the Statistical Package for the Social Sciences (SPSS) version 20, to process data through descriptive statistics like frequency and multiple response sets and generate frequency tables, diagrams, pie chart and other charts to facilitate interpretation. Tables and figures are considered as effective tools to symbolize the data as it is helpful in making visual distinctions among variables. Questions were designed with the intention to explore and measure the likely impact of adoption of plastic cards among the residents of Mauritius. For all the parts of the analysis, ANOVA test, Independent sample t-test and Regression Analysis were used. ANOVA test and Independent sample t-test was conducted on all the demographics variables against the different constructs to identify the most predictive demographic factors. Regression analysis was used to test the hypotheses and identify the most significant factors impacting on the sustained adoption of plastic cards in Mauritius.

3.6.4 Reliability Analysis for Scale Refinement

Churchill (1979) has suggested the computation of coefficient, that is, Cronbach Alpha to be the first and foremost stage to refine scales. The aim of reliability test is to assess the extent to which all the items are measuring the same thing. A minimum value of Cronbach Alpha of 0.7 is considered as satisfactory as per the measure recommended by Nunally (1978). Indeed, Nunally (1978) has posited that the value of 0.70 or above further specifies the reliability of the items. It is important to note that a coefficient alpha above 0.7 also demonstrates a high extent of homogeneity within the scale and determines that the item can reflect a single dimension as outlined by Churchill (1979). The value of Cronbach's alpha value for the whole customer's survey instrument comprising of 71 items was 0.995 and value for the whole merchant's survey instrument comprising of 21 items was 0.988. It can be further deduced that the survey instrument is a good indicator of all the constructs that should be investigated in the present research.

3.6.5 Item-to-Item Correlations

According to Lu *et al.* (2007), corrected item-total correlation represents the correlation of a variable with composite score of all the variables which in turn, form the measure of the construct. The analysis of the correlations enables to depict the relationships between the variables in the research model. Corrected item-total correlations analysis has been conducted for all the constructs for the present research. Indeed, a value or score of corrected item-total correlation of less than 0.30 demonstrates that the variable is measuring something different from the construct as a whole as depicted by Hair *et al.* (2005). All items were above 0.30, thus no questions were removed from the questionnaires as all the items were reliable.

3.6.6 Limitations of the study

- Professionals and executives from 21 banking and financial institutions were invited to participated in the focus group discussion, but only 7 banking professionals and executives were present during the focus group discussion
- It was very difficult to recruit fieldworkers to conduct the survey, as the students were very busy with class test, assignment and presentation

- Some respondents were reluctant to fill the questionnaire as they found the questionnaire to be too long
- Some questions had to be simplified and translated into Creole Language for some people, especially for the 3rd age generation to better understand the questions
- It has been very difficult to obtain the list of different retailers across Mauritius
- Confidential information of cardholders such as demographic factors were very sensitive to obtain
- Insights from other financial institutions, stakeholders and card issuing companies such as CIM Finance, Rogers Capital and the Financial Service Commission have not been tapped in the research project
- The sample size has been limited to only 800 customers and 200 merchants from a population of approximately 1.2 million people due to resource and time constraint
- Another limitation is the survey was focused to only Mauritius as a developing nation.

3.6.7 Overcoming the limitations

The steps that had been taken to overcome the above-mentioned limitations were that:

- The list of questions that has been discussed during the focus group discussion were sent by email to all the professionals and executives of the banking institutions who could not attend the focus group discussion
- The fieldworkers were given a stipend and testimonial to encourage them to participate in the collection of data
- The public were interviewed mostly during their lunch hours to be willing to give more time to respond to the whole questionnaire properly
- Moreover, the survey team has been of great help to those people (especially 3rd age people) who had difficulties in answering the questions
- The interviewers had been successful in ensuring customers and merchants that their personal information would not be disclosed during the analysis of data.
- The 18 interviewers were provided with an authorization letter and badge to ensure the respondents that the survey is being conducted under strict supervision and all data will be treated anonymously

3.6.8 Ethical Considerations

The respondents were free to participate or withdraw from the survey and a covering letter was also designed to guide the respondents about the study. Moreover, interviewers gave a verbal assurance to all the respondents regarding confidentiality and anonymity of information provided.

3.7 Summary

This chapter has endeavored to describe the steps used in this research to collect data regarding the Mauritian's perceptions on plastic cards adoption. The focus group with banking executives and professionals was viewed as necessary so as to obtain insights of banking executives on the adoption of plastic cards and its barriers for our cashless society. Moreover, the main purpose of the qualitative interview with the Executive Director of Competition Commission of Mauritius was to obtain some insights on the competitive aspects of banking landscape in terms of plastic card adoption for Mauritius. However quantitative research, in terms of, survey questionnaire was the most ecological way to achieve this as it enables two-way communication. Stratified sampling method was used for the customer's questionnaire whereas convenience sampling was used for the merchant's questionnaire.

CHAPTER 4

ANALYSIS AND FINDINGS

4.0 Introduction

The Chapter 4 reports the main findings of the focus group discussion conducted with banking professionals and executives, the face to face interview with the Executive Director and Head investigations of the Competition Commission of Mauritius and the survey conducted with 800 customers and 200 merchants across the nine districts of Mauritius. The chapter has been classified into four parts, where **part 1** highlights the main findings derived from the focus group discussion, **part 2** is based upon the main findings of the interview at CCM, **part 3** focuses on the main findings from the customer survey pertaining to plastic card adoption and **part 4** reports on the main findings of the merchant survey regarding plastic card adoption.

The first part starts with the data collected for the demographic profile of the respondents illustrated in bar charts and pie charts. The second part consists of the general perception of customers on plastic card adoption, followed by reliability and validity analysis. Mean analysis is conducted on different constructs impacting on the sustained adoption of plastic cards. The last part consists of hypothesis testing for each objective whereby ANOVA and regression analysis are conducted on objectives having hypothesis.

This chapter aims at analyzing the data collected through the qualitative and quantitative survey. Hence, each section in the questionnaire has been analysed thoroughly and discussions of findings has been carried out. Below are the different sections that this chapter will follow:

Table 4.1**Plastic card adoption from banking professionals and executives' perspectives**

PART 1: PLASTIC CARD ADOPTION FROM BANKING PROFESSIONALS AND EXECUTIVES' PERSPECTIVES
Section A: General attitudes and benefits of plastic cards
Section B: Broad factors and its impact on plastic card adoption in Mauritius
Section C: Perceived Benefits of adopting plastic cards
Section D: Hindrance factors and associated risks with plastic cards

Section E: Strategies and Challenges to accelerate the adoption of plastic cards
Section F: Perceptions of banking representatives on the future of plastic cards in Mauritius

Table 4.2

Plastic card adoption from Executive Director and Head Investigations' perspectives

PART 2: PLASTIC CARD ADOPTION FROM THE EXECUTIVE DIRECTOR OF CCM AND HEAD INVESTIGATIONS' PERSPECTIVES
Section A: Natural Monopoly for certain banks and Customer Welfare
Section B: Issuer Interchange Fee and Merchant Service Commission
Section C: Major competitors in the market and Network Effect
Section D: Switching costs, commitment and Market Concentration
Section E: Awareness on plastic cards
Section F: New Payment Solutions
Section G: E commerce and online shopping
Section H: Further recommendations proposed by CCM

Table 4.3

Plastic card adoption from customers' perspectives

PART 3: PLASTIC CARD ADOPTION FROM CUSTOMERS' PERSPECTIVES
Section A: The Demographic Profile of respondents
Section B: General perceptions of customers
Section C: Reliability and Validity Analysis
Section D: Descriptive Statistics – Constructs
<ul style="list-style-type: none"> • Customer's attitude towards plastic cards
<ul style="list-style-type: none"> • The geographic dispersion of Automated Teller Machines for plastic card adoption
<ul style="list-style-type: none"> • Social Influence towards plastic cards
<ul style="list-style-type: none"> • Convenience of using plastic cards

<ul style="list-style-type: none"> • Customers' ability for effective budget monitoring
<ul style="list-style-type: none"> • Trust in plastic cards
<ul style="list-style-type: none"> • Incentives from merchants when using plastic cards
<ul style="list-style-type: none"> • Customer' s image towards plastic cards
<ul style="list-style-type: none"> • Customer's social status and plastic cards
<ul style="list-style-type: none"> • Customer's lifestyle and plastic cards
<ul style="list-style-type: none"> • Security risks associated with plastic cards
<ul style="list-style-type: none"> • Privacy risks involved with plastic cards
<ul style="list-style-type: none"> • Fear of frauds associated with plastic cards
<ul style="list-style-type: none"> • Compulsive buying when using plastic cards
Section E: Anova/ T-Test
Section F: Regression Analysis

Table 4.4

Plastic card adoption from merchants' perspectives

PART 4: PLASTIC CARD ADOPTION FROM MERCHANTS' PERSPECTIVES
Section A: Business Details of merchants
Section B: Merchants' acceptance of plastic cards
Section C: Merchant's perception on customer's mode of payment
Section D: Reliability and Validity Analysis
Section E: Descriptive Statistics – Constructs
<ul style="list-style-type: none"> • Credit card limit
<ul style="list-style-type: none"> • Hindrances towards plastic card acceptance
<ul style="list-style-type: none"> • Perceived benefits of accepting debit cards
<ul style="list-style-type: none"> • Perceived benefits of accepting credit cards
Section F: Perceived risks and hindrances of accepting plastic cards

CHAPTER 4**PART 1****Qualitative Findings of Focus Group Discussion with Banking Executives and Professionals of Banking Institutions in Mauritius****Section A: General attitudes****4.1 General attitudes of banking professionals and executives on plastic cards**

Participants were asked to provide their views on the concept of plastic card adoption and cashless money in Mauritius. The responses have helped to better understand where Mauritius is actually situated in terms of a cashless economy. As well as what is being done by banks to boost the usage of plastic cards. Below are the questions that were asked during the focus group discussion:

4.1.1 General views on plastic cards in Mauritius

The banking representatives have shared the views that 256K Credit Cards and 1.6 Million Debit Cards are in circulation in Mauritius. They have also described “Plastic cards” as an innovative approach being used by people for payment. Despite an increase in the usage of plastic cards in the payment systems, card remains the preferred method of electronic payment for citizens worldwide. Currently in Mauritius, plastic card is the most common payment method used among the working population and also when they travel. However, since there is no real engagement from the government to move to a cashless society, cash and cheques are still extensively used. In Mauritius, there are some major transactions that are still cash based and the journey towards a cashless society is not free of challenges.

4.1.2 Number of years for the introduction of plastic card services in Mauritius

Insights from banking representatives have revealed that banks in Mauritius has started issuing cards since 1990’s., that is approximately 28 years now and they have also highlighted that Mauritius Commercial Bank was the first bank to issue cards.

4.1.3 Types of cards offered by banks

The banking personnels have classified “Prepaid Cards” as the other types of cards they offered other than debit and credit cards.

4.1.4 Perceptions of banking representatives on Mauritius as a cashless society

The banking representatives have shared the views that, there has been an increase in cashless transactions in Mauritius during the past years. 90% of the working population of Mauritius has a bank account. There is 408K Internet Banking Users and 343K Transactions per month, followed by 970K customers for Mobile Banking and 862K Transactions per month.

The Mauritius Automated Clearing and Settlement System (MACSS) reports 90K on average, 4K on a daily basis. Concerning cheques- 350K on average per month, 16K are cleared daily. However, with the substantial Cash based transaction, Mauritius is still at an infancy stage. We may not ascertain if we are moving towards a cashless society as compared to developed countries such as Netherland, France or Belgium where Cashless transaction has already surpassed 50%.

4.1.5 Key factors promoting the adoption of plastic cards

The focus group discussion has highlighted safety reasons, no need to carry huge amount of cash in hand, convenience banking, use of the card when branches are closed, wide availability of ATMs across Mauritius, Internet accessibility with the introduction of free Wi-Fi hotspot, optic fiber, internet is becoming accessible to more people, the trend moving towards online shopping, the environment for card adoption; acceptance of card transaction at every merchants, stores and small shops are the key factors for the adoption of innovative payment solutions. People's perception on plastic card should change and increase their awareness of cards benefits.

4.1.6 Investment of banks in digital money and reasons for customers to adopt digital money

The last decade has witnessed a sharp rise of cashless transactions not only in the developed countries but also in many of the developing countries like Mauritius. Markets are in a transition phase, from grocery stores, hyper markets to electronic markets. The use of plastic cards, online shopping and electronic payments are gathering momentum. The banks are becoming hi-tech by introducing online facilities to citizens. Banks are taking advantages of the worldwide internet availability and user-friendly software/ hardware and are investing in digital money. Digital money is not only efficient and costs saving for banks but will also bring additional benefits to all stakeholders. Digital money requires less labour cost (no need of too much branch handling cash). At bottom line, the further banks automate payments, the lesser will be the cost.

Section B: Broad factors and its impact on plastic card adoption in Mauritius**4.2 Broad factors that are influencing the adoption of plastic cards**

The qualitative insights have uncovered personality factors in terms of psychological factors and motivation and the need to be trendy as determining factors for adoption of innovative payment solutions., followed by the need for customer education whereby it is important to continue to educate people on the benefits of using card and how to use same where the involvement of bank is key together with other stakeholders' involvement in educating people to make use plastic cards for payments, followed by technological factors in terms of availability of low cost electronic gadgets (mobile, computer, laptop), easy accessibility of internet and proliferation of card accepted device worldwide, new card technology with more security (Contact and Contactless features) are among the factors that may influence the adoption of plastic cards and accessibility in terms of the ability to use the card everywhere.

4.2.1 Perceptions of banking representatives on demographics related factors influencing and impacting on the adoption of plastic card

Insights from the focus group discussion has shed light on the culture of the Mauritian society and the adoption of innovative payment solutions. It has been found that comfort and card-based transaction compared to cash may vary considerably between the two respective age groups namely 25–55 years and 60-85 years. People within the age group 25-55 years will feel more comfortable with card whereas those within age group 60-75 will feel more comfortable with cash.

4.2.2 Banking representatives' views on the influence of peers and friends for adoption of plastic card

Qualitative insights have unveiled that peers and friends are indeed a source to influence the adoption of the cards. In some cases, for example, while going to the supermarket, friends are using Gold card to make payment whilst other customers are still counting notes and cents to settle their bill, they may be influenced to use cards. However, this may not be the case if friends are using their Gold card to make online purchases and despite the peers and friends' acceptance for plastic cards, the conservative risk appetite against hackers on the internet will act as a determining hindrance factor for the adoption of plastic cards.

Section C: Perceived Benefits**4.3 Perceived benefits of adopting plastic cards**

Main benefits reside in terms of safety and precaution measures, easy tracking expenses and transactions through bank statement and receipts. Customers should be aware when using cards that all transactions are being logged in their statement and can allow them to manage their budget more effectively. They can make online worldwide purchase. Customers may access this account 24/7 even after banking hours, public holidays, etc. and the mode of payment is accepted worldwide, with less hassle of customers to carry cash which in turn reduces the chances of theft from wallet. Qualitative insights have posited that customers adopt digital money because they don't need to travel long distances to make payments, they may pay at home through mobile banking and it is time saving. Prior to queuing up in banks, customers are making use of plastic cards for record keeping, safe payments and to avoid hassles associated with theft and crime.

Section D: Hindrance factors and associated risks with plastic cards**4.4 Banking representatives' views on the risks associated with plastic cards**

Qualitative findings have uncovered that risk will always exist, but bank representatives argued that they should identify the risk associated and work out a plan to mitigate them. They gave two examples, firstly, for fraudulent transactions, greater level of security is being introduced on cards to minimize risk of fraudulent transactions whereby the Risk Monitoring Team monitor these transactions. Secondly, for system breakdown, other types of digital payment solution should be introduced as back up. That is, risk associated with plastic cards concerned mainly the security aspect: In case the PIN is lost, what should be done. Moreover, customers also have some responsibility and they need to be aware of risks.

4.4.1 Types of risks customers face when using plastic cards on a daily basis

Types of risks that customers come across while using plastic cards are safety risk – in terms of loss of cards or stolen, declined transactions, ATM/POS breakdown, card captured on ATM and cards are skimmed (Cloned and used somewhere else).

4.4.2 Different cases of frauds/thefts or problems/complaints that banking representatives encounter frequently

It is interesting to note that since the banking representatives have a competent team to monitor suspicious transactions 24/24 and an increase level of security on their cards and E secure for online transactions, customer complaints/ fraudulent transactions have decreased considerably.

4.4.3 Initiatives banks are adopting to uphold the security and privacy of plastic cards

Insights from the discussions have revealed that information on the importance of security for the card holders, use of demo video, campaign via Facebook or other social media sites, card number masked on receipts are the initiatives that banks adopt to enhance the security and privacy of innovative payment solutions in Mauritius.

Moreover, token number will be used on card acceptance devices instead of real card number and this will prevent original card data from being hacked/ duplicated. On some of their credit cards, SMS alert is being sent instantly to customer's mobile phone at the time a transaction takes place. New risk-based authentication for online transactions (One Time Password) and QR Code have also been introduced.

4.4.4 Hindrance factors for the non-adoption of plastic cards

Qualitative findings have also highlighted that the hindrance factors are associated with people mindset, for instance, merchants are not willing to pay fees and customers perceive that cash transactions are more secure. In addition, customers' habit in terms of habit to pay by cash or old-fashioned people who do not like to shift to innovative payment solutions. It has also been found that customers are not aware of the benefits of innovative payment solutions and there is lack of education on security aspects for digital money whereby the latest cyber security issues are not fully embedded in the Mauritian society. Tradition/culture act as a determining barrier towards the adoption of innovative payment solutions together with the costs associated with cost associated with POS machine for merchant.

4.4.5 Reasons for unwillingness of small shops and stores to adopt plastic cards - High interest rates/ Swipe fee

Banking representatives have suggested the following reasons for the unwillingness of small shops and stores to adopt plastic cards due to Point of Sales since a high cost is involved in the project. There are two main fees associated with card transactions at Point of Sales; Issuer Interchange Fee

(IIF) and Merchant Service Commission (MSC). Most of the small shops and stores do not want to reduce their Profit Margin by paying merchant fees.

The majority of Purchase value of an individual in small shops is less than RS 100. Therefore, both merchant and customers will find cash easier, faster and more practical compared to inserting card in a POS machine, insert PIN, wait for authorization. Normally, for small amounts transactions (for e.g at bakery) cash is quicker than chip cards, therefore avoiding long queue in shops. Small shops need capital to reinvest in different inventories nearly every week. Since most wholesalers deliver goods without a card acceptable device, cash remains the preferred transactions methods for small stores. There are situations as well where Merchant are not interested in declaring their turnover.

Section E: Strategies and Challenges to accelerate the adoption of plastic cards

4.5 Marketing strategies banks are using to promote the adoption of plastic cards

Findings have unveiled that customer education, that is, one to one marketing with the customers can promote the adoption of innovative payment solutions. Banks are normally trying to educate customers on the importance of using cards and how to keep their PIN safe. This will prevent frauds and ensure that precautions have been taken in place – duly compliance. In addition, card usage campaign whereby customers participate in lucky draw and win star prizes such as stay at hotels, ticket for travelling abroad, cars, etc., advertising of card products in the press, on radios and digital media, together with billboards in banks premises and the sales team promoting benefits of cards to walk in customers are effective strategies to boost the adoption of innovative payment solutions

It is vital to enhance the function of card accepted devices. E.g Top up mobile phone/ Pay bill via ATM, issue free instant debit card to customer upon opening an account, put a hotline at disposal of customers to report stolen cards or other inquiry, ensure e secure password for online transactions, come up with mobile POS for untapped market. SBM was the first bank that introduces Chip Cards in Mauritius. Chip cards offers more security to cardholders when making purchases on POS as it requires PIN authentication before a transaction is authorized. The above strategies have been successful as banks have noticed a significant increase in card usage during campaigns and also growing figures of new card applications.

4.5.1 Initiatives to encourage customers to adopt plastic cards in Mauritius

Banking executives and professionals have suggested that there are several initiatives to encourage customers to adopt innovative payment solutions such as promotional campaigns by banks, provision of incentives to customers, promotions on the card, integration of additional features and function being added on card, for example, contactless payment option, paying utility bills at any ATM or through SMS, enhancement of security aspects for cards, persuasive advertising campaigns, empowerment of people in terms of encouraging them to think green and act green and provision of loyalty and reward programmes. Moreover, merchants should be encouraged to adopt plastic cards by informing them of benefits such as less risk of robbery, easy reconciliation of transaction through statement and it saves time of going to the bank to deposit cash.

The proposed strategies are to increase customer awareness of plastic card adoption. Banks are highly investing in card usage campaign to encourage people to use their card for purchase instead of cash. Banks are investing a lot in marketing card benefits through advertising on press or media. Banks are regularly reminding people of the benefits of using cards. Banks are issuing cards with E Commerce function which allows cardholders to make online payments anytime, anywhere through internet. By increasing security level on cards; customers are more secure to use cards and increasing the level of acceptance; e.g. SBM has introduced mobile POS. SBM has introduced Instant cards, Ali Pay. MCB has introduced Juice. Upon opening of new account, banks are proposing a free Debit Card to customers. National payment switch by Bank of Mauritius.

4.5.2 Perceptions of banking representatives on persuasive advertising as an influencing factor for the adoption of plastic cards

Banking executives and professionals have highlighted that advertising should be more informative, that is, explaining on the importance of using the card whilst persuasive advertising is effective as long as it makes customers realize that card adoption will fit into their lifestyle in a positive way, improving their lifestyle and experiences. For example, a credit card is safer to carry rather than large sum of money when travelling abroad. “Spend now and Pay later”.

4.5.3 Different promotional tools banks are adopting to boost plastic card adoption in Mauritius

Insights have revealed the importance of campaigns via newspapers and merchant discount programme whereby customers pay less when using card to make payment.

4.5.4 Challenges associated with plastic card adoption in Mauritius

The first challenge is related to poverty and unemployment, that is, there are many poor people who do not have cards or bank account since they do not have any income from a job. Internet connectivity also may not be accessible to that category of people. Moreover, the literacy of persons, in terms of not all people have the required knowledge to use cards. Specially, the elder's generations, some cannot sign and still use fingerprints. They will find it even more difficult to use card. In addition, people mindset related to merchants not willing to pay fees and customers' perception that cash transaction is more secure.

Section F: Perceptions of banking representatives on the future of plastic cards in Mauritius

4.6 The future of plastic cards

Taking into account the existing infrastructure for card payment, dominant volume of cash transactions in Mauritius and the level of technology compared to developed countries like Netherlands, Belgium, it seems that there is lots of work to be done in terms of education, infrastructure to accept card payment everywhere, level of security on card. Moreover, apart from banks, other stakeholders in our society should be involved in promoting card adoption in order to be successful.

4.6.1 Possible orientations proposed by banking executives

Understanding the behaviors of customers towards the use of plastic card and customers' attitudes and perceptions is very important.

4.6.2 Other emerging aspects proposed by banking executives to explore the future of innovative payment solutions

Merchant acceptance for payment is a tough battle in Mauritius. Nowadays, banks are working toward innovative products to bring cost down and they are investing quite a lot to bring down merchant commission. There should be plastic money and alternate payment solutions/mechanisms. New smart payment solutions such as Alipay, Apple Pay, Google Pay should be introduced in the banking contexts of Mauritius.

CHAPTER 4**PART 2****Qualitative Findings of Interview with Executive Director of Competition Commission of Mauritius (CCM)****Section A: Natural Monopoly and Customer Welfare****4.7 Natural Monopoly for certain banks and Customer Welfare**

Banks are the biggest issuers and the biggest acquirers. Despite there has been an increase in the number of banks in Mauritius, market share has not evolved. The Mauritius Commercial Bank and State Bank of Mauritius are still dominating the market with more than 70% of Market Share. It is also important to note that certain banks benefit from natural monopoly. These banks do not emphasize on customer welfare when issuing credit/debit cards, but instead they consider the plastic card as mandatory and hence must be provided by banks. However, there are few small organizations that are issuing cards for client benefit and not for the motives of making money or profit making.

Section B: Issuer Interchange Fee and Merchant Service Commission**4.8 CCM's perceptions on IIF and MSC**

During our discussion we came across a serious problem encountered by a merchant in Mauritius. A complaint was registered from a merchant that, one of the local commercial banks was abusing of its monopoly situation by increasing the monthly fixed rental of its POS terminals from Rs 100 to Rs 500 without any justification. After a proper investigation, it was found out that the main issue was the Issuer Interchange Fee (IIF). Therefore, it can be stated that the current rates set for the IIF could potentially be restricting, preventing and distorting competition related to payment cards market in Mauritius. It is important to highlight that about 50% of merchants in Mauritius do not accept card payment.

Many people came across merchants saying: If you pay by cash, you get discount; If you pay by card, no discount. This has been identified as a hindrance towards the adoption of plastic cards among Mauritians. Therefore, the CCM has proposed that a reduction in the IIF will have a direct impact on Merchant Service Commission (MSC). A drop in the MSC by 0.5% will encourage small shops and stores to accept card services. This will promote greater acceptance of cards as

well as open the door for smaller issuers. If more shops are accepting cards, customers will be motivated to use it. At the same time, merchants won't lose sales. This will benefit both the merchants and the customers.

Section C: Major competitors in the market and Network Effect

4.9 Competitions and Network Effect

CIM Finance and Rogers Capital are acquiring the card business in Mauritius. They are right now the major competitors in the Mauritian market. Both CIM Finance and Rogers Capital are providing payment solutions. CIM Finance is the first non-bank institution in Southern Africa to issue MasterCard and Visa Credit Cards. This is actually acting as a threat to Juice by MCB.

Types of cards offered by CIM:

- Cim Classic Card
- Cim Gold Card
- Cim Titanium Card
- Shell Card

The Network Effect persists even in the age of electronic banking. Banking providers with bigger branch networks capture disproportionately greater deposits and market share from their competitors, even in this Digital Age. Mauritius Commercial Bank is one of the oldest banks which has captured an incredible proportion of market share in Mauritius. Mauritius Commercial Banks has 44 branches and 77 ATMs Terminals across Mauritius.

However, to stay competitive in the market, CCM recommends that banks should find strategies of:

- How to make new merchants accept payment solutions?
- How to make existing merchants accept payment solutions?

Section D: Switching costs, Commitment and Market Concentration**4.10 Switching cost and Commitment**

Switching cost is defined as customers' perception correlated with time, cost and effort if they switch to new service provider. It is interesting to note that consumers do not want to switch banks. This is mostly because a high cost is involved when switching banks. Majority of customers prefer to stay loyal with their banks. However, in case where banks are taking a 3% commission, CIM Finance is only taking 1%. People will easily switch. The Mauritian market consists mostly of debit cards. The closer a market is to a monopoly, the higher the market's concentration and the lower its competition. Banks want to keep this market concentrated as they have been getting money out of it.

Section E: Awareness on plastic cards**4.11 Creating awareness on plastic cards**

Both merchants and customers should be conscious of the importance of plastic cards. Banks do not see cards as a way of making money. It has been pointed out that when customers open an account they already get a free debit card. No costs are involved in it, as you don't have to pay for the debit card. Moreover, debit is the same as cash. If customers have Rs100 in their bank account, they will be able to use only Rs100. However, banks are promoting cards and ATMs because less human effort are required. The increase of ATMs and online banking have led to a decrease in number of staffs employed by banks. It is important to note that culture plays an important role in customers' payment decision.

Educate them in terms of:

- The cost of handling cash
- The security of plastic card
- Black money
- Why they should use cards
- Tax.

Many professionals are escaping tax (we should address this issue and bring a solution).

- **An important question is why do people still go to banks while having a card in their possession?**

Section F: New Payment Solutions**4.12 Innovative Payment Solutions**

M-PESA: Kenya is one of the countries in Africa that is **best in terms of technology**.

According to CCM, M-PESA has been successful in Kenya because:

- Many people are not educated
- They find it difficult to fill a form or even sign
- Most of them don't have a bank account
- Money laundering

Carte bleue in France and Switch Method

There was a time when VISA was hit by a 'service disruption' which was blocking payments across UK and Europe. This had created havoc among users of VISA.

However, France was not affected by this due to its "Carte Bleue" due to the Payment switch method. Carte Bleue was a major debit card payment system in France. Unlike Visa Electron and Maestro debit cards, Carte Bleue allowed transactions without authorization from the cardholder's bank. In many situations, the card worked like a credit card but without fees for the cardholder.

National Payment Switch

Bank of Mauritius also is trying to implement the same by introducing the **National Payment Switch**.

Juice by MCB

To be able to use Juice **both the customer** and **the merchant need to be a customer of MCB**.

The Executive Director has shed light on the **evolution of technology**.

Before	Now
➤ 10-15 years ago, we had simple phones	➤ Now, everyone has a smartphone
➤ People made use of desktop only	➤ Now, we have tablets and laptops
➤ All transactions were being done on a desktop	➤ Now, all transactions are being done online
➤ People made use of scratch cards	➤ People are using Top-Up (Juice)

Section G: E commerce and online shopping

4.13 Emergence of E commerce

It is an undeniable fact that many people in Mauritius are purchasing electronic devices, clothes from eBay, Amazon which are international online stores. However, it is important to note that in Mauritius, e commerce is not given so much importance. For example, we have PriceGuru, MyCart. 15 years ago, Supermarket Winners had started online shopping, but it did not work effectively. Recently, Galaxy which is one of the leading retailers of consumer electronics, home appliances and leisure products in Mauritius has become online and is providing free home delivery.

Section H: Further recommendations proposed by CCM

4.14 Recommendations

- More campaigns about risks and security.
- Mauritius Bankers Association should be involved in these campaigns.
- Promotional campaigns through reward programmes for both debit and credit cards.

CHAPTER 4

PART 3

Section A: The Demographic Profile4.15 Demographic Profile of Respondents

Table 4.5

Demographics Profile of Respondents

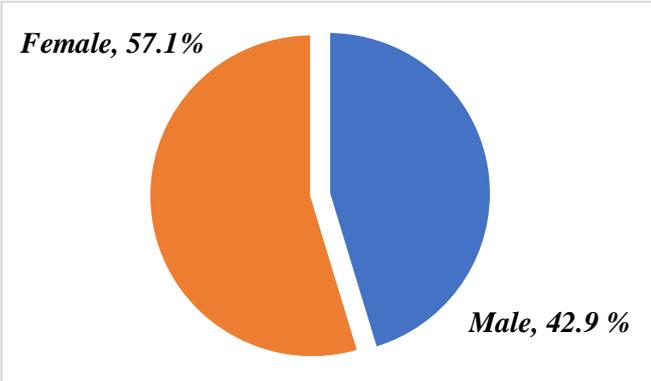
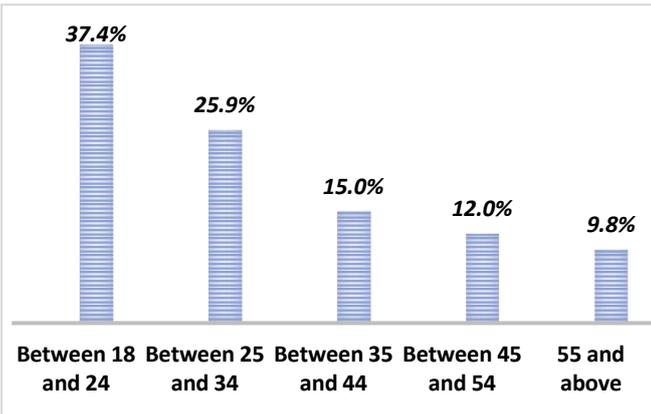
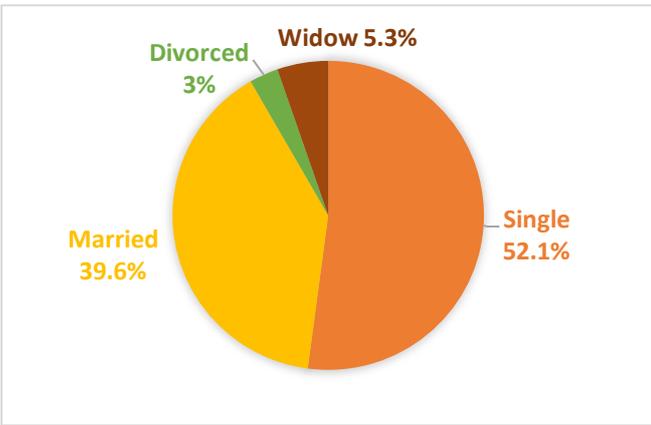
DEMOGRAPHICS	NUMBER	PERCENTAGE
<u>GENDER</u>		
Male	343	42.9 %
Female	457	57.1 %
<u>AGE</u>		
Between 18 and 24	299	37.4 %
Between 25 and 34	207	25.9 %
Between 35 and 44	120	15 %
Between 45 and 54	96	12 %
55 and above	78	9.7 %
<u>MARITAL STATUS</u>		
Single	417	52.1 %
Married	317	39.6 %
Divorced	24	3 %
Widow	42	5.3 %
<u>EDUCATIONAL LEVEL</u>		
Primary Certificate	78	9.7 %
School Certificate	141	17.6 %
Higher School Certificate	223	27.9 %
Diploma Degree	124	15.5 %
Bachelor Degree	172	21.5 %
Master Degree	55	6.9 %
PhD	7	0.9 %
<u>OCCUPATIONAL GROUP</u>		
Professional/ Executives	199	24.9 %
Clerical and Service Workers	188	23.5 %
Unemployed	81	10.1 %
Manual and Elementary Workers	59	7.4 %
Students	149	18.6 %
Self-employed	83	10.4 %
Retired	41	5.1 %

<u>DISTRICT</u>	28	3.5 %
Riviere du Rempart	36	4.5 %
Black River	32	4 %
Savanne	149	18.6 %
Grand Port	62	7.7 %
Flacq	61	7.6 %
Moka	75	9.4 %
Pamplemousses	50	6.3 %
Port Louis	307	38.4 %
Plaine Wilhems		
<u>INCOME LEVEL</u>		
Between 10,000 – 14,999	126	15.7 %
Between 15,000 – 19,999	136	17 %
Between 20,000 – 24,999	85	10.6 %
Between 25,000 – 29,999	63	7.9 %
Between 30,000 – 34,999	29	3.6 %
Between 35,000 – 39,999	22	2.7 %
Between 40,000 – 44,999	27	3.4 %
Above 45,000	58	7.3 %
No income	254	31.8 %

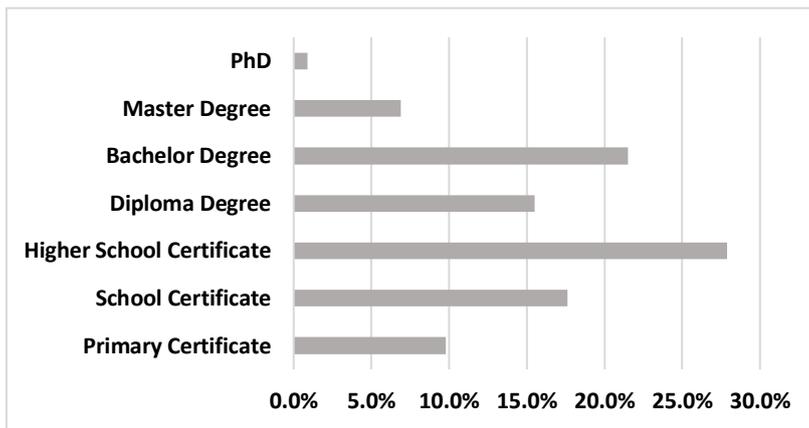
The empirical results have depicted that majority of the respondents were **females (57.1 %)** and concerning the age classification of respondents, the majority of respondents were **between 18 and 24 (37.4 %)**. A greater percentage of respondents were **single (52.1 %)** and had a **Higher School Certificate as highest education level (27.9 %)**. As far as the occupational group of respondents is concerned **the retired respondents consisted only of 5.1%** while **24.9 % comprised of professional and executives**. The majority of respondents come from the **district Plaine Wilhems of (38.4 %)** and **Grand Port (18.6 %)** while only **3.5 % and 4%** come from **Riviere du Rempart and Savanne respectively**. Lastly, empirical results have depicted that **31.8% of respondents interviewed had no income** and the most common **family income range was between Rs 10,000 and Rs 14,999 (15.7 %)**.

Table 4.6

Demographic Profile of Respondents

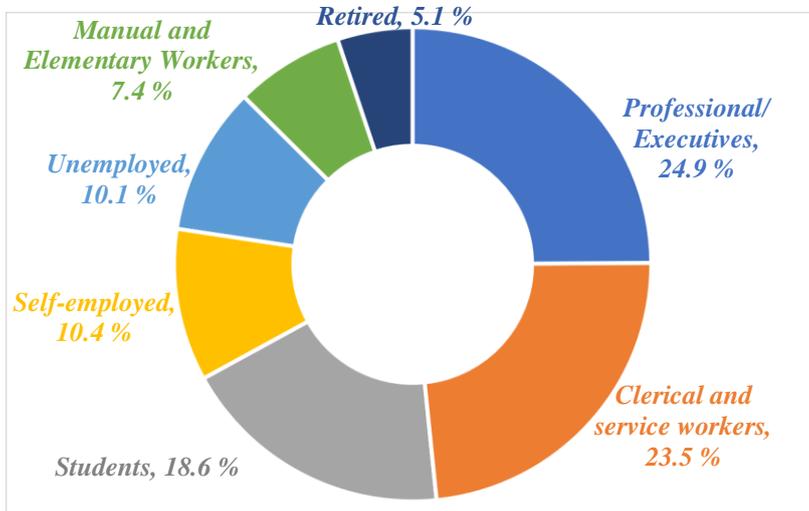
<p>Gender</p>  <p>A pie chart illustrating the gender distribution of respondents. The chart is divided into two segments: a larger orange segment representing females at 57.1%, and a smaller blue segment representing males at 42.9%.</p>	<p><i>In terms of gender classification, 42.9 % of respondents were males and 57.1 % of respondents were females.</i></p>												
<p>Age Group</p>  <p>A bar chart showing the distribution of respondents across five age groups. The x-axis lists the age groups, and the y-axis shows the percentage of respondents in each group. The bars are blue with horizontal stripes.</p> <table border="1"> <thead> <tr> <th>Age Group</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Between 18 and 24</td> <td>37.4%</td> </tr> <tr> <td>Between 25 and 34</td> <td>25.9%</td> </tr> <tr> <td>Between 35 and 44</td> <td>15.0%</td> </tr> <tr> <td>Between 45 and 54</td> <td>12.0%</td> </tr> <tr> <td>55 and above</td> <td>9.8%</td> </tr> </tbody> </table>	Age Group	Percentage	Between 18 and 24	37.4%	Between 25 and 34	25.9%	Between 35 and 44	15.0%	Between 45 and 54	12.0%	55 and above	9.8%	<p><i>Moreover, in terms of age classification, the respondents of the survey study were in the age group of Between 18 and 24 (37.4%); Between 25 and 34 (25.9%); Between 35 and 44 (15%); Between 45 and 54 (12%) and 55 and above (9.8%).</i></p>
Age Group	Percentage												
Between 18 and 24	37.4%												
Between 25 and 34	25.9%												
Between 35 and 44	15.0%												
Between 45 and 54	12.0%												
55 and above	9.8%												
<p>Marital Status</p>  <p>A pie chart showing the distribution of respondents by marital status. The chart is divided into four segments: a large orange segment for single (52.1%), a yellow segment for married (39.6%), a small green segment for divorced (3%), and a small brown segment for widow (5.3%).</p>	<p><i>The majority of respondents are single (52.1%), followed by married (39.6%), widow (5.3%) and divorced (3%).</i></p>												

Academic Qualification



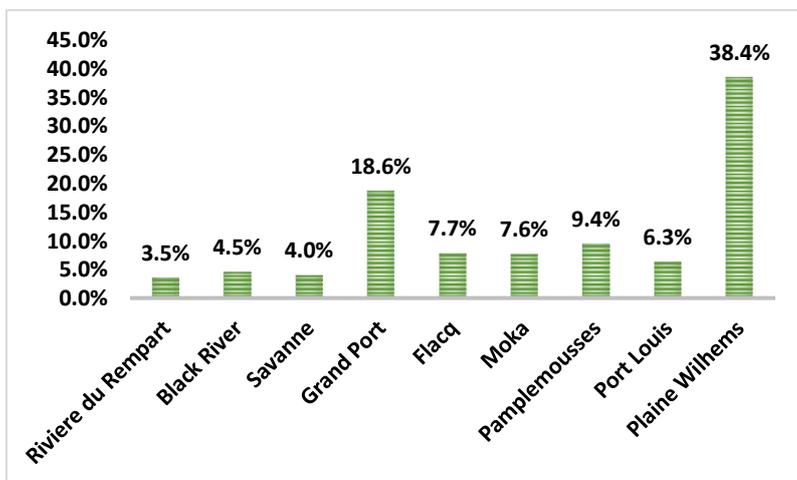
Concerning the educational level of respondents, 9.7% of respondents have attained Primary Certificate, followed by School Certificate (17.6%), Higher School Certificate (27.9%), Diploma Degree (15.5%), Bachelor Degree (21.5%), Master Degree (6.9%) and PhD (0.9%).

Occupation



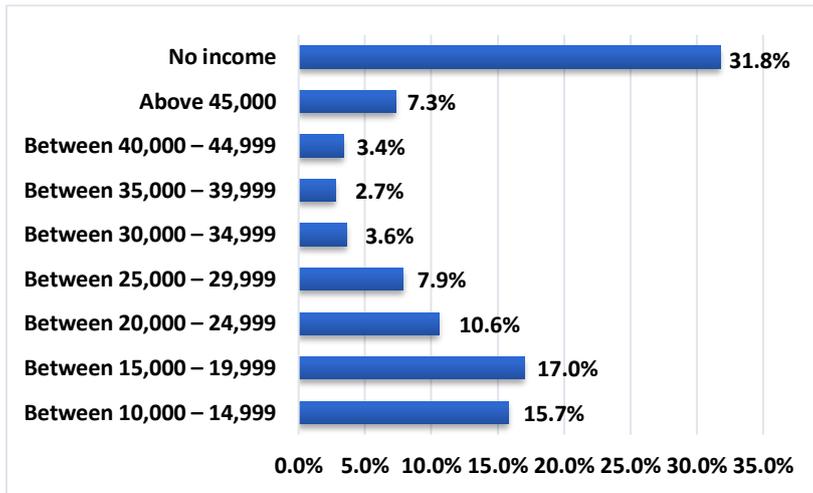
In terms of occupational group, the majority of respondents were Professional/Executives (24.9%), followed by Clerical and Service Workers (23.5%), Students (18.6%), Self Employed (10.4%), Unemployed (10.1%), Manual and Elementary Workers (7.4%) and Retired (5.1%).

District Classification



Concerning district classification, the majority of respondents were from Plaine Wilhems (38.4%), followed by Grand Port (18.6%), Pamplemousses (9.4%), Flacq (7.7%), Moka (7.6%), Port Louis (6.3%), Black River (4.5%), Savanne (4%) and Riviere du Rempart (3.5%).

Monthly Income



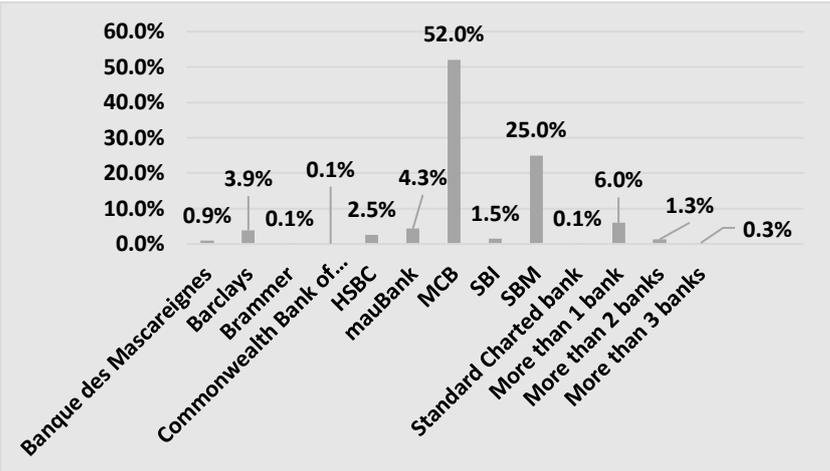
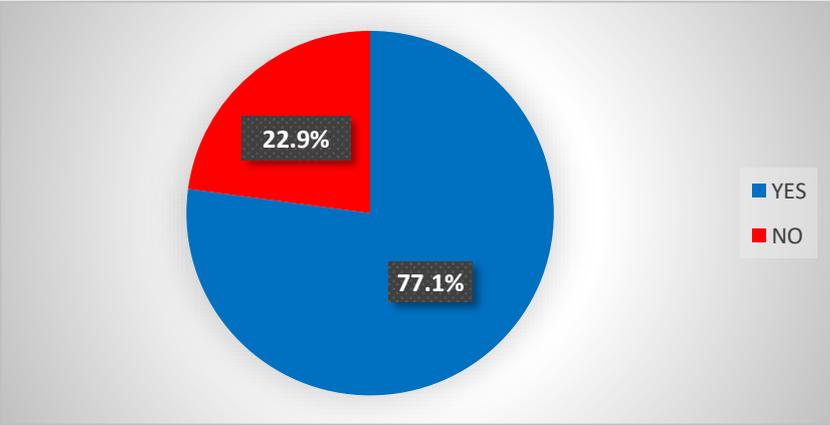
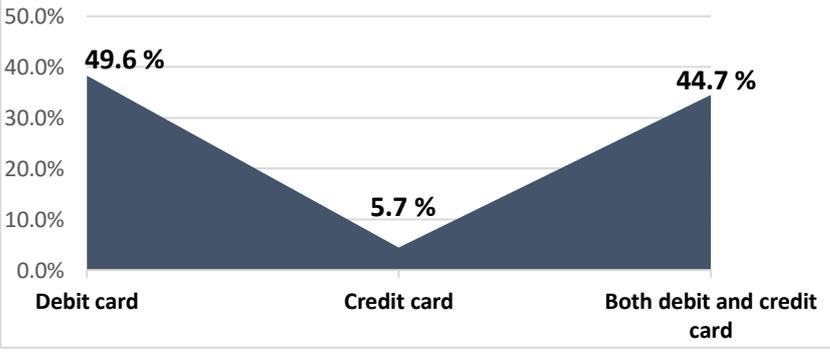
Regarding the income level of respondents, the respondents had an income of Between Rs10,000-14,999 (15.7%), Between Rs15,000-19,999(17%), Between Rs20,000-24,999 (10.6%), Between Rs25,000-29,999 (7.9%), Between Rs30,000-34,999 (3.6%), Between Rs35,000-39,999 (2.8%), Between Rs40,000-44,999 (3.4%), Above 45,000 (7.3%). Majority of respondents (31.8%) do not derive any income.

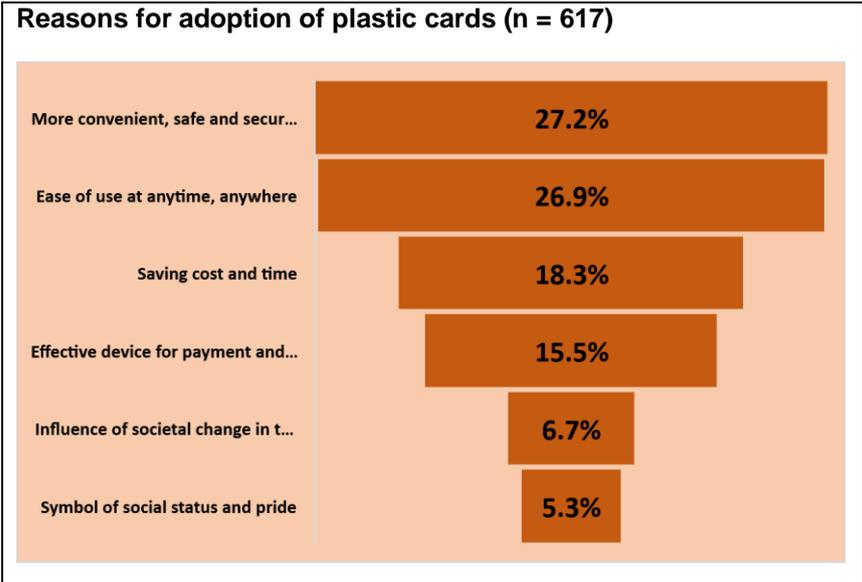
Section B: General Perceptions of customers

4.16 General Perceptions of Customers on plastic cards

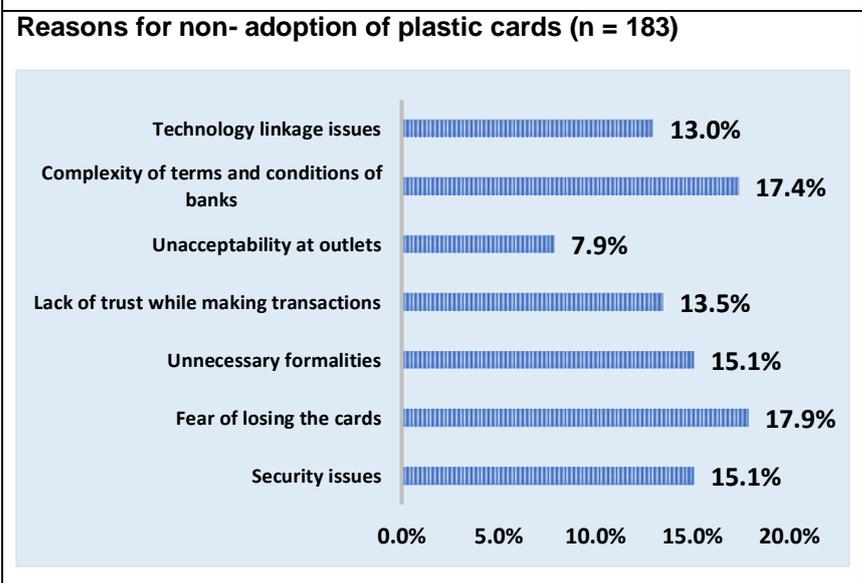
Table 4.7

Frequencies Analysis for General perception of customers

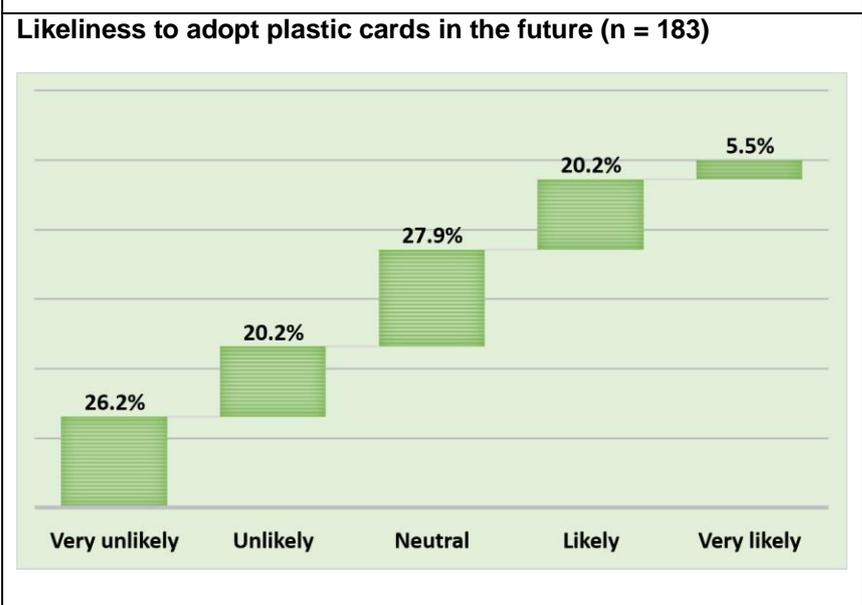
<p>Banking Institutions (n = 617)</p>  <table border="1"> <thead> <tr> <th>Banking Institution</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>Banque des Mascareignes</td><td>0.9%</td></tr> <tr><td>Barclays</td><td>3.9%</td></tr> <tr><td>Brammer</td><td>0.1%</td></tr> <tr><td>Commonwealth Bank of...</td><td>2.5%</td></tr> <tr><td>HSBC</td><td>4.3%</td></tr> <tr><td>mauBank</td><td>52.0%</td></tr> <tr><td>SBI</td><td>1.5%</td></tr> <tr><td>SBM</td><td>25.0%</td></tr> <tr><td>Standard Chartered bank</td><td>0.1%</td></tr> <tr><td>More than 1 bank</td><td>6.0%</td></tr> <tr><td>More than 2 banks</td><td>1.3%</td></tr> <tr><td>More than 3 banks</td><td>0.3%</td></tr> </tbody> </table>	Banking Institution	Percentage	Banque des Mascareignes	0.9%	Barclays	3.9%	Brammer	0.1%	Commonwealth Bank of...	2.5%	HSBC	4.3%	mauBank	52.0%	SBI	1.5%	SBM	25.0%	Standard Chartered bank	0.1%	More than 1 bank	6.0%	More than 2 banks	1.3%	More than 3 banks	0.3%	<p>Regarding the banks which customers deal with, we have observed that the Mauritius Commercial Bank is the leading bank in Mauritius (52%), followed by the State Bank of Mauritius (25%), MauBank (4.3%), Barclays (3.9%) and HSBC (2.5%). 6% of respondents deal with more than 1 bank, 1.3% of respondents deal with more than 2 banks while only 0.3% of respondents deal with more than 3 banks.</p>
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<p>Users and non-users of plastic cards (n = 617)</p>  <table border="1"> <thead> <tr> <th>Response</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>YES</td><td>77.1%</td></tr> <tr><td>NO</td><td>22.9%</td></tr> </tbody> </table>	Response	Percentage	YES	77.1%	NO	22.9%	<p>In terms of plastic card adoption in Mauritius, majority of respondents (77.1%) are already users of plastic cards while only 22.9% do not possess a plastic card. We have also observed that out of the 77.1% respondents who adopt plastic cards 31% are males while 46.1% are females. Hence, we are aligned with other authors who have argued that plastic card adoption is higher among women than men.</p>																				
Response	Percentage																										
YES	77.1%																										
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<p>Types of plastic cards (n = 617)</p>  <table border="1"> <thead> <tr> <th>Type of Plastic Card</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>Debit card</td><td>49.6%</td></tr> <tr><td>Credit card</td><td>5.7%</td></tr> <tr><td>Both debit and credit card</td><td>44.7%</td></tr> </tbody> </table>	Type of Plastic Card	Percentage	Debit card	49.6%	Credit card	5.7%	Both debit and credit card	44.7%	<p>Most respondents (49.6%) possess a debit card, 5.7% possess a credit card and 44.7% possess both a debit and credit card. 1.9% respondents mentioned that they possess other cards apart from debit and credit cards. 1.5% respondents possess prepaid cards, 0.2% possess MasterCard and 0.2% loyalty cards.</p>																		
Type of Plastic Card	Percentage																										
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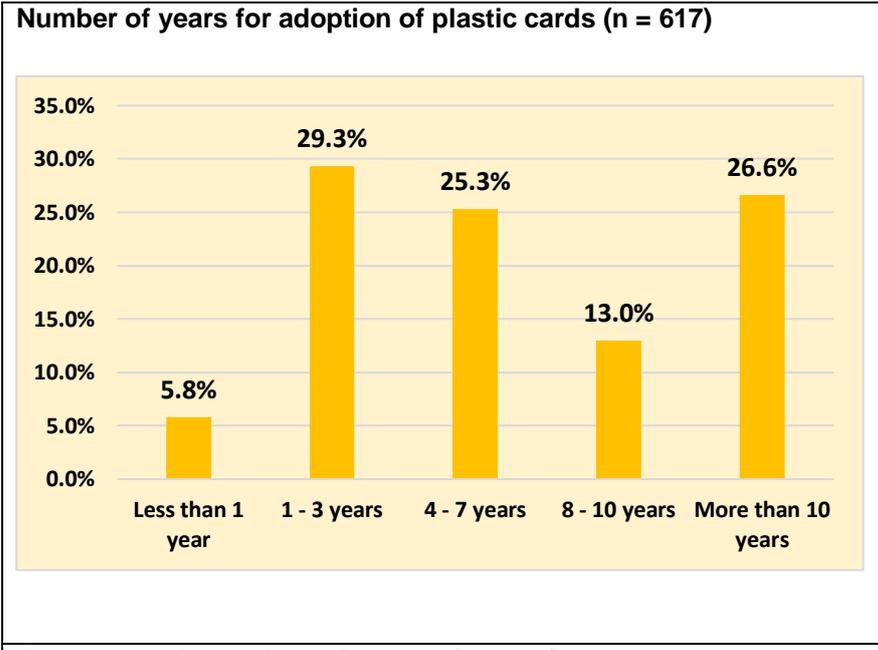
Most respondents (27.2%) have highlighted “convenience, safety and security” as the main reasons for adopting plastic cards. Followed by ease of use at any time, anywhere (26.9%), saving cost and time (18.3%), effective device for payment (15.5%), influence of societal change (6.7%) and symbol of social status and pride (5.3%).



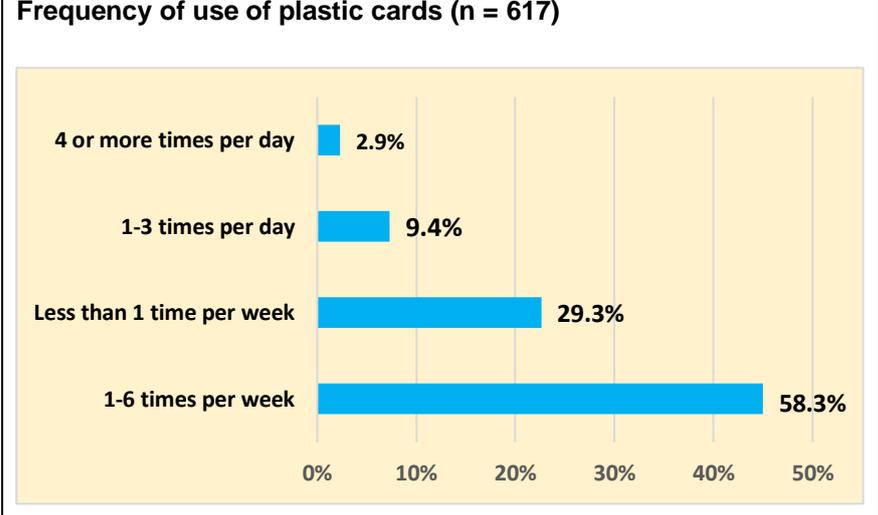
Non-users of plastic cards have highlighted “fear of losing the cards (17.9%) and “complexity of terms and conditions of banks (17.4%)” as the main reasons why they are not willing to adopt plastic cards. 15.1% of respondents have classified “Unnecessary formalities and security issues” as the next hindrance factor towards plastic card adoption.



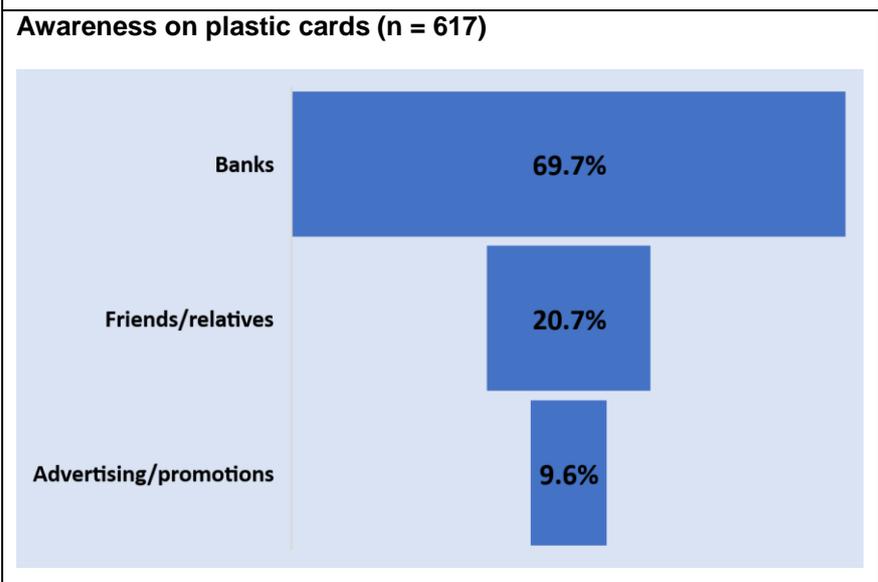
The majority of non-users of plastic cards (26.2%) are very unlikely to adopt plastic cards in the future. 20.2% are unlikely at the same time 20.2% are likely to adopt plastic cards. Only a small percentage (5.5%) are very likely to adopt plastic cards in the future.



Majority of respondents (29.3%) have been using plastic cards for 1-3 years, followed by 26.6% for more than 10 years, 25.3% for 4-7 years, 13% for 8-10 years and lastly 5.8% less than 1 year. We can observe that plastic cards had already form part of the Mauritian society since a very long time.

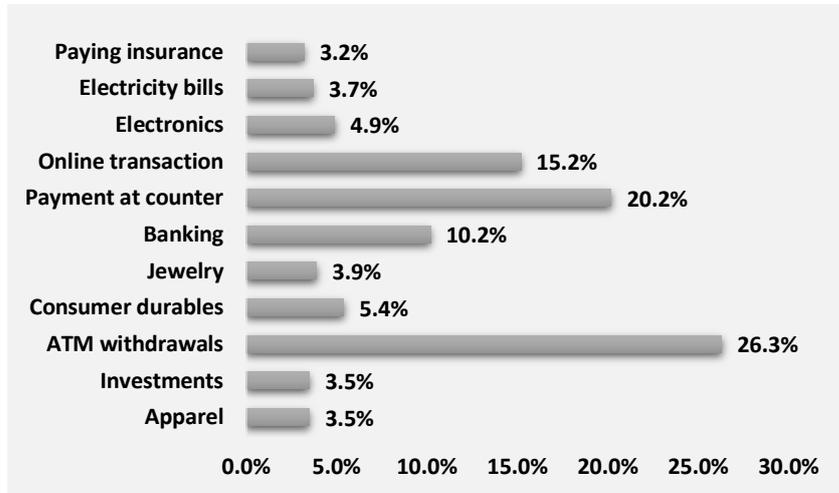


58.3% of respondents use their plastic cards 1-6 times per week, 29.3% use their plastic cards less than 1 time per week, 9.4% use their plastic cards 1-3 times per day and only 2.9% use their plastic cards 4 or more times per day.



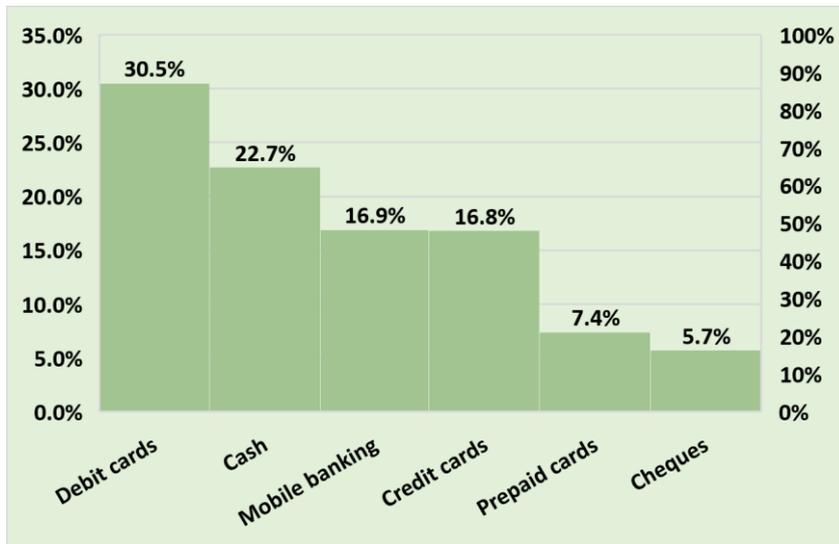
A larger number of respondents (69.7%) have learnt about plastic cards through banks, 20.7% through friends and relatives and 9.6% through advertising and promotions. It is recommended that banks should invest more on advertising and promotions to increase the usage of plastic cards.

Uses of plastic cards (n = 617)



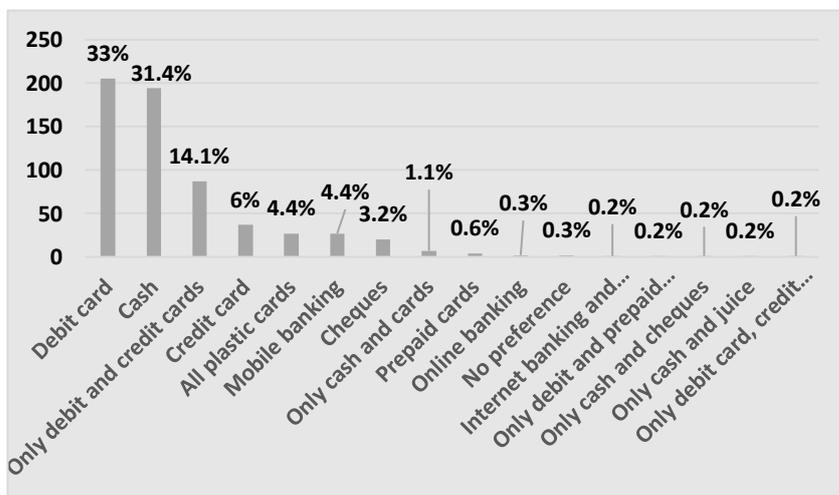
Plastic cards are mostly used for ATM withdrawals (26.3%), payment at counter (20.2%), online transactions (15.2%) and banking transactions (10.2%). 5.4% use their plastic cards for consumer durables, 4.9% to buy electronic devices, 3.9% to purchase jewelry, 3.7% to pay electricity bills, 3.5% for investments and apparel respectively and the last 3.2% to pay insurance.

Most beneficial payment instruments (n = 617)



In terms of most beneficial payment instruments, Debit cards have been ranked the most beneficial with 30.5%. Cash has been identified as the next most beneficial payment instrument with a percentage of 22.7%. According to 16.9% and 6.8% of respondents, mobile banking and credit cards are the most beneficial payment instruments. Only 7.4% and 5.7% of respondents have chosen prepaid cards and cheques.

Preferred mode of payment (n = 617)



33% of respondents have identified Debit cards as their most preferred mode of payment, followed by cash (31.4%), Debit and credit cards (14.1%), credit card (6%), plastic cards and mobile banking (4.4%), cheques (3.2%), cash and cards (1.1%), prepaid cards (0.6%), online banking (0.3%) and 0.3% respondents do not have any payment preferences.

Section C: Reliability and Validity Analysis

4.17 Reliability and Validity Analysis

Internal consistency reliability and validity were examined so as to assess reliability and validity. The reliability of each factors was calculated by making use of the Cronbach's alpha for each element. Churchill (1979) has recommended the computation of coefficient, that is, Cronbach Alpha as the first and foremost stage to refine scales. According to Nunnaly (1978) for a construct to be reliable, Cornbach's alphas should meet or exceed 0.70; else it should be eliminated from the analysis. Therefore, Reliability Analysis has been measured to assess the reliability and internal consistency for each construct as demonstrated in Table 4.4 below.

Table 4.8
Reliability Analysis

	CONSTRUCTS	NUMBER OF ITEMS	CRONBACH'S ALPHA
1	Customer's attitude towards plastic cards	6	0.61
2	The geographic dispersion of automated teller machines for plastic cards	5	0.77
3	Social Influence towards plastic cards	5	0.80
4	Convenience of using plastic cards	6	0.84
5	Customers' ability for effective budgets monitoring	5	0.85
6	Trust of plastic cards adoption	7	0.86
7	Incentives from merchants when using plastic cards	4	0.86
8	Customer's image towards plastic cards	5	0.83
9	Customer's social status and plastic cards	5	0.78
10	Customer's lifestyle and plastic cards	6	0.83
11	Security Risks associated with plastic cards	3	0.66
12	Privacy Risks involved with plastic cards	4	0.82
13	Fear of frauds associated with plastic cards	4	0.67
14	Compulsive Buying when using plastic cards	3	0.69
		68	0.903

Cronbach's Alpha coefficient has been computed for all the fourteen (14) constructs as highlighted in the Table 4.4 above and the empirical results have shown that the alpha coefficients were high for all the constructs namely, Customer's attitude towards plastic cards (*Alpha Score = 0.61*); The geographic dispersion of Automated Teller Machines (*Alpha Score = 0.77*), Social influence towards plastic cards (*Alpha Score = 0.80*); Convenience of using plastic cards (*Alpha Score = 0.84*); The ability to monitor budgets effectively using plastic cards (*Alpha Score = 0.85*); Trust in plastic cards (*Alpha Score = 0.86*); Incentives from merchants when using plastic cards (*Alpha Score = 0.86*); Customer's image towards plastic cards (*Alpha Score = 0.83*); Customer's social status and plastic cards (*Alpha Score = 0.78*); Customer's lifestyle and plastic cards (*Alpha Score = 0.83*); Security risks associated with plastic cards (*Alpha Score = 0.66*); Privacy risks involved with plastic cards (*Alpha Score = 0.82*); Fear of frauds associated with plastic cards (*Alpha Score = 0.67*); and Compulsive buying when using plastic cards (*Alpha Score = 0.69*). However, the reliability analysis shows that the alpha coefficients are above the minimum value of 0.5, which was considered acceptable as an indication of reliability (Nunally, 1967; Hair *et al.*, 2000). Hence, the value of Cronbach's Alpha as shown in Table 4.4 indicates the overall reliability of the scale and thus, it can be deduced that the questionnaire used in this present research is a reliable instrument due to the fact that the reliability analysis has consistently demonstrated alpha scores above 0.5 for constructs 1 to 14.

Section D: Descriptive Statistics – Constructs

4.18 Descriptive Statistics - Construct

Different constructs sustaining the adoption of plastic cards were measured using several items on a 1 – 5 Likert scale, where 1 represented “strongly disagree” and 5 represented “strongly agree”. Empirical results of the descriptive statistics for each item and their composite mean are illustrated in Table 4.4 below.

Table 4.9

Descriptive Analysis for different constructs sustaining the adoption of plastic cards adoption (N = 617)

	Mean (\bar{x})	Standard Deviation	Cronbach's Alpha (α)
Customer's attitude towards plastic cards	3.46	3.66	.61
Plastic card is a convenient payment method for me	4.06	.868	
There is an increase in my expenses when I use plastic cards	3.41	1.193	
It is mandatory for me to use plastic cards to effect payments	2.87	1.082	
The interest rates of plastic cards are reasonable	3.15	.939	
Plastic cards are helpful during emergency situations	4.09	.952	
When I use my plastic cards, I am able to buy expensive and luxury goods	3.17	1.211	
The geographic Dispersion of Automated Teller Machines	3.80	3.25	.77
ATM has contributed towards my adoption of plastic cards	3.95	.876	
Technology facilities such as ATMS have encouraged me to use plastic cards	3.99	.798	
I use my plastic cards in ATMs that are available everywhere	3.73	.972	
I use my plastic cards in the ATMs that are always functioning	3.79	.898	
I use my plastic cards to access many ATM points at a very close distance	3.56	.972	
Social Influence towards plastic cards	2.91	3.95	.80
Reference group influence my adoption of plastic cards	2.66	.990	
Recommendations of friends influence my decision to use plastic cards	2.66	1.101	
Recommendations of family influence my decision to use plastic cards	2.94	1.085	
I will not use plastic cards if I receive bad feedback	3.20	1.098	
Before using plastic cards, I would ask for the experiences of my family and friends	3.09	1.134	
Convenience of using plastic cards	3.95	3.93	.84
There are more advantages (speed, security and ease of transaction) associated with plastic cards than with cash	3.90	.914	

It is more convenient to use plastic cards than cash	3.74	.939	
Using a plastic card means that I do not have to worry about taking too much cash with me	4.05	.811	
It is important to have a plastic card with me when I travel abroad	4.06	.852	
Plastic cards transactions are more rapid and safer than cash	3.93	.883	
Worldwide purchases are more convenient with plastic cards	4.01	.850	
Customers' ability for effective budgets monitoring	3.19	3.99	.85
Plastic cards help to get insight into my total expenses	3.25	.991	
Plastic cards help for budget control and to cut down expenses	3.01	1.027	
Plastic cards help to keep track of the nature of my expenses	3.23	.996	
Plastic cards help to get insight into total expenses of my household	3.07	.998	
Plastic cards help to ensure that I'm not short of money at the counter	3.38	1.049	
Trust in plastic cards	3.67	4.20	.86
Trust is important in my decision to adopt plastic cards	3.81	.882	
I trust that banks keep the promises and commitment they make	3.75	.792	
I trust that merchants keep the promises and commitment they Make	3.55	.824	
I trust that plastic card services are reliable	3.75	.757	
I trust that plastic card providers are honest	3.62	.808	
I trust that plastic card services are dependable	3.53	.822	
In general, I find plastic cards trustworthy	3.71	.796	
Incentives from merchants when using plastic cards	2.56	3.49	.86
Merchants provide discounts and special offer when I effect payments with my plastic cards	2.49	1.092	
I accumulate loyalty and rewards points from merchants when I pay with my plastic cards	2.76	1.060	
Merchants provide gifts when I make a purchase with plastic cards	2.46	.998	
Incentives from merchants have encouraged me to conduct payments using my plastic cards	2.55	1.018	
Customer's Image towards plastic cards	2.31	3.82	.83
Using plastic cards improve my image	2.45	1.036	
People who use plastic cards are IT savvy	2.53	.969	
People who use plastic cards are trendy	2.50	1.015	
Only young people use plastic cards	1.89	.897	
People who use plastic cards have more prestige	2.20	1.022	
Customer's Social Status and plastic card adoption	2.41	3.97	.78
Plastic cards are associated with affluent people (high income earners)	2.80	.985	
I am encouraged to buy things beyond my budget when I use	2.76	1.164	

plastic cards			
I often come across financial difficulties when using plastic cards	2.51	1.095	
Adoption of plastic cards makes me feel fashionable	2.40	1.060	
Paying by plastic cards makes me feel wealthy	2.29	1.108	
Customer's Lifestyle and plastic card adoption	3.05	4.73	.83
Plastic cards has made me acquire quality goods	2.80	1.064	
Plastic card has enabled me to purchase standard goods	3.02	1.021	
Plastic card has allowed me to buy expensive goods	2.90	1.077	
Plastic card has enabled me to make online purchases	3.72	1.023	
Plastic card has allowed me to opt for branded products	2.96	1.094	
Overall, plastic cards add value to my lifestyle	2.93	1.128	
Security risks associated with plastic cards	3.70	2.04	.66
My personal payment information is kept safe when I use my plastic card to pay for a purchase	3.51	.855	
I am concerned about the security of plastic card payments	3.79	.878	
I am concerned about someone capturing my payment information or other data if I use plastic card services	3.80	.918	
Privacy risks involved with plastic cards	3.43	2.96	.82
In general, I find it risky to give my personal information when using plastic cards	3.57	.904	
Using plastic cards involved high potential for privacy loss of personal information	3.37	.884	
Personal information could be inappropriately used by the plastic card issuer.	3.41	.929	
Many unexpected problems could arise when giving my personal information to banks or merchants	3.38	.958	
Fear of fraud associated with plastic cards	3.40	2.67	.67
ATMs that are located at isolated and high-risk areas contribute to ATM fraud and crime	3.55	.961	
Plastic card fraud are common frauds conducted by fraudsters	3.45	.857	
I feel afraid to use my plastic cards because of fraudulent activities	3.07	.950	
Financial awareness of plastic cards are not well communicated to customers in Mauritius	3.54	.988	
Compulsive buying when using plastic cards	2.98	2.44	.69
Spending money using my plastic cards makes me feel better	3.02	.998	
I often act impulsive when I do my purchases with plastic cards	3.12	1.004	
I lose control of my budget and do purchases that I cannot afford with my plastic cards	2.80	1.101	

4.18.1 Customer's attitudes towards plastic card adoption

The Cronbach's alpha test indicated a reliability score of 0.61 which was slightly less than the recommended reliability of .70. Respondents reported an average of 3.46 (SD = 3.66) regarding their attitudes towards plastic cards. The statement plastic cards are helpful during emergency situations ($\bar{x} = 4.09$, SD = .95) was the most important attitudes towards plastic cards as perceived by the respondents. Respondents have a more positive attitude towards plastic card as a convenient payment method ($\bar{x} = 4.06$, SD = .87), followed by increase in expenses ($\bar{x} = 3.41$, SD = 1.19), ability to buy expensive and luxury goods ($\bar{x} = 3.17$, SD = 1.21), reasonable interest rates of plastic cards ($\bar{x} = 3.15$, SD = .94) and mandatory to use plastic cards to effect payments ($\bar{x} = 2.87$, SD = 1.08).

Customer's attitude towards plastic cards:

- Helpful during emergency ($\bar{x} = 4.09$)
- Convenient payment method ($\bar{x} = 4.06$)

4.18.2 The Geographical Dispersion of Automated Teller Machines

The Cronbach's alpha test indicated that this construct was reliable ($\alpha = .77$) as the score exceeded the recommended value of .70. As indicated in the table, respondents reported an average of 3.80 (SD = 3.25) regarding the geographical dispersion of Automated Teller Machines. The study reflects that "Technologies facilities such as ATMs" have encouraged them to use plastic cards ($\bar{x} = 3.99$, SD = .80) and this is because ATMs is an evolving concept integrated in many economies. As indicated in the table, ATM has contributed towards their adoption of plastic cards ($\bar{x} = 3.95$, SD = .88). Several studies have demonstrated that the geographic dispersion of ATMs influence the adoption of plastic cards (Berger and DeYoung, 2006; Bukhari *et al.*, 2015; Kaur and Kaur, 2018). ATMs that are always functioning ($\bar{x} = 3.79$, SD = .90) and ATMs that are available everywhere ($\bar{x} = 3.73$, SD = .97) have found to have a major impact on customer's adoption of plastic cards. Lastly, the statement "Accessing many ATM points at a very close distance using my plastic cards" have received lowest mean value ($\bar{x} = 3.56$, SD = .97) from the respondents.

The geographic dispersion of ATMS:

- ATMs encouraged the use of plastic cards ($\bar{x} = 3.99$)
- ATMs are always functioning ($\bar{x} = 3.79$)
- Availability of ATMs ($\bar{x} = 3.73$)

4.18.3 Social Influence towards the adoption of plastic cards

The Cronbach's alpha test indicated that this construct was reliable ($\alpha = .80$) as the score exceeded the recommended value of .70. Participants reported an average of 2.91 (SD = 3.95) regarding the impact of social influence on their decision to adopt plastic cards. Bad feedback regarding plastic cards has found to have an impact on respondent's adoption of plastic cards ($\bar{x} = 3.20$, SD = 1.10), an average of 3.09 (SD = 1.13) would ask for the experiences of family and friends before considering to adopt plastic cards, an average of 2.94 (SD = 1.08) regarding recommendations of family would influence their decisions to use plastic cards, an average of 2.66 (SD = 1.10) regarding recommendations of friends would influence their decision to use plastic cards and lastly the statement "reference group influence my adoption of plastic cards" has received the mean value of 2.66 (SD = .99). Studies have illustrated that social influence has emerged as a key issue towards plastic card adoption that encourages young adults to form a particular consumption habit and attitude towards money and debt (Rebecca, 2006; Jorgensen, 2007).

Social influence towards plastic cards:

- Bad feedback on plastic cards ($\bar{x} = 3.20$)
- Experiences of family and friends ($\bar{x} = 3.09$)

4.18.4 Convenience of using plastic cards

The Cronbach's alpha test indicated a reliability score of .84 and respondents reported an average of 3.95 (SD = 3.93) regarding the convenience of plastic cards. The reading illustrates that the benefits derived from using plastic cards lies in the convenience when travelling abroad with a mean of 4.06 (SD = .85). Moreover, respondents reported high importance related to plastic card's convenience such as do not have to worry about taking too much cash in pocket ($\bar{x} = 4.05$, SD = .81). Besides, conveniences such as worldwide purchases ($\bar{x} = 4.01$, SD = .85) and advantages such as rapid and safer transactions with plastic cards than cash ($\bar{x} = 3.93$, SD = .88) were of great interest to respondents. Moreover, the least mean value for the convenience of plastic cards is "There are more advantages such as speed, security and ease of transactions associated with plastic cards than cash" ($\bar{x} = 3.90$, SD = .91) and plastic card is more convenient to use than cash ($\bar{x} = 3.74$, SD = .94).

Conveniences of plastic cards:

- Travelling abroad ($\bar{x} = 4.06$)
- No need to carry cash ($\bar{x} = 4.05$)
- Worldwide shopping ($\bar{x} = 4.01$)

4.18.5 Customers' ability for effective budgets monitoring

The Cronbach's alpha test indicated a reliability score of .85, which was well beyond the reliability level of .70 suggesting that this construct was reliable. Respondents reported an average of 3.19 (SD = 3.99) regarding monitoring budgets effectively using plastic cards. Respondents reported highest mean for items plastic cards help to ensure that they are not short of money at the counter ($\bar{x} = 3.38$, SD = 1.05) and it also help to get insights into their total expenses ($\bar{x} = 3.25$, SD = .99). Besides, plastic cards help to keep track of the nature of their expenses ($\bar{x} = 3.23$, SD = .99) and at the same time into the total expenses of their household ($\bar{x} = 3.07$, SD = .99). The least mean value has been captured for the item plastic cards help for budget control and to cut down expenses ($\bar{x} = 3.01$, SD = 1.03). Debit cards, credit cards, prepaid cards and master cards help to monitor budgets and control spending (Caskey and Sellon, 1994; Ochei, 2012; Hernandez *et al.*, 2014).

Customers' ability for effective budgets monitoring:

- Ensure not short of money ($\bar{x} = 3.38$)
- Get insights into total expenses ($\bar{x} = 3.25$)
- Keep track of expenses ($\bar{x} = 3.23$)

4.18.6 Trust in plastic cards

As can be seen in the above table, the Cronbach's alpha value is .86 (>.70) which means that this construct is reliable, and respondents reported an average of 3.67 (SD = 4.20) for customer's trust regarding plastic card adoption. Most respondents reported that trust is important in their decision to adopt plastic cards ($\bar{x} = 3.81$, SD = .88), banks keep the promises and commitment they make ($\bar{x} = 3.75$, SD = .79) and plastic card services are reliable ($\bar{x} = 3.75$, SD = .76). Moreover, respondents find plastic cards trustworthy ($\bar{x} = 3.71$, SD = .80) and plastic card providers are honest ($\bar{x} = 3.62$, SD = .81). They also reported that merchants keep the promises and commitment they make ($\bar{x} = 3.55$, SD = .82) and lastly, they trust plastic card services are dependable ($\bar{x} = 3.53$, SD = .82).

Trust in plastic cards:

- Trust is important ($\bar{x} = 3.81$)
- Banks keep promises and commitment ($\bar{x} = 3.75$)
- Plastic card services are reliable ($\bar{x} = 3.75$)

4.18.7 Incentives from merchants when using plastic cards

As can be seen in the above table, the Cronbach's alpha value is .86 (>.70) which means that this construct is reliable, and respondents reported an average of 2.56 (SD = 3.49) for incentives from merchants when purchasing with plastic cards. Respondents reported that they accumulate loyalty and reward points from merchants when they pay with their plastic cards (\bar{x} = 2.76, SD = 1.06), followed by incentives from merchants have encouraged them to conduct payments using their plastic cards (\bar{x} = 2.55, SD = 1.02), followed by merchants provide discounts and special offer when they effect payments with their plastic cards (\bar{x} = 2.49, SD = 1.09). In addition, respondents have provided least mean (2.46, SD = .99) for the item "Merchants provide gifts when I make a purchase with plastic cards". Incentives from merchants have largely encouraged customers to adopt and use their plastic cards at point of sales (Ching and Hayashi, 2008; Mwendu *et al.*, 2017).

Incentives from merchants:

- Gain loyalty points
(\bar{x} = 2.76)
- Incentives encourage plastic card use
(\bar{x} = 2.55)
- Discount and special offer
(\bar{x} = 2.49)

4.18.8 Customer's image towards plastic cards

The Cronbach's alpha test indicated a reliability score of .83, which was well beyond the reliability level of .70 suggesting that this construct was reliable. Respondents reported an average of 2.31 (SD = 3.82) regarding customer's image impacts towards plastic card adoption. They stated a high level of importance on people who use plastic cards are IT savvy (\bar{x} = 2.53, SD = .97), followed by people who use plastic cards are trendy (\bar{x} = 2.50, SD = 1.01), using plastic cards improve my image (\bar{x} = 2.45, SD = 1.03), people who use plastic cards have more prestige (\bar{x} = 2.20, SD = 1.02) and only young people use plastic cards (\bar{x} = 1.89, SD = .90).

Customer's image towards plastic cards:

- IT Savvy people
(\bar{x} = 2.53)
- Trendy people
(\bar{x} = 2.50)
- Plastic cards improve image
(\bar{x} = 2.45)

4.18.9 Customer's social status and plastic card adoption

The Cronbach's alpha test indicated a reliability score of .78, which was above the reliability level of .70 suggesting that this construct was reliable. Respondents reported an average of 2.41 (SD = 3.82) regarding the impact of customer's social status towards the adoption of plastic cards. Most respondents feel that plastic cards are associated with affluent people ($\bar{x} = 2.80$, SD = .98) which goes in line with what Worthington *et al.*, (2007) had said in the literature. They are encouraged to buy things beyond their budget when using plastic cards ($\bar{x} = 2.76$, SD = 1.16) and face financial difficulties when using plastic cards ($\bar{x} = 2.51$, SD = 1.09), followed by the adoption of plastic cards makes them feel fashionable ($\bar{x} = 2.40$, SD = 1.06). They also feel that paying by plastic cards make them feel wealthy ($\bar{x} = 2.29$, SD = 1.11).

Customer's social status and plastic cards:

- Affluent people ($\bar{x} = 2.80$)
- Buy things beyond budget ($\bar{x} = 2.76$)

4.18.10 Customer's lifestyle and plastic card adoption

The Cronbach's alpha test indicated a reliability score of .83, which was well beyond the reliability level of .70 suggesting that this construct was reliable. Respondents reported an average of 3.05 (SD = 4.73) regarding the impact of customer's lifestyle on the adoption of plastic cards. Participants reported that plastic card has enabled them to make online purchases ($\bar{x} = 3.72$, SD = 1.02), followed by plastic card has enabled them to purchase standard goods ($\bar{x} = 3.02$, SD = 1.02). Respondents found that plastic card has allowed them to opt for branded products ($\bar{x} = 2.96$, SD = 1.09) and it adds value to their lifestyle ($\bar{x} = 2.93$, SD = 1.13). Lastly, plastic cards have allowed them to buy expensive goods ($\bar{x} = 2.90$, SD = 1.08) as well as acquire quality goods ($\bar{x} = 2.80$, SD = 1.06).

Customer's lifestyle and plastic cards:

- Online purchases ($\bar{x} = 3.72$)
- Purchase standard goods ($\bar{x} = 3.02$)

4.18.11 Security Risks associated with plastic cards

The Cronbach's alpha test indicated a reliability score of .66, which is slightly below the reliability level of .70. Respondents reported an average of 3.7 (SD = 2.04) regarding perceived security risks associated with the adoption of plastic cards. Respondents have reported a high concerned about someone capturing their payment information or other data if they use plastic cards (\bar{x} = 3.80, SD = .92). Moreover, respondents are also concerned about the security of plastic card payment (\bar{x} = 3.79, SD = .88), followed by the item "my personal payment information is kept safe when I use my plastic card to pay for a purchase" (\bar{x} = 3.51, SD = .85). Han (2003) has observed that 60% of respondents approved that online dealings should be safer and under secured system.

Security risks of plastic cards:

- Capturing payment information (\bar{x} = 3.80)
- Concerned about security of plastic cards (\bar{x} = 3.79)

4.18.12 Privacy Risks involved with plastic cards

The Cronbach's alpha test indicated a reliability score of .82, which was well beyond the reliability level of .70, which means that this construct is reliable. Respondents reported an average of 3.43 (SD = 2.96) regarding perceived privacy risks associated with the adoption of plastic cards. According to the findings, respondents find it risky to give their personal information when using plastic cards (\bar{x} = 3.57, SD .90). They also reported that their personal information could be inappropriately used by the plastic card issuer (\bar{x} = 3.41, SD = .93), followed by many unexpected problems could arise when giving their personal information to banks or merchants (\bar{x} = 3.38, SD = .96), followed by using plastic cards involved high potential for privacy loss of personal information (\bar{x} = 3.37, SD = .88).

Privacy risks of plastic cards:

- Risky to give personal information (\bar{x} = 3.57)
- Inappropriate use of personal data (\bar{x} = 3.41)

4.18.13 Fear of frauds associated with plastic cards

The Cronbach's alpha test indicated a reliability score of .67, which was slightly beyond the reliability level of .70. Respondents reported an average of 3.40 (SD = 2.67) regarding fraud involved with the adoption of plastic cards. Respondents reported that ATMs that are located at isolated and high-risk areas contribute to ATM fraud and crime ($\bar{x} = 3.55$, SD = .96). The item "financial awareness of plastic cards is not well communicated to customer in Mauritius has received the second highest mean ($\bar{x} = 3.54$, SD = .99) which mean that much need to be done by banks to improve their customers' financial awareness regarding plastic cards. Besides, respondents reported that plastic card fraud are common frauds conducted by fraudsters ($\bar{x} = 3.45$, SD = .86) and at the same time they feel afraid to use their plastic cards because of fraudulent activities ($\bar{x} = 3.07$, SD = .95). Dzomira (2017) has proposed the need to educate plastic card customers as well as electronic banking customers about the different types of frauds that exist.

Fear of frauds associated with plastic cards:

- ATMs at isolated and high risks area ($\bar{x} = 3.55$)
- Financial awareness not well communicate ($\bar{x} = 3.54$)
- Plastic card fraud ($\bar{x} = 3.45$)

4.18.14 Compulsive buying when using plastic cards

The Cronbach's alpha test indicated a reliability score of .69, which in line with the reliability level of .70, which means that this construct is reliable. Respondents reported an average of 2.98 (SD = 2.44) regarding compulsive buying involved when using plastic cards. The study reflects that respondents often act impulsive when they do their purchases with plastic cards ($\bar{x} = 3.12$, SD = 1.00). Respondents have also reported that spending money using their plastic cards makes them feel better ($\bar{x} = 3.02$, SD = .99) and they lose control of their budget and do purchases that they cannot afford with their plastic cards ($\bar{x} = 2.80$, SD = 1.01).

Compulsive buying when using plastic cards:

- Act impulsive when shopping with plastic cards ($\bar{x} = 3.12$)
- Spending money using plastic cards make feel better ($\bar{x} = 3.02$)

Section E: Anova/ T-Test**4.19 Group Differences: ANOVA/ T- Tests****4.19.1 Customer's attitude towards plastic card adoption**

Independent sample t – test was used to analyze whether customer's attitude towards plastic card adoption differed across people of different gender. The empirical estimates are presented in Table 4.6. Females were found to have a more positive attitudes towards plastic card adoption ($\bar{x} = 3.50$, $SD = .60$) than males ($\bar{x} = 3.40$, $SD = .61$). However, this difference was statistically insignificant ($t = -1.89$, $p > 0.05$) and is supported by the study of Neelavathi *et al.*, (2017) which indicated that females (51.5%) were more motivated towards the usage of plastic money as compared to males (48.5%). Their survey also depicted that females have a more positive attitudes concerning the ease and comfortable in using plastic money as compared to men.

A one-way between subject ANOVA was conducted to compare the age group, marital status and the education level of the customers on their attitudes towards plastic card adoption. Empirical results suggested that respondents of different age groups ($F = 2.15$, $p > 0.05$), marital status ($F = 2.34$, $p > 0.05$) and education level ($F = 1.91$, $p > 0.05$) were not found to significantly differ in their attitudes towards plastic cards. However, empirical results show that there is a statistically significant difference between the occupation of customers and their attitudes towards plastic cards ($F = 2.34$, $p = .03$). Post hoc comparisons using Turkey HSD test ($p < .10$) indicated that professional and Executives ($\bar{x} = 3.50$, $SD = .56$) had a more positive attitudes towards plastic cards as compared to the retired respondents ($\bar{x} = 2.73$, $SD = .72$). There was no statistically significant difference between the location of respondents and their attitudes towards plastic cards as indicated by the omnibus test ($F = 1.31$, $p > 0.05$). Respondents from different income level do not differ in their attitudes towards plastic cards adoption ($F = 1.01$, $p > 0.05$).

Most predictive demographic factors and attitudes towards plastic cards:

- **Professionals and executives** ($\bar{x} = 3.50$, $SD = .56$) share a more positive attitudes towards plastic card adoption.

Table 4.10

Group Differences in Customer's attitudes towards plastic card adoption:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	3.40	.61	<i>t</i> = -1.89 p = .97 (ns.)
Female	369	3.50	.60	
Age: 18-24 years old	246	3.48	.61	<i>F</i> = 2.15 p = .07 (ns.)
25-34 years old	187	3.52	.60	
35-44 years old	106	3.38	.61	
45-54 years old	59	3.33	.63	
55 and above	19	3.27	.55	
Marital status: Single	349	3.48	.61	<i>F</i> = 2.34 p = .07 (ns.)
Married	240	3.46	.61	
Divorced	18	3.31	.41	
Widowed	10	3	.80	
Level of education: C.P.E	24	3.37	.52	<i>F</i> = 1.91 p = .08(ns.)
School Certificate ^a	84	3.30	.53	
Higher School Certificate	171	3.43	.67	
Diploma Degree	110	3.46	.62	
Bachelor Degree	169	3.55	.57	
Master Degree	54	3.53	.63	
PhD	5	3.40	.57	
Occupation: Professional/Executives	195	3.50	.56	<i>F</i> = 2.34 p = .03*
Clerical and Service workers	171	3.47	.60	
Unemployed	39	3.35	.80	
Manual and elementary workers	31	3.49	.46	
Students	117	3.46	.66	
Self Employed	56	3.42	.55	
Retired	8	2.73	.72	
District: Riviere du Rempart	25	3.31	.64	
Black River	24	3.28	.68	
Savanne	25	3.53	.63	
Grand Port	116	3.35	.59	
Flacq	46	3.44	.57	
Moka	46	3.56	.51	
Pamplemousses	66	3.54	.55	
Port Louis	44	3.50	.65	
Plaine Wilhems	225	3.49	.63	
Income Level: Rs10,000 – Rs 14,999	88	3.42	.54	<i>F</i> = 1.01 p = .42 (ns.)
Rs15,000 – Rs 19,999	117	3.57	.57	
Rs20,000 – Rs 24,999	79	3.41	.63	
Rs25,000 – Rs 29,999	54	3.51	.45	
Rs30,000 – Rs 34,999	27	3.29	.58	
Rs35,000 – Rs 39,999	20	3.47	.52	
Rs40,000 – Rs 44,999	23	3.50	.44	
Above Rs 45,000	54	3.47	.65	
No Income	155	3.42	.72	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.2 The geographic dispersion of Automated Teller Machines

Independent sample t – test was used to analyze whether the geographic dispersion of Automated Teller Machines differed across different gender in the Mauritian population. Empirical results are presented in Table 4.7. Female respondents reported a lower level of importance for the geographic dispersion of Automated Teller Machines ($\bar{x} = 3.78$, $SD = .64$) than males ($\bar{x} = 3.84$, $SD = .66$). This difference was statistically insignificant ($t = 1.25$, $p > 0.05$).

A one-way between subjects ANOVA revealed a significant difference among respondents of different ages ($F = 2.47$, $p < 0.05$), marital status ($F = 3.45$, $p < 0.05$), level of education ($F = 2.71$, $p < 0.05$) and the geographic dispersion of Automated Teller Machines. Post hoc comparisons using Turkey HSD test ($p < .10$) indicated that the respondents of age 55 and above ($\bar{x} = 3.91$, $SD = .80$), married ($\bar{x} = 3.88$, $SD = .65$) and having a Bachelor ($\bar{x} = 3.91$, $SD = .66$) and Master Degree ($\bar{x} = 3.92$, $SD = .63$) were more likely to be influenced by the geographic dispersion of Automated Teller Machines.

Furthermore, customer's occupation was found to be statistically insignificant ($F = 1.94$, $p > 0.05$). Besides, there were no statistically significant difference between the locations of respondents ($F = 0.83$, $p > 0.05$) and the geographic dispersion of Automated Teller Machines. Lastly, respondent's income level ($F = 1.51$, $p > 0.05$) was found to have a statistically insignificant difference towards the geographic dispersion of Automated Teller Machines.

The most predictive demographic factors and geographic dispersion of ATMs for plastic cards

There is a statistically significant difference between

- *Customers of 55 years and above ($\bar{x} = 3.91$, $SD = .80$)*
- *Married customers ($\bar{x} = 3.88$, $SD = .65$)*
- *Customers having a Master's Degree ($\bar{x} = 3.92$, $SD = .63$) and the geographic dispersion of ATMs.*

Table 4.11

Group Differences in Geographic Dispersion of Automated Teller Machines:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	3.84	.66	<i>t</i> = 1.25 p = .93 (ns.)
Female	369	3.78	.64	
Age: 18-24 years old	246	3.72	.64	<i>F</i> = 2.47 p = .04*
25-34 years old	187	3.90	.61	
35-44 years old	106	3.79	.65	
45-54 years old	59	3.84	.74	
55 and above	19	3.91	.80	
Marital status: Single	349	3.76	.63	<i>F</i> = 3.45 p = .02*
Married	240	3.88	.65	
Divorced	18	3.69	.79	
Widowed	10	3.36	.87	
Level of education: C.P.E	24	3.68	.74	<i>F</i> = 2.71 p = .01*
School Certificate ^a	84	3.84	.64	
Higher School Certificate	171	3.69	.65	
Diploma Degree	110	3.79	.59	
Bachelor Degree	169	3.91	.66	
Master Degree	54	3.92	.63	
PhD	5	3.28	.52	
Occupation: Professional/Executives	195	3.83	.66	<i>F</i> = 1.94 p = .07 (ns.)
Clerical and Service workers	171	3.89	.58	
Unemployed	39	3.84	.72	
Manual and elementary workers	31	3.71	.57	
Students	117	3.72	.66	
Self Employed	56	3.68	.66	
Retired	8	3.37	1.07	
District: Riviere du Rempart	25	3.67	.60	
Black River	24	3.68	.62	
Savanne	25	3.99	.55	
Grand Port	116	3.75	.72	
Flacq	46	3.81	.76	
Moka	46	3.85	.59	
Pamplemousses	66	3.75	.55	
Port Louis	44	3.78	.57	
Plaine Wilhems	225	3.85	.66	
Income Level: Rs10,000 – Rs 14,999	88	3.69	.57	<i>F</i> = 1.51 p = .15 (ns.)
Rs15,000 – Rs 19,999	117	3.82	.61	
Rs20,000 – Rs 24,999	79	3.85	.63	
Rs25,000 – Rs 29,999	54	3.97	.57	
Rs30,000 – Rs 34,999	27	3.83	.56	
Rs35,000 – Rs 39,999	20	3.94	.73	
Rs40,000 – Rs 44,999	23	4.02	.66	
Above Rs 45,000	54	3.72	.74	
No Income	155	3.74	.71	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.3 Social Influence towards plastic cards

Independent sample t – test was used to analyze whether social influence towards plastic cards differed across different gender in the Mauritian population. Empirical results are presented in Table 4.8. The empirical results suggested that female respondents reported a lower level of social influence towards plastic card adoption ($\bar{x} = 2.88$, $SD = .79$) than males ($\bar{x} = 2.95$, $SD = .79$). This shows that males are more likely to be influenced by the social group than females to adopt plastic cards. This difference was statistically insignificant ($t = 1.04$, $p > 0.05$).

ANOVA test revealed an insignificant difference between the age group of respondents ($F = 1.43$, $p > 0.05$), marital status ($F = 1.46$, $p > 0.05$) and social influence towards plastic cards. Findings also revealed that there is a significant statistic difference between respondent's level of education and social influence towards plastic cards ($F = 2.33$, $p < 0.05$). Respondents having Diploma ($\bar{x} = 3.01$, $SD = .84$) and Bachelor Degree ($\bar{x} = 3.01$, $SD = .83$) are more likely to have experienced social influence as compared to those having a PhD ($\bar{x} = 2.60$, $SD = 1.14$) as revealed by the Post hoc comparisons using Turkey HSD test ($p < .10$). Respondents from different occupational background have shown to have a significant difference towards social influence and plastic card adoption ($F = 5.79$, $p < 0.05$). The post hoc comparisons using Turkey HSD test ($p < .10$) has shown that the students ($\bar{x} = 3.18$, $SD = .78$) are more likely to be influenced by social group as compared to the retired people ($\bar{x} = 2.65$, $SD = .94$). Besides, the one-way between subjects ANOVA did not reveal any significant difference among the locations of respondents ($F = 1.31$, $p > 0.05$). The findings revealed a significant difference among respondents of different income level ($F = 2.82$, $p < 0.05$). The post hoc comparisons using Turkey HSD test ($p < .10$) has shown that respondents having no income ($\bar{x} = 3.12$, $SD = .82$) are more likely to be influence by social group than people having an income of above Rs 45,000 ($\bar{x} = 2.64$, $SD = .81$)

The most predictive demographic related factors and social influence towards plastic card

- ***Customers having a Diploma ($F = 3.01$, $p < 0.05$) and Bachelor Degree ($F = 3.01$, $p < 0.05$)***
- ***Students ($F = 3.18$, $p < 0.05$)***
- ***Customers having no income ($F = 3.12$, $p < 0.05$) are more likely to experience social influence towards plastic cards.***

Table 4.12

Group Differences in Social influence towards plastic cards:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	2.95	.79	<i>t</i> = 1.04 p = .87 (ns.)
Female	369	2.88	.79	
Age: 18-24 years old	246	2.99	.79	<i>F</i> = 1.43 p = .22 (ns.)
25-34 years old	187	2.85	.81	
35-44 years old	106	2.90	.77	
45-54 years old	59	2.79	.78	
55 and above	19	2.87	.65	
Marital status: Single	349	2.94	.81	<i>F</i> = 1.46 p = .22 (ns.)
Married	240	2.88	.75	
Divorced	18	2.65	.89	
Widowed	10	3.22	.76	
Level of education: C.P.E	24	2.87	.69	<i>F</i> = 2.33 p = .03*
School Certificate ^a	84	2.85	.77	
Higher School Certificate	171	2.89	.72	
Diploma Degree	110	3.01	.84	
Bachelor Degree	169	3.01	.83	
Master Degree	54	2.61	.71	
PhD	5	2.60	1.14	
Occupation: Professional/Executives	195	2.70	.75	<i>F</i> = 5.79 p = .00*
Clerical and Service workers	171	2.88	.82	
Unemployed	39	3.05	.70	
Manual and elementary workers	31	3.14	.60	
Students	117	3.18	.78	
Self Employed	56	3	.79	
Retired	8	2.65	.94	
District: Riviere du Rempart	25	3	.64	<i>F</i> = 1.31 p = .24 (ns.)
Black River	24	2.92	.85	
Savanne	25	3.32	.80	
Grand Port	116	2.83	.77	
Flacq	46	2.79	.64	
Moka	46	2.89	.91	
Pamplemousses	66	2.94	.70	
Port Louis	44	3.02	.95	
Plaine Wilhems	225	2.90	.79	
Income Level: Rs10,000 – Rs 14,999	88	2.81	.70	
Rs15,000 – Rs 19,999	117	2.84	.80	
Rs20,000 – Rs 24,999	79	2.97	.88	
Rs25,000 – Rs 29,999	54	2.92	.68	
Rs30,000 – Rs 34,999	27	2.91	.73	
Rs35,000 – Rs 39,999	20	2.73	.64	
Rs40,000 – Rs 44,999	23	2.83	.60	
Above Rs 45,000	54	2.64	.81	
No Income	155	3.12	.82	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.4 Convenience of using plastic cards

The empirical results using Independent sample t – test have suggested that female respondents reported a lower level of importance towards convenience of using plastic cards ($\bar{x} = 3.93$, $SD = .67$) than males ($\bar{x} = 3.98$, $SD = .63$). This shows that males perceived the convenience of using plastic cards as more beneficial as compared to females. This difference was statistically insignificant ($t = .85$, $p > 0.05$).

A one-way between subject ANOVA revealed an insignificant difference in the age group of respondents and the convenience of using plastic cards ($F = 2.17$, $p > 0.05$). Findings also revealed an insignificant difference in the marital status of respondents ($F = 1.62$, $p > 0.05$). Besides, statistical difference was identified between respondent's level of education ($F = 3.63$, $p < 0.05$) and the convenience of using plastic cards. Respondents having Master ($\bar{x} = 4.22$, $SD = .71$) and Bachelor Degree ($\bar{x} = 4.03$, $SD = .66$) are more likely to perceived plastic cards as a convenient payment method as compared to those having a PhD ($\bar{x} = 3.30$, $SD = .43$) as revealed by the Post hoc comparisons using Turkey HSD test ($p < .10$). The findings also revealed that a significant difference in the occupational group of respondents and the convenience of using plastic cards ($F = 3.99$, $p < 0.05$). The post hoc comparison using Tukey HSD test ($p < .10$) revealed that there was a significant difference between professional/executives respondents ($\bar{x} = 4.07$, $SD = .66$) and unemployed respondents ($\bar{x} = 3.64$, $SD = .72$) regarding the convenience of using plastic cards.

No statistically difference was noted between the convenience of using plastic cards and location of respondents ($F = 1.69$, $p > 0.05$). However, a one-way between subject ANOVA revealed a significant difference between the income group of respondents ($F = 2.78$, $p < 0.05$) and the convenience of using plastic cards. The post hoc comparisons using Turkey HSD test ($p < .10$) has shown that respondents having an income group of Rs 40,000 – Rs 44,999 ($\bar{x} = 4.33$, $SD = .57$) perceive plastic cards as a convenient payment method as compared to those having an income group of Rs 10,000 – Rs 14,999 ($\bar{x} = 3.79$, $SD = .62$).

The most predictive demographic factors and convenience of plastic cards

- *Customer's having a Master's Degree ($F = 4.22$, $p < 0.05$)*
- *Professionals and Executives ($F = 4.07$, $p < 0.05$)*
- *An income of Rs 40,000 – Rs 44,999 ($F = 4.33$, $p < 0.05$) perceive plastic cards as a convenient payment method.*

Table 4.13

Group Differences in Convenience of using plastic cards:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	3.98	.63	<i>t</i> = .85 p = .48 (ns.)
Female	369	3.93	.67	
Age: 18-24 years old	246	3.87	.65	<i>F</i> = 2.17 p = .07 (ns.)
25-34 years old	187	4.03	.66	
35-44 years old	106	3.96	.65	
45-54 years old	59	3.97	.64	
55 and above	19	4.17	.69	
Marital status: Single	349	3.91	.64	<i>F</i> = 1.62 p = .18 (ns.)
Married	240	4.01	.66	
Divorced	18	4.03	.83	
Widowed	10	3.70	.71	
Level of education: C.P.E	24	3.89	.65	<i>F</i> = 3.63 p = .00*
School Certificate ^a	84	3.83	.66	
Higher School Certificate	171	3.91	.62	
Diploma Degree	110	3.89	.62	
Bachelor Degree	169	4.03	.66	
Master Degree	54	4.22	.71	
PhD	5	3.30	.43	
Occupation: Professional/Executives	195	4.07	.66	<i>F</i> = 3.99 p = .00*
Clerical and Service workers	171	3.99	.62	
Unemployed	39	3.64	.72	
Manual and elementary workers	31	3.67	.71	
Students	117	3.93	.60	
Self Employed	56	3.84	.62	
Retired	8	3.92	.93	
District: Riviere du Rempart	25	3.58	.68	<i>F</i> = 1.69 p = .10 (ns.)
Black River	24	3.90	.71	
Savanne	25	4.07	.59	
Grand Port	116	3.92	.61	
Flacq	46	4.07	.82	
Moka	46	4.03	.54	
Pamplemousses	66	3.88	.65	
Port Louis	44	3.89	.80	
Plaine Wilhems	225	3.99	.62	
Income Level: Rs10,000 – Rs 14,999	88	3.79	.62	
Rs15,000 – Rs 19,999	117	3.98	.63	
Rs20,000 – Rs 24,999	79	3.98	.62	
Rs25,000 – Rs 29,999	54	4.13	.66	
Rs30,000 – Rs 34,999	27	4.01	.58	
Rs35,000 – Rs 39,999	20	4.02	.55	
Rs40,000 – Rs 44,999	23	4.33	.57	
Above Rs 45,000	54	3.99	.76	
No Income	155	3.85	.67	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.5 Customers' ability for effective budgets monitoring

Independent sample t – test was used to analyze whether the ability to monitor budgets effectively using plastic cards differed across different gender in Mauritius. Empirical results are presented in Table 4.10. The empirical results suggested that female respondents reported a lower level of importance towards the ability to monitor budgets effectively using plastic cards ($\bar{x} = 3.16$, $SD = .77$) than males ($\bar{x} = 3.23$, $SD = .84$). This shows that males are in a better position to monitor their budgets effectively using plastic cards as compared to females. This difference was statistically significant ($t = 1.17$, $p < 0.05$).

A one-way between subject ANOVA revealed a statistically insignificant difference between the ability to monitor budgets effectively using plastic cards and age group ($F = .89$, $p > 0.05$), marital status ($F = 1.05$, $p > 0.05$) and level of education ($F = 1.18$, $p > 0.05$), occupation ($F = 2.05$, $p < 0.05$), location of respondents ($F = .99$, $p > 0.05$) and the ability to monitor budgets effectively using plastic cards.

However, a one-way between subject ANOVA revealed a significant difference between the income group of respondents and the ability to monitor budgets effectively using plastic cards ($F = 2.13$, $p < 0.05$). The post hoc comparisons using Turkey HSD test ($p < .10$) has shown that respondents having an income group of Rs 35,000 – Rs 39,999 ($\bar{x} = 3.41$, $SD = .62$) are able to monitor their budgets effectively with the use of a plastic cards as compared to those having an income group of Rs 30,000 – Rs 34,999 ($\bar{x} = 2.98$, $SD = .81$). Kalckreuth *et al.*, (2011) have shown that since individuals differ in different respects, their way to monitor their budget also vary.

The most predictive demographic factors and customers' ability for effective budgets monitoring

There is a statistically significant difference between

- *Females customers ($t = 0.04$, $p < 0.05$)*
- *customer's having an income of Rs 35,000 – Rs 39,999 ($F = 3.41$, $p < 0.05$) and the ability to monitor budgets effectively using plastic cards.*

Table 4.14

Group Differences in monitoring budgets effectively using plastic cards:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	3.23	.84	<i>t</i> = 1.17 p = .04*
Female	369	3.16	.77	
Age: 18-24 years old	246	3.14	.77	<i>F</i> = .89 p = .47 (ns.)
25-34 years old	187	3.20	.81	
35-44 years old	106	3.20	.83	
45-54 years old	59	3.23	.84	
55 and above	19	3.46	.58	
Marital status: Single	349	3.14	.81	<i>F</i> = 1.05 p = .37 (ns.)
Married	240	3.25	.79	
Divorced	18	3.22	.68	
Widowed	10	3.36	.93	
Level of education: C.P.E	24	3.35	.82	<i>F</i> = 1.18 p = .31 (ns.)
School Certificate ^a	84	3.28	.76	
Higher School Certificate	171	3.16	.76	
Diploma Degree	110	3.16	.87	
Bachelor Degree	169	3.20	.80	
Master Degree	54	3.14	.78	
PhD	5	2.44	.86	
Occupation: Professional/Executives	195	3.28	.79	<i>F</i> = 2.05 p = .06 (ns.)
Clerical and Service workers	171	3.19	.84	
Unemployed	39	2.82	.79	
Manual and elementary workers	31	3.30	.68	
Students	117	3.11	.75	
Self Employed	56	3.19	.74	
Retired	8	3.20	1.27	
District: Riviere du Rempart	25	3.02	.82	<i>F</i> = .99 p = .44 (ns.)
Black River	24	3.12	1.08	
Savanne	25	3.18	.89	
Grand Port	116	3.26	.69	
Flacq	46	3.01	.87	
Moka	46	3.29	.55	
Pamplemousses	66	3.16	.71	
Port Louis	44	3.02	.87	
Plaine Wilhems	225	3.23	.83	
Income Level: Rs10,000 – Rs 14,999	88	3.33	.77	
Rs15,000 – Rs 19,999	117	3.12	.83	
Rs20,000 – Rs 24,999	79	3.30	.78	
Rs25,000 – Rs 29,999	54	3.35	.81	
Rs30,000 – Rs 34,999	27	2.98	.81	
Rs35,000 – Rs 39,999	20	3.41	.62	
Rs40,000 – Rs 44,999	23	3.19	.70	
Above Rs 45,000	54	3.22	.79	
No Income	155	3.03	.80	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.6 Trust in plastic cards

Independent sample t – test was used to analyze whether trust in plastic cards differed across different age groups in Mauritius. Empirical results are presented in Table 4.11. The empirical results suggested that female respondents reported a lower level of trust in plastic cards ($\bar{x} = 3.66$, $SD = .60$) than males ($\bar{x} = 3.69$, $SD = .60$). This shows that males have more trust in plastic cards as compared to females. This difference was statistically insignificant ($t = .67$, $p > 0.05$).

A one-way between subject ANOVA revealed a statistically significant difference between trust in plastic cards and age group ($F = 3.51$, $p < 0.05$) and marital status ($F = 5.60$, $p < 0.05$). The post hoc comparisons using Turkey HSD test ($p < .10$) has shown that the age group of 55 and above ($\bar{x} = 3.90$, $SD = .70$) and married respondents ($\bar{x} = 3.79$, $SD = .55$) have more trust in plastic cards as compared to the age group of 18 – 24 years old ($\bar{x} = 3.58$, $SD = .60$) and widowed respondents ($\bar{x} = 3.38$, $SD = .61$).

Besides, statistical insignificant difference was identified between respondent's trust in plastic cards and their level of education ($F = 1.80$, $p > 0.05$), occupation ($F = .78$, $p > 0.05$), location ($F = .86$, $p > 0.05$) and income group ($F = 1.20$, $p > 0.05$). Lim *et al.*, (2007) have highlighted that if an electronic payment system does not deliver a secure service and maintain itself as trustworthy, users will hesitate to use the system thus hindering its ability to acquire widespread acceptability.

The most predictive demographic factors and trust on plastic card

- *Customers' of the age 55 years and above ($F = 3.90$, $p < 0.05$)*
- *Married customers ($F = 3.79$, $p < 0.05$) have more trust in plastic card services*

Table 4.15

Group Differences in Trust in plastic cards:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	3.69	.60	<i>t</i> = .67 p = .62 (ns.)
Female	369	3.66	.60	
Age: 18-24 years old	246	3.58	.60	<i>F</i> = 3.51 p = .01*
25-34 years old	187	3.68	.63	
35-44 years old	106	3.75	.54	
45-54 years old	59	3.82	.51	
55 and above	19	3.90	.70	
Marital status: Single	349	3.60	.62	<i>F</i> = 5.60 p = .00*
Married	240	3.79	.55	
Divorced	18	3.73	.55	
Widowed	10	3.38	.61	
Level of education: C.P.E	24	3.80	.49	<i>F</i> = 1.80 p = .10 (ns.)
School Certificate ^a	84	3.76	.59	
Higher School Certificate	171	3.63	.59	
Diploma Degree	110	3.62	.60	
Bachelor Degree	169	3.70	.62	
Master Degree	54	3.69	.57	
PhD	5	3.03	.82	
Occupation: Professional/Executives	195	3.65	.60	<i>F</i> = .78 p = .58 (ns.)
Clerical and Service workers	171	3.74	.58	
Unemployed	39	3.67	.58	
Manual and elementary workers	31	3.67	.70	
Students	117	3.66	.60	
Self Employed	56	3.63	.56	
Retired	8	3.37	.85	
District: Riviere du Rempart	25	3.50	.84	
Black River	24	3.68	.45	
Savanne	25	3.67	.81	
Grand Port	116	3.66	.54	
Flacq	46	3.77	.65	
Moka	46	3.73	.62	
Pamplemousses	66	3.78	.40	
Port Louis	44	3.69	.72	
Plaine Wilhems	225	3.64	.59	
Income Level: Rs10,000 – Rs 14,999	88	3.57	.64	<i>F</i> = 1.20 p = .29 (ns.)
Rs15,000 – Rs 19,999	117	3.66	.61	
Rs20,000 – Rs 24,999	79	3.80	.59	
Rs25,000 – Rs 29,999	54	3.63	.57	
Rs30,000 – Rs 34,999	27	3.63	.37	
Rs35,000 – Rs 39,999	20	3.76	.33	
Rs40,000 – Rs 44,999	23	3.74	.45	
Above Rs 45,000	54	3.77	.69	
No Income	155	3.64	.62	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.7 Incentives from merchants when using plastic cards

Independent sample t – test was used to analyze whether incentives from merchants when using plastic cards differed across different gender in Mauritius. Empirical results are presented in Table 4.12. The empirical results suggested that female respondents reported that they do not benefit from any incentives from merchants when using plastic cards ($\bar{x} = 2.51$, $SD = .83$) than males ($\bar{x} = 2.65$, $SD = .92$). This shows that males perceived the incentives they receive from merchants as a beneficial factor as compared to females. This difference was statistically insignificant ($t = 1.99$, $p > 0.05$).

A one-way between subject ANOVA revealed a statistically insignificant difference incentives from merchants when using plastic cards and age group ($F = .53$, $p > 0.05$), marital status ($F = .31$, $p > 0.05$), level of education ($F = .54$, $p > 0.05$), occupation ($F = 1.64$, $p > 0.05$), location ($F = .92$, $p > 0.05$) and income level ($F = .21$, $p > 0.05$).

The most predictive demographic factors and incentives on plastic card
No statistically significant difference demographic variables and incentives from merchants.

Table 4.16

Group Differences in incentives from merchants when using plastic card:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	2.65	.92	<i>t</i> = 1.99 p = .13 (ns.)
Female	369	2.51	.83	
Age: 18-24 years old	246	2.52	.87	<i>F</i> = .53 p = .71 (ns.)
25-34 years old	187	2.54	.91	
35-44 years old	106	2.65	.87	
45-54 years old	59	2.65	.79	
55 and above	19	2.53	.71	
Marital status: Single	349	2.55	.89	<i>F</i> = .31 p = .82 (ns.)
Married	240	2.56	.86	
Divorced	18	2.64	.74	
Widowed	10	2.80	.91	
Level of education: C.P.E	24	2.58	.98	<i>F</i> = .54 p = .78 (ns.)
School Certificate ^a	84	2.57	.77	
Higher School Certificate	171	2.52	.91	
Diploma Degree	110	2.59	.94	
Bachelor Degree	169	2.52	.84	
Master Degree	54	2.74	.82	
PhD	5	2.40	.94	
Occupation: Professional/Executives	195	2.64	.87	<i>F</i> = 1.64 p = .13 (ns.)
Clerical and Service workers	171	2.43	.87	
Unemployed	39	2.54	.68	
Manual and elementary workers	31	2.88	.90	
Students	117	2.54	.89	
Self Employed	56	2.57	.87	
Retired	8	2.44	1.07	
District: Riviere du Rempart	25	2.91	.82	
Black River	24	2.35	.77	
Savanne	25	2.63	1.07	
Grand Port	116	2.57	.81	
Flacq	46	2.58	.84	
Moka	46	2.69	.85	
Pamplemousses	66	2.57	.70	
Port Louis	44	2.54	.99	
Plaine Wilhems	225	2.51	.92	
Income Level: Rs10,000 – Rs 14,999	88	2.54	.94	<i>F</i> = .21 p = .99 (ns.)
Rs15,000 – Rs 19,999	117	2.57	.91	
Rs20,000 – Rs 24,999	79	2.56	.90	
Rs25,000 – Rs 29,999	54	2.48	.74	
Rs30,000 – Rs 34,999	27	2.56	.70	
Rs35,000 – Rs 39,999	20	2.57	.78	
Rs40,000 – Rs 44,999	23	2.65	.77	
Above Rs 45,000	54	2.67	.94	
No Income	155	2.55	.87	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.8 Customer's image and plastic card adoption

Independent sample t – test was used to analyze whether customer's image towards plastic cards differed across different age groups in Mauritius. Empirical results are presented in Table 4.13. The empirical results suggested that female respondents do not tend to associate their image with plastic cards ($\bar{x} = 2.28$, $SD = .74$) as compared to males ($\bar{x} = 2.36$, $SD = .80$). This shows that males consider plastic cards as a mean to achieve higher image and self-esteem in the society which is not the same case with females. This difference was statistically insignificant ($t = 1.21$, $p > 0.05$).

A one-way between subject ANOVA revealed a statistically insignificant difference between customer's image towards plastic cards and age group ($F = 1.12$, $p > 0.05$), marital status ($F = 2.39$, $p > 0.05$), level of education ($F = 1.57$, $p > 0.05$), occupation ($F = .85$, $p > 0.05$), location ($F = .83$, $p > 0.05$) and income level ($F = 1.43$, $p > 0.05$).

The most predictive demographic factors and customer's image on plastic card
No statistically significant difference between demographic variables and customer's image.

Table 4.17

Group Differences in Customer's image and plastic card adoption:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	2.36	.80	<i>t</i> = 1.21 p = .39 (ns.)
Female	369	2.28	.74	
Age: 18-24 years old	246	2.39	.76	<i>F</i> = 1.12 p = .34 (ns.)
25-34 years old	187	2.27	.80	
35-44 years old	106	2.27	.72	
45-54 years old	59	2.22	.61	
55 and above	19	2.29	1.11	
Marital status: Single	349	2.34	.78	<i>F</i> = 2.39 p = .07 (ns.)
Married	240	2.24	.74	
Divorced	18	2.44	.63	
Widowed	10	2.78	.90	
Level of education: C.P.E	24	2.38	.82	<i>F</i> = 1.57 p = .15 (ns.)
School Certificate ^a	84	2.27	.66	
Higher School Certificate	171	2.39	.80	
Diploma Degree	110	2.23	.81	
Bachelor Degree	169	2.31	.75	
Master Degree	54	2.25	.66	
PhD	5	3.12	1.13	
Occupation: Professional/Executives	195	2.25	.72	<i>F</i> = .85 p = .53 (ns.)
Clerical and Service workers	171	2.28	.80	
Unemployed	39	2.25	.75	
Manual and elementary workers	31	2.48	.80	
Students	117	2.40	.76	
Self Employed	56	2.38	.76	
Retired	8	2.37	1.21	
District: Riviere du Rempart	25	2.22	.64	
Black River	24	2.37	.82	
Savanne	25	2.53	.60	
Grand Port	116	2.25	.66	
Flacq	46	2.16	.77	
Moka	46	2.45	.69	
Pamplemousses	66	2.36	.64	
Port Louis	44	2.34	.68	
Plaine Wilhems	225	2.31	.89	
Income Level: Rs10,000 – Rs 14,999	88	2.47	.85	<i>F</i> = 1.43 p = .18 (ns.)
Rs15,000 – Rs 19,999	117	2.28	.84	
Rs20,000 – Rs 24,999	79	2.36	.69	
Rs25,000 – Rs 29,999	54	2.28	.62	
Rs30,000 – Rs 34,999	27	2.18	.66	
Rs35,000 – Rs 39,999	20	2.03	.66	
Rs40,000 – Rs 44,999	23	2.06	.68	
Above Rs 45,000	54	2.24	.72	
No Income	155	2.36	.78	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.9 Customer's social status and plastic card adoption

Independent sample t – test was used to analyze whether customer's social status and plastic cards differed across different age groups in Mauritius. Empirical results are presented in Table 4.14. The empirical results suggested that male respondents are more likely to link their social status with the adoption of plastic cards ($\bar{x} = 2.43$, $SD = .88$) compared to female respondents ($\bar{x} = 2.39$, $SD = .73$). Male respondents feel that using plastic cards will increase their social image in their society. This difference was statistically significant ($t = .57$, $p < 0.05$).

A significant omnibus test ($F = 4.58$, $p < 0.05$) and ($F = 3.01$, $p < 0.05$) respectively emerged regarding the age group and marital status of respondents towards customer's social image and plastic card adoption. Post hoc comparisons Tukey HSD test ($p < .10$) indicated that respondents of the age group of 18 – 24 years old ($\bar{x} = 2.55$, $SD = .77$) and divorced respondents ($\bar{x} = 2.63$, $SD = .83$) differed significantly from those in the age group of 55 and above ($\bar{x} = 1.95$, $SD = .72$) and married respondents ($\bar{x} = 2.29$, $SD = .79$) regarding social status and the adoption of plastic cards. Statistical difference was also noted for respondent's occupation ($F = 2.92$, $p < 0.05$) and social status and plastic cards adoption. The post hoc comparisons using Tukey HSD test ($p < .10$) showed that the manual and elementary workers ($\bar{x} = 2.68$, $SD = .74$) differed significantly with the retired respondents ($\bar{x} = 1.87$, $SD = .70$) regarding their perceptions on social status and plastic card adoption.

A one-way between subject ANOVA test revealed statistically insignificant differences among respondents from different educational background ($F = 1.74$, $p > 0.05$), location ($F = .90$, $p > 0.05$) and family income level ($F = 1.44$, $p > 0.05$) regarding social status and plastic cards.

The most predictive demographic factors and customer's social status towards plastic card

There is a statistically significant difference between the

- *gender of customers ($t = 0.57$, $p < 0.05$)*
- *age of customers ($F = 4.58$, $p < 0.05$)*
- *customer's marital status ($F = 3.01$, $p < 0.05$)*
- *occupation of customers ($F = 2.92$, $p < 0.05$) and customer's social status*

Table 4.18

Group Differences in Customer's social status and plastic card adoption:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	2.43	.88	<i>t</i> = .57 p = .00*
Female	369	2.39	.73	
Age: 18-24 years old	246	2.55	.77	<i>F</i> = 4.58 p = .00*
25-34 years old	187	2.33	.81	
35-44 years old	106	2.33	.77	
45-54 years old	59	2.33	.82	
55 and above	19	1.95	.72	
Marital status: Single	349	2.47	.79	<i>F</i> = 3.01 p = .03*
Married	240	2.29	.79	
Divorced	18	2.63	.83	
Widowed	10	2.52	.42	
Level of education: C.P.E	24	2.30	.88	<i>F</i> = 1.74 p = .11 (ns.)
School Certificate ^a	84	2.38	.75	
Higher School Certificate	171	2.57	.81	
Diploma Degree	110	2.34	.84	
Bachelor Degree	169	2.34	.77	
Master Degree	54	2.34	.72	
PhD	5	2.24	.77	
Occupation: Professional/Executives	195	2.33	.84	<i>F</i> = 2.92 p = .01*
Clerical and Service workers	171	2.35	.75	
Unemployed	39	2.26	.76	
Manual and elementary workers	31	2.68	.74	
Students	117	2.57	.77	
Self Employed	56	2.52	.78	
Retired	8	1.87	.70	
District: Riviere du Rempart	25	2.40	.65	<i>F</i> = .90 p = .51 (ns.)
Black River	24	2.52	1.01	
Savanne	25	2.47	.79	
Grand Port	116	2.36	.70	
Flacq	46	2.52	.72	
Moka	46	2.62	.89	
Pamplemousses	66	2.46	.71	
Port Louis	44	2.36	.73	
Plaine Wilhems	225	2.34	.85	
Income Level: Rs10,000 – Rs 14,999	88	2.61	.83	<i>F</i> = 1.44 p = .18 (ns.)
Rs15,000 – Rs 19,999	117	2.43	.80	
Rs20,000 – Rs 24,999	79	2.38	.82	
Rs25,000 – Rs 29,999	54	2.37	.59	
Rs30,000 – Rs 34,999	27	2.20	.87	
Rs35,000 – Rs 39,999	20	2.26	.59	
Rs40,000 – Rs 44,999	23	2.16	.73	
Above Rs 45,000	54	2.32	.85	
No Income	155	2.42	.81	

Notes: * Significant at $p < 0.05$; ns: non-significant.

4.19.10 Customer's lifestyle and plastic card adoption

Independent sample t – test was used to analyze whether customer's lifestyle and plastic cards differed across different gender in Mauritius. Empirical results are presented in Table 4.15. The empirical results suggested that female respondents do not tend to associate their lifestyles with plastic cards ($\bar{x} = 3.04$, $SD = .78$) as compared to males ($\bar{x} = 3.08$, $SD = .80$). This shows that males consider plastic cards as a mean to improve their lifestyles in the society which is not the same case with females. This difference was statistically insignificant ($t = .64$, $p > 0.05$).

A one-way between subject ANOVA revealed a statistically insignificant difference between customer's lifestyle and age group ($F = 2.26$, $p > 0.05$), marital status ($F = .28$, $p > 0.05$), level of education ($F = 1.51$, $p > 0.05$), location ($F = 1.22$, $p > 0.05$) and income level ($F = .22$, $p > 0.05$). A significant omnibus test ($F = 2.32$, $p < 0.05$) emerged regarding the occupation of respondents towards lifestyle and plastic card adoption. Post hoc comparisons Tukey HSD test ($p < .10$) indicated that manual and elementary workers ($\bar{x} = 3.34$, $SD = .67$) differed from the retired respondents ($\bar{x} = 2.52$, $SD = .85$) regarding lifestyle and plastic card adoption.

The most predictive demographic factors and customer's lifestyle towards plastic card

*There is a statistically significant difference between the customer's occupation (**$F = 2.32$, $p < 0.05$**) and lifestyle of customers towards plastic card adoption.*

- *Manual and elementary workers (**$F = 3.34$, $p < 0.05$**)*

Table 4.19

Group Differences in Customer's lifestyle and plastic card adoption:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	3.08	.80	<i>t</i> = .64 p = .84 (ns.)
Female	369	3.04	.78	
Age: 18-24 years old	246	3.08	.71	<i>F</i> = 2.26 p = .06 (ns.)
25-34 years old	187	3.02	.85	
35-44 years old	106	3.17	.83	
45-54 years old	59	2.99	.79	
55 and above	19	2.63	.75	
Marital status: Single	349	3.04	.77	<i>F</i> = .28 p = .84 (ns.)
Married	240	3.07	.83	
Divorced	18	3.20	.74	
Widowed	10	3.02	.47	
Level of education: C.P.E	24	2.84	.78	<i>F</i> = 1.51 p = .17 (ns.)
School Certificate ^a	84	2.90	.75	
Higher School Certificate	171	3.13	.77	
Diploma Degree	110	3.10	.75	
Bachelor Degree	169	3.07	.82	
Master Degree	54	3.04	.83	
PhD	5	2.53	.95	
Occupation: Professional/Executives	195	3.00	.81	<i>F</i> = 2.32 p = .03*
Clerical and Service workers	171	3.03	.82	
Unemployed	39	2.87	.82	
Manual and elementary workers	31	3.34	.67	
Students	117	3.14	.66	
Self Employed	56	3.17	.84	
Retired	8	2.52	.85	
District: Riviere du Rempart	25	2.99	.70	
Black River	24	3.04	.99	
Savanne	25	3.17	.87	
Grand Port	116	2.99	.72	
Flacq	46	3.01	.72	
Moka	46	2.97	.80	
Pamplemousses	66	3.32	.65	
Port Louis	44	3.05	.81	
Plaine Wilhems	225	3.03	.84	
Income Level: Rs10,000 – Rs 14,999	88	3.01	.84	<i>F</i> = .22 p = .99 (ns.)
Rs15,000 – Rs 19,999	117	3.04	.79	
Rs20,000 – Rs 24,999	79	3.14	.82	
Rs25,000 – Rs 29,999	54	3.07	.70	
Rs30,000 – Rs 34,999	27	3.10	.86	
Rs35,000 – Rs 39,999	20	2.93	.70	
Rs40,000 – Rs 44,999	23	3.09	.87	
Above Rs 45,000	54	3.04	.88	
No Income	155	3.04	.74	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.11 Security risks associated with plastic card adoption

Independent sample t – test was used to analyze whether security risks associated with plastic cards differed across different age groups in Mauritius. Empirical results are presented in Table 4.16. The empirical results suggested that female respondents ($\bar{x} = 3.75$, $SD = .65$) perceived that plastic card adoption involved a lot of security risks as compared to males ($\bar{x} = 3.61$, $SD = .72$). This shows that female respondents believe that security risks are associated with plastic cards which is not the same case with females. This difference was statistically insignificant ($t = -2.51$, $p > 0.05$).

A one-way between subject ANOVA revealed a statistically insignificant difference between security risks associated with plastic cards and age group ($F = .65$, $p > 0.05$), marital status ($F = .31$, $p > 0.05$), level of education ($F = 1.80$, $p > 0.05$), occupation ($F = .98$, $p > 0.05$) and income level ($F = .67$, $p > 0.05$). A significant omnibus test ($F = 2.31$, $p < 0.05$) emerged regarding the location of respondents and security risks associated with plastic cards. Post hoc comparisons Tukey HSD test ($p < .10$) indicated that respondents living in the Savanne district ($\bar{x} = 4.11$, $SD = .72$) viewed the security risks associated with plastic cards differently from the respondents living in the Grand port district ($\bar{x} = 3.55$, $SD = .74$).

The most predictive demographic factors and security risks of plastic cards

*There is a statistically significant difference between the **customer's location (district)** ($F = 2.31$, $p < 0.05$) and the security risks associated with plastic card.*

- **Savanne** ($F = 4.11$, $p < 0.05$)

Table 4.20

Group Differences in perceived security risks associated with plastic card adoption:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	3.61	.72	<i>t</i> = -2.51 p = .28 (ns.)
Female	369	3.75	.65	
Age: 18-24 years old	246	3.70	.69	<i>F</i> = .65 p = .62 (ns.)
25-34 years old	187	3.67	.66	
35-44 years old	106	3.78	.66	
45-54 years old	59	3.62	.73	
55 and above	19	3.72	.71	
Marital status: Single	349	3.70	.68	<i>F</i> = .31 p = .82 (ns.)
Married	240	3.71	.65	
Divorced	18	3.67	.86	
Widowed	10	3.50	1.02	
Level of education: C.P.E	24	3.67	.54	<i>F</i> = 1.80 p = .09 (ns.)
School Certificate ^a	84	3.75	.64	
Higher School Certificate	171	3.71	.64	
Diploma Degree	110	3.68	.68	
Bachelor Degree	169	3.71	.72	
Master Degree	54	3.68	.69	
PhD	5	2.73	1.32	
Occupation: Professional/Executives	195	3.64	.67	<i>F</i> = .98 p = .44 (ns.)
Clerical and Service workers	171	3.74	.68	
Unemployed	39	3.73	.72	
Manual and elementary workers	31	3.55	.57	
Students	117	3.79	.66	
Self Employed	56	3.66	.71	
Retired	8	3.67	1.13	
District: Riviere du Rempart	25	3.67	.75	<i>F</i> = 2.31 p = .02*
Black River	24	3.78	.61	
Savanne	25	4.11	.72	
Grand Port	116	3.55	.74	
Flacq	46	3.75	.66	
Moka	46	3.69	.71	
Pamplemousses	66	3.60	.58	
Port Louis	44	3.81	.60	
Plaine Wilhems	225	3.72	.67	
Income Level: Rs10,000 – Rs 14,999	88	3.73	.66	
Rs15,000 – Rs 19,999	117	3.69	.70	
Rs20,000 – Rs 24,999	79	3.75	.60	
Rs25,000 – Rs 29,999	54	3.72	.63	
Rs30,000 – Rs 34,999	27	3.78	.63	
Rs35,000 – Rs 39,999	20	3.52	.64	
Rs40,000 – Rs 44,999	23	3.62	.73	
Above Rs 45,000	54	3.55	.72	
No Income	155	3.72	.73	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.12 Privacy risks involved with plastic cards

Independent sample t – test was used to analyze whether privacy risks involved with plastic cards differed across different age groups in Mauritius. Empirical results are presented in Table 4.17. The empirical results suggested that female respondents ($\bar{x} = 3.44$, $SD = .75$) perceived that plastic card adoption involved a lot of privacy risks as compared to males ($\bar{x} = 3.41$, $SD = .73$). This shows that female respondents believe that privacy risks are associated with plastic cards which is not the same case with males. This difference was statistically insignificant ($t = -.48$, $p > 0.05$).

The one-way between subject ANOVA did not reveal any significant differences among respondents from different age group ($F = 2.16$, $p > 0.05$), marital status ($F = .04$, $p > 0.05$), level of education ($F = 1.06$, $p > 0.05$) and location ($F = 1.26$, $p > 0.05$) regarding privacy risks involved with the adoption of plastic cards.

However, findings from the one-way ANOVA revealed a statistically significant difference between privacy risks associated with plastic cards and respondent's occupation ($F = 2.62$, $p < 0.05$). Unemployed respondents ($\bar{x} = 3.74$, $SD = .72$) have shown to have a significant difference from clerical and service workers ($\bar{x} = 3.30$, $SD = .77$) towards privacy risks involved with plastic cards. A significant omnibus test ($F = 1.96$, $p < 0.05$) emerged regarding the income level of respondents and privacy risks involved with plastic cards. Post hoc comparisons Tukey HSD test ($p < .10$) indicated that respondents having no income ($\bar{x} = 3.59$, $SD = .73$) viewed the privacy risks involved with plastic cards differently from the respondents having an income level of Rs 30,000 – Rs 34,999 ($\bar{x} = 3.21$, $SD = .72$).

The most predictive demographic factors and privacy risks of plastic card
The unemployed respondents ($F = 3.74$, $p < 0.05$) and those having no income ($F = 3.59$, $p < 0.05$) are more concerned about the privacy risks associated with plastic card

Table 4.21

Group Differences in perceived privacy risks involved with plastic card adoption:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	3.41	.73	<i>t</i> = -.48 p = .91 (ns.)
Female	369	3.44	.75	
Age: 18-24 years old	246	3.49	.69	<i>F</i> = 2.16 p = .07 (ns.)
25-34 years old	187	3.30	.73	
35-44 years old	106	3.51	.80	
45-54 years old	59	3.44	.79	
55 and above	19	3.50	.83	
Marital status: Single	349	3.43	.72	<i>F</i> = .04 p = .99 (ns.)
Married	240	3.43	.79	
Divorced	18	3.39	.51	
Widowed	10	3.37	.65	
Level of education: C.P.E	24	3.36	.66	<i>F</i> = 1.06 p = .38 (ns.)
School Certificate ^a	84	3.38	.80	
Higher School Certificate	171	3.45	.69	
Diploma Degree	110	3.55	.77	
Bachelor Degree	169	3.34	.71	
Master Degree	54	3.48	.80	
PhD	5	3.55	1.08	
Occupation: Professional/Executives	195	3.40	.75	<i>F</i> = 2.62 p = .02*
Clerical and Service workers	171	3.30	.77	
Unemployed	39	3.74	.72	
Manual and elementary workers	31	3.49	.61	
Students	117	3.52	.64	
Self Employed	56	3.50	.78	
Retired	8	3.31	.97	
District: Riviere du Rempart	25	3.30	1.03	<i>F</i> = 1.26 p = .26 (ns.)
Black River	24	3.52	.78	
Savanne	25	3.26	.97	
Grand Port	116	3.32	.72	
Flacq	46	3.52	.71	
Moka	46	3.61	.65	
Pamplemousses	66	3.36	.70	
Port Louis	44	3.41	.78	
Plaine Wilhems	225	3.48	.70	
Income Level: Rs10,000 – Rs 14,999	88	3.38	.78	
Rs15,000 – Rs 19,999	117	3.40	.71	
Rs20,000 – Rs 24,999	79	3.27	.74	
Rs25,000 – Rs 29,999	54	3.37	.67	
Rs30,000 – Rs 34,999	27	3.21	.72	
Rs35,000 – Rs 39,999	20	3.34	.69	
Rs40,000 – Rs 44,999	23	3.49	.80	
Above Rs 45,000	54	3.51	.78	
No Income	155	3.59	.73	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.13 Fear of fraud associated with plastic cards

Independent sample t – test was used to analyze whether fear of frauds associated with plastic cards differed across respondents of different gender in Mauritius. Empirical results are presented in Table 4.18 and the independent sample t -test suggested that fear of fraud associated with plastic cards differed insignificantly ($t = -1.63$, $p > 0.05$) between the male respondents ($\bar{x} = 3.35$, $SD = .68$) and female respondents ($\bar{x} = 3.44$, $SD = .65$).

A one-way between subject ANOVA revealed a statistically insignificant difference between fear of fraud associated with plastic cards and age group ($F = .92$, $p > 0.05$), marital status ($F = 1.55$, $p > 0.05$), level of education ($F = 2.03$, $p > 0.05$), occupation ($F = 1.48$, $p > 0.05$), location ($F = 1.13$, $p > 0.05$) and income level ($F = .35$, $p > 0.05$).

The most predictive demographic factors and frauds on plastic card
No statistically significant difference between demographic variables and fear of frauds associated with plastic card adoption.

Table 4.22

Group Differences in fraud associated with plastic card adoption:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	3.35	.68	<i>t</i> = -1.63 p = .95 (ns.)
Female	369	3.44	.65	
Age: 18-24 years old	246	3.35	.97	<i>F</i> = .92 p = .45 (ns.)
25-34 years old	187	3.41	.70	
35-44 years old	106	3.47	.69	
45-54 years old	59	3.48	.51	
55 and above	19	3.43	.50	
Marital status: Single	349	3.35	.69	<i>F</i> = 1.55 p = .20 (ns.)
Married	240	3.46	.63	
Divorced	18	3.55	.66	
Widowed	10	3.42	.62	
Level of education: C.P.E	24	3.49	.58	<i>F</i> = 2.03 p = .06 (ns.)
School Certificate ^a	84	3.32	.65	
Higher School Certificate	171	3.43	.67	
Diploma Degree	110	3.49	.63	
Bachelor Degree	169	3.34	.69	
Master Degree	54	3.49	.65	
PhD	5	2.70	.76	
Occupation: Professional/Executives	195	3.37	.65	<i>F</i> = 1.48 p = .18 (ns.)
Clerical and Service workers	171	3.46	.68	
Unemployed	39	3.58	.73	
Manual and elementary workers	31	3.56	.60	
Students	117	3.33	.65	
Self Employed	56	3.30	.68	
Retired	8	3.25	.74	
District: Riviere du Rempart	25	3.67	.67	
Black River	24	3.34	.74	
Savanne	25	3.45	.98	
Grand Port	116	3.34	.64	
Flacq	46	3.31	.61	
Moka	46	3.46	.62	
Pamplemousses	66	3.31	.50	
Port Louis	44	3.36	.67	
Plaine Wilhems	225	3.45	.69	
Income Level: Rs10,000 – Rs 14,999	88	3.41	.72	<i>F</i> = .35 p = .94 (ns.)
Rs15,000 – Rs 19,999	117	3.40	.61	
Rs20,000 – Rs 24,999	79	3.46	.65	
Rs25,000 – Rs 29,999	54	3.44	.65	
Rs30,000 – Rs 34,999	27	3.34	.52	
Rs35,000 – Rs 39,999	20	3.36	.56	
Rs40,000 – Rs 44,999	23	3.48	.80	
Above Rs 45,000	54	3.29	.69	
No Income	155	3.40	.70	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.14 Compulsive buying when using plastic cards

Empirical results from an independent sample *t*-test suggested that compulsive buying associated with plastic cards were not significantly different ($t = -0.18, p > 0.05$) between male ($\bar{x} = 2.97, SD = .84$) and female ($\bar{x} = 2.99, SD = .79$).

ANOVA empirical results revealed that respondents' age group had a significant influence on compulsive buying associated with plastic card adoption ($F = 5.50, p < 0.05$). Post hoc comparisons using Tukey HSD test ($p < .10$) revealed that respondents of the age group 25 - 34 years old ($\bar{x} = 3.09, SD = .82$) differed significantly from those of 45 - 54 years old ($\bar{x} = 2.71, SD = .78$) regarding compulsive buying associated with plastic card adoption. Besides, the marital status of respondents ($F = 1.32, p > 0.05$) did not have a significant difference on the compulsive buying associated with plastic cards.

The level of education of respondents had a significant omnibus effect on the compulsive buying associated with plastic cards ($F = 2.96, p < 0.05$). The post hoc comparisons using Tukey HSD test ($p < .10$) showed that respondent having a PhD ($\bar{x} = 2.67, SD = .67$) differed significantly to those of Bachelor degree ($\bar{x} = 3.13, SD = .80$) in terms of compulsive buying associated with plastic card adoption. However, the occupation of respondents ($F = 1.77, p > 0.05$) did not have a significant difference on the compulsive buying associated with plastic cards.

A significant omnibus test ($F = 2.11, p < 0.05$) emerged regarding the location of respondents and compulsive buying associated with plastic card adoption. Post hoc comparisons Tukey HSD test ($p < .10$) indicated that respondents living in the district of Riviere du Rempart ($\bar{x} = 2.55, SD = .80$) differed significantly from those living in the district of Savanne ($\bar{x} = 3.19, SD = 1.06$). The one-way between subject ANOVA did not reveal any significant differences between compulsive buying associated with plastic cards and respondents' income level ($F = .99, p > 0.05$).

The most predictive demographic factors and compulsive buying with plastic card adoption

- *Customers of age 25 – 34 years old ($F = 3.09, p < 0.05$)*
- *Customers having a Bachelor Degree ($F = 3.13, p < 0.05$)*
- *Customers living in the district of Savanne ($F = 3.19, p < 0.05$) are more likely to lead to compulsive buying when buying with plastic cards.*

Table 4.23

Group Differences in Compulsive buying associated with plastic card adoption:

Empirical results of *t* – test and ANOVA (n = 617)

Variables	N	Mean	Standard Deviation	<i>t</i> -test/ <i>F</i> -test
Gender: Male	248	2.97	.84	<i>t</i> = -.18 p = .33 (ns.)
Female	369	2.99	.79	
Age: 18-24 years old	246	3.07	.77	<i>F</i> = 5.50 p = .00*
25-34 years old	187	3.09	.82	
35-44 years old	106	2.78	.85	
45-54 years old	59	2.71	.78	
55 and above	19	2.75	.78	
Marital status: Single	349	3.03	.78	<i>F</i> = 1.32 p = .27 (ns.)
Married	240	2.93	.86	
Divorced	18	2.78	.76	
Widowed	10	2.83	.92	
Level of education: C.P.E	24	2.83	.75	<i>F</i> = 2.96 p = .01*
School Certificate ^a	84	2.73	.81	
Higher School Certificate	171	3.01	.80	
Diploma Degree	110	3.00	.79	
Bachelor Degree	169	3.13	.80	
Master Degree	54	2.84	.90	
PhD	5	2.67	.67	
Occupation: Professional/Executives	195	2.92	.81	<i>F</i> = 1.77 p = .10 (ns.)
Clerical and Service workers	171	2.96	.87	
Unemployed	39	2.79	.97	
Manual and elementary workers	31	3.22	.72	
Students	117	3.10	.74	
Self Employed	56	3.05	.66	
Retired	8	2.62	1.01	
District: Riviere du Rempart	25	2.55	.80	
Black River	24	2.94	.99	
Savanne	25	3.19	1.06	
Grand Port	116	3.04	.71	
Flacq	46	3.01	.73	
Moka	46	2.72	.81	
Pamplemousses	66	3.14	.75	
Port Louis	44	2.98	.84	
Plaine Wilhems	225	2.98	.82	
Income Level: Rs10,000 – Rs 14,999	88	3.01	.81	<i>F</i> = .99 p = .45 (ns.)
Rs15,000 – Rs 19,999	117	3.08	.81	
Rs20,000 – Rs 24,999	79	2.96	.83	
Rs25,000 – Rs 29,999	54	2.93	.71	
Rs30,000 – Rs 34,999	27	3.07	.71	
Rs35,000 – Rs 39,999	20	3.03	.59	
Rs40,000 – Rs 44,999	23	2.71	.69	
Above Rs 45,000	54	2.80	.93	
No Income	155	3.00	.85	

Notes: * Significant at $p < 0.05$; ns: non-significant

4.19.15 Summary of Group Differences

Empirical results of the *t*-tests and ANOVA tests are summarized in Table 4.20 below. Customer's attitude towards plastic cards was found to be significantly influenced by respondent's occupation. The geographic dispersion of Automated Teller Machines was found to be significantly influenced by respondent's age, marital status and level of education. Social influences towards plastic cards were found to be significantly influenced by respondent's level of education, occupation and income level. The convenience of using plastic cards was found to be significantly influenced by respondent's level of education, occupation and income level. The ability to monitor budgets effectively were found to be significantly influenced by respondent's gender and income level. Respondents' trust in plastic cards were found to be significantly influenced by age and marital status. Customer's social status was found to be significantly influenced by gender, age, marital status and occupation. Customer's lifestyle was found to be significantly influenced by respondents' occupation. The security risks associated with plastic cards were found to be significantly influenced by respondents' location (district). The privacy risks involved with plastic cards were found to be significantly influenced by respondents' occupation and income level. Compulsive buying when using plastic cards was found to be significantly influenced by age, level of education and location (district). Lastly, incentives from merchants, customer's image and fear of fraud associated with plastic cards were not found to be significantly influenced by none of the factors mentioned below.

Table 4.24

Summary of Group Differences

Impact of demographics variables on the different constructs

Groups	Gender	Age	Marital Status	Level of Education	Occupation	District	Income Level
Customer's attitude towards plastic cards					✓		
The geographic dispersion of ATMs		✓	✓	✓			
Social influences towards plastic cards				✓	✓		✓
Convenience of using plastic cards				✓	✓		✓
The ability to monitor budgets effectively using plastic cards	✓						✓
Trust in plastic cards		✓	✓				
Incentives from merchants							
Customer's image							
Customer's social status	✓	✓	✓		✓		
Customer's lifestyle					✓		
Security risks associated with plastic cards						✓	
Privacy risks involved with plastic cards					✓		✓
Fear of frauds associated with plastic cards							
Compulsive buying when using plastic cards		✓		✓		✓	

Section F: Regression Analysis

4.20 Regression Analysis

4.20.1 Relative importance of broad factors impacting on the sustained adoption of plastic cards

Table 4.25

Empirical results of Regression Analysis for Sustained Adoption of Plastic Cards

	R ² /Sig	B	Beta	t	Sig
	0.121/0.000				
Customer's attitude		0.176	0.204	5.143	0.000 (s)
The geographic dispersion of ATMs		0.205	0.238	5.954	0.000 (s)
Social Influence towards plastic cards		-.088	-.102	-2.635	0.009 (s)

Empirical results have indicated a R² value of 0.121 = 12.1%, which means that 12.1% of the sustained adoption of plastic cards is explained by the regression model (predictors). 100% - 12.1% = 87.9% of the variance in the dependent variable can be explained by other factors not included in the regression model. Moreover, since the P value (P = 0.000) is less than 0.05, the regression model is statistically significant at the 5% level of significance. Hence, the empirical results can be generalized.

The empirical findings have shown that "**The geographic dispersion of ATMS**" has the greatest influence on the sustained adoption of plastic cards with a co-efficient of (β of 0.238) and also has a significant impact on the adoption of plastic cards as its p value of **0.000** is less than 0.05. The present findings corresponded with Neelavathi *et al.*, (2017) who have advocated that ATMs technology contributed towards the adoption of plastic cards. In addition, "**Customer's attitude**" has a co-efficient of (β of 0.204) and also a significant impact on the adoption of plastic cards with a p value of **0.000**. This result corresponded with Mwihi (2015) who stated that the attitudes of customers influenced the uptake of plastic cards by customers in commercial banks. Findings also revealed that "**Social influence towards plastic cards**" has the smallest and negative co-efficient value (β of -.102) and at the same time it has a significant impact on the adoption of plastic cards since its p value of **0.009** is less than that of 0.05. As stated by Varaprasad *et al.*, (2015) in their study that social influence has been found to be the main determinants of plastic card adoption.

The most significant factors impacting on the sustained adoption of plastic cards:

- **Geographic dispersion of ATMs (β of 0.238, $p < 0.05$)**
- **Customer's attitude (β of 0.204, $p < 0.05$)**

Table 4.26

Empirical results of Regression Analysis for Likeliness to increase monthly adoption of plastic cards

	R ² /Sig	B	Beta	t	Sig
	0.080/0.000				
Customer's attitude		0.257	0.240	5.909	0.000 (s)
The geographic dispersion of ATMs		0.105	0.098	2.402	0.017 (s)
Social Influence towards plastic cards		-.002	-.002	-.048	0.962 (ns)

Empirical empirical results have indicated a R² value of 0.080 = 8%, which means that 8% of the sustained adoption of plastic cards is explained by the regression model (predictors). 100% - 8% = 92% of the variance in the dependent variable can be explained by other factors not included in the regression model. This indicates that additional research should be done to identify other factors that can influence the adoption of plastic cards in Mauritius. Moreover, since the P value (P = 0.000) is less than 0.05, therefore, it can be said that the regression model is statistically significant at the 5% level of significance. Hence, the empirical results can be generalized.

Survey findings have depicted that “**Customer's attitudes**” has the greatest influence on the sustained adoption of plastic cards with a co-efficient of (β of 0.240) and also has a significant impact on the adoption of plastic cards as its p value of **0.000** is less than 0.05. In addition, “**The geographic dispersion of ATMS**” has a co-efficient of (β of 0.098) and has a significant impact on the adoption of plastic cards as its p value of **0.017** is less than the recommended value of 0.05. Besides, “Social influence towards plastic cards” has a negative co-efficient of (β of -.002) and it was found that this constant does not have a significant impact on the adoption of plastic cards as its p value of 0.962 is greater than 0.05.

The most significant factor impacting on likeliness to increase the monthly adoption of plastic cards:

- **Customer's attitude (β of 0.240, $p < 0.05$)**

4.20.2 Relative importance of Perceived Benefits impacting on the sustained adoption of plastic cards

Table 4.27

Empirical results of Regression Analysis for Sustained Adoption of Plastic Cards

	R ² /Sig	B	Beta	t	Sig
	0.178/0.000				
Convenience of using plastic cards		0.229	0.266	6.426	0.000 (s)
Customer's ability to effective budgets monitoring		0.082	0.095	2.384	0.017 (s)
Trust in plastic cards		0.174	0.202	5.009	0.000 (s)
Incentives from merchants when using plastic cards		-.097	-.113	-2.951	0.003 (s)

Empirical results have indicated a R² value of 0.178 = 17.8%, which means that 17.8% of the sustained adoption of plastic cards is explained by the regression model (predictors). 100% - 17.8% = 82.2% of the variance in the dependent variable can be explained by other factors not included in the regression model. Moreover, since the P value (P = 0.000) is less than 0.05, the regression model is statistically significant at the 5% level of significance.

Survey findings have demonstrated that “**Convenience of using plastic cards**” has the greatest influence on the sustained adoption of plastic cards with a co-efficient of (β of 0.266) and also has a significant impact on the adoption of plastic cards as its p value of **0.000** is less than 0.05. the present finding goes in line with that of Mynuddin (2016) who reported that a large number of customers were using plastic cards for various purposes like convenient, speedy money transaction, security and easy maintenance. In addition, “**Trust in plastic cards**” has a co-efficient of (β of 0.202) and has a significant impact on the adoption of plastic cards with a p value of **0.000**. Similarly, “**The ability to monitor budgets effectively using plastic cards**” has a co-efficient of (β of 0.095) and a p value of **0.017**. However, “**Incentives from merchants when using plastic cards**”, has received a negative co-efficient (β of -.113) and a p value of **0.003** which is less than 0.05. It can therefore be concluded that this constant has a significant impact on the adoption of plastic cards.

The most significant factors impacting on the sustained adoption of plastic cards:

- **Convenience of using plastic cards (β of 0.266, $p < 0.05$)**
- **Trust in plastic cards and the ability to monitor budgets effectively using plastic cards (β of 0.202, $p < 0.05$)**

Table 4.28

Empirical results of Regression Analysis for Likeliness to increase monthly adoption of plastic cards

	R ² /Sig	B	Beta	t	Sig
	0.131/0.000				
Convenience of using plastic cards		0.287	0.268	6.307	0.000 (s)
Customers' ability for effective budgets monitoring		0.083	0.078	1.900	0.058 (s)
Trust in plastic cards		0.117	0.110	2.641	0.008 (s)
Incentives from merchants when using plastic cards		0.010	0.009	0.231	0.818 (ns)

Empirical results have indicated a R² value of 0.131 = 13.1%, which means that 13.1% of the sustained adoption of plastic cards is explained by the regression model (predictors). 100% - 13.1% = 86.9% of the variance in the dependent variable can be explained by other factors not included in the regression model. This indicates that additional research can be done to identify other factors that can influence the adoption of plastic cards in Mauritius. Moreover, since the P value (P = 0.000) is less than 0.05, therefore, it can be said that the regression model is statistically significant at the 5% level of significance. Hence, the empirical results can be generalized.

Our empirical results demonstrate that “**Convenience of using plastic cards**” has the greatest influence on the sustained adoption of plastic cards with a co-efficient of (β of 0.268) and also has a significant impact on the adoption of plastic cards as its p value of **0.000** is less than 0.05. In addition, “**Trust in plastic cards**” has a co-efficient of (β of 0.110) and has a significant impact on the adoption of plastic cards with a p value of **0.008**. Similarly, “**The ability to monitor budgets effectively using plastic cards**” has a co-efficient of (β of 0.078) and has a significant impact on the adoption of plastic cards with a p value of **0.058**. However, “Incentives from merchants when using plastic cards”, has received the lowest co-efficient (β of 0.009) and p value of 0.818 which is greater than 0.05. It can therefore be concluded that this constant does not have a significant impact on the adoption of plastic cards.

The most significant factors impacting on the likeliness to increase monthly adoption of plastic cards:

- **Convenience of using plastic cards (β of 0.268, $p < 0.05$)**
- **Trust in plastic cards (β of 0.110, $p < 0.05$)**

4.20.3 Relative importance of Social Class impacting on the sustained adoption of plastic cards in the future

Table 4.29

Empirical results of Regression Analysis for Sustained Adoption of Plastic Cards

	R ² /Sig	B	Beta	t	Sig
	0.028/0.001				
Customer's image		0.040	0.046	0.876	0.381 (ns)
Customer's social status		-.126	-.147	-2.585	0.010 (s)
Customer's lifestyle		0.162	0.188	3.953	0.000 (s)

Empirical estimates have indicated a R² value of 0.028 = 2.8%, which means that 2.8% of the sustained adoption of plastic cards is explained by the regression model (predictors). 100% - 2.8% = 97.2% of the variance in the dependent variable can be explained by other factors not included in the regression model. This clearly indicates that further research can be done to identify other additional factors that can influence the adoption of plastic cards in Mauritius. Moreover, since the P value (P = 0.001) is less than 0.05, therefore, it can be said that the regression model is statistically significant at the 5% level of significance. Hence, the empirical results can be generalized.

“**Customer's lifestyle**” and “**Customer's image**” have the greatest influence on the sustained adoption of plastic cards with a co-efficient of (β of 0.188 and β of 0.046) respectively. However, only customer's lifestyle was found to have a significant impact on the adoption of plastic cards as its p value of **0.000** is less than 0.05. This is supported by Pudaruth *et al.*, (2013). As a result, plastic card adoption has become the social standard of leisure and lifestyle and also it is easily accessible and encouraged by the society (Mueller *et al.*, 2007; Neuner *et al.*, 2005). The empirical findings have also shown that “**Customer's social status**” with a negative co-efficient of (β of -.147) ranks last in influencing customers decision to adopt plastic cards. It can be concluded that this constant has a significant impact on the adoption of plastic cards since its p value of **0.010** is less than 0.05. This goes in line with the findings of Ismail *et al.*, (2014) who found in their study that owing a credit card symbolizes one's social status and this is contributing to the number of cards in circulation in Malaysia.

The most significant factor impacting on the sustained adoption of plastic cards:

- **Customer's lifestyle (β of 0.188, $p < 0.05$)**

Table 4.30

Empirical results of Regression Analysis for Likeliness to increase monthly adoption of plastic cards

	R²/Sig	B	Beta	t	Sig
	0.037/0.000				
Customer's image		0.142	0.133	2.535	0.011 (s)
Customer's social status		-.027	-.025	-.441	0.659 (ns)
Customer's lifestyle		0.124	0.116	2.453	0.014 (s)

Empirical estimates have indicated a R^2 value of $0.037 = 3.7\%$, which means that 3.7% of the sustained adoption of plastic cards is explained by the regression model (predictors). $100\% - 3.7\% = 96.3\%$ of the variance in the dependent variable can be explained by other factors not included in the regression model. This indicates that additional research should be done to identify other factors that can influence the adoption of plastic cards in Mauritius. Moreover, since the P value ($P = 0.000$) is less than 0.05, therefore, it can be said that the regression model is statistically significant at the 5% level of significance. Hence, the empirical results can be generalized.

“**Customer's image**” and “**Customer's lifestyle**” have the greatest influence on the sustained adoption of plastic cards with a co-efficient of (β of 0.133 and β of 0.116) respectively. Both constants have a significant impact on the adoption of plastic cards as their p values of **0.011** and **0.014** are less than 0.05. The empirical findings have also shown that “**Customer's social status**” with a negative co-efficient of (β of $-.025$) ranks last in influencing customers decision to adopt plastic cards more than 10 times monthly. It can be concluded that this constant does not have a significant impact on the adoption of plastic cards since its p value of 0.659 is greater than 0.05.

The most significant factor impacting on the likeliness to increase monthly adoption of plastic cards:

- **Customer's image (β of 0.133 , $p < 0.05$)**

4.20.4 Relative importance of Perceived Risks and Hindrances impacting on the sustained adoption of plastic cards in the future

Table 4.31

Empirical results of Regression Analysis for Sustained Adoption of Plastic Cards

	R ² /Sig	B	Beta	t	Sig
	0.071/0.000				
Security risks associated with plastic cards		0.165	0.191	4.757	0.000 (s)
Privacy risks involved with plastic cards		-.156	-.182	-4.111	0.000 (s)
Fear of frauds associated with plastic cards		0.027	0.032	0.737	0.461 (ns)
Compulsive buying when using plastic cards		0.115	0.133	3.395	0.001 (s)

Empirical estimates have indicated a R² value of 0.071 = 7.1%, which means that 7.1% of the sustained adoption of plastic cards is explained by the regression model (predictors). 100% - 7.1% = 92.9% of the variance in the dependent variable can be explained by other factors not included in the regression model. Since the P value (P = 0.000) is less than 0.05, the regression model is statistically significant at the 5% level of significance.

The empirical findings have shown that “**Security risks associated with plastic cards**” with a co-efficient of (β of 0.191) have acted as the greatest risks and hindrances towards customer’s adoption of plastic cards. This constant has a significant impact on the adoption of plastic cards as its p value of **0.000** is less than 0.05. Security has always been one of the most vital and well researched area in the field of payment systems (Abrazhevich, 2004; Furnham, 1984; Hayhoe et al., 2005). Findings also revealed that “**Compulsive buying when using plastic cards**” has a co-efficient of (β of 0.133). It can be concluded that this constant has a significant impact on the adoption of plastic cards since its p value of **0.001** is less than 0.05. This is so because plastic cards often lead customers to a common habit of possessing several plastic cards at a time and making use of them frequently. Besides, the constant “**Privacy risks associated with plastic cards**” has a negative co-efficient of (β of -.182) and has a significant impact of the adoption of plastic cards (P = 0.000 < 0.05). This result is supported by that of Kong Han (2003) who found that that most of the respondents are not pleased with the level of privacy provided by the merchants or banks.

The most significant factors impacting on the sustained adoption of plastic cards:

- **Security risks associated with plastic cards (β of 0.191, $p < 0.05$)**
- **Compulsive buying when using plastic cards (β of 0.133, $p < 0.05$)**

Table 4.32

Empirical results of Regression Analysis for Likelihood to increase monthly adoption of plastic cards

	R ² /Sig	B	Beta	t	Sig
	0.241/0.000				
Security risks associated with plastic cards		0.043	0.040	0.986	0.324 (ns)
Privacy risks involved with plastic cards		-.121	-.113	-2.533	0.012 (s)
Fear of frauds associated with plastic cards		-.065	-.061	-1.400	0.162 (ns)
Compulsive buying when using plastic cards		0.208	0.194	4.913	0.000 (s)

Empirical estimates have indicated a R² value of 0.241 = 24.1%, which means that 24.1% of the sustained adoption of plastic cards is explained by the regression model (predictors). 100% - 24.1% = 75.9% of the variance in the dependent variable can be explained by other factors not included in the regression model. This indicates that additional research should be done to identify other factors that can influence the adoption of plastic cards in Mauritius. Moreover, since the P value (P = 0.000) is less than 0.05, therefore, it can be said that the regression model is statistically significant at the 5% level of significance. Hence, the empirical results can be generalized.

Survey findings have shown that “**Compulsive buying when using plastic cards**” with a co-efficient of (β of 0.194) have acted as the greatest risks and hindrances towards customer’s adoption of plastic cards. This constant has a significant impact on the adoption of plastic cards as its p value of **0.000** is less than 0.05. Findings also revealed that “Security risks associated with plastic cards” has a co-efficient of (β of 0.040), however, this constant does not have a significant impact on the adoption of plastic cards as its p value of 0.324 is greater than 0.05. The constant “**Privacy risks associated with plastic cards**” has a negative co-efficient of (β of -.113) but a significant impact of the adoption of plastic cards (P = **0.012** < 0.05). “Fear of frauds associated with plastic cards” has a negative co-efficient of (β of -.061) and it can be concluded that this constant does not have a significant impact on the adoption of plastic cards since its p value of 0.162 is greater than 0.05.

The most significant factor impacting on the likelihood to increase monthly adoption of plastic cards:

- **Compulsive buying when using plastic cards (β of 0.194, $p < 0.05$)**

4.20.5 Relative importance of Socio-demographics related factors impacting on the sustained adoption of plastic cards in the future

Table 4.33

Empirical results of ANOVA Analysis for Sustained Adoption of Plastic Cards

	F	Sig
Customer's level of education	1.564	0.155 (ns)
Customer's level of income	0.849	0.560 (ns)
Customer's age	0.438	0.781 (ns)
Customer's occupation	3.097	0.005 (s)
Customer's gender	2.631	0.105 (ns)

The empirical findings have shown that “Customer’s level of education”, “Customer’s level of income”, “Customer’s age” and “Customer’s gender” do not have a significant impact on the sustained adoption of plastic cards as their p values are greater than 0.05. Moreover, “**Customer’s occupation**” has received a F value of (3.097) and also has a significant impact on the sustained adoption of plastic cards since its p value of **0.005** is equal to 0.05. The above empirical results clearly contradict those of Mantel and McHugh (2001), Jin and DeVaney, (2005), Ahmed *et al.*, (2006), Borzekowski *et al.*, (2006), Mandeep Kaur (2011), Nyasha Kaske (2012), Sumi and Safiullah (2014), Mwihaki (2015) and Sultana and Hasan (2016) who found that “Education”, “Income”, “Age” and “Gender” are also, as anticipated, prognostic of debit card usage among checking account users. However, support the result of Khalid *et al.*, (2013) who found that “Occupation” is one of the demographic factors that may directly affect the usage of credit cards.

The occupation of customers (f = 3.097, p < 0.05) was found to have the most significantly impact on the sustained adoption of plastic cards.

Table 4.34

Empirical results of ANOVA Analysis for Likelihood to increase monthly adoption of plastic cards

	F	Sig
Customer's level of education	0.478	0.825 (ns)
Customer's level of income	1.915	0.055 (s)
Customer's age	0.319	0.865 (ns)
Customer's occupation	1.857	0.086 (ns)
Customer's gender	3.347	0.068 (ns)

The empirical findings have demonstrated that “Customer’s level of education”, “Customer’s age”, “Customer’s occupation” and “Customer’s gender” do not have a significant impact on the sustained adoption of plastic cards as their p values are greater than 0.05. However, the constant “**Customer’s level of income**” has a F value of (1.915) and was found to have a significant impact on the sustained adoption of plastic cards as its p value of **0.055** is equal to 0.05.

Customer's level of income (f = 1.915, p < 0.05) was found to have the most significantly impact on the likelihood to increase monthly adoption of plastic cards.

4.21 Hypothesis Testing

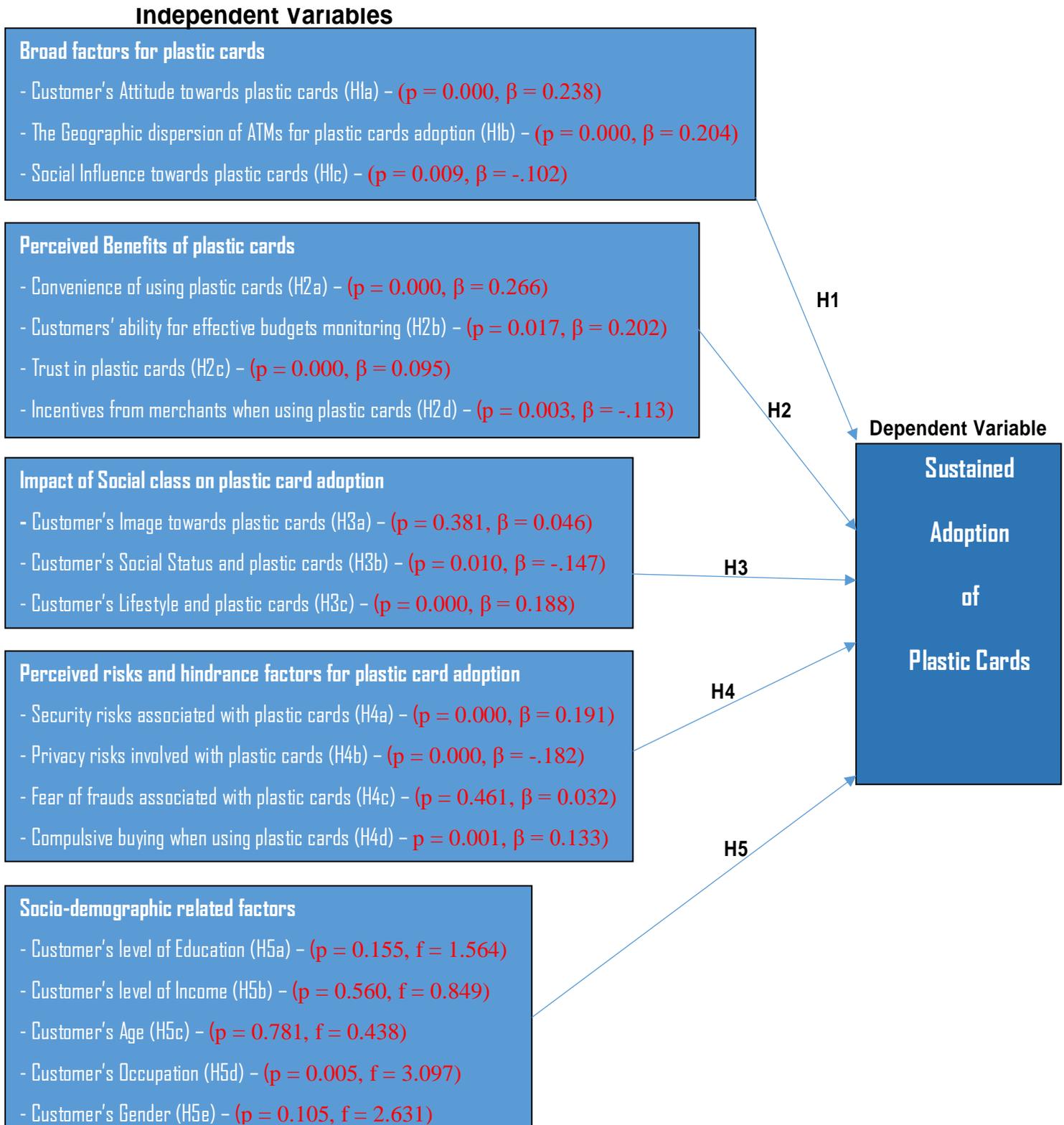


Figure 4.1: Proposed Conceptual Model for Sustaining the Adoption of Plastic Cards in Mauritius

The Tested Hypothesis

Table 4.35

Hypothesis Testing Empirical results

HYPOTHESIS	Empirical Results for Sustained Adoption of Plastic Cards	Empirical Results for Likelihood to increase monthly adoption of plastic cards
Hypothesis 1 (H1a) (H1b) (H1c)	Supported Supported Supported	Supported Supported Rejected
Hypothesis 2 (H2a) (H2b) (H2c) (H2d)	Supported Supported Supported Supported	Supported Supported Supported Rejected
Hypothesis 3 (H3a) (H3b) (H3c)	Rejected Supported Supported	Supported Rejected Supported
Hypothesis 4 (H4a) (H4b) (H4c) (H4d)	Supported Supported Rejected Supported	Rejected Supported Rejected Supported
Hypothesis 5 (H5a) (H5b) (H5c) (H5d) (H5d)	Rejected Supported Rejected Rejected Rejected	Rejected Rejected Rejected Supported Rejected

CHAPTER 4

PART 4

Section A: The Demographic Profile4.22 Business Details of Merchants

Table 4.36

Business Details of Merchants

DEMOGRAPHICS	NUMBER	PERCENTAGE
<u>GENDER</u>		
Male	106	53 %
Female	94	47 %
<u>AGE</u>		
Between 18 and 24	13	6.5 %
Between 25 and 34	37	18.5 %
Between 35 and 44	68	34 %
Between 45 and 54	57	28.5 %
55 and above	25	12.5 %
<u>DISTRICT</u>		
Riviere du Rempart	3	1.5 %
Black River	11	5.5 %
Savanne	5	2.5 %
Grand Port	42	21 %
Flacq	13	6.5 %
Moka	18	9 %
Pamplemousses	16	8 %
Port Louis	11	5.5 %
Plaine Wilhems	81	40.5 %
<u>NATURE OF BUSINESS</u>		
Manufacturing	13	6.5 %
Trading	134	67 %
Service	53	26.5 %
<u>TYPES OF GOODS/ SERVICES</u>		
Food and accommodations	45	22.5 %
Groceries	39	19.5 %

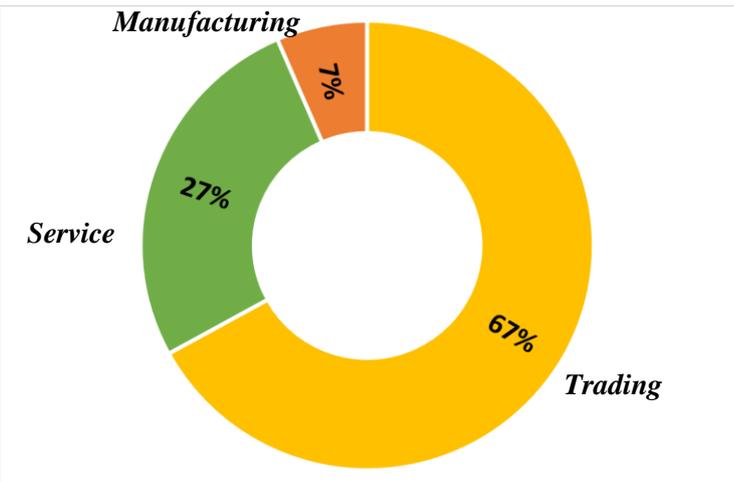
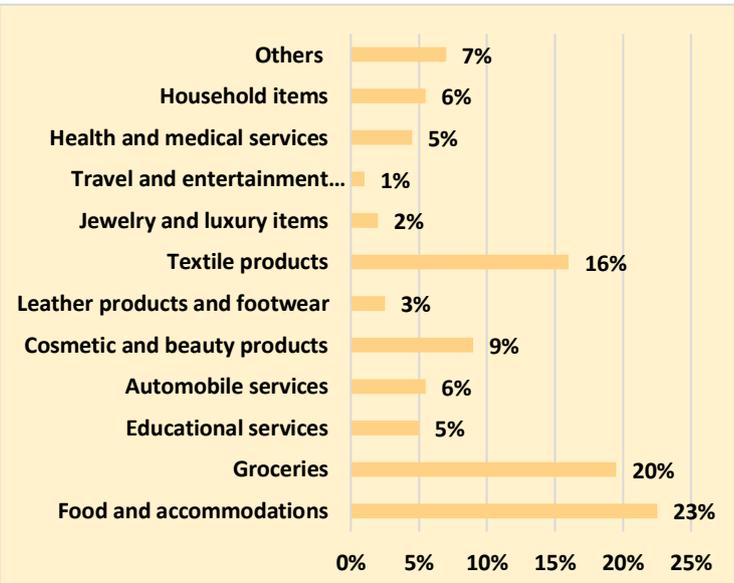
Educational services	10	5 %
Automobile services	11	5.5 %
Cosmetic and beauty products	18	9 %
Leather products and footwear	5	2.5 %
Textile products	32	16 %
Jewelry and luxury items	4	2 %
Travel and entertainment services	2	1 %
Health and medical services	9	4.5 %
Household items	11	5.5 %
Others	14	7 %

The empirical findings have showed that majority of the merchants were **males (53 %)** and were **between 35 and 44 years old (34 %)**. The inferential analysis has also shown that most of the merchants come from the district of **Plaine Wilhems (40.5 %)** and **Grand Port (21 %)** while only 3% and 5% come from Riviere du Rempart and Savanne district respectively. According to their nature of business, **67% of merchants are in the trading business, 26.5 % in the service business and 6.5 % in the manufacturing business**. Based on the empirical results, 22.5 % of merchants provide food and accommodations, 19.5 % sell groceries, 16% sell textile products, 9 % are involved in cosmetic and beauty products, 5.5 % operate mobile services and household items respectively, 5 % provide educational services, 4.5 % provide health and medical services, 2.5 % sell leather products and footwear, 2 % sell jewelry and luxury items and only 1 % provide travel and entertainment services. 7% of the merchants provide other items and services such as nail salon, photo studio, wood work, general retailer, postal services, wholesaler and gas station.

Table 4.37

Demographic Profile and Detail of Business of Merchants

<p>Gender</p> <p><i>Female, 47%</i></p> <p><i>Male, 53%</i></p> <p>■ Males ■ Females</p>	<p><i>In terms of gender classification, 53 % of merchants were males and 47 % of merchants were females.</i></p>
<p>Age Group</p> <p>40.0% 35.0% 30.0% 25.0% 20.0% 15.0% 10.0% 5.0% 0.0%</p> <p>6.5% 18.5% 34.0% 28.5% 12.5%</p> <p>Between 18 and 24 Between 25 and 34 Between 35 and 44 Between 45 and 54 55 and above</p>	<p><i>Moreover, in terms of age classification, the merchants of the survey study were in the age group of Between 18 and 24 (6.5%); Between 25 and 34 (18.5%); Between 35 and 44 (34%); Between 45 and 54 (28.5%) and 55 and above (12.5%).</i></p>
<p>District Classification</p> <p>Riviere du rempart 1.5% Black river 5.5% Savanne 2.5% Grand port 21.0% Flacq 6.5% Moka 9.0% Pamplemousses 8.0% Port Louis 5.5% Plaine Wilhems 40.5%</p>	<p><i>Concerning district classification, the majority of respondents were from Plaines Wilhems (40.5%), followed by Grand Port (21%), Pamplemousses (8%), Flacq (6.5%), Moka (9%), Port Louis (5.5%), Black River (5.5%), Savanne (2.5%) and Riviere du Rempart (1.5%).</i></p>

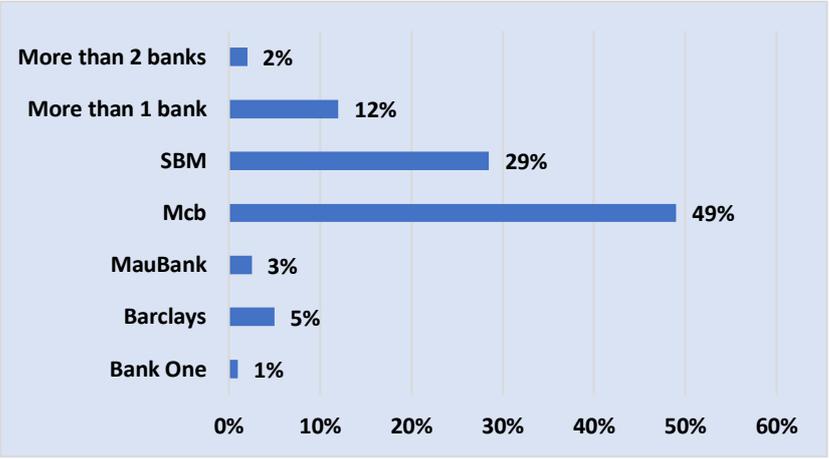
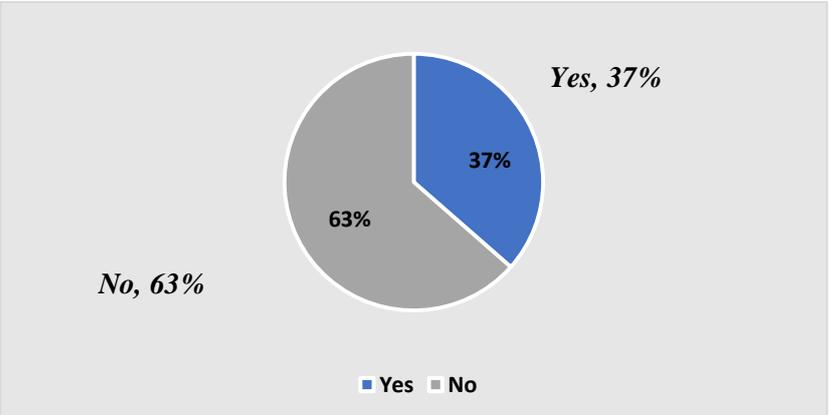
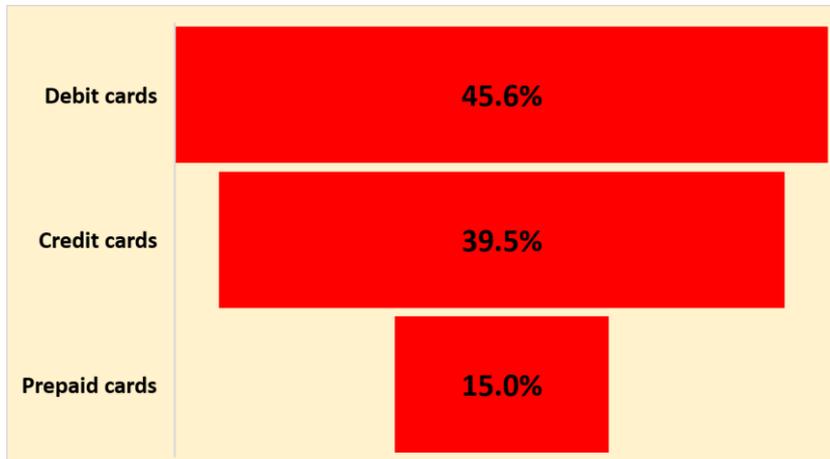
<p>Nature of Business</p>  <p>A donut chart illustrating the distribution of merchants by the nature of their business. The largest segment is Trading at 67%, followed by Service at 27%, and Manufacturing at 7%.</p> <table border="1"> <thead> <tr> <th>Nature of Business</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Trading</td> <td>67%</td> </tr> <tr> <td>Service</td> <td>27%</td> </tr> <tr> <td>Manufacturing</td> <td>7%</td> </tr> </tbody> </table>	Nature of Business	Percentage	Trading	67%	Service	27%	Manufacturing	7%	<p>According to nature of business, 67% of merchants are in the Trading business, 27% are in the Service business and 7% are in the Manufacturing business.</p>																		
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<p>Types of goods and services</p>  <p>A horizontal bar chart showing the types of goods and services provided by merchants. The most common category is Food and accommodations at 23%, followed by Groceries at 20%, and Textile products at 16%.</p> <table border="1"> <thead> <tr> <th>Types of goods and services</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Food and accommodations</td> <td>23%</td> </tr> <tr> <td>Groceries</td> <td>20%</td> </tr> <tr> <td>Textile products</td> <td>16%</td> </tr> <tr> <td>Cosmetic and beauty products</td> <td>9%</td> </tr> <tr> <td>Automobile services</td> <td>6%</td> </tr> <tr> <td>Household items</td> <td>6%</td> </tr> <tr> <td>Educational services</td> <td>5%</td> </tr> <tr> <td>Health and medical services</td> <td>5%</td> </tr> <tr> <td>Leather products and footwear</td> <td>3%</td> </tr> <tr> <td>Jewelry and luxury items</td> <td>2%</td> </tr> <tr> <td>Travel and entertainment...</td> <td>1%</td> </tr> <tr> <td>Others</td> <td>7%</td> </tr> </tbody> </table>	Types of goods and services	Percentage	Food and accommodations	23%	Groceries	20%	Textile products	16%	Cosmetic and beauty products	9%	Automobile services	6%	Household items	6%	Educational services	5%	Health and medical services	5%	Leather products and footwear	3%	Jewelry and luxury items	2%	Travel and entertainment...	1%	Others	7%	<p>In terms of goods and services, 23% of merchants provide food and accommodations, 20% sell groceries, 16% sell textile products, 9% provide cosmetic and beauty products, 6% sell household items and automobile services respectively, 5% provide health and medical services and educational services respectively, 3% sell leather products and footwear, 2% sell jewelry and luxury items while only 1% provide travel and entertainment services. 7% of merchants provide other services such as nail salon, photo studio, wood work, general retailer, postal services, wholesaler and gas station.</p>
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Section B: Merchants' acceptance of plastic cards

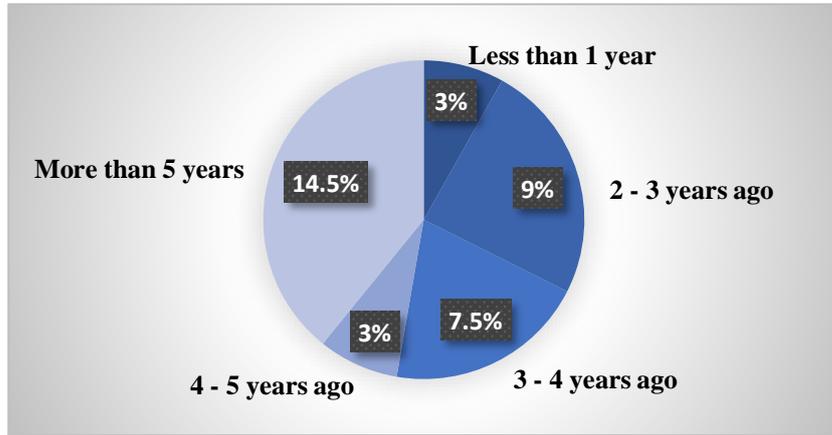
4.23 Merchants' acceptance of plastic cards

Table 4.38

Frequencies Analysis for Merchants' acceptance of plastic cards

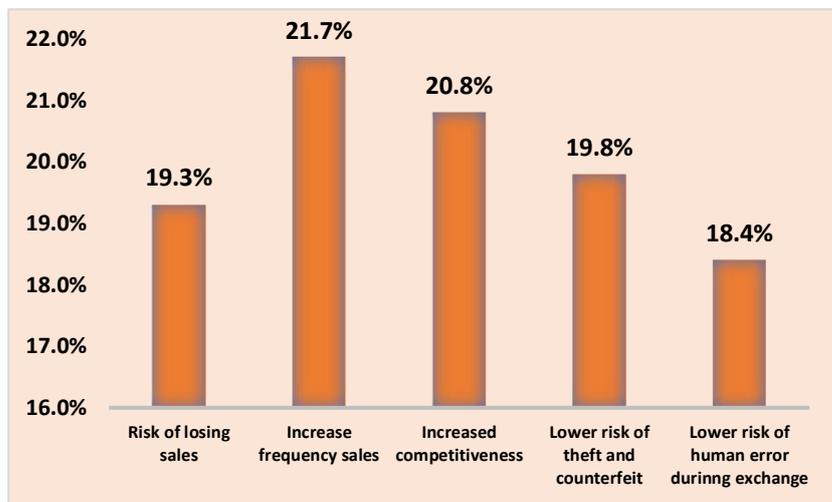
<p>Banking institutions for merchants (n=74)</p>  <table border="1"> <thead> <tr> <th>Banking Institution</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>More than 2 banks</td> <td>2%</td> </tr> <tr> <td>More than 1 bank</td> <td>12%</td> </tr> <tr> <td>SBM</td> <td>29%</td> </tr> <tr> <td>Mcb</td> <td>49%</td> </tr> <tr> <td>MauBank</td> <td>3%</td> </tr> <tr> <td>Barclays</td> <td>5%</td> </tr> <tr> <td>Bank One</td> <td>1%</td> </tr> </tbody> </table>	Banking Institution	Percentage	More than 2 banks	2%	More than 1 bank	12%	SBM	29%	Mcb	49%	MauBank	3%	Barclays	5%	Bank One	1%	<p>Regarding the banks which merchants deal with, we can have observed that the Mauritius Commercial Bank is the leading bank in Mauritius (49%), followed by the State Bank of Mauritius (29%), Barclays (5%), MauBank (3%) and Bank One (1%). 12% of merchants deal with more than 1 bank while only 2% merchants deal with more than 2 banks.</p>
Banking Institution	Percentage																
More than 2 banks	2%																
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<p>Acceptance of card payment by merchants (n=200)</p>  <table border="1"> <thead> <tr> <th>Response</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Yes</td> <td>37%</td> </tr> <tr> <td>No</td> <td>63%</td> </tr> </tbody> </table>	Response	Percentage	Yes	37%	No	63%	<p>In terms of merchants' acceptance of plastic cards in Mauritius, majority of merchants (63%) do not accept plastic card payment while only 37 % that is 74 merchants out of 200 merchants accept plastic card payment.</p> <p>Among the 37% merchants who accept card, 26.5% are in the trading business, 7.5% in the service and 3% in the manufacturing business.</p>										
Response	Percentage																
Yes	37%																
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<p>Types of cards accepted by merchants (n=74)</p>  <table border="1"> <thead> <tr> <th>Card Type</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Debit cards</td> <td>45.6%</td> </tr> <tr> <td>Credit cards</td> <td>39.5%</td> </tr> <tr> <td>Prepaid cards</td> <td>15.0%</td> </tr> </tbody> </table>	Card Type	Percentage	Debit cards	45.6%	Credit cards	39.5%	Prepaid cards	15.0%	<p>45.6 % of merchants accept debit cards, 39.5 % accept credit cards and 15% accept prepaid cards.</p>								
Card Type	Percentage																
Debit cards	45.6%																
Credit cards	39.5%																
Prepaid cards	15.0%																

Number of years of acceptance of plastic cards by merchants (n=74)



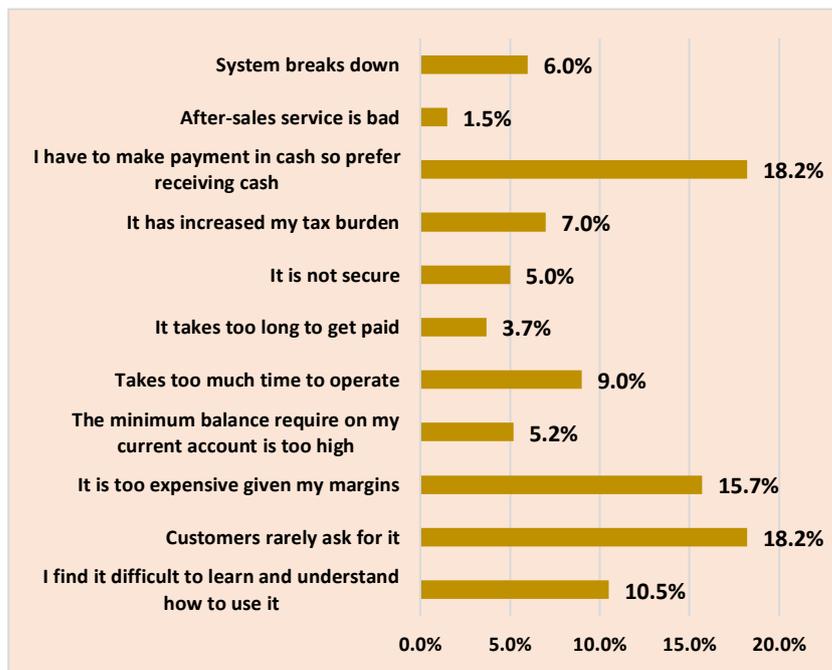
Majority of merchants (14.5%) have been accepting plastic cards for more than 5 years, followed by 9% for more 2-3 years ago, 7.5% for 3-4 years ago and 3% respectively for less than 1 year and 4-5 years ago. We can observe that card acceptance among merchants have started long time back but still 63% of merchants do not accept plastic cards.

Reasons for adopting plastic card payments by merchants (n=74)



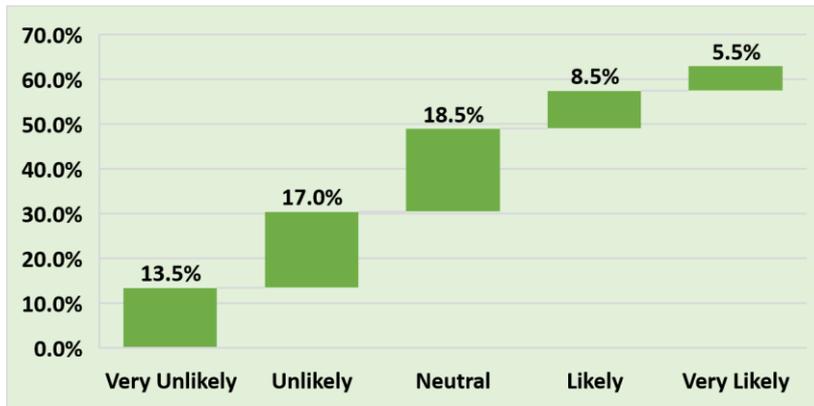
Most merchants (21.7%) have highlighted “increased frequency sales” as the main reason for accepting plastic card payments. Followed by increased competitiveness (20.8%), lower risk of theft and counterfeit (19.8%), risk of losing sales (19.3%) and lower risk of human error during exchange (18.4%).

Reasons for non- adoption of plastic cards among merchants (n=126)



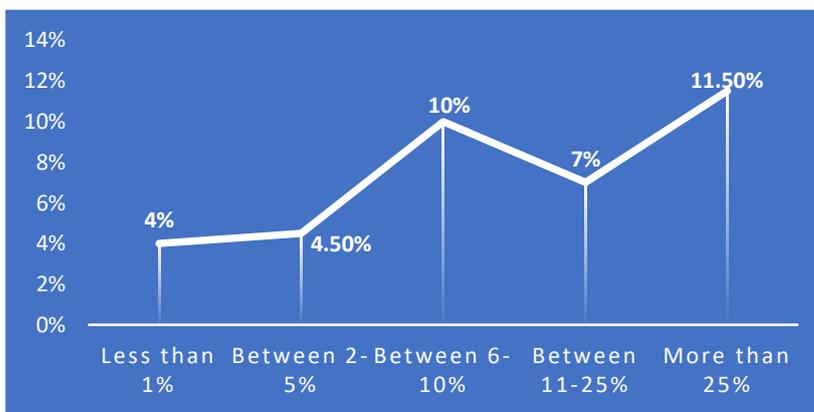
18.2% of merchants have indicated that they must make payment in cash so prefer receiving cash and customers rarely ask for it the main reasons why they do not accept plastic cards as a payment instrument. 15.7% reported that plastic card payment is too expensive given their margins, followed by they find it difficult to learn and understand how use it (10.5%), it takes too much time to operate (9%), it has increased my tax burden (7%), system breaks down (6%), the minimum balance required on my current account is too high (5.2%), it is not secure (5%) & it takes too long to get paid (3.7%).

Likelihood for merchants to accept plastic cards in the future (n=126)



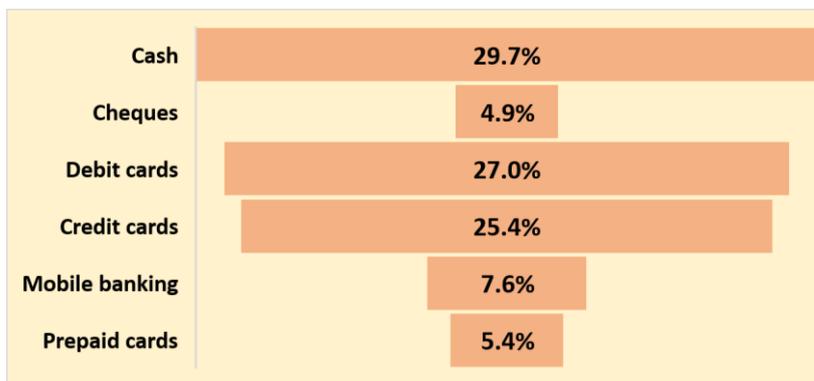
17% and 13.5% of merchants have clearly stated that they are very unlikely and unlikely to accept plastic card payment in the future. At the same time 8.5% are likely to accept plastic card payments. Only a small percentage (5.5% out of 63%) are very likely to adopt plastic cards in the future. However, 37% of our respondents are already accepting plastic card payment.

Percentage of sales occur by plastic card for merchants (n=74)



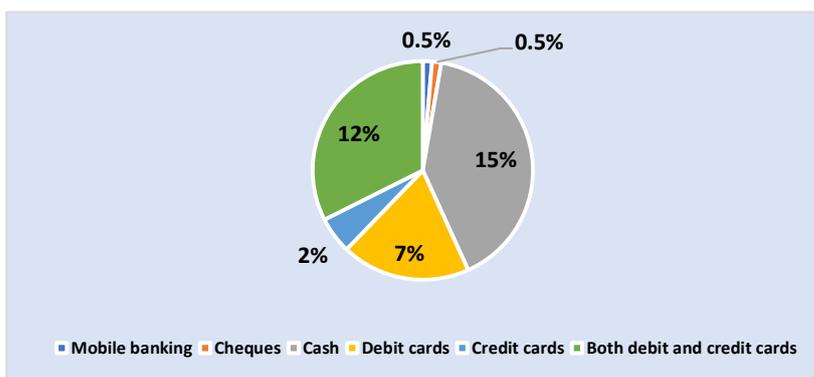
11.5% of merchants have highlighted that more than 25% of their sales occur through plastic cards, followed by 10% for sales between 6-10%, 7% for sales between 11-25%, 4.5% sales between 2-5% and 4% for sales of less than 1%. The remaining 63% are non-users of plastic cards.

Merchants preferred mode of payments (n=74)



29.7% of merchants prefer their clients to pay by cash, 27% by Debit cards, 25.4% by Credit cards, 7.6% by Mobile banking, 5.4% by Prepaid cards and 4.9% by Cheques.

Merchants most preferred payment instruments (n=74)



Merchants most preferred payment instruments cash (15%), followed by plastic cards (12%), Debit cards (7%), Credit cards (2%) and 0.5% for Mobile banking and cheques respectively.

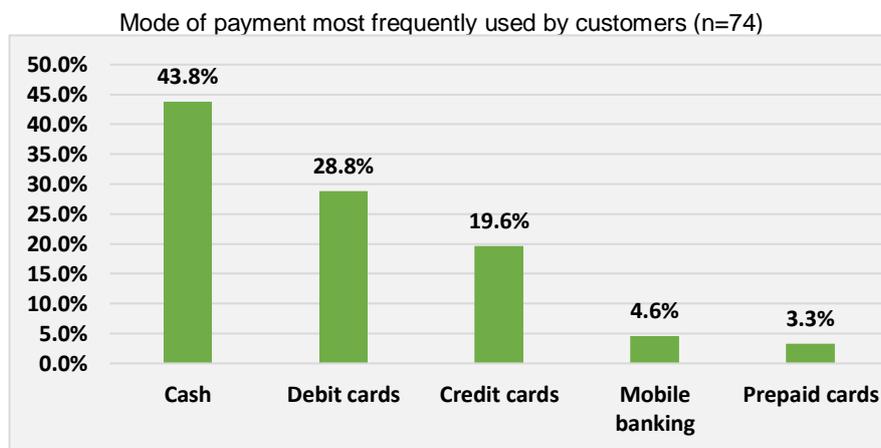
Section C: Merchant's perception on customer's mode of payment

4.24 Merchant's perception on customer's mode of payment

4.24.1 Mode of payment most frequently used by customers

With regards to the table below, 43.8% of merchants depicted that **“cash” is the most frequently used payment instruments** that customers use to conduct their payments, followed by 28.8% for debit cards, 19.6% for credit cards, 4.6% for mobile banking and lastly 3.3% for prepaid cards. Empirical results have shown that cash is still a dominant payment instrument among the Mauritian population.

Table 4.39

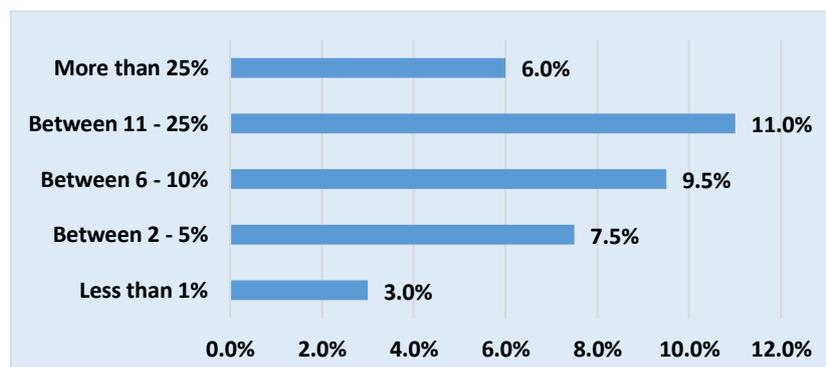


4.24.2 Percentage of customers paying by plastic cards

11% of merchants in Mauritius have admitted that between 11-25% of their customers pay by plastic cards, 9.5% and 7.5% of merchants believed that between 6-10% and between 2-5% of their clients use plastic card to pay for purchases. Moreover, only 3% of merchants have admitted that less than 1% of their customers pay by plastic cards.

Table 4.40

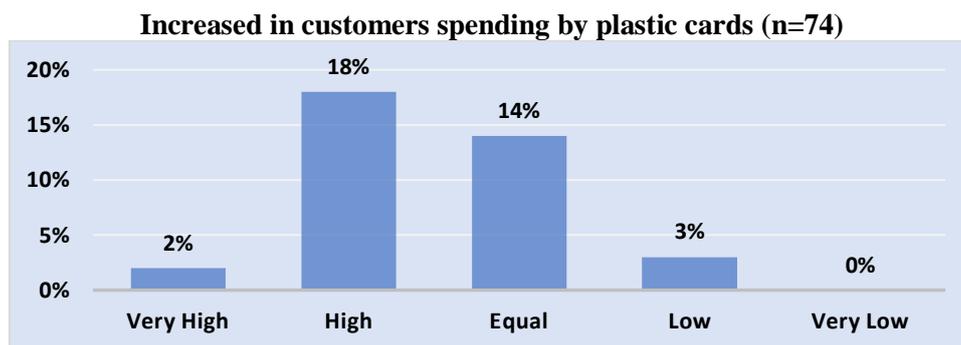
Percentage of customer paying by plastic cards (n=74)



4.24.3 Increased in customers spending by plastic cards

18% of merchants have witnessed a high increased in customers spending by plastic cards while 14% of merchants think that customers spending by plastic cards is same as compared to several years ago. 3% of merchants think that customers spending by plastic cards is low in Mauritius while 2% think that there has been a very high increased in customers spending by plastic cards in today's time.

Table 4.41

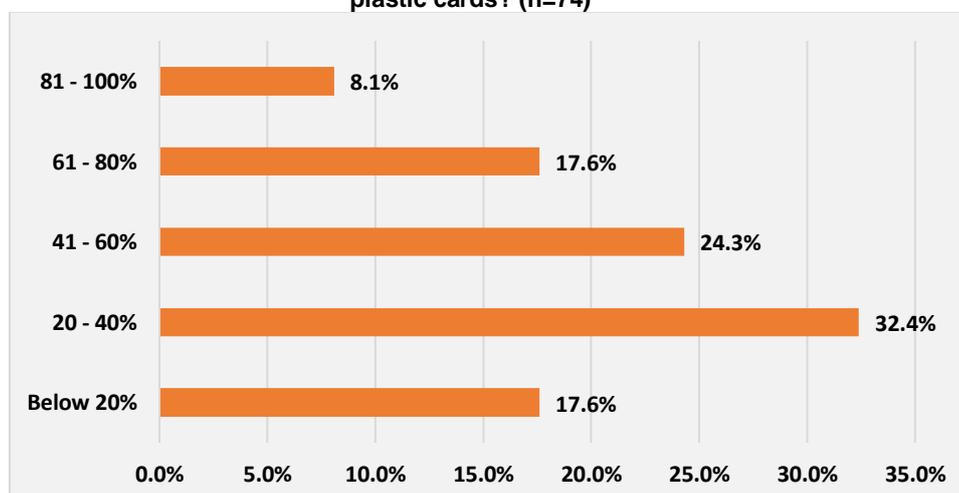


4.24.4 Future expectation of growth of plastic cards in the business sector

32.4% and 24.3% of merchants respectively expect that 20 – 40% and 41 – 60% of their growth in business will occur through plastic cards in the future. 17.6% of merchants respectively believe that below 20% and 61 - 80% of their growth in business will occur through plastic cards while only 8.1% think that 81 – 100% of their growth in business will occur through plastic cards in the next few years.

Table 4.42

In the next years, what percentage of growth in business do you expect through plastic cards? (n=74)



Section D: Reliability and Validity Analysis
4.25 Reliability and Validity Analysis

Several tests were carried out before analyzing the overall model. In order to assess reliability and validity, internal consistency reliability and validity were examined. To assess the reliability part, the trustworthiness of each factors was calculated by making use of the Cronbach's alpha for each element. According to Nunnaly (1978) for a construct to be reliable, Cornbach's alphas should meet or exceed 0.70; else it should be eliminated from the analysis. Therefore, Reliability Analysis has been measured to assess the reliability and internal consistency for each construct as demonstrated in Table 4. below.

Table 4.43
Reliability Analysis

	CONSTRUCT	CRONBACH'S ALPHA VALUES
1	Credit card limit	0.67
2	Perceived Hindrances	0.80
3	Perceived Benefits of accepting debit cards	0.69
4	Perceived Benefits of accepting credit cards	0.73

The empirical results show that the values obtained for each construct met the criteria of > 0.7 and it was high enough to carry out the study and these are: Perceived Hindrances (Alpha Score = 0.80), Perceived Benefits of accepting debit cards (Alpha Score = 0.69), perceived benefits of accepting credit cards (Alpha Score = 0.73). Except for the construct Credit card limit (Alpha Score = 0.67), which is slightly below the recommended value of 0.7.

Section E: Descriptive Statistics – Constructs

4.26 Descriptive Statistics - Construct

Different constructs sustaining the adoption of plastic cards were measured on a 1 – 5 Likert scale, where 1 represented “strongly disagree” and 5 represented “strongly agree”. Empirical estimates of the descriptive statistics for each item and their composite mean are illustrated in Table below.

Table 4.44

Descriptive Analysis for different constructs sustaining the adoption of plastic cards adoption (N = 74)

	Mean (\bar{x})	Standard Deviation	Cronbach's Alpha (α)
Credit card limit	3.40	2.39	.67
Costs have increased	3.71	.690	
Takes too much time to operate with plastic cards	3.00	.933	
It takes too long to get paid	3.04	.999	
It has increased my tax burden	3.83	.702	
Hindrances towards plastic card acceptance	3.36	4.57	.80
Banks charge merchants high commission (MSC) for accepting plastic card payment	3.58	.794	
Banks charge high interchange fees for accepting card payment	3.61	.773	
The fees involved in renting of point of sales terminals are too high	3.45	.743	
There is delay in payment from bank due to lack of trained personnel	3.18	.850	
Banks lack appropriate measures to handle cardholder's problems	3.09	.909	
I am required to install high screening systems to prevent fraud	3.35	.985	
Pos terminals often reject customer's transactions	3.24	.873	
It is difficult to cancel the purchases after processing a card payment	3.39	1.120	
Perceived Benefits of accepting debit cards	3.47	2.23	.69
Debit cards help to increase the sales of small amount items	3.43	1.061	
There is less charge back problems compared to credit cards	3.27	.849	
I am able to attract all level customers by accepting debit cards	3.72	.914	
Perceived benefits of accepting credit cards	3.84	2.16	.73
I am able to attract both middle and high-income level customers using credit cards	3.99	.785	
Acceptance of credit cards help to increase the sales of big ticket items both traditional and online	3.86	.689	
Accepting credit cards reduces bad debts	3.68	.742	
Credit cards acceptance help me to achieve impulse sales	3.86	.689	

4.26.1 Credit card limit

The Cronbach's alpha test indicated a reliability score of 0.67 which was slightly below the recommended reliability of .70. Respondents reported an average of 3.40 (SD = 2.39) regarding credit card limit towards plastic cards. According to the survey, merchants have reported the statement plastic card has increased my tax burden ($\bar{x} = 3.83$, SD = .70) as the most important reason why they have a limit in card acceptance, followed by costs have increased ($\bar{x} = 3.71$, SD = .69), it takes too long to get paid ($\bar{x} = 3.04$, SD = .99) and it takes too much time to operate with plastic cards ($\bar{x} = 3.00$, SD = .93).

Credit card limit:

- Plastic card has increased tax burden ($\bar{x} = 3.83$)
- Cost have increased ($\bar{x} = 3.71$)

4.26.2 Merchant views on the Hindrances towards plastic card acceptance

The Cronbach's alpha test indicated that this construct was reliable ($\alpha = .80$) as the score exceeded the recommended value of .70. Respondents reported an average of 3.36 (SD = 4.57) regarding the hindrances associated with plastic card adoption. The study reflects that "Banks charge high interchange fees for accepting card payment" has act as the greatest hindrance towards merchants' acceptance of plastic cards ($\bar{x} = 3.61$, SD = .77). Wright (2003) found that several policymakers such as the European Commission and the Australian Central Bank have disputed that card associations, that is, Visa and MasterCard have set a too high interchange fee. Banks charge merchants high commission (MSC) for accepting plastic card payment has received a mean of ($\bar{x} = 3.58$) and SD (.79).

Hindrances towards plastic cards:

- High interchange fees ($\bar{x} = 3.61$)
- High merchant service commission ($\bar{x} = 3.58$)
- High fees of point of sales terminals ($\bar{x} = 3.45$)
- Difficulty to cancel transactions ($\bar{x} = 3.39$)

Merchants have also reported that the fees involved in renting of point of sales terminals are too high ($\bar{x} = 3.45$, SD = .74). This goes in line with Chakravorti (2000) who has depicted that merchants are unwillingly to adopt electronic payments due to the large transition costs involved in obtaining the necessary hardware (pos terminals). The statement "it is difficult to cancel the purchases after processing a card payment" has received a mean of ($\bar{x} = 3.39$), followed by they are required to install high screening systems to prevent fraud ($\bar{x} = 3.35$), pos's terminals often reject customer's transaction ($\bar{x} = 3.24$), there is delay in payment from bank due to lack of trained personnel ($\bar{x} = 3.18$) and banks lack appropriate measures to handle cardholders' problems ($\bar{x} = 3.09$, SD = .91).

4.26.3 Perceived benefits of accepting debit cards

The Cronbach's alpha test indicated that this construct was reliable ($\alpha = .69$) as the score exceeded the recommended value of .70. As indicated in the table, respondents reported an average of 3.47 (SD = 2.23) regarding the perceived benefits associated with accepting debit cards. Merchants have highlighted that they are able to attract all level customers by accepting debit cards ($\bar{x} = 3.72$, SD = .91) and debit cards help to increase the sales of small amount items ($\bar{x} = 3.43$, SD = 1.06). The result is aligned with different researchers who advocated that merchants will also accept payment by cards for tactical reasons such as to attract those customers who like to pay by cards from competitors who do not accept card payments (Rochet and Tirole, 2000; Wright, 2001; Wright 2003; Weiner and Wright, 2005; Borestam and Schmiedel, 2011). Similarly, the biggest benefits that plastic payments provide merchants with is that, consumers considerably spend more when purchasing with plastic than with paper (Chakravorti, 2000; Arango and Taylor, 2008; Levitin, 2008; Dalberg, 2016). Lastly, there is less charge back problems compared to credit cards ($\bar{x} = 3.27$, SD = .85).

Perceived benefits of debit cards:

- Attract all level of customers
($\bar{x} = 3.72$)
- Increase sales of small amount
($\bar{x} = 3.43$)
- Less charge back problem
($\bar{x} = 3.27$)

4.26.4 Perceived benefits of accepting credit cards

The Cronbach's alpha test indicated a reliability score of 0.73 which was as per the recommended reliability of .70. Respondents reported an average of 3.84 (SD = 2.16) regarding perceived benefits associated with credit card acceptance. According to the survey, merchants have reported that they are able to attract both middle and high-income level customers using plastic cards ($\bar{x} = 3.99$, SD = .78). Both the statement "Acceptance of credit cards help to increase the sales of big ticket items both traditional and online" and "Credit card acceptance help me to achieve impulse sales" have received a mean of 3.86 (SD = .69) respectively. Lastly, the statement "Accepting credit cards reduces bad debts" have acquired lowest mean of 3.68 (SD = .74).

Perceived benefits of credit cards:

- Attract both middle and high-income level customers
($\bar{x} = 3.99$)
- Increase sales of big ticket items and achieve impulse sales
($\bar{x} = 3.86$)

Section F: Perceived risks and hindrances of accepting plastic cards

4.27 Perceived risks and hindrances of accepting plastic cards

4.27.1 Victim of plastic card fraud and type of fraud encountered

The below chart indicates that only 1.5% of merchants out of 37% have been victim of plastic card fraud since trading through plastic cards. The three merchants have further elaborated that they have come across people giving wrong or fake card, unpaid cards and also unauthorized people having access to the pin code of someone else card. However, 35.5% of merchants admitted that they have not experienced any card fraud till now. These problems have indeed act as a hindrance towards merchants and as Levitin (2008) has identified in literature that merchants do not want to encourage or promote the use of plastic cards although plastic cards are considered as the cheapest method of payment.

Table 4.45

Have you been victim of card fraud since trading through plastic cards? (n=74)

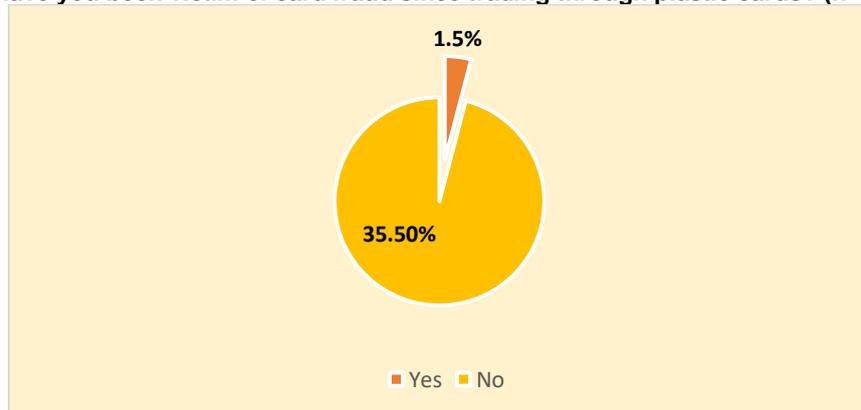


Table 4.46

Give a brief description of type of fraud encountered (Crosstabulation)

		Give a brief description of type of fraud encountered				Total
			People give the wrong card or a fake one	The cardholder was not the owner of the card but had the pin code	Unpaid cards	
Have you been victim of card fraud since trading through plastic cards?	Not applicable	126	0	0	0	126
	Yes	0	1	1	1	3
	No	71	0	0	0	71
Total		197	1	1	1	200

4.27.2 Merchant Service Commission and Issuer Interchange Fee

Findings have revealed that out of the 37% of merchants who accept plastic cards as a mean of payment, 22.5% of merchants have no clue about what consist of Merchant Service Commission and Issuer Interchange Fee even though they accept card payment from clients. However, 14.5% of merchants are aware of Merchant Service Commission and Issuer Interchange Fee and 12.5% of them have been able to give a brief description of the fees. Most merchants have defined the fees as a commission that banks charged for every transactions done by cards. Concerning MSC, 0.5% of merchants said that MSC rate in Mauritius is 0.03%, 2% merchants (1% MSC), 1.5% of merchants (2% MSC), 0.5% of merchants (2.5% MSC), 6% of merchants (3% MSC), 0.5% of merchants (1-3% MSC) and 0.5% (2-3% MSC). Concerning IIF, 0.5% of merchants said that IIF rate in Mauritius is 0%, 9% of merchants (1% IIF), 0.5% of merchants (2% IIF) and 2% of merchants (3% IIF).

Table 4.47

Are you aware of Merchant Service Commission and Issuer Interchange Fee? (n=74)

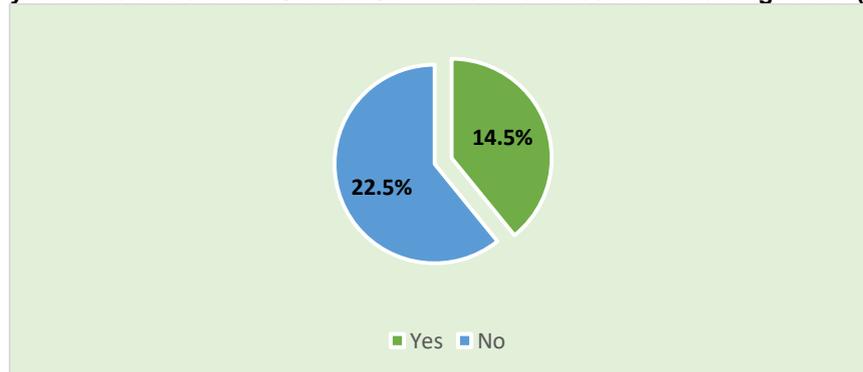


Table 4.48

Merchant Service Commission and Issuer Interchange Fee

Percentage of Respondents (%)	Merchant Service Commission	Percentage of Respondents (%)	Issuer Interchange Fee
0.5	0.0275%	0.5	0%
2	1%	9	1%
1.5	2%	0.5	2%
0.5	2.5%	2	3%
2.5	2.75%		
6	3%		
1	1-3%		

4.27.3 Transaction size for acceptance of plastic cards

Out of 37% of merchants who accept card payment, 25.5% do not have any transaction size under which they do not accept card payments while 11.5% of merchants have depicted that they have a transaction size under which they don't accept card payment. 0.5 % of merchants have a limit of Rs 50, followed by 0.5% of merchants have a limit of less than Rs 100, 8% of merchants have a limit of Rs100, 0.5 % of merchants have a limit of Rs 150, 1.5 % of merchants have a limit of Rs 200 while 0.5 % of merchants have a limit of Rs 1000.

Table 4.49

Is there any transaction size below which you don't accept card payment? (n=74)

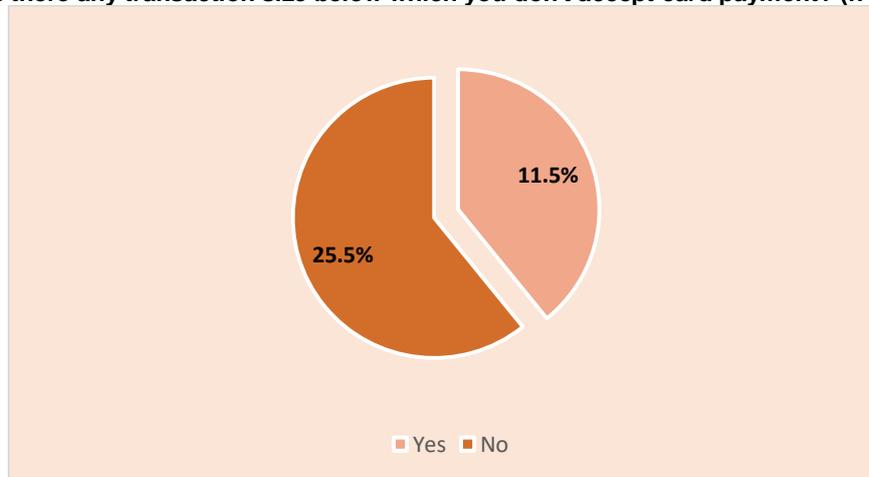


Table 4.50

Plastic card acceptance limit

Percentage of Respondents (%)	Transaction Size
0.5	Rs 50
0.5	Less than Rs 100
8	Rs 100
0.5	Rs 150
1.5	Rs 200
0.5	Rs 1000

4.28 Future prospect of plastic cards in Mauritius

The tables below indicate that the customers and merchants in Mauritius share almost the same point of view regarding the future prospect of plastic cards in Mauritius. Both the customers and merchants have classified the future prospect of plastic card in the following order:

1st rank: Rapid growth (37.8 and 17.5% respectively)

2nd rank: Steady growth (21.8% and 11% respectively)

3rd rank: Can't predict (11.6% and 4.5% respectively)

4th rank: Stagnant (5.3% and 4% respectively)

5th rank: Decline (0.8% and 0% respectively)

Table 4.51

**Future prospect of plastic cards
(Customer's point of view)**

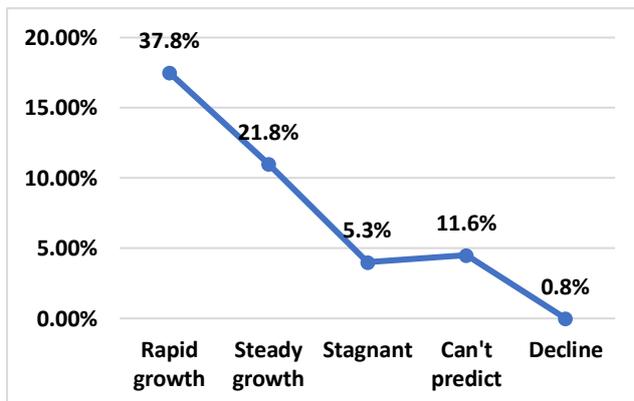
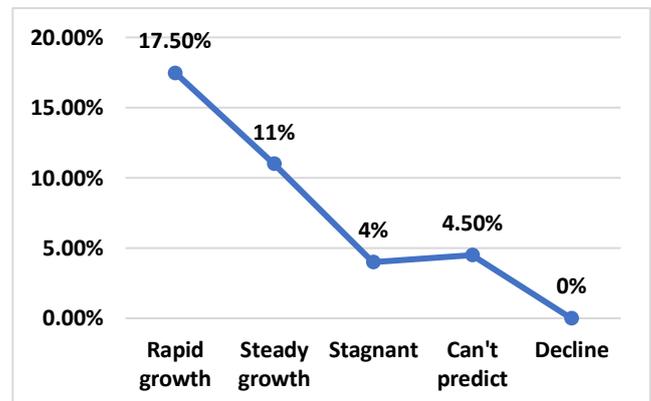


Table 4.52

**Future prospect of plastic cards
(Merchant's point of view)**



4.29 Summary of the findings

After testing the entire hypothesis, it seems that there is a relationship for only thirteen hypotheses while six of them has been rejected for the sustained adoption of plastic cards. While for the likeliness to increase monthly adoption of plastic cards, there is a relationship for only ten hypotheses while nine of them has been rejected. For all the parts of the analysis, ANOVA test, Independent sample t-test and Regression Analysis were used. Based on all the analysis, recommendations will have to be suggested and this will form part of the next chapter.

CHAPTER 5**MANAGERIAL IMPLICATIONS & RECOMMENDATIONS OF THE STUDY****5.0 Introduction**

This chapter is based upon the recommendations which have emerged from the qualitative and quantitative research findings which have shed light on pertinent findings that are very important for policy makers, banking institutions, customers and other stakeholders to enhance the adoption of plastic cards in an emerging economy such as Mauritius. This chapter provides insights for the booming banking sector, merchants and customers with regards to plastic card adoption for Mauritius which in turn striving towards becoming a cashless economy. Effective and dynamic changes need to be implemented in the traditional payment systems, that is, shifting from cash payments to plastic payments in order to be competitive and overcome the associated challenges involved in the banking sector. Banking and financial institutions should develop and implement new strategies that would encouraged citizens to possess at least one plastic card as well as they should offer different incentives that would encourage merchants to accept plastic cards as an innovative mean of payment in Mauritius.

The recommendations of the study have been based upon the significant findings of the research which has aimed to explore the broad factors for plastic card adoption, the perceived benefits of plastic cards, social class and plastic card adoption, perceived risks and hindrance factors for the adoption of plastic cards and socio-demographic related factors and plastic card adoption. Indeed, boosting the adoption of plastic cards depends highly on the support from the banks, credit cards companies and other financial authorities to sustain the adoption of plastic cards. The ongoing collaboration and support of the banking executives, merchants and the authorities of the central bank are considered as imperative to enhance the adoption of plastic cards in Mauritius

Based upon the main findings of the research, the recommendations are made for the three segments as follows:

Part A: Recommendations to Banking institutions/ professionals and other stakeholders

Part B: Recommendations to the General Public and Customers

Part C: Recommendations to Merchants

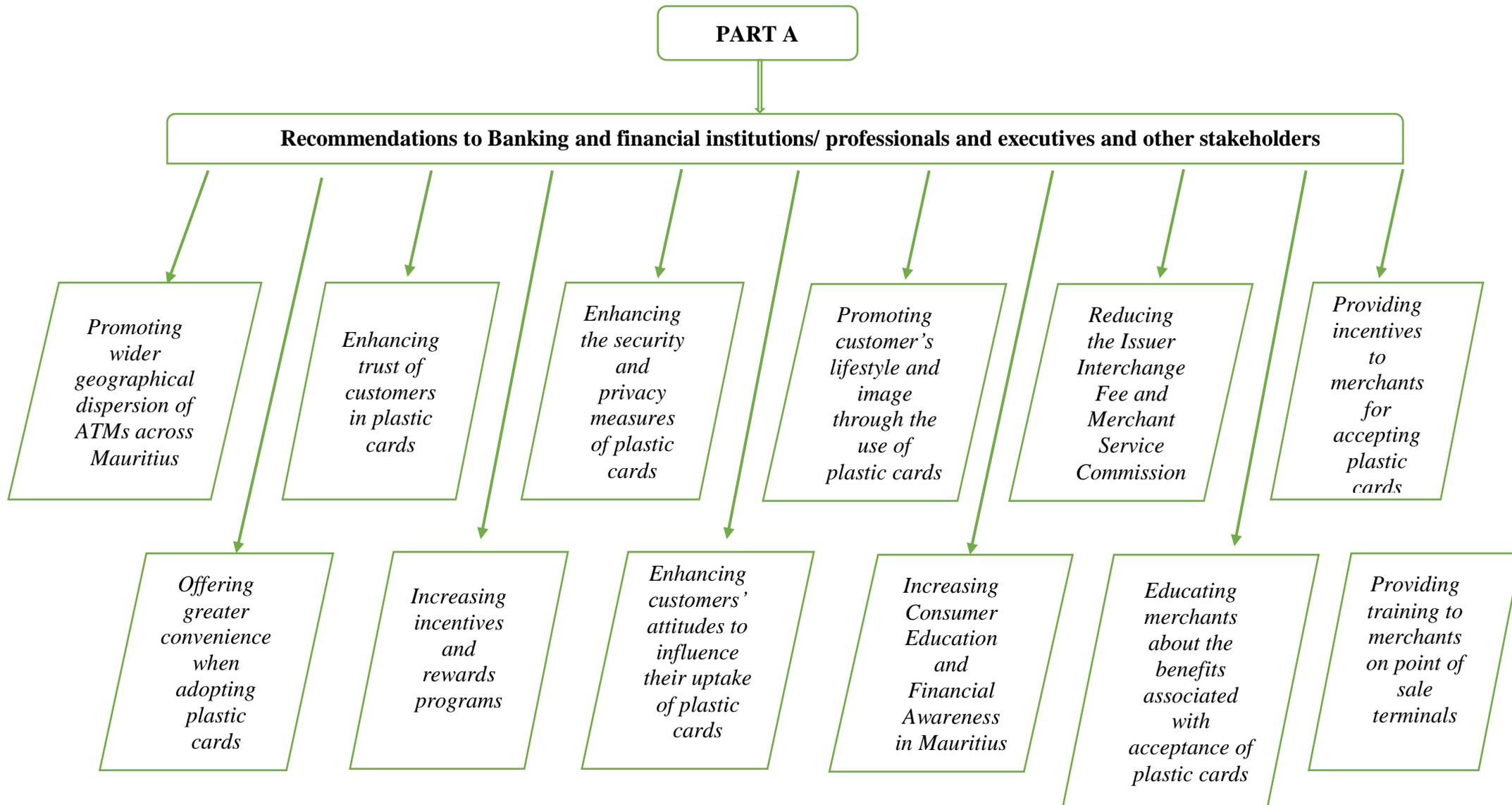


Figure 5.1: Recommendations to banking and financial institutions/ professionals and executives and other stakeholders

Part A**Recommendations to Banking institutions/ professionals and other stakeholders****5.1 Promoting wider geographical dispersion of Automated Teller Machines across Mauritius**

In today's highly competitive banking sector, it is vital to note that different factors can impact on the adoption of plastic cards. One of the major implication of the study pertains to the geographical dispersion of ATMs across Mauritius ($\beta = 0.238$, $p < 0.05$). The analysis part has shown that the majority of cardholders (26.3%) use their plastic cards for ATM withdrawal. Moreover, customers are encouraged to use plastic cards because of technology facilities such ATMs ($\bar{x} = 3.99$, $SD = .80$) and also ATMs have contributed towards their adoption of plastic cards ($\bar{x} = 3.95$, $SD = .88$).

Hence, it is crucial for business analysts in the plastic card department to take initiatives of improving their ATMs facilities by installing **ATMs that are friendly oriented and easy for old aged person** to conduct transactions. It is also recommended that banking and financial institutions should **ensure cash refilling at proper intervals in ATMs booth** so that cash does not get over in the cash stacks. Plastic card professionals should emphasize on creating **ATMs with additional features such as solar power, biometric readers and a text to speech engine** that provides detailed instruction for **visually impaired/ challenged users**.

Additionally, "I use my plastic cards in ATMs that are available everywhere" and "I use my plastic cards to access many ATM points at a very close distance" have received unfavorable views from majority of the respondents. These findings support many views and indicate the need for banking and financial institutions to **reallocate their respective ATMs in different places** across Mauritius so as to ease the transaction of customers for withdrawing money and this will therefore increase the likeliness for customers to adopt plastic cards in the future (Berger and DeYoung, 2006; Pudaruth *et al.*, 2013; Idris, 2014).

In this context, it is important for professionals from the plastic card services section to offer more **ATMs facilities across the island** and also in both **on-banks** and **out-banks locations** in order to eliminate congestion at ATMs branches. Policy makers of banking and financial institutions should ensure the wide geographical dispersion of **ATMs in specific and busy locations like shopping malls, service stations, food courts, hospitals, restaurants, bus terminals**. Nowadays, shopping malls have a large retail floor area, with numerous stores, shops and food

courts (for example, Bagatelle Shopping Mall), hence, plastic cards policy makers should ensure a **wide dispersion of ATMs at these places where there is greater influx of people** on a day to day basis.

Mauritius with an area of 2040 km², having around 150 villages and towns requires banks to focus on how to make sure that the whole population of Mauritius benefits from the geographical dispersion of ATMs. Banking institutions should ensure that there is **at least one ATM in every villages and towns** to aid banks in reaching out to unbanked and under-banked regions of mauritius. This will ensure cardholders that they have the accessibility to withdraw money using their plastic cards at any time convenient to them without the need to travel long distances to access banking services. Banking professionals and executives can also think of allocating their respective **ATMs booths outside airports** where their customers, especially the tourists can exchange their currency instead of going to the money exchange bureau. This will benefit the banks in terms of more foreign currency entering the country and at the same time the tourists have cash in hand once they step out of the airports.

5.2 Offering greater convenience when adopting plastic cards

It is also interesting to note that the findings of the present study have highlighted that customers will adopt plastic cards more than 10 times on a monthly basis since plastic cards are more convenient to use than cash payments. Plastic card professionals should work towards making different types of **plastic cards acceptable in other countries** as customers have indicated that it is important to have a plastic card with them when they travel abroad ($\bar{x} = 4.06$). Moreover, banking and financial institutions should help customers choose the best cards for international trips, which are **chip-enabled visa** and plastic cards that do not charge **foreign currency transaction fees**.

Plastic cards are convenient as cardholders do not have to worry about taking too much cash with them and worldwide purchases are possible with plastic cards. Each and every banks and other stakeholders should consider of **implementing an online shopping card** which will facilitate the convenience of customers when conducting online shopping. However, banking professionals should at the same time **educate the cardholders about how to stay safe when using a plastic card online**. Banking staffs can educate cardholders at the same time when they are issuing the online shopping card to the customers or on the various online shopping website available.

Moreover, **different banks should work in collaboration to find new ways how can their respective customers enjoy the benefits offering by other banks.** Banks can make use of **different communication channels such as pamphlets or mails** to communicate to cardholders about the convenience associated with the adoption of plastic cards. Pamphlets can be distributed during **walk in and walk out of customers in banks** or when issuing cards to cardholders to increase the convenience of customers for adopting plastic cards.

5.3 Enhancing trust of customers in plastic cards

The findings of the present research have also highlighted a significant relationship between trust (β of 0.202, $p < 0.05$) and the adoption of plastic cards. Customers perceived trust as highly important in their decision to adopt plastic cards ($\bar{x} = 3.81$). Trust is considered as the backbone behind the successful adoption of plastic cards services. Having the trust of customers also mean retaining loyal customers and creating advocacy towards the successful adoption of plastic card payments. Thus, it is important for banking executives to gain the trust of customers by **implementing a plastic card system which is considered as trustworthy, dependable, reliable and honest.**

Business analysts in the plastic card sector can make use of **Tokenization** to safeguard customer's sensitive data for example bank accounts and personal identification number. Banks should embed tokenization strategies so that customers will longer be required to input their bank account number when conducting a transaction hence this will improve their trust in plastic card services that their payment information is safe and secure. Banking and financial institutions should **adopt trust building strategies by maintaining good relationship with their customers.**

It is also recommended that banks should **engage with their customers, admit when they are wrong and try to fix their trust issues related to plastic card services.** Banking and financial institutions can send regular emails, messages, reminder and phone calls to reassure customers on plastic cards. Banking employees should **remain in frequent touch** with their customers, educate them about the safety and rapidity of using plastic cards services to enhance trust in plastic cards. Additionally, by **creating stand-out customer service experiences** will result in increased trust among customers. **Special training** should be given to all banking staffs by banking and financial institutions so that their staffs have the proper knowledge and experience in handling customer's complaints related to plastic cards.

Ratings and reviews are very essential for banks to maintain trustworthy and honest relationship with customers. Banking and financial institutions should provide an additional corner on their respective website where their customers can provide their positive/negative comments and views regarding the use of plastic cards. Through the use of ratings and reviews, banking and financial institutions in collaboration with the digital executives and professionals in the plastic card section can **organize regular meetings and conferences to discuss about new ways and strategies to boost the trust of their potential customers.**

5.4 Enhancing the security and privacy measures of plastic cards

It is also interesting to note that the findings of the present research have highlighted a significant relationship between security (β of 0.191 , $p < 0.05$), privacy (β of $-.182$, $p < 0.05$) and the adoption of plastic cards. Several theories and studies (Jonker, 2007; Bolt and Chakravoti, 2008; He *et al.*, 2008; Kosse, 2013) have confirmed that security and privacy are important and act as a major cause of concern for the population using plastic money. Security is an essential part of the process of payment via plastic money and thus banking professionals and executives in the plastic card section should **work towards reducing the anxieties of the people concerning the safety of the transactions.**

Customers have allocated favorable views for “I am concerned about someone capturing my payment information or other data if I use plastic cards services ($\bar{x} = 3.80$) and “I am concerned about the security of plastic card services” ($\bar{x} = 3.79$). Therefore, it is suggested that banking and financial institutions that are still using magnetic strips plastic cards should put **an end to magnetic strips cards and administer chip-based cards** (EMV) which is far more secure compared to magnetic strips. Banks Chip-based cards are almost impossible to reproduce, establishing the trust in cardholders that their plastic cards cannot be used fraudulently, and a suitable and appropriate system measurement and risk assessment should put forward to eliminate and reduce frauds.

Plastic card executives and banking professionals should ensure that the Chip-based cards contain the 3 key features that will help to fight fraud:

- 1. The chip-based card should be designed in a way that they are able to combat fraud**
- 2. The Chip cards should be really hard to clone**
- 3. The Chip and pin cards should have sophisticated encryption**

Banking and financial institutions can also implement a “**control structure**” to ensure payment security and detect fraud. The control structure can take various forms, such as, **setting rules that assign losses resulting from payment fraud, regulating and monitoring the payment activities of some payment participants, designing effective measures that embed security protocols and managing security efforts**. Policy makers, banking professionals and business analysts in the plastic card services department should **assess how effectively a payment system controls fraud risks** given regularly altering threats and multiplex interdependencies that can lead to skewed incentives.

It is also recommended that banks should not only allocate security measures at ATMs centers but also **monitor the security processes at the ATMs centers**. Banks should involve more on creating awareness on how to **certify self-security** to customers such as **stop replying to unnecessary email and text messages** that can be spammed. The use of **demo video, campaign via Facebook or other social media sites, card number masked on receipts** are the initiatives that business analyst in the plastic card services sector should adopt to enhance the security and privacy of innovative payment solutions in Mauritius. During our focus group discussion, banking executives have pointed out that banks have started making use of **QR Codes** where customers just have to scan the code using their mobile phone and their payments are made in a fraction of second.

Similarly, banks should continue **implementing new security features**, as new security features will definitely boost the adoption of plastic cards among customers in Mauritius. Banking professionals who are involved in maintaining the security of plastic card services should consider of implementing an **automated case management system** which will provide an improved framework to better **manage and mechanize activities** and processes for different type of frauds such as card fraud. The automated case management system should be able to **trace the success of their loss avoidance techniques, control recoveries and rapidly assess where countermeasures are needed to stay ahead of hackers and criminals**.

Banking and financial institutions should also **strengthen their reporting system, swiftly report cases of frauds and fix staff accountability**. They should also allocate enough focus on the “**fraud prevention and management function**” to allow operative inquiry of fraud cases. Banks can also **set internal strategy and rule for fraud risk management and fraud investigation**

function, based upon the governance standards relating to the ownership of the function and accountability for malfunctioning of the fraud risk management process in their banks.

Moreover, apart from banks, other stakeholders in our society should be involved in enhancing the security of plastic card services. The Government also should work towards increasing trust of customers in plastic cards by improving the security of plastic cards. The government, together with its team should **build better and safer payment gateways with extremely sophisticated security programmed software** which does lead to data theft, identity theft or hacking of account details of users.

5.5 Increasing incentives and rewards programs to promote the use of plastic cards

5.5.1 Rewarding cardholders and gaining loyalty for plastic cards

Banks and issuers can launch **promotional campaigns through rewards programmes** in order to motivate the usage of plastic cards. With reference to the CCM Report (2016), the costs involved with running of promotional campaigns and offering rewards to cardholders form part of the costs of operating an issuing business, which also consist, among others, card production, card personalization and network costs. CCM has depicted that seven issuers in Mauritius have acknowledged that they already offer rewards programmes and run promotional campaigns. The rewards programmes offered comprised of, *inter – alia*, **cash-back (refund) for a minimum purchase threshold, discount offers for hotel, participation in lucky draws to win free tickets for international trips and football matches**. However, the other issuers not involved in any rewards programmes or promotional campaigns should start doing so, in order, to encourage their customers to sustain adoption of plastic cards.

5.5.2 Providing cardholders with free gifts

Digital and marketing executives in the plastic card services sector should **always provide their cardholders with gifts** as they always appreciate when they are offered something in return. The gifts that banking institutions can provide their customers can be in terms of **pens, tote bags, travel mugs, notepads, stickers, key rings** amongst others. The gifts should **include the bank's logo, name and special color** so that customers know which banks are offering this gift. Banks can also provide their customers with a **welcome gift upon the application for a debit/credit cards for**

the first time. During special occasion such as **birthday of cardholders**, banks can send their customers **personalized gifts** to make their feel special and unique. During festive periods, like **Independence Day the marketing department with collaboration with the plastic cards services section can distribute flags in the shape of plastic cards with the four colors (Red, Blue, Yellow and Green) to their customers** and for **Christmas and New Year, banks can provide their customers a calendar** that bears that **bank's name and logo**. Nowadays, people are setting their own trend by decorating their Christmas tree in their own way, similarly, digital executives from the plastic card section can consider of **decorating their Christmas tree with different varieties of plastic cards so as to capture the attention of cardholders.**

5.6 Enhancing customers' attitudes to influence their uptake of plastic cards

Another important managerial implication of the study relates to great importance towards customer's attitudes for plastic cards ($\beta = 0.204, p < 0.05$). Banking executives don't only need to develop the right services, infrastructure and policy framework but **understanding customer's attitude towards plastic cards** also is important. Customers has perceived highly favorable attitudes with respect to plastic cards are helpful during emergency situations and are a convenient payment method for them.

Commercial banks should work together with retail companies to improve customer's experience when conducting payment using plastic cards through **point of sales machines**. Moreover, it has been depicted that customers often come across point of sales that are often out of service or reject customer's transactions. Hence, the attention and collaboration of both merchants and banks is required to **ensure the proper functioning of the point of sales terminals** to avoid any inconvenience for people paying by their plastic cards.

Further findings have revealed that "The interest rates of plastic cards are reasonable" has received unfavorable attitudes from respondents. Moreover, findings have also revealed that out of 77.1% of customers who adopt plastic cards, 49.6% possess a debit card, 44.7% possess both a debit and credit card while **only 5.7% possess a credit card**. Additionally, customers have ranked debit cards in the 1st position and **credit cards in the 4th position** concerning the most beneficial payment instruments.

This indicates that the adoption rate of credit cards is relatively low as compared to other means of payment. These findings are similar to those of Mwihi (2015) and therefore, it is recommended that since very few customers hold credit cards due to lack of experience and lack of information, therefore banks should engage in **heavy awareness campaigns** in order to enlarge the market segments for potential customers who adapt credit cards. Banks should also **review their interest rates on credit cards** in order to improve customer's attitude and at the same time to ensure efficiency in the uptake of credit cards among potential customers in Mauritius.

The findings have also depicted that 22.9% of the Mauritian population do not hold a plastic card, moreover, several factors have been identified as the reasons why non-users possess an unfavorable attitude towards plastic cards. Fear of losing the cards has been recognized as the main reason for non-adoption of plastic cards. Hence, banking professionals should work towards explaining to their customers about the different **steps that should be taken in case their cards have been stolen or lost**. Banks should **educate them about the ways and hotlines available** through which they can block their cards.

Complexity of terms and conditions of banks and unnecessary formalities have also been identified as the reason for non-users to avoid plastic card adoption. Professionals and executives from the plastic card services sector should **train their employees** in a way that they are capable to explain the terms and conditions in simple language to their customers. Plastic card personnel **should be friendly and courteous and provide positive attitudes towards cardholders**. Employees should be always **available at the counter** to help customers complete all the formalities required when applying for plastic card services and mostly importantly, **the processes involved for card application should be swift and rapid**.

5.7 Promoting customer's lifestyle and image through the use of plastic cards

The topic under study has also revealed that the adoption of plastic cards has significant impact on customer's lifestyle ($\beta = 0.188$, $p < 0.05$) and customer's image ($\beta = 0.046$, $p < 0.05$). Customers are using plastic cards as they often perceive plastic money as a way of achieving a prestigious image to improve their standard of living and lifestyle in the society. Empirical results have also depicted that plastic cards make people feel trendy, hence, it is important for banking executives to take into consideration **the color and design of the plastic cards**. Banking personnel should review the design of the card to make it **more attractive and appealing** so that the possession of

plastic cards enables to enhance the image of customers. The cards can be in striking, vibrant and eye-catching color such as glitter gold, silver and dark navy. For professionals and executives, the plastic cards should be **more classy and of platinum color** whilst for the youngsters, the plastic cards should be **more colorful and attractive**. Banking and financial institutions should make customers feel ‘**gratified**’, ‘**cool**’ and ‘**fashionable**’ with the use of the plastic cards as literature has found that customers particularly young people are more willing to take on risk and enjoy life since they often possessed by instant gratification to maintain a social image and self-esteem while adopting plastic cards and at the same time they tend to see money as a way of achieving a prestigious image (Twenge and Campbell, 2008; Silvera *et al.*, 2008; Pudaruth *et al.*, 2013).

5.7.1 Developing more effective advertising campaigns on plastic cards

Banking professionals and executives in the plastic card section should be reactive to technological and cultural shifts and adjusting the outdated to meet emerging needs and target potential customer through the use of different communication channels. Empirical findings have also revealed that 69.7% of respondents became aware of plastic cards through banks, 20.7% through friends **while only 9.6% of respondents became aware of plastic cards through advertising**. Banking and financial institutions need to **advertise** their plastic cards services on a **wide range of mass media and promotional channels**, such as, **press, radio, television, internet, magazines, newspaper, social media and billboards** in banks premises. The banking team should promote the benefits associated with plastic cards to walk in customers are effective strategies to boost the adoption of plastic card adoption. In addition, **card usage campaign** whereby customers participate in **lucky draw and win star prizes such as stay at hotels, ticket for travelling abroad and cars**.

As shown in the findings, the females respondents (46.1%) reported a higher percentage when it comes to the usage of plastic cards than males (31%), therefore, the audience for such campaigns can be **targeted to the male population** to boost their adoption of plastic cards. Banks should promote more events to make plastic cards known to people and target should be placed on the young working generation as they are the ones who are more conscious about their image and lifestyle. **Advertisement on Television** is a form of media that is accessible to the majority of population in Mauritius, therefore, the marketing department can advertise (in creole) the different plastic cards during peak hour on MBC 1 just before the News to capture the attention of most people.

5.8 Increasing Consumer Education and Financial Awareness in Mauritius

The topic under study entails recommendations in terms of more awareness and educational campaigns from banking executives, as findings have shown that, customers often act impulsive they do their purchases with plastic cards ($\bar{x} = 3.12$) and spending money using their plastic cards make them feel better ($\bar{x} = 3.02$). Banking analysts in the plastic card services sector should educate the population through financial **awareness programs** about the different benefits of plastic cards. The professional associations for the finance sector as well as banking associations should **provide financial education and training**, that is, one to one marketing with the customers to promote the adoption of plastic card adoption.

A well-educated customer will possess the capability to understand consumer disclosures that are provided and make wise decisions. **Financial educations should hence be motivated in Mauritius, but it should be thoroughly tested and evaluated and be regarded as a long-term investment.** Financially illiterate population as well as existing clients should be given **usage direction about how to use a plastic card through demonstration using video clips.** This will lead to higher usage of plastic cards in Mauritius. Government needs to adopt this strategy as a **mass initiative** and ensure that the facility of plastic card usage is available to the untapped population of the Mauritian economy so as to promote the use of plastic cards in our country. **The old age persons should be given usage direction in layman language and banking and financial institutions should avoid technical words and messages.**

5.8.1 Implementing of financial literacy into core curriculum at schools

Empirical estimates have depicted that majority of customers (37.4%) consisted of young adults of the age group of between 18 and 24 years old and recommendations of friends, family and reference group influence their adoption of plastic cards. Therefore, the **implementation of financial literacy into core curriculum at schools** will help to increase financial knowledge of students at a very young age. Moreover, as many parents may be financially illiterate themselves, educating their children financially might also mean offering an opportunity to financially educate the parents. Banking and financial institutions should aim at encouraging children to use plastic cards a very young age itself.

Governments in collaboration with the banking executives should visit schools, colleges and universities to educate the young adults about the benefits as well as risks involved with the adoption of plastic cards as they are the emerging generation that is going to discover the world of

plastic cards in the near future. These findings support many views and indicate that banks should **incorporate higher financial awareness among the youngsters through public media and advisory services** (Bell and Eisingrich, 2007; Peng *et al.*, 2007; Kozup and Hogarth, 2008; Pudaruth *et al.*, 2013).

Teenagers and university students should **encourage their parents to adopt plastic cards**. Financial literate people will make better use of their plastic cards, for example, **paying for university fees, paying at food courts and making gym registration payments**. Increasing financial literacy among parents, children and old aged person will benefit them better be able to communicate and model positive financial principles at home, which will not only benefit the lives of the individuals and families but also the societies and the country. This will help improve their ability to make important personal financial decisions for the rest of their lives.

5.9 Reducing the Issuer Interchange Fee and Merchant Service Commission

Merchants have identified high interchange fees and merchant service commission as the main hindrances towards the adoption of plastic cards. Therefore, it is recommended that **a cap of 0.5% on IIF for card-present POS transactions effected using VISA and MasterCard** as necessary, reasonable and practical. An IIF of 0.5% on petrol and government transactions for most card product categories will incentivize card acceptance and usage given the low level of card acceptance in these segments. **A reduction in IIF could therefore lead to more attractive merchant fees being proposed by competing acquirers**. A lower merchant fee could increase the acceptance of plastic cards by merchants in Mauritius, which is currently comparatively low at 37%, further improving the scope for development in the acquiring plastic card segment.

5.10 Educating merchants about the benefits associated with acceptance of plastic cards

The merchant's findings have revealed that only 37% of merchants accept plastic cards as a means of payment in Mauritius. Banking professionals and executives in the plastic card department to visit each villages and towns across Mauritius and **educate small merchants and retailers about the usefulness and benefits of accepting card payment** from customers. Several small merchants (small, stores, shops, markets) are not adopting plastic card payments due to the high costs, lack of awareness and other factors associated with it. Banking and financial institutions should work

towards making electronic payments more accessible to these small merchants as they form a critical part of the economy. Issuers should enlighten merchants about the **safety, quicker speed transaction and ease of use** of accepting card payments.

Findings have also revealed that out of the 37% of merchants who accept plastic cards, 22.5% of them do not know about MSC and IIF. Therefore, professionals from the plastic card sector of leading banks should provide **educational programs and interactive sessions** to raise awareness among merchants. Similarly, merchants should seek help from banks when they are doubtful about the procedures and fees involved in the acceptance of card payments. Banking institutions can **set up a special counter** at their respective banks, where dedicated staffs will deal only with merchants, retailers and non-retailers. These banking representatives should be **well trained** so as they are **qualified and experienced** enough to provide adequate information to merchants and they possess the ability to solve problems and encourage plastic card adoption.

5.11 Providing incentives to merchants for accepting plastic cards

Our present research findings have revealed that a vast majority of merchants (63%) do not accept plastic card payment in Mauritius. Banking and financial institutions with collaboration with the government can promote plastic card payment acceptance through the **government-funded merchant incentives**, which comprises of **grants for point-of-sale (POS) terminals and tax reductions**, for example, value-added tax (VAT) credits for dealings using plastic cards means of payment. An appropriate **tax rebate** could be extended to a merchant if at least 50% of their transactions is done through electronic payments. Moreover, in an emerging country like Mauritius, where there is an established base of POS terminals but low plastic card payment usage, business analysts in the plastic card sector can introduce **volume-based incentives** to promote the adoption of plastic cards.

Policy makers should focus on small and medium enterprises (SMEs) or specific geographies that are usually well suited to developing a broader network of acceptance for plastic card services. Professionals from the banking sector can provide **special loans and schemes** to these small and medium enterprises to help them establish their business. Plastic cards **rewards and bonuses** are an important factor in promoting the adoption of plastic cards among merchants. Moreover, banks and other stakeholders can **advertise the merchant's shop on television, posters, pamphlets and billboards** to promote the merchant's products and at the same time, they are promoting their plastic cards services.

5.12 Providing training to merchants on point of sale terminals

Empirical findings have found that 10.5% of merchants have identified “Difficulty to learn and use point of sale terminal” as the reason why they do not accept plastic card payments. Hence, **merchants should be properly trained** by banking and financial institutions for the proper transactions through point of sale terminals. **Training classes** can be conducted to educate merchants about how to conduct transactions using point of sales terminals and how to cancel an improper transaction. **Education and training** will improve merchants dealing with point of sales terminals. Banks can **lend merchants the point of sales terminals** to use on a trial basis until they are used to the system.

Banking institutions in collaboration with the government can **organize workshop and seminars** every 6 months where experts and professionals can interact with retailers and non-retailers to discuss the way forward towards a cashless society. Empirical findings have also found that 6% of merchants do not adopt plastic card payment because of system (point of sale terminal) break down and 9% do not adopt plastic card payment because the point of sale terminal takes too much time to operate. Professionals from the plastic card services sector should ensure **regular visit of their plastic cards staffs to shops and stores** to ensure that their point of sale terminals are working effectively, and merchants are not facing any difficulties while using the point of sale terminals.

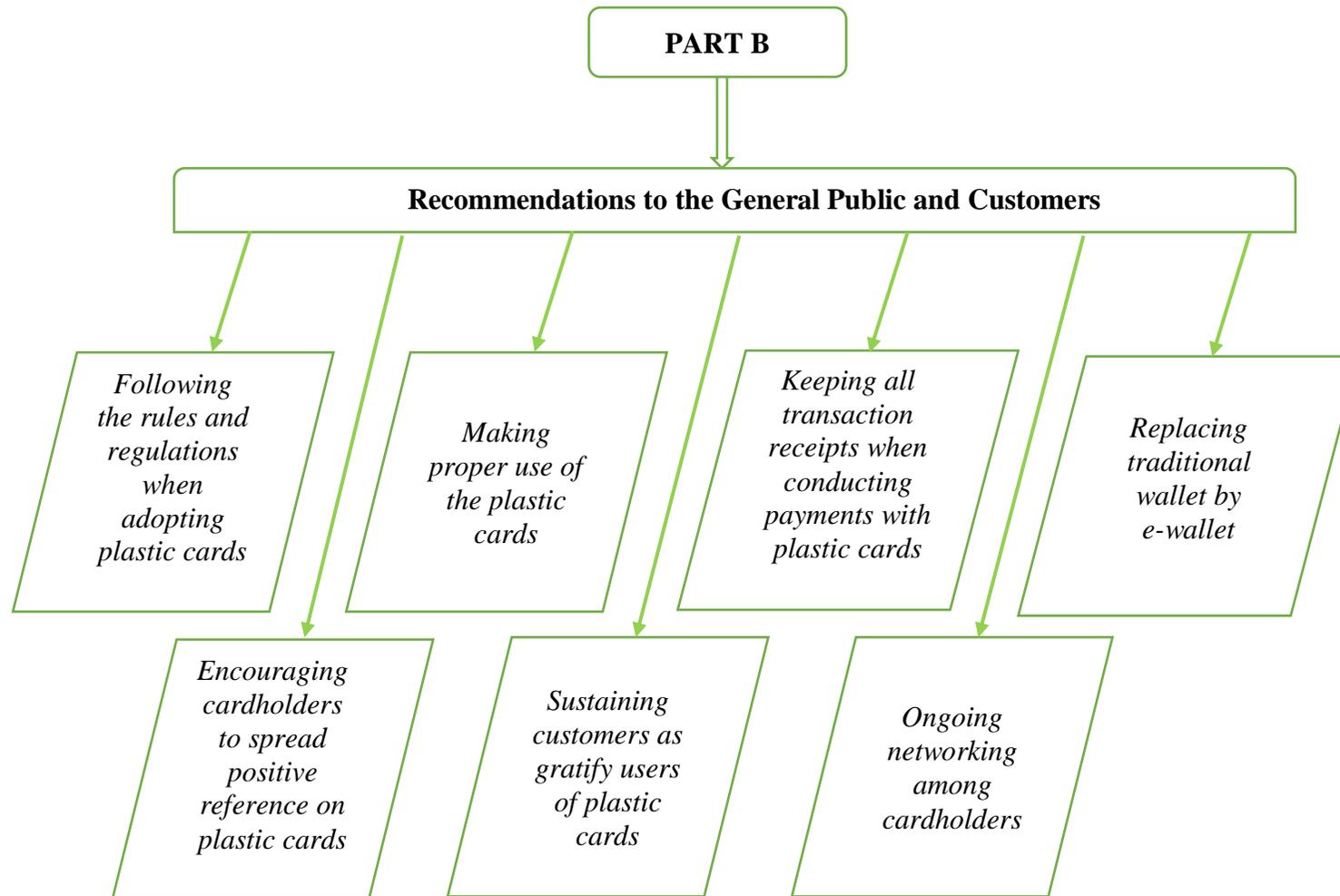


Figure 5.2: Recommendations to the General Public and Customers

Part B**Recommendations to the General Public and Customers****5.13 Following the rules and regulations when adopting plastic cards**

Customers who are willing to adopt plastic cards service should strictly **abide by the rules and regulations** as suggested by the banks and card issuing companies. The person should **enquiry about the card features, billing cycle, fee structure, interest calculations and other terms and conditions** before adopting a plastic card. Empirical findings have found that cardholders have indicated favorable views towards “The interest rates of plastic cards are reasonable” ($\bar{x} = 3.15$). Hence, credit card holders should **make payments within the interest free period of the credit card and ensure regularity**. Moreover, empirical estimates have indicated that “cardholders often come across financial difficulties when using plastic cards” ($\bar{x} = 2.51$). Hence, it is recommended that cardholders should **establish an accurate monthly budget** that would help them determine how much credit card debt they can allow, which at a later stage help them to avoid bankruptcy and default in payments.

5.14 Making proper use of the plastic cards

As Bukhari *et al.*, (2015) and Dave (2016) have indicated in the literature review that one of the major drawbacks of credit card is that it leads to a common habit known as “compulsive buying”. Hence, cardholders are recommended to **use their plastic cards wisely**. Empirical findings have revealed that customers often buying expensive and luxury goods when making a purchase with their plastic cards (mean = 3.17). Cardholders should **avoid making unnecessary purchase with their plastic cards and follow a discipline in spending** as well. Customers can **make use of debit cards instead of credit cards** as debit cards facilitate planned buying from the cardholder’s point of view and therefore reducing the risks of overspending. Moreover, findings have also found that customers are encouraged to buy things beyond their budgets when they use plastic cards, thus, it is recommended that cardholders should **use their credit cards only in times of necessity** as credit cards often lead people to spend more beyond their means. Credit cardholders should strictly **abide by the policy “spend within your means”** to avoid any financial problems.

5.15 Keeping all transaction receipts when conducting payments with plastic cards

Empirical findings have revealed that customers have allocated favorable views towards plastic cards help to get insight into their total expenses ($\bar{x} = 3.25$), help to keep track of the nature of their expenses ($\bar{x} = 3.23$) and help for budget control and to cut down expenses ($\bar{x} = 3.01$). Hence, cardholders are recommended that they should always **keep their transaction slips** when purchasing with plastic cards or withdrawing money from the ATMs. Cardholders should **compare their monthly bank account statement** with their payment receipts and in case there are any oversights, they should **contact their banks immediately so as to avoid future disputes**. This goes in line with Mahima Rama (2018) who has concluded that bank cards transactions help to keep a sequential and comprehensive record of payments which can be useful in case of fraudulent activity or any discrepancies in bank account. Cardholders are also recommended **to use e-statement instead of paper statement as e-statement is more environmental friendly and gives you a quick and easier way to view and save your bank account statement**.

5.16 Replacing the traditional wallet by e-wallet

Empirical findings have revealed that the conveniences (speed, security, ease of transactions) have encouraged customers to adopt plastic cards ($\bar{x} = 3.95$). Customers should therefore **avoid carrying large sum of money with them when going out for shopping**. Instead, **customers should only keep their plastic cards which is safer to carry and use in replace of cash**. Moreover, if customers' cash has been stolen, they won't be able to get the money back. However, if a customer's **plastic card has been stolen, the bank can block the card immediately**, preventing unauthorized people to get access to your personal information.

It has been pointed out by Ochei, (2012) in literature that many residents lose focus and control of their budget and are more likely to be short of money at the counter. Therefore, customers should always **carry their plastic cards with them as plastic cards are always very helpful during emergency situations**. For example, if customers run out of money at the counter while paying for their groceries, they can still make use of their plastic cards. Plastic cards are more convenient **to book restaurants, hotels and airplane tickets**. Customers can make use of their **plastic cards to make online booking and also online shopping at any time convenient to them without any rush**. Moreover, customers should consider **plastic money as their first choice and cash as their second choice when it comes to payment method** and be **ready to embrace and accept innovations and technological advancements** if they want to make Mauritius a cashless society.

5.17 Encouraging cardholders to spread positive reference on plastic money

Empirical estimates have shown that 20.7% of respondents became aware of plastic card services through friends and relatives. Therefore, **cardholders are recommended that they should always share their positive thoughts and feelings towards plastic money to their acquaintances**. Positive word of mouth is considered as an extremely crucial marketing technique to enlarge the business network and in this case the plastic card network. As findings have indicated that respondents will not use plastic cards, if they receive bad feedback ($\bar{x} = 3.20$), hence, **cardholders should encourage and motivate non-cardholders to adopt plastic cards by spreading positive word of mouth** and thus leading to the sustained adoption of plastic cards.

The empirical findings have also revealed that recommendations of family ($\bar{x} = 2.94$), friends ($\bar{x} = 2.66$) and reference group ($\bar{x} = 2.66$) influence respondent's decision to adopt plastic cards. Thus, **only cardholders who have long-term experienced in the usage of plastic cards are suggested to provide their recommendations about plastic card services to families and friends**. These experienced cardholders will have a better knowledge on the phenomenon of plastic cards and thus would be in a better position to recommend potential customers about the different kind of cards that banks offer. Moreover, **cardholders should always share their positive experiences that have aroused while using their plastic cards to enhance the adoption of plastic cards**.

5.18 Sustaining customers as gratify users of plastic cards

Empirical estimates have shown that people who use plastic cards are IT savvy ($\bar{x} = 2.53$) and trendy ($\bar{x} = 2.50$). Therefore, **cardholders feel fashionable, gratify and unique customers upon the adoption of plastic cards**. Moreover, findings have indicated that majority of respondents (37.4%) are young adults of the age between 18 years to 24 years old. Therefore, these **IT savvy people who have more knowledge on the technology and innovations should be the one to use their plastic cards more frequently and on a regular basis as they are already aware of the benefits of going cashless**. Moreover, plastic cards are associated with affluent people (high income earners) have received favorable views ($\bar{x} = 2.80$) from respondents. The high-income earners (7.3% of respondents) of the income range of above Rs 45,000 are recommended **to adopt special cards such as gold and platinum cards to increase their prestige in the society**. These customers should feel unique and special when using their plastic cards in retail outlets.

5.19 Ongoing networking among cardholders

All cardholders should create an ongoing networking relationship among themselves if they want to sustain the adoption of plastic cards. A good networking relationship among cardholders will ensure proper coordination and cooperation among the different users of plastic cards. **Cardholders leaders can create an online platform (for example: on Facebook/ Twitter) where cardholders across the nine districts of Mauritius are under one roof to communicate, build ideas and strategies to enhance the adoption of plastic cards.** Moreover, **banking professionals and executives, plastic card issuers companies and other stakeholders should be invited to like the Facebook page** so that they are aware of the different gaps that need to address in order to make Mauritius a cashless economy. Besides, **all members who are in the Facebook page should be authorizing to provide their comments and reviews on plastic cards** on social networking sites.

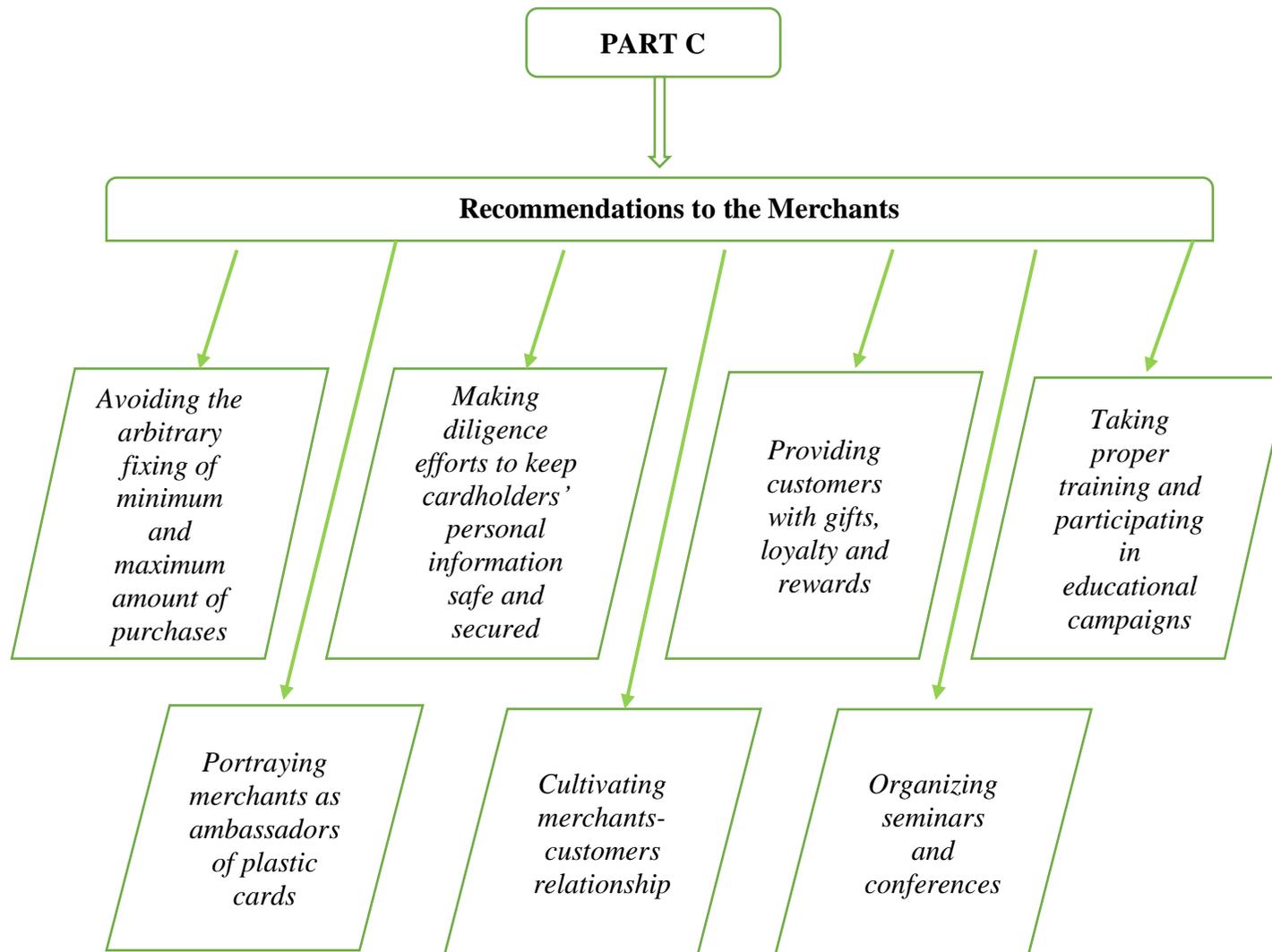


Figure 5.3: Recommendations to the Merchants

Part C**Recommendations to the Merchants****5.20 Avoiding the arbitrary fixing of minimum and maximum amount of purchases**

Empirical findings have revealed that out of the 37% of merchants who accept plastic card payment, 11.5% of merchants have depicted that they have a transaction size under which they don't accept payment by plastic cards. Therefore, it is recommended that, for merchants to gain customer loyalty, customer retention and customer satisfaction, they **should avoid the arbitrary fixing of minimum and maximum amount of purchases and levy of commission or charges**. The merchants should also **follow the card acceptance rules and policies** as proposed by their banks and card agencies. Merchants should **always disclose the refund and return policy to their clients** before making a purchase by plastic cards. Merchants should **never refuse to accept plastic card payment** from their customers, especially during discount periods.

5.21 Making diligence efforts to keep cardholders' personal information safe and secured

Merchants should do the **due diligence** when accepting plastic card payment from their customers as empirical findings have revealed that customers find it risky to give their personal information when using plastic cards ($\bar{x} = 3.57$), followed by plastic cards involved high potential for privacy loss of personal information ($\bar{x} = 3.37$). Merchants are recommended to take **all the necessary precaution to protect cardholders' sensitive data and personal information** and keep **complete privacy** to avoid card frauds and charge back problems. Moreover, empirical findings have also revealed that customers are afraid that their personal payment information may be inappropriately used by the plastic card issuer ($\bar{x} = 3.41$). Thus, merchants should also **build a secure network** and **make sure that the stored information are not misused** by their staffs. Merchants can also **develop a system for safely eliminating customer data from their network**.

5.22 Providing customers with gifts, loyalty and rewards

Empirical findings have revealed that customers have quite an unfavorable view on the incentives provided by merchants upon payment with plastic cards ($\bar{x} = 3.56$). As Mwende *et al.*, (2017) have highlighted that the main reason for customers to adopt credit cards are because of credit card incentives. Therefore, merchants are recommended **to provide their customers with regular gifts, discounts and vouchers** upon payment with their plastic cards if they want to maintain good long-term customer relationships with their clients. Merchants can add **some kind of rewards for purchasing with plastic cards** and this reward will surely encourage buying behavior and promotes loyalty towards the adoption of plastic cards services. Black Friday is gaining great importance around the world; hence merchants can **offer their customers with an additional discount** if they are using their plastic cards to conduct their payment during the Black Friday period.

5.23 Engaging in proper training and participating in educational programs

Merchants as well as their employees are recommended **to follow proper training before starting conducting transactions with the point of sale terminals** as the merchant's survey has highlighted that merchants find it difficult to cancel the purchases after processing a card payment ($\bar{x} = 3.39$). Merchants and employees can **take part in modular training which is short and flexible segments of training** instead of a whole day session. Merchants should always **participate in educational campaigns** organized by the financial and banking institutions in order to deepen their understanding on plastic card services and point of sales payments. The training programmes and education campaigns would help the merchants to process their customers' transactions swiftly and without conducting any error. This will also improve customer experience at point of sale and lead to higher confidence among employees.

Merchants should **also develop a training plan** which will organize the various aspects of training all employees on the point of sales systems. The training plan should highlight:

- **General information:** about how to turn on and turn off the point of sale terminal, how the employee should login and also how to navigate with the point of sale system.
- **Payment:** how to enter the payment amount, how to select different accounts such as saving account, checking account
- **Other topics:** how to process refunds, administer coupons/ loyalty programs

5.24 Portraying Merchants as Ambassadors for Plastic Cards

Merchants are the only ones who are always in direct contact with cardholders on a day to day basis. Hence, by portraying merchants as the ambassadors of plastic cards, merchants should be able to **sensitize their clients that the possession of large amount of cash involves great risks** as thefts and crimes have increased significantly during the last few years. Being an ambassador of plastic cards, merchants should **communicate and explain to their customers as the rapidity, safety, security and conveniences associated with the adoption of plastic cards.**

Moreover, as findings have revealed that 22.9% of respondents do not adopt plastic cards, **merchants should therefore persuade the non-cardholders to adopt plastic cards to conduct all their transactions.** Merchants as ambassadors of plastic card services, **should create and raise awareness among both cardholders and non-cardholders to sustain the adoption of plastic cards.** As empirical findings have revealed that cash is the mode of payment most frequently used by customers (43.8%), therefore, merchants should **encourage their customers to pay by plastic cards instead of cash.**

5.25 Cultivating merchant-customer relationship

Empirical findings have depicted that 18% of merchants believed that there has been a high increased in customer spending by plastic cards. Moreover, 12% of merchants expect 20-40% of their sales to occur through plastic cards in the future. Hence, if merchants want to increase the number of customers paying by plastic cards and at the same time increase their sales, **merchants should build and maintain trustworthy relationship with their customers.** Majority of merchants (11%) have depicted that between 11-25% of their customers pay by plastic cards.

Therefore, **merchants should establish a pleasant relationship with these customers if they want to maintain long term relationship and attain loyal customers.** Empirical estimates have also highlighted that plastic cards are associated with IT savvy ($\bar{x} = 2.53$) and affluent people ($\bar{x} = 2.80$), hence, **merchants should treat these customers as unique and special since they are the ones who use their plastic cards the most to conduct payment transactions.** Moreover, **merchants create a modern day personal retail relationship with their regular customers who pay by plastic cards if they want to sustain the rapid growth of plastic cards in Mauritius.**

5.26 Organizing seminars and conferences

All the merchants accepting plastic card payment should **organize monthly or yearly seminars where they can meet under one platform to discuss about the problems merchants are facing, strategies they can use to motivate merchants who are non-adopters of plastic cards to adopt and accept plastic card payment in the future and the future prospect of plastic cards.** Moreover, the committee **should appoint one leader who would be responsible for regular visit in the different retail outlets to ensure that the merchants are not facing any problems.** Besides, empirical findings have revealed that only 7% of merchants in the manufacturing business adopt plastic cards. Hence, **the union should put more emphasize on merchants having manufacturing business and encourage them to adopt plastic card as it is safe, rapid and more convenient.** Moreover, **merchants who do not accept plastic card payments should also be invited during these seminars and conferences** so that they gained knowledge and understanding about the benefits associated with the adoption of plastic cards.

5.27 Summary

This research provides a guideline as to where banks position with respect to electronic payments practices in Mauritius. Without electronic payment there would be no competitive advantage for banks. There can be many researcher and evidences to display the benefits of plastic cards to both customers and merchants, however, for plastic cards to become a success as a business philosophy, it requires the collaboration and commitment of stakeholders to think in one direction, that is, in the welfare of their customers. Plastic cards should not be viewed as a cost reducing strategy but rather as a strategy that would facilitate the banking lifestyle of potential customers and merchants. Plastic cards should form part of everyone lifestyle. We are now in an era of globalization where customers are considered as God, therefore if banking and financial institutions keep emphasizing on plastic cards as a marketing strategy, banks are not far from being in the same situation as other sectors in Mauritius, where proposed concepts are only being portrayed in journals and conferences and far from being a reality. In this respect, taking all these into consideration will benefit policy makers and other stakeholders in the banking sector in taking better steps to retain loyal customers of plastic cards and make Mauritius a complete cashless economy in the future.

CHAPTER 6**CONCLUSION, LIMITATIONS AND DIRECTION FOR FUTURE RESEARCH****6.1 Conclusion**

The project aimed to provide insights on plastic card adoption by tapping the views of banking professionals/plastic card executives, customers and merchants. The purpose of this study was to develop and test a conceptual model on plastic card adoption for an emerging country such as Mauritius, over a sample of 800 respondents and 200 merchants. This research project will help policy makers, customer, merchants, banking professionals and executives in the plastic card section and financial and banking institutions devise their strategies to sustain the adoption of plastic cards in Mauritius, which is striving towards a cashless society.

Based upon the recommendations which have been made for the three segments, namely, Banks, Customers/ General Public and the Merchants, the present study has highlighted the need to have a serious re-look on the broad factors impacting on the sustained adoption of plastic cards among customers in Mauritius. The geographic dispersion of Automated Teller Machines (β of 0.238, $p < 0.05$) was found to have the most significant impact on the adoption of plastic cards. Customers have reported that ATMs have largely encouraged them to adopt plastic card services ($\bar{x} = 3.99$). Hence, it is highly recommended that financial institutions and banking professionals should widen the geographic dispersion of ATMs and extend their facilities to the whole population.

Furthermore, this research study has also identified that among all the benefits associated with plastic card adoption, the convenience of using plastic cards (β of 0.266, $p < 0.05$) has the most significant impact on the adoption of plastic cards. Plastic cards are likely to be more convenient than traditional paper-based payment in terms of its portability, that is, it removes the inconvenience of carrying cash in a physical wallet. Therefore, professionals and executives in the plastic card section should improve the convenience associated with plastic cards by enhancing the speed, security and ease of transaction when conducting payment with plastic cards.

The empirical findings of this research project are in line with several researchers (Plummer, 1971; Bernthal et al., 2005; Bukhari et al., 2015) who have depicted that customers' lifestyle (β of 0.188, $p < 0.05$) has a huge impact on credit card purchasing behavior. Customers are using plastic cards to adopt standard ($\bar{x} = 3.02$) and branded products ($\bar{x} = 2.96$) that suit their lifestyle and satisfaction and also to improve their standard of living in the society. Hence, digital analysts in the plastic card department should design various types of cards that suit each individual's personality and trait. Banking and financial institutions should also take into consideration the colour and design of the plastic cards, as it is found that the possession of plastic cards increases one's standard of living in the society.

Customers are also very keen about issues such as risks and security (β of 0.191) issues when adopting plastic cards. Hence, it is highly recommended that the banks develop a deep understanding of the factors influencing plastic cards and implement new security features to safeguard the privacy and security of the cardholders. Moreover, apart from banks, the Government also build better and safer payment gateways with extremely sophisticated security programmed software which does lead to data theft, identity theft or hacking of account details of users.

As the Mauritian payment systems is evolving, this particular research has showed that customers are constantly moving away from paper-based payment methods towards electronic means of payment, mostly plastic cards (77.1% users of plastic cards). It would not be shocking if these trends continue, as electronic payment methods are acquiring profound importance and acceptance day by day and at the same time, new payment methods are emerging. For instance, the national payment switch, which is due to be launched by the Bank of Mauritius last year is regarded as an obligation to encourage a cost-effective payment system which will safeguard the safety of consumers and enable all players to operate on a level playing field.

The proposed model has been designed to serve as a practical tool to assess plastic card adoption in the banking sector and can be prolonged to other sectors within the financial services sector. The model could be a useful tool for plastic card services departments, financial institutions, plastic card professionals and executives, digital executives in plastic card department and senior business analyst of the booming banking financial industry to assess, measure and monitor the sustained adoption of plastic cards and also to analyse the opportunities to enhance and improve customers and merchants' adoption of plastic card services.

6.2 Limitations of the Research

Despite the research project has emphasized on broad factors impacting on the sustained adoption of plastic card adoption for an emerging country like Mauritius, there is still some limitations that should be addressed when exploring the phenomenon of plastic card adoption in future research projects. The limitations of the present research are clearly defined to pave the way forward for a future research agenda. The present study has been conducted only to Mauritius as a developing nation.

The study has been limited to plastic card adoption from a quantitative and qualitative perspective where only merchants, customers, stakeholders and banking professionals from banking and financial institutions have been involved. Moreover, among the 21 banking institutions in Mauritius, only seven banking institutions had participated in the focus group discussion which was conducted to obtain insights of banking executives on the adoption of plastic cards, its associated benefits and its barriers among customers in Mauritius.

This research project has not tapped insights from other banking and financial institutions, stakeholders and plastic card issuing companies such as CIM Finance, Rogers Capital. Moreover, in a country of about 1.2 million inhabitants, a relatively small sample size of 800 customers and 200 merchants have been used to conduct the research due to time and financial constraints. Both the customer and merchant questionnaire contain limited questions pertaining to perception of non-cardholders on the phenomenon plastic cards.

The conceptual model has not tapped various factors such as service quality and customer satisfaction towards plastic card adoption, reputation of financial and banking institutions, feelings and customer's habit towards plastic cards, delinquency and bankruptcy involved with the adoption of plastic cards, the green environmental benefits associated with plastic cards, attitudes of employees in the plastic card section, bank - customers and bank - merchants relationship, banking staffs' attitudes towards cardholders.

6.3 Future Research Directions

The findings of this research suggest multiple interesting possibilities for future academic research. Moreover, the study puts forward a wide range of issues which requires further investigation as financial institutions in Mauritius are challenge to further enrich their international competitiveness. An integrated conceptual model relating to the various factors impacting on plastic card adoption among customers can be proposed and tested in other emerging countries such as Rodrigues and Seychelles.

A quantitative survey can be done with banking professionals and executives, policy makers in the plastic card department, card issuing companies and other stakeholders to extend the conceptual model and hence identifying other factors impacting on the sustain adoption of plastic cards. Moreover, a qualitative survey in term of face to face interview can be conducted with customers and merchants to get better insights on their perceptions towards plastic card adoption. Besides, a study that includes the views of at least one banking representative from each banking and financial institutions in Mauritius would be more desirable and a more open study would generate more implications for plastic cards.

A future research project can be done to tap the views of other banking and financial institutions, stakeholders and plastic card issuing companies such as CIM Finance, Rogers Capital. Further studies can be carried out in the future with a much larger sample size to note the Mauritian's perception on a much greater scale. Moreover, another study can be conducted only among non-cardholders and merchants who don't accept plastic card payment to get better understandings on the reasons for non-adoption of plastic cards.

Furthermore, it is vital to widen the conceptual model by identifying other factors that could impact on the adoption of plastic cards in Mauritius and test the factors on a much wider scale across the population of Mauritius, where a more accurate quantitative method would be perfect. The extended conceptual model can focus on various factors such as service quality and customer satisfaction towards plastic card adoption, reputation of financial and banking institutions, feelings and customer's habit towards plastic cards, delinquency and bankruptcy involved with the adoption of plastic cards, the green environmental benefits associated with plastic cards, attitudes of employees in the plastic card section, bank - customers and bank - merchants relationship, banking staffs' attitudes towards cardholders.

Constant research should be made to unveil new trends and opportunities that arise over a period of time. Future research can replicate on the pathways to successful adoption of plastic cards and implement a case study where banks are educating merchants and the population of Mauritius about some of the benefits and challenges involved in the adopting plastic cards and making Mauritius a cashless society. Banks as financial partner in various economies activities with various stakeholders can really achieve great heights in educating and motivating customers and merchants to act and think green.

It is also primarily very important for banks' employees to be properly trained on the different plastic card services that banks are offering. Additionally, one of the main motives behind this work is to make plastic cards more effective for customers and merchants in Mauritius. Suggestions therefore, emphasis on direction for practical actions by managers, customers, merchants and the government to promote the adoption of plastic cards in Mauritius and successful in making Mauritius a cashless society.

On a concluding note, Plastic card is **Safe, Simple and Smart**. Be **Smart**, use your card!

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Consent Type		Schedule		Identification	
Verbal Consent		Date		Questionnaire No.	
Written Consent		Time		Interviewer Name.	

Dear Sir/Madam

This questionnaire has been designed in the view of *Developing and testing a conceptual model on plastic card adoption for emerging countries: A case of Mauritius*. Your views are very important in helping to improve knowledge on Plastic Cards Adoption in Mauritius.

There is no right or wrong answer, please tell us your exact views on each of the questions. Participation in the survey is entirely voluntary. If you decide to take part, rest assured that all the information given will be treated with great confidentiality and interviewees' identity will be preserved. The administration of the questionnaire will take around 5 to 10 minutes.

Thank you very much for your time and kind co-operation. I highly appreciate your help and support in furthering this research endeavour.

This questionnaire consists of several sections. Please answer all the questions by ticking (✓) the appropriate response. Your spontaneous and honest response is important to the success of

SECTION A: GENERAL PERCEPTIONS ON PLASTIC CARDS

A1. Please specify the **bank** you deal with: _____

A2. Do you own a plastic card(s)?

- Yes No (*If No, please answer questions A5, A6 and section G only*)

A3. If **YES**, which one?

- Debit Credit Both Others (*please specify*) _____

A4. Please specify the reasons for **adopting** plastic cards. (*Please tick all that apply*)

- More convenient, safe and secure than carrying cash
- Ease of use at anytime, anywhere
- Saving of cost and time
- Effective device for payment and borrowing
- Influence of societal change in the attitude of borrowing and spending
- Symbol of social status and pride

A5. If **NO**, what are the reasons for **non-adoption** of plastic cards? (Please tick all that apply)

- a. Security issues
- b. Fear of losing the cards
- c. Unnecessary formalities
- d. Lack of trust while making transactions
- e. Unacceptability at outlets
- f. Complexity of terms and conditions of banks
- g. Technology linkage issues

A6. If you **don't adopt** plastic cards, please rate your **likeliness to adopt plastic cards** in the **future**?

		Very Unlikely	Unlikely	Neutral	Likely	Very Likely
		1	2	3	4	5
A6a	How likely are you to start using plastic cards?	<input type="checkbox"/>				

A7. Please specify since how **long** did you adopt plastic cards?

- Less than 1 year 1-3 years 4 -7 years 8-10 years More than 10 years

A8. How often do you **use** your plastic card(s)?

- Less than 1 time per week 1-6 times per week 1-3 times per day 4 or more times per day

A9. How did you **learn** about plastic cards? (Please tick (✓) only one answer)

- Bank Friends/relatives Advertisings/promotions

A10. Please specify for which of the following purposes, do you **mostly** use your plastic cards? (Please tick all that apply)

- a. Apparel
- b. Investments
- c. ATM withdrawals
- d. Consumer durables
- e. Jewelry
- f. Banking
- g. Payment at counter
- h. Online transaction
- i. Electronics
- j. Electricity bills
- k. Paying insurance

A11. According to you, what are the **most beneficial payment instruments**? (Please tick all that apply)

- a. Cash
- b. Cheques
- c. Debit cards
- d. Credit cards
- e. Mobile banking
- f. Prepaid cards

A12. Please specify your most **preferred mode of payment** (eg. Cash, cheques, debit/credit card) and state the reason(s) why? (Please provide only 1 answer)

- a. Preferred mode of payment: _____
- b. Reasons for choosing this mode of payment: _____

SECTION B: BROAD FACTORS IMPACTING ON THE ADOPTION OF PLASTIC CARDS

Statements: Attitudes and plastic card adoption		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
B1	Plastic card is a convenient payment method for me	<input type="checkbox"/>				
B2	There is an increase in my expenses when I use plastic cards	<input type="checkbox"/>				
B3	It is mandatory for me to use plastic cards to effect payments	<input type="checkbox"/>				
B4	The interest rates of plastic cards are reasonable	<input type="checkbox"/>				
B5	Plastic cards are helpful during emergency situations	<input type="checkbox"/>				
B6	When I use my plastic cards, I am able to buy expensive and luxury goods	<input type="checkbox"/>				

Statements: Automated Teller Machines and plastic card adoption		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
B7	ATM has contributed towards my adoption of plastic cards	<input type="checkbox"/>				
B8	Technology facilities such as ATMS have encouraged me to use plastic cards	<input type="checkbox"/>				
B9	I use my plastic cards in ATMs that are available everywhere	<input type="checkbox"/>				
B10	I use my plastic cards in the ATMs that are always functioning	<input type="checkbox"/>				
B11	I use my plastic cards to access many ATM points at a very close distance	<input type="checkbox"/>				

Statements: Social Influence and plastic card adoption		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
B12	Reference group influence my adoption of plastic cards	<input type="checkbox"/>				
B13	Recommendations of friends influence my decision to use plastic cards	<input type="checkbox"/>				
B14	Recommendations of family influence my decision to use plastic cards	<input type="checkbox"/>				
B15	I will not use plastic cards if I receive bad feedback	<input type="checkbox"/>				
B16	Before using plastic cards, I would ask for the experiences of my family and friends	<input type="checkbox"/>				

SECTION C: PERCEIVED BENEFITS AND PLASTIC CARD ADOPTION

Statements: Convenience of plastic cards		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
C1	There are more advantages (speed, security and ease of transaction) associated with plastic cards than with cash	<input type="checkbox"/>				
C2	It is more convenient to use plastic cards than cash	<input type="checkbox"/>				
C3	Using a plastic card means that I do not have to worry about taking too much cash with me	<input type="checkbox"/>				
C4	It is important to have a plastic card with me when I travel abroad	<input type="checkbox"/>				
C5	Plastic cards transactions are more rapid and safer than cash	<input type="checkbox"/>				
C6	Worldwide purchases are more convenient with plastic cards	<input type="checkbox"/>				

Statements: Monitoring budgets using plastic cards		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
C7	Plastic cards help to get insight into my total expenses	<input type="checkbox"/>				
C8	Plastic cards help for budget control and to cut down expenses	<input type="checkbox"/>				
C9	Plastic cards help to keep track of the nature of my expenses	<input type="checkbox"/>				
C10	Plastic cards help to get insight into total expenses of my household	<input type="checkbox"/>				
C11	Plastic cards help to ensure that I'm not short of money at the counter	<input type="checkbox"/>				

Statements: Trust and plastic card adoption		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
C12	Trust is important in my decision to adopt plastic cards	<input type="checkbox"/>				
C13	I trust that banks keep the promises and commitment they make	<input type="checkbox"/>				
C14	I trust that merchants keep the promises and commitment they make	<input type="checkbox"/>				
C15	I trust that plastic card services are reliable	<input type="checkbox"/>				
C16	I trust that plastic card providers are honest	<input type="checkbox"/>				
C17	I trust that plastic card services are dependable	<input type="checkbox"/>				
C18	In general, I find plastic cards trustworthy	<input type="checkbox"/>				

<u>Statements: Incentives from merchants and plastic card adoption</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
C19	Merchants provide discounts and special offer when I effect payments with my plastic cards	<input type="checkbox"/>				
C20	I accumulate loyalty and rewards points from merchants when I pay with my plastic cards	<input type="checkbox"/>				
C21	Merchants provide gifts when I make a purchase with plastic cards	<input type="checkbox"/>				
C22	Incentives from merchants have encouraged me to conduct payments using my plastic cards	<input type="checkbox"/>				

SECTION D: SOCIAL CLASS AND PLASTIC CARD ADOPTION

<u>Statements: Image and plastic card adoption</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
D1	Using plastic cards improve my image	<input type="checkbox"/>				
D2	People who use plastic cards are IT savvy	<input type="checkbox"/>				
D3	People who use plastic cards are trendy	<input type="checkbox"/>				
D4	Only young people use plastic cards	<input type="checkbox"/>				
D5	People who use plastic cards have more prestige	<input type="checkbox"/>				

<u>Statements: Social Status and plastic card adoption</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
D6	Plastic cards are associated with affluent people (high income earners)	<input type="checkbox"/>				
D7	I am encouraged to buy things beyond my budget when I use plastic cards	<input type="checkbox"/>				
D8	I often come across financial difficulties when using plastic cards	<input type="checkbox"/>				
D9	Adoption of plastic cards makes me feel fashionable	<input type="checkbox"/>				
D10	Paying by plastic cards makes me feel wealthy	<input type="checkbox"/>				

<u>Statements: Lifestyle and plastic card adoption</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
D11	Plastic card has made me acquire quality goods	<input type="checkbox"/>				
D12	Plastic card has enabled me to purchase standard goods	<input type="checkbox"/>				
D13	Plastic card has allowed me to buy expensive goods	<input type="checkbox"/>				
D14	Plastic card has enabled me to make online purchases	<input type="checkbox"/>				
D15	Plastic card has allowed me to opt for branded products	<input type="checkbox"/>				
D16	Overall, plastic cards add value to my lifestyle	<input type="checkbox"/>				

SECTION E: PERCEIVED RISKS AND HINDRANCES ASSOCIATED WITH PLASTIC CARD

<u>Statements: Perceived Security risks of plastic cards</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
E1	My personal payment information is kept safe when I use my plastic card to pay for a purchase	<input type="checkbox"/>				
E2	I am concerned about the security of plastic card payments	<input type="checkbox"/>				
E3	I am concerned about someone capturing my payment information or other data if I use plastic card services	<input type="checkbox"/>				

		Not Reliable at all	Somehow Reliable	Neutral	Reliable	Very Reliable
		1	2	3	4	5
E4	How reliable do you find the level of security of plastic cards	<input type="checkbox"/>				

<u>Statements: Perceived Privacy risks of plastic cards</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
E5	In general, I find it risky to give my personal information when using plastic cards	<input type="checkbox"/>				
E6	Using plastic cards involved high potential for privacy loss of personal information	<input type="checkbox"/>				
E7	Personal information could be inappropriately used by the plastic card issuer.	<input type="checkbox"/>				
E8	Many unexpected problems could arise when giving my personal information to banks or merchants	<input type="checkbox"/>				

E9. Have you ever been a **victim of plastic card fraud**? Yes No

<u>Statements: Fraud and plastic card adoption</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
E10	ATMs that are located at isolated and high-risk areas contribute to ATM fraud and crime	<input type="checkbox"/>				
E11	Plastic card fraud are common frauds conducted by fraudsters	<input type="checkbox"/>				
E12	I feel afraid to use my plastic cards because of fraudulent activities	<input type="checkbox"/>				
E13	Financial awareness of plastic cards are not well communicated to customers in Mauritius	<input type="checkbox"/>				

<u>Statements: Compulsive buying and plastic card adoption</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
E14	Spending money using my plastic cards makes me feel better	<input type="checkbox"/>				
E15	I often act impulsive when I do my purchases with plastic cards	<input type="checkbox"/>				
E16	I lose control of my budget and do purchases that I cannot afford with my plastic cards	<input type="checkbox"/>				

SECTION F: FUTURE USAGE INTENTION AND PROSPECT OF PLASTIC CARD

<u>Statements: Future usage intention</u>		Very Unlikely	Unlikely	Neutral	Likely	Very Likely
		1	2	3	4	5
F1	How likely are you to adopt plastic cards in the future	<input type="checkbox"/>				
F2	How likely are you to use plastic cards more than 10 times monthly	<input type="checkbox"/>				

F3. According to you, what is the **future prospect** of plastic cards in Mauritius?

<u>Statements: Future prospect of plastic cards</u>	Please tick (✓) only one answer
Rapid growth	
Steady growth	
Stagnant	
Can't predict	
Decline	

SECTION G: DEMOGRAPHIC PROFILE OF RESPONDENTS

Please tick (✓) the boxes applicable to you. Kindly note that the information provided in this section will be handled in strict confidentiality and will be used solely for analytical purposes.

1. Gender	<input type="checkbox"/> Male	<input type="checkbox"/> Female					
2. Age Group	<input type="checkbox"/> Between 18 and 24	<input type="checkbox"/> Between 25 and 34	<input type="checkbox"/> Between 35 and 44	<input type="checkbox"/> Between 45 and 54	<input type="checkbox"/> 55 and above		
3. Marital Status	<input type="checkbox"/> Single	<input type="checkbox"/> Married	<input type="checkbox"/> Divorced	<input type="checkbox"/> Widowed			
4. Educational Level	<input type="checkbox"/> Primary Certificate	<input type="checkbox"/> School Certificate	<input type="checkbox"/> Higher School Certificate	<input type="checkbox"/> Diploma Degree	<input type="checkbox"/> Bachelor Degree	<input type="checkbox"/> Master Degree	<input type="checkbox"/> PhD
5. Occupational Group	<input type="checkbox"/> Professional/Executives	<input type="checkbox"/> Clerical and service workers	<input type="checkbox"/> Unemployed	<input type="checkbox"/> Manual and Elementary Workers	<input type="checkbox"/> Students	<input type="checkbox"/> Self-employed	<input type="checkbox"/> Retired
6. District	<input type="checkbox"/> Riviere du Rempart	<input type="checkbox"/> Black River	<input type="checkbox"/> Savanne	<input type="checkbox"/> Grand Port	<input type="checkbox"/> Flacq	<input type="checkbox"/> Moka	
	<input type="checkbox"/> Pamplemousses	<input type="checkbox"/> Port Louis	<input type="checkbox"/> Plaine Wilhems				
7. Income Level (Rs)	<input type="checkbox"/> Between 10,000 - 14,999	<input type="checkbox"/> Between 15,000 - 19,999	<input type="checkbox"/> Between 20,000 - 24,999	<input type="checkbox"/> Between 25,000 - 29,999	<input type="checkbox"/> Between 30,000 - 34,999		
	<input type="checkbox"/> Between 35,000 - 39,999	<input type="checkbox"/> Between 40,000 - 44,999	<input type="checkbox"/> Above 45,000	<input type="checkbox"/> No income			

Consent Type		Schedule		Identification	
Verbal Consent		Date		Questionnaire No.	
Written Consent		Time		Interviewer Name.	

Dear Sir/Madam

This questionnaire has been designed in the view of *Developing and testing a conceptual model on plastic card adoption for emerging countries: A case of Mauritius*. Your views are very important in helping to find out knowledge on Plastic Cards Adoption in Mauritius.

There is no right or wrong answer, please tell us your exact views on each of the questions. Participation in the survey is entirely voluntary. If you decide to take part, rest assured that all the information given will be treated with great confidentiality and interviewees' identity will be preserved. The administration of the questionnaire will take around 5 to 10 minutes.

Thank you very much for your time and kind co-operation. I highly appreciate your help and support in furthering this research endeavor.

This questionnaire consists of several sections. Please answer all the questions by ticking (✓) the appropriate response. Your spontaneous and honest response is important to the success of this research.

SECTION A: ACCEPTANCE OF PLASTIC CARDS

A1. Please specify **the bank** you deal with: _____

A2. Do you accept card payment?

- Yes No (*If NO, please answer questions A6, A7 and section F only*)

A3. If **YES**, which types of cards do you accept? (*Please tick all that apply*)

- Debit cards Credit cards Prepaid cards Others (*please specify*) _____

A4. Since **when** does your business accept plastic cards as a payment instrument?

- Less than 1 year 2-3 years ago 3-4 years ago 4-5 years ago More than 5 years

A5. Please tick the **reasons** for accepting card payments. (*Please tick all that apply*)

- a. Risk of losing sales
 b. Increase frequency sales
 c. Increased competitiveness
 d. Lower risk of theft and counterfeit
 e. Lower risk of human error during exchange

A6. If **NO**, what are the reasons for **non-adoption** of card payments? *(Please tick all that apply)*

- a. I find it difficult to learn and understand how to use it
- b. Customers rarely ask for it
- c. It is too expensive given my margins
- d. The minimum balance required on my current account is too high
- e. Takes too much time to operate
- f. It takes too long to get paid
- g. It is not secure
- h. It has increased my tax burden
- i. I have to make payments in cash, so prefer receiving cash
- j. After-sales service is bad
- k. System breaks down

A7. If you **don't** accept card payments, please rate your **likeliness to adopt plastic card payments** in the **future**?

		Very Unlikely	Unlikely	Neutral	Likely	Very Likely
		1	2	3	4	5
A7a	How likely are you to start accepting plastic card payments?	<input type="checkbox"/>				

A8. What **percentage** of your sales occur through plastic cards? *(Please tick only 1 answer)*

- Less than 1%
- Between 2 - 5%
- Between 6 - 10%
- Between 11 - 25%
- More than 25%

A9. According to you, how do you prefer your customers to pay at the counter? *(Please tick all that apply)*

- a. Cash
- b. Cheques
- c. Debit cards
- d. Credit cards
- e. Mobile banking (Juice)
- f. Prepaid cards

A10. Please specify your **most preferred** payment instrument (eg. Cash, cheques, debit/credit card) and provide reason(s) why? *(please provide only 1 answer)*

- a. Preferred payment instrument: _____
- b. Reasons for choosing this mode of payment: _____

SECTION B: PERCEIVED RISKS AND HINDRANCES OF ACCEPTING PLASTIC CARDS

B1. Have you been victim of **card fraud** since trading through plastic cards?

- Yes No (*If NO, go to question B3*)

B2. If **YES**, can you please give a brief explanation of the type of fraud you have encountered?

B3. Are you aware of Merchant Service Commission and Issuer Interchange Fee?

- Yes No (*If NO, go to question B6*)

B4. If **YES**, can you please give a brief description of the above-mentioned fees?

B5. What is the **actual rate** of Merchant Service Commission and Issuer Interchange Fee charged in Mauritius?

a. Merchant Service Commission: _____ %

b. Issuer Interchange Fee: _____ %

B6. Is there any **transaction size** below which you **don't accept** card payments?

- Yes No (*If NO, go to question B9*)

B7. If **YES**, can you please state the **minimum transaction value** under which you don't accept card payments?

RS _____

B8. Why do you have this limit?

<u>Statements: Credit card limit</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
B8a	Costs have increased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B8b	Takes too much time to operate with plastic cards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B8c	It takes too long to get paid	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B8d	It has increased my tax burden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B9. Hindrances towards the adoption of plastic cards

<u>Statements: Hindrances towards plastic card acceptance</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
B9a	Banks charge merchants high commission (MSC) for accepting plastic card payment	<input type="checkbox"/>				
B9b	Banks charge high interchange fees for accepting card payment	<input type="checkbox"/>				
B9c	The fees involved in renting of point of sales terminals are too high	<input type="checkbox"/>				
B9d	There is delay in payment from bank due to lack of trained personnel	<input type="checkbox"/>				
B9e	Banks lack appropriate measures to handle cardholder's problems	<input type="checkbox"/>				
B9f	I am required to install high screening systems to prevent fraud	<input type="checkbox"/>				
B9g	Pos terminals often reject customer's transactions	<input type="checkbox"/>				
B9h	It is difficult to cancel the purchases after processing a card payment	<input type="checkbox"/>				

SECTION C: BENEFITS OF ACCEPTING PLASTIC CARDS

<u>Statements: Perceived Benefits of accepting Debit Cards</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
C1	Debit cards help to increase the sales of small amount items	<input type="checkbox"/>				
C2	There is less charge back problems compared to credit cards	<input type="checkbox"/>				
C3	I am able to attract all level customers by accepting debit cards	<input type="checkbox"/>				
<u>Statements: Perceived Benefits of accepting Credit Cards</u>						
C4	I am able to attract both middle and high-income level customers using credit cards	<input type="checkbox"/>				
C5	Acceptance of credit cards help to increases the sales of big ticket items both traditional and online	<input type="checkbox"/>				
C6	Accepting credit cards reduces bad debts	<input type="checkbox"/>				
C7	Credit cards acceptance help me to achieve impulse sales	<input type="checkbox"/>				

SECTION D: MERCHANT'S PERCEPTION ON CUSTOMER'S MODE OF PAYMENT

D1. From your point of view, which method of payments are **most frequently used** by your customers to pay for their purchases? *(Please tick all that apply)*

- a. Cash b. Cheques c. Debit cards
 d. Credit cards e. Mobile banking f. Prepaid cards

D2. Have you noticed **any increase** in consumers spending by plastic cards? *(Please tick only 1 answer)*

- Very high High Equal Low Very Low

D3. What percentage of your customers pay by plastic cards? *(Please tick only 1 answer)*

- Less than 1%
 Between 2 - 5%
 Between 6 - 10%
 Between 11 - 25%
 More than 25%

SECTION E: MERCHANT'S FUTURE ACCEPTANCE INTENTION OF PLASTIC CARDS

E1. In the future years, what **percentage of growth** in business do you expect through plastic cards?

- Below 20% 20-40% 41-60% 61-80% 81-100%

E2. What are your **future acceptance intention** of plastic cards?

<u>Statements: Future acceptance intention</u>		Very unlikely	Unlikely	Neutral	Likely	Very Likely
		1	2	3	4	5
E2a	How likely are you to continue accepting plastic cards in the future	<input type="checkbox"/>				
E2b	How likely are you to encourage customers to pay by plastic cards in the future	<input type="checkbox"/>				

E3. According to you, what is the **future prospect** of plastic cards in Mauritius?

<u>Statements: Future prospect of plastic cards</u>	Please tick (✓) only one answer
Rapid growth	
Steady growth	
Stagnant	
Can't predict	
Decline	

SECTION F: DEMOGRAPHIC PROFILE AND DETAILS OF BUSINESS

Please tick (✓) the boxes applicable to you. Kindly note that the information provided in this section will be handled in strict confidentiality and will be used solely for analytical purposes.

1. Gender	<input type="checkbox"/> Male	<input type="checkbox"/> Female				
2. Age Group	<input type="checkbox"/> Between 18 and 25	<input type="checkbox"/> Between 26 and 34	<input type="checkbox"/> Between 35 and 44	<input type="checkbox"/> Between 45 and 54	<input type="checkbox"/> Above 55	
3. District	<input type="checkbox"/> Riviere du Rempart	<input type="checkbox"/> Black River	<input type="checkbox"/> Savanne	<input type="checkbox"/> Grand Port	<input type="checkbox"/> Flacq	<input type="checkbox"/> Moka
	<input type="checkbox"/> Pamplemousses	<input type="checkbox"/> Port Louis	<input type="checkbox"/> Plaine Wilhems			
4. Nature of business	<input type="checkbox"/> Manufacturing	<input type="checkbox"/> Trading	<input type="checkbox"/> Service			
5. Types of goods/services	<input type="checkbox"/> Food and accommodation	<input type="checkbox"/> Groceries	<input type="checkbox"/> Educational services	<input type="checkbox"/> Automobile services	<input type="checkbox"/> Cosmetic and beauty products	
	<input type="checkbox"/> Leather products and footwear	<input type="checkbox"/> Textile products	<input type="checkbox"/> Jewelry and luxury items	<input type="checkbox"/> Travel and entertainment services		
	<input type="checkbox"/> Health and medical services	<input type="checkbox"/> Household items (electronic items, furniture, etc.)	<input type="checkbox"/> Others	<i>(please specify)</i> _____		

Title: Developing and testing a conceptual model for plastic card adoption in a Cashless Society – Use of Plastic Cards in Mauritius

(MRC funded research; Project code: K0476)

Part 1: General attitudes and benefits of plastic cards

- What are your **general views** on plastic cards in Mauritius?
- For how **long**, plastic card services have been introduced in Mauritius?
- Apart from debit and credit cards, what **other types of cards** does your bank offer?
- Do you think that Mauritius is moving towards a **cashless** society?
- What is currently being done to **increase the adoption** of plastic cards in Mauritius?
- What are the **key factors** for the adoption of plastic cards in Mauritius?
- What are **the reasons** why small shops and stores are not willing to adopt plastic cards?
Are the interest rate too high/ Swipe fees?
- What are the **main benefits** for customers to adopt plastic cards in Mauritius?
- What banks are doing **to improve** plastic card services?
- Why are banks investing in **digital money** and why should customers adopt digital money in Mauritius?

Part 2: Broad factors and its impact on plastic card adoption in Mauritius.

- What are the **factors** that influence the adoption of plastic cards?
- Do you think **demographic related factors** has an influence and impact on plastic card adoption?
- Customers are influenced by **peer and friends** to use plastic cards. What are your views?

Part 3: Hindrance factors and associated risks with plastic cards

- What are your views on **risks** associated with plastic cards?
- What **types of risks** do customers face when using plastic cards on a daily basis?
- Does your bank encounter frequent cases of **frauds/thefts** or **problems/complaints** regarding plastic cards?
- What are the **different initiatives** adopted by your bank to uphold the **security and privacy** of plastic card holders?
- What are the **hindrance factors** that lead to **non-adoption** of plastic cards among customers?

Part 4: Strategies and Challenges to accelerate the adoption of plastic cards

- What are the **effective marketing strategies** that banks use to promote the adoption of plastic cards? How far these strategies have been **successful to increase adoption of plastic cards**?
- What is currently being done to **encourage customers** to adopt plastic cards in Mauritius?
- How far do you believe that **persuasive advertising** can influence adoption of plastic cards?
- What are the **different promotional tools** that your bank is adopting **to boost** plastic cards adoption in Mauritius?
- What are the **challenges** involved with plastic card adoption in Mauritius?
- Do you think adoption of plastic cards has a **bright future** in our emerging country like Mauritius?
- What are the **possible orientations** that we can address/focus for our research on plastic card adoption?
- Could you please advise on other particular emerging aspects that we could focus for our research on plastic card adoption for Mauritius?

Developing and testing a conceptual model for plastic card adoption in a Cashless Society – Use of Plastic Cards in Mauritius

[MRC funded research; project code: K0476]



Investigators:
Assoc Prof Thanika Juwaheer
Mrs Sharmila Pudaruth
Research Assistant: Ms Pushpam Daby

Main Highlights of the Focus Group Discussion

- Part 1: General attitudes and benefits of plastic cards
- Part 2: Broad factors and its impact on plastic card adoption
- Part 3: Hindrance factors and associated risks with plastic cards
- Part 4: Strategies and challenges for accelerating adoption of plastic cards

Objectives of the Focus Group Discussion

- To explore the broad factors impacting on the adoption of plastic cards and its associated benefits among customers in Mauritius
- To obtain insights on the adoption of plastic (credit) cards and its barriers (if any) for our cashless society.



Types of cards available in Mauritius



Part 1: General attitudes and benefits of plastic cards (1)

- What are your **general views** on plastic cards in Mauritius?
- For how **long**, plastic card services have been introduced in Mauritius?
- Apart from debit and credit cards, what **other types of cards** does your bank offer?
- Do you think that Mauritius is moving towards a **cashless** society?
- What is currently being done to **increase the adoption** of plastic cards in Mauritius?

Part 1: General attitudes and benefits of plastic cards (2)

- What are the **key factors** for the adoption of plastic cards in Mauritius?
- What are the **reasons** that small shops and stores are not willing to adopt plastic cards? Are the interest rates/swipe fees too high?
- What are the **main benefits** for customers to adopt plastic cards in Mauritius?
- What banks are doing **to improve** plastic card services?
- Why are banks investing in **digital money** and why should customers adopt digital money in Mauritius?



Part 4 : Strategies and Challenges to accelerate the adoption of plastic cards (1)

- What are the **effective marketing strategies** that banks use to promote the adoption of plastic cards? How far these strategies have been **successful to increase adoption of plastic cards**?
- What is currently being done to **encourage customers** to adopt plastic cards in Mauritius?
- How far do you believe that **persuasive advertising** can influence the adoption of plastic cards?
- What are the **different promotional tools** that your bank is adopting **to boost** plastic cards adoption in Mauritius?

Part 4 : Strategies and Challenges to accelerate the adoption of plastic cards (2)

- What are the **challenges** involved with plastic card adoption in Mauritius?
- Do you think adoption of plastic cards has a **bright future** in our emerging country like Mauritius?
- What are the **possible orientations** that we can address/focus for our research on plastic card adoption?
- Could you please advise on other **particular emerging aspects** that we could focus for our research on plastic card adoption for Mauritius?



This picture shows the push towards a cashless society



Thank you for your precious time and collaboration



Title: Developing and testing a conceptual model for plastic card adoption in a Cashless Society – Use of Plastic Cards in Mauritius

(MRC funded research; Project code: K0476)

1. How are banks in Mauritius facing **new competitors** in the banking environment?
2. Competition authorities and regulators should **reduce barriers to entry or exit and abolish restrictions** on the behavior of market participants. Like the 'no surcharge' rule, the 'no-steering' rule, or the 'honour all cards' rule. Can there be unintended consequences and do all systems require the same approach?
3. Innovations such as the **Bank of Mauritius's National Payment Switch, MCB's Juice and SBM's Alipay** may develop and may create new opportunities for players to enter the payments sector. Is this going to be a normal competition for authorities and regulators?
4. Will **competition** among payment providers, networks, or instruments **improve consumer and merchant welfare**?
5. How can CCM **encourage innovation** among the players in the payments industry and what are the **requirements of customers** for plastic card adoption in Mauritius?
6. What are the views of CCM on the **different initiatives** adopted by banks to uphold the **security and privacy** of plastic card holders?
7. What are the **hindrance factors** that lead to **non-adoption** of plastic cards among customers?
8. Lastly, what is the **current state of competition** among **plastic money** in Mauritius.

Hypothesis Development and Justification

<u>HYPOTHESES</u>	<u>RELEVANT STUDY</u>
<p>H1: Broad factors for plastic card adoption impact on the sustained adoption of plastic cards</p> <ul style="list-style-type: none"> • <i>H1a: Customer's attitude has an impact on the sustained adoption of plastic cards</i> • <i>H1b: The geographic dispersion of ATMs impacts on the sustained adoption of plastic cards</i> • <i>H1c: Social influence towards plastic cards has an impact on the sustained adoption of plastic cards</i> 	<ul style="list-style-type: none"> - Lanjewar, 2015; Mwihaki, 2015; Soodan and Pandey, 2015; Singh, 2017 - Hannan and McDowell, 1990; Caskey and Sellon, 1994; Saloner and Shepard, 1995; Markose and Loke, 2003; Berger and DeYoung, 2006; Pudaruth <i>et al.</i>, 2014 - Borzekowski <i>et al.</i>, 2006; Ismail <i>et al.</i>, 2014
<p>H2: Perceived benefits of plastic cards impact on the sustained adoption of plastic cards</p> <ul style="list-style-type: none"> • <i>H2a: Convenience of using plastic cards impacts on the sustained adoption of plastic cards</i> • <i>H2b: Customers' ability for effective budgets monitoring impacts on the sustained adoption of plastic cards</i> • <i>H2c: Trust in plastic cards impacts on the sustained adoption of plastic cards</i> • <i>H2d: Incentives from merchants related to plastic cards impact on the sustained adoption of plastic cards</i> 	<ul style="list-style-type: none"> - Subhani <i>et al.</i>, 2011; Bukhari <i>et al.</i>, 2015; Dhanda, 2016; Sultana and Hasan, 2016; Malagi and Shelar, 2017 - Srivastava and Raghubir, 2002; Arango and Taylor, 2009; Jonker and Kosse, 2013; Hernandez <i>et al.</i>, 2014; Mahima Rama, 2018 - Morgan and Hunt, 1994; Swaminathan <i>et al.</i>, 1999; Chau and Poon, 2003; Lim <i>et al.</i>, 2007 - Chakravorti, 2000; Chakravorti, 2003; Ching and Hayashi, 2008; Mwendu <i>et al.</i>, 2017
<p>H3: Social class related factors impact on the sustained adoption of plastic cards</p> <ul style="list-style-type: none"> • <i>H3a: Customer's image influences the sustained adoption of plastic cards</i> 	<ul style="list-style-type: none"> - Penman and McNeill, 2008; Silvera <i>et al.</i>, 2008; Masuo <i>et al.</i>, 2014

<ul style="list-style-type: none"> • <i>H3b: Customer’s social status impacts on the sustained adoption of plastic cards</i> <i>H3c: Customer’s lifestyle impacts on the sustained adoption of plastic cards</i> 	<ul style="list-style-type: none"> - Rogers, 1983; Campbell, 2004; Gan <i>et al.</i>, 2008; Timonah, 2012 Berenthal <i>et al.</i>, 2005; Neuner <i>et al.</i>, 2005; Sultana and Hasan, 2016
<p>H4: Perceived risks and hindrance factors impact on the sustained adoption of plastic cards</p> <ul style="list-style-type: none"> • <i>H4a: Security risks associated with plastic cards influences the sustained adoption of plastic cards</i> • <i>H4b: Privacy risks involved with plastic cards impacts on the sustained adoption of plastic cards</i> • <i>H4c: Fear of frauds associated with plastic cards influence the sustained adoption of plastic cards</i> • <i>H4d: Compulsive buying when using plastic cards impacts on the sustained adoption of plastic cards</i> 	<ul style="list-style-type: none"> - Russell Smith, 1997; Jonker, 2007; Bolt and Chakravoti, 2008; He <i>et al.</i>, 2008; Kosse, 2013 - Featherman and Pavlou, 2002; Han, 2003 - Mohamad, 2011; Kosse, 2011; Kahn and Zegarra, 2013; Jegede, 2014; Dave, 2016; Dzomira, 2017; Shewangu Dzomira, 2017 - Omar <i>et al.</i>, 2013; Bukhari <i>et al.</i>, 2015; Dave, 2016; Aslanoglu and Korga, 2017
<p>H5: Socio-demographic factors sustained the adoption of plastic cards</p> <ul style="list-style-type: none"> • <i>H5a: Customer’s level of education influences the sustained adoption of plastic cards</i> • <i>H5b: Customer’s level of income influences the sustained adoption of plastic cards</i> • <i>H5c: Customer’s age influences the sustained adoption of plastic cards</i> • <i>H5d: Customer’s occupation influences the sustained adoption of plastic cards</i> • <i>H5e: Customer’s gender influences the sustained adoption of plastic cards</i> 	<ul style="list-style-type: none"> - Delener and Katzenstein, 1994; Khalid <i>et al.</i>, 2013; Worthington <i>et al.</i>, 2007 - Mantel and McHugh, 2001; Jin and DeVaney, 2005; Worthington <i>et al.</i>, 2007 - Delener and Katzenstein, 1994; Shannon and Yoopetch, 2002; Gan <i>et al.</i>, 2008 - Delener and Katzenstein, 1994; Chan, 1997; Khalid <i>et al.</i>, 2013 - Gan <i>et al.</i>, 2008; Nyasha Kaske, 2012; Sumi and Safiullah, 2014; Mwihiaki, 2015; Sultana and Hasan, 2016

DATE

TO WHOM IT MAY CONCERN

This is to certify that **Mr. XXX** has been recruited as interviewer by the University of Mauritius as from DATE to DATE while he is pursuing his first degree (DEGREE NAME) in the same institution. He is employed to conduct face-to-face interviews with the general public and merchants across the nine districts of Mauritius for a particular study on **“Exploring the Contribution of Green Banking as an Emerging Strategy for Enhancing Sustainable Banking Practices in Mauritius.”**

Please do needful to assist the student for the present survey.

Thanking you for your collaboration.

Yours sincerely

Mrs Roubina T D Juwaheer, PhD

Associate Professor

Faculty of Law & Management

University of Mauritius

Tel: 403 7541

DATE

Dear Sir

Re: Contract - Developing and Testing a Conceptual Model on Plastic Card Adoption for Emerging Countries: A Case for Mauritius (Project Reference: K0476)

I, the undersigned, as an interviewer for the survey to be carried out for the University of Mauritius on “Developing and testing a conceptual model on plastic card adoption for emerging countries: A case for Mauritius”, agree to carry out the following duties:

- Attend all briefing sessions
- Conduct face to face interviews with eligible participants as per the sampling plan provided
- Ensure that all questionnaires are properly filled
- Make any call-backs necessary to ensure that the interviews are successful
- Edit all completed questionnaire before input
- Input all open ended and closed ended codes into the template
- Abide by the instructions given by the Research Assistant, Miss Pushpam Daby
- For issues relating to validity and reliability, provide a list of your participants with their contact numbers separately.

I also certify the reception of the following:

- Interviewer Contract
- Letter of Authorisation for Survey
- 50 Questionnaires
- 1 CD
- 1 Badge

and to duly edit, code, input and return all questionnaires to Miss Pushpam Daby, Research Assistant of the above-mentioned research project under the supervision of Mrs Sharmila Pudaruth and Dr Roubina T D Juwaheer by DATE.

Int. No:	Name	Signature
01	XXX	_____

DATE

Dear Sir

Re: Contract for the Research Project - Developing and Testing a Conceptual Model on Plastic Card Adoption for Emerging Countries: A Case for Mauritius (Project Reference: K0476)

I, the undersigned, as an interviewer for the survey to be carried out for the University of Mauritius on “Developing and testing a conceptual model on plastic card adoption for emerging countries: A case for Mauritius”, agree to carry out the following duties:

- Attend all briefing sessions
- Conduct face to face interviews with eligible participants as per the sampling plan provided
- Ensure that all questionnaires are properly filled
- Make any call-backs necessary to ensure that the interviews are successful
- Edit all completed questionnaire before input
- Input all open ended and closed ended codes into the template provided by the Team Leader, Mr Priyesh Radhoa
- Abide by the instructions given by the Team Leader, Mr Priyesh Radhoa
- For issues relating to validity and reliability, provide a list of your participants with their contact numbers separately.

I also certify the reception of the following:

- Interviewer Contract
- Letter of Authorisation for Survey
- 50 Questionnaires
- 1 CD
- 1 Badge

and to duly edit, code, input and return all questionnaires to Mr Priyesh Radhoa, Team Leader of the above-mentioned research project under the supervision of Mrs Sharmila Pudaruth and Dr Roubina T D Juwaheer by Friday 12th October 2018.

Int. No:	Name	Signature
02	Toushveer Sanhye	_____

DATE

TO WHOM IT MAY CONCERN

This is to certify that **Mr. XXX** participated in a survey for a project funded by the Mauritius Research Council, entitled “**Developing and testing a conceptual model on plastic card adoption for emerging countries: A case for Mauritius**” as an interviewer and conducted by researchers from the University of Mauritius from DATE to DATE while pursuing his first degree in (DEGREE NAME) at the same institution.

During the two weeks, the following tasks were undertaken and completed successfully:

1. **Face to face interview with respondents in the nine districts of Mauritius;**
2. **Communicate with the Research Assistant for the respective project;**
3. **Editing of the survey responses; and**
4. **Input of the edited responses in SPSS for analysis.**

He is a strongly motivated student and has demonstrated a high level of competence and devotion during the assignment. I take this opportunity to thank Mr. XXX for his efforts in successfully completing the assignment.

Yours sincerely

Mrs Sharmila Pudaruth
Principal Investigator
Faculty of Law and Management
University of Mauritius
Email: sh.pudaruth@uom.ac.mu
Tel: 403 7544

Mrs Roubina T D Juwaheer, PhD
Investigator
Faculty of Law & Management
University of Mauritius
Email: roubina@uom.ac.mu
Tel: 403 7541

09 July 2018

Mr Deshmukh Kowlessur
Executive Director
Competition Commission of Mauritius
10th Floor, Hennessy Court
Corner Suffren Road and Pope Hennessy Street
Port Louis

Dear Sir,

REQUEST FOR AN APPOINTMENT

I wish to inform you that a research funded by the Mauritius Research Council (MRC) on the project entitled: *“Developing and testing a conceptual model for plastic card adoption in a Cashless Society - Use of Plastic Cards in Mauritius”* is presently being conducted by a team from the University of Mauritius led by Assoc Prof Thanika Juwaheer and Mrs Sharmila Pudaruth respectively.

In this context, we wish to conduct an interview with you so as to obtain insights on the adoption of plastic (credit) cards and its barriers (if any) in Mauritius.

The main highlights of the research are to determine the following aspects

1. General attitudes and benefits of plastic cards
2. Broad factors and its impact on plastic card adoption
3. Hindrance factors and associated risks with plastic cards
4. Strategies and challenges for accelerating adoption of plastic cards

The Research Assistant, **Miss Pushpam Daby** on pushpam.daby@uom.ac.mu will shortly liaise [with your office for](#) an appointment.

We look forward to the meeting so as to discuss the above issues. The findings of the study will be disseminated to your institution during a workshop to be held at the MRC.

Thank you.

Yours faithfully,

Mrs Roubina T D Juwaheer, PhD
Associate Professor
Faculty of Law & Management
University of Mauritius
Email: roubina@uom.ac.mu

DATE

Mr XXX
ADDRESS

Dear Sir,

REQUEST FOR PARTICIPATION IN FOCUS GROUP DISCUSSION - PLASTIC CARDS

Kindly note that a research funded by the Mauritius Research Council (MRC) on the project entitled: *“Developing and testing a conceptual model for plastic card adoption in a Cashless Society - Use of Plastic Cards in Mauritius”* is presently being conducted by a team led by Assoc Prof Thanika Juwaheer and Mrs Sharmila Pudaruth respectively.

In this respect, we solicit the assistance and participation of **one** banking executive working in the **Credit Cards Section** of your esteemed organization for a focus group interview to be held at the University of Mauritius to obtain insights on the adoption of plastic (credit) cards and its barriers (if any) for our cashless society.

Date: Thursday 05th July 2018

Venue: Room 2.14, Second Floor, New Academic Complex, University of Mauritius

Duration: 10 am -11 am

Kindly nominate one representative from your organization to participate in the focus group discussion, by **Tuesday, 26th June 2018** by emailing the participation form to our Research Assistant, **Miss Pushpam Daby** on pushpam.daby@umail.uom.ac.mu or by calling her on mobile [number 5867 7230](tel:58677230) or by returning the participation form to University of Mauritius by **fax 465 6906** at latest by **Tuesday, 26th June 2018**.

We hope that your representative will be able to join us for the focus group discussion and the findings of the study will be disseminated to your institution during a workshop to be held at the MRC.

Thank you.

Yours faithfully,

Mrs Roubina T D Juwaheer, PhD
Associate Professor
Faculty of Law & Management
University of Mauritius
Email: roubina@uom.ac.mu

Mrs Sharmila Pudaruth
Senior Lecturer in Marketing
Faculty of Law and Management
University of Mauritius
Email: sh.pudaruth@uom.ac.m

Confirmation for Participation in Focus Group Discussion

(Receipt of below duly filled-in form confirms your participation)

To Ms Pushpam DABY - Research Assistant

E-mail address: pushpam.daby@umail.uom.ac.mu

Mobile: [5867 7230](tel:58677230)

Fax: 465 6906

***“Developing and testing a conceptual model for plastic card adoption in a Cashless Society -
 Use of Plastic Cards in Mauritius”***

Assoc Prof Thanika Juwaheer and Mrs Sharmila Pudaruth - Investigators

Title: Mr <input type="checkbox"/>	Mrs <input type="checkbox"/>	Miss <input type="checkbox"/>
Surname:		
First Name:		
Bank:		
Position:		
Tel:		
E-mail:		
Fax:		