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RESEARCH ARTICLE

Mapping the Hidden Constructs towards the Adoption of Plastic Cards in Mauritius

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Abstract

Purpose – The paper aims to explore the broad factors impacting on the adoption of plastic cards among customers in Mauritius. The different constructs such as social class and the benefits of plastic cards have been investigated to deepen our understanding on the adoption of plastic cards in Mauritius.

Design/Methodology/Approach – The study reports upon the empirical findings of a customer survey using the survey method on a sample of 250 respondents in order to explore the broad factors impacting on the adoption of plastic cards in the context of a developing country such as Mauritius. The questionnaires were further processed and analysed with the statistical programme SPSS, by using descriptive analysis.

Findings – This analysis has revealed that customers have identified plastic cards as an effective means of effecting payments since plastic cards offers worldwide acceptance. Customers have opted for plastic cards for security reasons and it has been found that plastic cards are more convenient and time saving compared to cash payments. Results also unveiled that plastic cards innovative features, consumer's lifestyle and status have contributed towards the adoption of plastic cards.

Practical Implications – This research provides an in-depth understanding on the factors impacting on plastic card adoption. The paper also serves as an initial investigation into the attitude and behaviour of cardholders towards adoption of plastic cards.

Originality/Value – This paper makes a valuable contribution given the fact that there is a lack of empirical studies on plastic card adoption in the context of Mauritius as an emerging nation. Therefore, it would serve as a roadmap for banking executives, marketing managers and policy makers to craft appealing marketing strategies to better promote plastic cards in Mauritius.

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Introduction

Plastic cards have successfully become an essential part of the modern payment system, providing a broad range of services to the users, ranging from debit to credit cards. Similarly, plastic cards have gained much acceptance all over the world and have attained substantial growth over the years. The usage of debit cards rose from about 18% from 1995 to about 59% in 2004 (Mester, 2006). The adoption of plastic cards for the payment of goods and services has led to a change in the meanings of everyday payments (Singh, 2004).

Reports have shown that the volume and value of card-based payments has sharply accelerated over the past ten years in various developed countries such as U.K, USA (Bank for International Settlements, 2003; Klee, 2006; Gerdes *et al.*, 2005). Garcia-Swartz *et al.*, (2006) indicated a significant drop off in the use of cash in many countries and consumers are more likely to pay for groceries with plastic cards in supermarkets such as Tesco, Asda, and Sainsbury. Various studies have shown that users are opting for plastic cards compared to cash payments (Guibourg and Segendorff, 2007; Humphrey *et al.*, 2006;

Stanhouse and Ingram, 2007; Amromin and Charkravorti, 2009).

However, few empirical studies have explored the factors that have contributed towards customer adoption for plastic cards. To the authors' best knowledge, no academic study has focussed on plastic cards adoption in the context of developing countries like Mauritius. Thus, this paper presents a deep insight into the factors impacting on the adoption of plastic cards among customers in Mauritius. It also presents a new crossroad to sharpen one's understanding of the factors influencing plastic cards adoption in Mauritius. Hence this paper contributes to the empirical scarce literature on plastic card adoption by providing meaningful insights on the different constructs contributing towards the adoption of plastic cards in Mauritius.

Research objectives:

The primary objective of the research is to explore the hidden factors that influence customers to adopt plastic cards in Mauritius. The main objectives of the study are as follows:

1. To investigate the extent to which social class can impact on plastic card adoption.
2. To explore the significant benefits of plastic cards and its impact on plastic card adoption.

LITERATURE REVIEW

New Trend in Payment Services and Adoption of Plastic Cards

Various authors found that plastic cards are seen as a new trend for payment services (Guibourg and Segendorff, 2007; Humphrey *et al.*, 2006; Stanhouse and Ingram, 2007; Amromin and Charkravorti, 2009). Reosti (2000) has focused on the substitution of plastic cards for cash due to greater convenience whilst other academics have shared the views that plastic cards growth has come largely at the expense of paper payments (Charkravorti and Shah, 2003; Borzekowski *et al.*, 2008; Scholnick *et al.*, 2008; Humphrey *et al.*, 1996, 2004). New payment technologies, such as electronic payments have replaced traditional paper-based methods and can potentially speed up settlement and reduce the financial costs of making payments for bank customers (Berger *et al.*, 1996; Humphrey *et al.*, 2006; Humphrey and Vale, 2004).

Credit cards delinquencies and bankruptcies are emerging as critical financial and social issues among

young customers adopting plastic cards globally (Goi and Nee *et al.*, 2008; O'Laughlin and Szmigin, 2006; Gross and Souleles, 2002a; Agarwal and Liu, 2003). Social pressures of materialism, plastic card promotions, lack of personal financing knowledge and self-control, unrealistic optimism on the ability to meet debt repayments and inadequate effective regulation have been cited as contributory factors for plastic card adoption (Penman and McNeill, 2008; Yang *et al.*, 2007; Wells, 2007; Braunsberger *et al.*, 2005; Bianco and Bosco, 2002).

Worldwide Acceptance, Safety Issues and Adoption of Plastic Cards

Plastic cards have become a vital payment tool for consumers all over the world (Brenthal *et al.*, 2005; Feinberg, 1986; Garcia, 1980; Hayhoe *et al.*, 2000). According to American Bankers Association, it is estimated that there are 10,000 payment card transactions made every second around the world (Schulz and Woosley, 2009). Several theories and findings found that safety is one of the factors considered when choosing plastic cards (Jonker, 2007; Bolt and Chakravorti, 2008; He *et al.*, 2009; Borzekowski *et al.*, 2008; Alvarez and Lippi, 2009; Kosse, 2010) which are contrary to the various studies (Yin and DeVaney, 2001; Schuh and Stavins, 2010; Ching and Hayashi, 2010).

Convenience and Flexibility Offered and Adoption of Plastic Cards

Soman (2001) and Bell (2004) have suggested that customers enjoy greater payment facilities through plastic cards since plastic cards are more rapid and convenient compared to cash and cheques payments (Klee, 2006; Borzekowski *et al.*, 2008; Fusaro, 2008). Moreover, ease-of-use, usage convenience, reliability, dispute resolution capability, record of transaction, and transaction speed have contributed significantly towards the adoption of plastic cards (Amromin *et al.*, 2007; Jonker, 2007; Jonker and Kosse, 2013). Consumers also reported greater preference for speed, security, convenience, since they no longer have the burden to carry cash (Yin and DeVaney, 2001; Charkravorti *et al.*, 2001; Worthington *et al.*, 2007; Ching and Hayashi, 2008).

ATM Branch Locations and Adoption of Plastic Cards

It is found that geographic dispersion of ATMs can also influence the adoption of plastic cards (Berger and DeYoung, 2006; Saloner and Shepard, 1995).

Banks have been able to attract customers to adopt plastic cards by adopting ATM technologies (Hannan and McDowell, 1990; Markose and Loke, 2003). Various authors have mentioned that plastic cards enable users to pay their bills, get free access to ATMs and in turn, they have better control on their spending amongst others (Soman, 2003; Massoud *et al.*, 2006; Hawke, 2004; Yin and DeVaney, 2001). Yet, some customers feel uncomfortable in using plastic cards (Lin *et al.*, 2007; Lin and Hsieh, 2006; Meuter *et al.*, 2005; Yen, 2005; Zeithaml *et al.*, 2002).

Self-Identity, Leisure, Lifestyle and Adoption of Plastic Cards

Several researchers have stated that customers are adopting plastic cards as an alternative way to express and create self-identity and social status (Soper, 2007; Campbell, 2004; Faber, 2004; Chang and Arkin, 2002; Hanley and Wilhelm, 1992). Hence, adoption of plastic cards has become the social standard of leisure and new lifestyles (Mueller *et al.*, 2007; Neuner *et al.*, 2005). Customers have higher self-esteem and greater willingness to take on risk since they are often driven by instant gratification to enjoy life and maintain a trendy social image when they are adopting plastic cards (Twenge and Campbell, 2008; Herbig and Borstorff, 1995; Heaney, 2007).

Impact of Demographic Factors and Adoption of Plastic Cards

Plastic card adoption has been found to be positively correlated to income, education and age (Chan, 1997; Kaynak and Harcar, 2001; Danes and Hira, 1990; Wasberg *et al.*, 1992), with middle-aged consumers being heavy users of plastic cards compared to lower and old-aged consumers (Barker and Sekerkaya, 1992). Various studies showed that income is an important determinant factor for plastic cards adoption (Gan *et al.*, 2006; Wasberg *et al.*, 1992; Kinsey, 1981; Stiroh, 2004; Stiroh and Rumble, 2006). Plastic card possession and usage is also connected with financial comfort and impulsive spending behaviours (Fitzmaurice, 2008; Phau and Woo, 2008; Penman and McNeill, 2008).

Security, Online Shopping and Importance of Plastic Cards Adoption

Security remains one of the most crucial and well researched topic in the arena of plastic cards as an effective means of payment (Abrazhevich, 2004; Furnham, 1984; Hayhoe *et al.*, 2005; He *et al.*, 2006). Customers are sceptical on security issues and the effects of online payments through plastic cards

(Abrazhevich, 2004; Neuner *et al.*, 2005; Kurnia and Benjamin, 2007; Jonker, 2007; Borzekowski *et al.*, 2008). Whiteley (2000) stated that online shopping is not safe compared to conventional shopping, since there is lack of human factor in the virtual setting. Other researchers studied the security concerns of users and the effect on the adoption of electronic payment systems (Kurnia and Benjamin, 2007; Caskey and Jr., 1994; Neuner *et al.*, 2005; Mueller *et al.*, 2007).

The influence of Social factors, Advertising and Adoption of Plastic Cards

Consumer attitude towards plastic cards is also influenced by social factors such as reference group, peer groups, family and social class (Solomon, 2002; Smith and Hill, 2009). Various authors maintained that many customers are attracted to adopt plastic cards through appealing advertising and various media publications (Miller *et al.*, 1979; Alsem *et al.*, 2008; Campbell *et al.*, 2003; Ching *et al.*, 2011). Researchers have also recognized the need to conduct several campaigns to educate users on plastic card adoption and the correct use of cards by using other detection strategies (Huang *et al.*, 2007; Quah and Sriganesh, 2008).

RESEARCH METHODOLOGY

In line with the present study main objective of exploring the contributing factors for increasing plastic cards adoption in Mauritius, a structured questionnaire consisting of several sections was generated. The various sections of the questionnaire relates to a list of 31 attributes related to influence plastic cards adoption from customers perspective and the last part of the questionnaire addressed the demographic characteristics of respondents.

Sampling Plan

In the present research, the targeted population of the study consisted of various users of plastic cards. The sample size of this study amounted to 250 users of plastic cards through the convenience sampling technique. The response rate for the present study was 80 per cent.

Internal Consistency of the Questionnaire

The Cronbach's alpha value for the entire questionnaire was 0.912 and such a high figure designates that the questionnaire is a good indicator of what the researcher wants to investigate. According to Hair *et al.*, (2006), a coefficient of less than 0.6 indicates marginal to low internal consistency and a value of 0.60 or more indicates

satisfactory internal consistency reliability (Churchill, 1996).

Testable Hypothesis of the Study

Future Usage Intention of Plastic Cards

Plastic card is a vital payment tool for consumers all over the world and will continue to be so in the future, especially for shopping (Bernthal *et al.*, 2005; Feinberg, 1986; Garcia, 1980; Hayhoe *et al.*, 2000). It has been found that there exists a significant positive relationship between plastic cards adoption and customer future usage intention (Durkin and Prince, 2000; Bell, 2004; Joo *et al.*, 2003; Chien and DeVaney, 2001). The results also reflect a survey by Zafar *et al.*, (2010) who asserted that the number of plastic cardholders reached to about three million by the turn of the last century and will continue to grow in the near future.

Hence the following hypothesis has been formulated:

H1. Plastic card adoption significantly impacts on the usage intention of plastic cardholders.

Social Class and Recognition and Adoption of Plastic Cards

The usage and possession of credit card is often related to social image and financial comfort (Penman and McNeill *et al.*, 2008). Customers tend to associate money as a way of achieving a desired prestigious image (Silvera *et al.*, 2008; Masuo *et al.*, 2004; Heaney, 2007). Social recognition led to customer satisfaction having both direct and indirect effect on customer loyalty in adopting plastic cards (Thuy and Hau, 2010). Several authors have stated that customers are adopting plastic cards as an alternative way to express and create self-identity and social status (Soper, 2007; Campbell, 2004; Faber, 2004; Chang and Arkin, 2002; Hanley and Wilhelm, 1992).

The following research hypothesis is derived from the above statements:

H2. Social status impacts on the adoption of plastic cards.

Perceived Benefits and Adoption of Plastic Cards

Several researchers have stated that the advancement in technology also has an effect on the increase of plastic card adoption as a convenient channel to shop for goods and services (Kaynak and Harcar, 2001; Lee *et al.*, 2000; Marshall, 2006). This practice inspires service innovations and enhances service delivery options (Bitner *et al.*, 2010; Curran *et al.*, 2005). Moreover, ease-of-use, usage convenience,

reliability, dispute resolution capability, record of transaction, and transaction speed have contributed significantly towards the adoption of plastic cards (Amromin *et al.*, 2007; Jonker, 2007; Jonker and Kosse, 2013).

Hence the following hypothesis has been formulated:

H3. The benefits of plastic cards impact on customer's adoption of plastic cards

Perceived Risks and Unwillingness of Plastic Cards Adoption

Perceived risk can influence the attitude and behaviour of consumers towards the plastic cards payment services (AbHamid and Khatibi, 2006; DeRuyter *et al.*, 2001, Blackworth *et al.*, 2002). Customers possessing low financial knowledge have higher levels of debts and greater risk of bankruptcy (James *et al.*, 2002; Greenspan, 2002; Marriott, 2007; Dale and Bevill, 2007; Lusardi and Mitchell, 2007; Hoffman *et al.*, 2008). The perceptions of risks negatively affect the adoption of plastic cards as a payment mode (Arango and Taylor, 2009; Kahn and Linares-Zegarra, 2012).

Hence the following hypothesis has been formulated:

H4. Perceived risks significantly impact on the adoption of plastic cards.

Statistical tests

Factor analysis was developed to assess the relative significance of the features of plastic cards adoption among Mauritians. Only factors with eigenvalue equal to or greater than one were considered significant and chosen for interpretation. The Pearson Chi-Square Test was also used to determine the association between the two variables; likeliness to adopt plastic cards in the next 5 years in Mauritius with shopping, withdrawals, transfer of money and business purposes.

Empirical Findings

Part A: Demographic Profile of Respondents

Table 1.0 Demographic Profile of Sample

Demographic Variables		Percent (%)
Gender	Male	48.5
	Female	51.5
Age	18-24 years	17
	25- 34 years	22.5
	35- 44 years	19.5
	45-54 years	19
	55 years and above	22
Occupational Group	Student	9.5
	Professional	38.5
	Manual Worker	12.5
	Public Officials	26
	Self Employed	9.5
	Retired	4
Education	Primary	6.5
	Secondary	38
	Post- Secondary	19.5
	Tertiary	36
Average Household Income	< Rs 5000	10
	Rs 5000-7499	9
	Rs 7500-19999	51
	Rs 20000-39999	19.5
	>Rs 40000	10.5
Geographical Dispersion	Rural	36
	Urban	64

Table 2.0: Outcomes of Factor Analysis

Factor Items	Loadings	Eigen value	% of Variance	Cronbach Alpha
Factor 1- Customer Attitudes towards Plastic Cards Adoption		5.6	12.6	0.858
Plastic cards are more practical than cash payment systems	0.726			
Plastic cards offer greater convenience to effect shopping payment	0.630			
Factor 2- Easy, Speedy and Innovative Means of Effective Payment with Plastic Cards		10.4	32.1	0.892
Plastic cards allow easy transfer of money	0.765			
Plastic cards make business transactions easy	0.761			
I use plastic cards since withdrawal process is simple	0.752			
I choose plastic cards as a medium for speedy transactions	0.751			

Technology facilities encourage me to use plastic cards	0.714			
Plastic cards secure international presence	0.694			
Plastic cards are opted mostly for security reasons	0.561			
<u>Factor 3- Influence of Social Factors, Bank Reputation, Users Experience and ATM on Plastic Cards Adoption</u>		8.5	17.1	0.912
Plastic cards are associated with high income earners	0.780			
The influence of social class persuade customers to adopt plastic cards	0.769			
Reference group influence the adoption of plastic cards	0.757			
My bank reputation influence me to adopt plastic cards	0.729			
Customers lifestyles influence their adoption of plastic cards	0.696			
Plastic cards innovations influence the adoption of plastic cards among customers	0.666			
My previous experience encourage me to adopt plastic cards	0.593			
ATM has contributed towards plastic card adoption	0.584			
<u>Factor 4 – Relative Benefits and Plastic Cards Adoption</u>		3.3	8.0	0.848
Plastic cards are more convenient compared to banks branch location	0.721			
Worldwide purchases are more convenient with plastic cards	0.667			
Plastic cards enable 24 hours services	0.655			
Plastic cards transactions are more rapid and convenient	0.644			
Plastic cards provide customers the advantage of saving time	0.632			
I prefer plastic cards since the bank charges a reasonable service fee	0.627			
Plastic cards help customers to make online shopping	0.576			
<u>Factor 5- New Features, Appealing Advertising And Plastic Cards Adoption</u>		0.8	1.8	0.704
New features encourage me to adopt plastic cards	0.675			
Greater advertising encourages adoption of plastic cards among customers	0.659			
Banks should constantly provide new and innovative plastic cards	0.616			
<u>Factor 6- Perceived Risks And Plastic Cards Adoption</u>		0.5	0.8	0.674
The loss of plastic cards create problems for customers	0.667			
Plastic cards are not always reliable due to technical problems	0.666			
Financial awareness of plastic cards are not well communicated to customers in Mauritius	0.559			
Plastic cards are complex to use	0.519			
Total Variance			72.4	

PART B (1): Empirical Survey Findings

Principal Component Analysis with Varimax rotation was conducted on 31 attributes and 6 factors representing 72.4 percent of the explained variance were extracted from the 31 attributes as shown in Table 2.0 below. The empirical estimates for enhancing plastic cards adoption among customers and the results evidence the 'Customers Attitude towards Plastic Cards Adoption', 'Easy, Speedy and

Innovative Means of Effecting Payment with Plastic Cards', 'Influence of Social Factors, Bank Reputation, User Experience and ATM on Plastic Cards Adoption', 'Relative Benefits and Plastic Cards Adoption', 'New Features, Appealing Advertising and Plastic Cards Adoption', and 'Perceived Risks and Plastic Cards Adoption' as the 6 main determinants of plastic cards adoption in Mauritius as shown in Table below.

Factor Analysis

Factor 1 – Customer Attitudes towards Plastic Cards Adoption

Factor 1 has eigenvalue of 5.6% and variance of 12.6%. It groups two variables pertaining to customers attitudes towards plastic cards adoption. In fact, ‘plastic cards allow for more effective payment than cash’ (Loading = 0.726), and ‘plastic cards offer greater convenience to effect shopping payment’ (Loading = 0.630).

Factor 2 – Easy, Speedy and Innovative Means of Effective Payment with Plastic Cards

Factor 2 has an eigenvalue of 10.4% and explains 32.1% of the variance. It enclose seven variables which relates to plastic cards allow ‘easy transfer of money’ (Loading = 0.765), plastic cards make ‘business transaction easy’ (Loading = 0.761). Moreover, plastic cards adoption permits ‘easy withdrawal process’ (Loading = 0.752) and ‘speedy transactions’ (Loading = 0.751). Plastic cardholders also benefit from ‘technology facilities’ (Loading = 0.714) and ‘international presence’ (Loading = 0.694) and customers opted plastic cards for ‘security purpose’ (Loading = 0.561) as there is no need to have the burden of carrying cash and therefore, discouraging theft.

Factor 3 – Influence of Social Factors, Bank Reputation, Users Experience and ATM on Plastic Cards Adoption

Factor 3 has an eigenvalue is 8.5% and variance of 17.1%. This dimension groups eight variables that relates to ‘income’ having the highest loading factor (Loading = 0.780). Plastic cards adoption influence ‘social status’ (Loading = 0.769), ‘reference group’ (Loading = 0.757) and ‘bank reputation’ (Loading = 0.729). The trendy reason in adopting plastic card is ‘lifestyle’ (Loading = 0.696). The ‘plastic cards innovations’ (Loading = 0.666) and ‘previous experiences’ (Loading = 0.593) encourage customers to adopt plastic cards and to make repeated withdrawal through ‘modern ATM facilities’ (Loading = 0.584).

Factor 4 – Relative Benefits and Plastic Cards Adoption

Factor 4 has an eigenvalue of 3.3% and variance of 8.0%. This factor groups seven variables related to the relative benefits that can influence the adoption of plastic cards. ‘Convenient branch locations’ have the highest loading factor (Loading = 0.721), followed by plastic cards offer ‘convenient worldwide purchase’ (Loading = 0.667) and plastic cards provide ‘24 hours service’ (Loading = 0.655). Other variables include that plastic cards are more ‘rapid and convenient’ (Loading = 0.644) and cardholders benefit from ‘time saving’ (Loading = 0.632). The ‘loss of plastic cards

can discourage further usage’ (Loading = 0.629). Plastic cards charges a ‘reasonable service fee’ (Loading = 0.627) and encourage ‘online shopping’ (Loading = 0.576).

Factor 5 – New Features, Appealing Advetising and Plastic Cards Adoption

Factor 5 has an eigenvalue of 0.8% and explains 1.8% of the variance. This factor groups three variables and it relates to ‘new features encourage customers to adopt of plastic cards’ (Loading = 0.675). Plastic cards adoption is also influenced by appealing ‘advertising’ (Loading = 0.659) and ‘new and innovative cards’ (Loading = 0.616). These factors will attract the interest of new customers and encouraging existing cardholders to use plastic cards.

Factor 6 – Perceived Risks and Plastic Cards Adoption

Factor 6 has an eigenvalue of 0.5% and variance of 0.8%. Factor 6 has four variables which relates such as ‘loss of cards’ (Loading = 0.667), and technical problems like ‘machine break down’ (Loading = 0.666) may discourage customer to adopt plastic cards in case of emergency. As such banks do not educate their cardholders on ‘financial awareness’ (Loading = 0.559) and thus plastic cards becomes ‘complex to use’ (Loading = 0.519).

PART B (2): Testing of Hypothesis

The Future Usage Intention of Plastic Cards

Spearman Correlation was used to test the intention of customers on the future adoption of plastic cards. It is found that there is a strong positive relationship between the likeliness to adopt plastic cards ($r = 0.744, p < 0.01$) and the current adoption of plastic cards. This result correspond with Durkin and Prince (2000); Bell (2004) who found a significant positive relationship between customers plastic cards adoption and their usage intention for plastic cards. There is also a positive relationship between the willingness to use plastic cards more than 10 times per month ($r = 0.506, p < 0.01$) and plastic cards adoption. This evidence is shown from the American Bankers Association that there are 10,000 payment card transactions made every second around the world (Schulz and Woosley, 2009). King and King (2005) stated that consumers prefer credit cards until the credit limit has not been reached. Therefore **H1** is supported.

Table 3.0: The Future Usage Intention of Plastic Cards

Future intention of Customers'	Plastic Cards Adoption
Likeliness to adopt plastic cards in the future	0.744
Willingness to use plastic cards more than 10 times monthly	0.506

Table 4.0 Social Class and Plastic Card Adoption

Social Class	Plastic Cards Adoption
Plastic cards adoption is linked to social class	0.808
There is a willingness for high income customers to adopt plastic cards	0.611
Customer's lifestyle impacts on plastic cards adoption	0.523

Table 5.0 Perceived Benefits and Plastic Card Adoption

Benefits of Plastic Cards	Plastic Cards Adoption
Plastic cards adoption result in time saving	0.447
Plastic cards secures international presence	0.445
Worldwide purchase can be made with plastic cards	0.421
Plastic cards facilitate shopping in Mauritius	0.417
Plastic cards can be used 24hours	0.350
Plastic cards can be used in emergency cases everywhere	0.328
Plastic cards are preferred for its speed of service	0.326
Plastic cards enables electronic purchases	0.274

Table 6.0: Perceived Risks and Plastic Cards Adoption

Perceived Risks	Plastic Cards Adoption
The loss of plastic cards can create various hassle for customers	0.453
Plastic cards can lead to overspending among customers	0.351
Customers fear the security aspect for e-payments with plastic cards	0.328

Table 7.0: Future Behavioural Intentions and Adoption of Plastic Cards

Likeliness to Adopt Plastic Cards In The Next 5 Years?		
	Chi-square test	Cramer's V
Shopping	0.000	0.715
Withdrawal	0.000	0.714
Transfer of money	0.000	0.711
Business purpose	0.000	0.711

Social Class, Status and Plastic Cards Adoption

Survey findings have illustrated that social class influences customer's choice for plastic cards adoption. It is noted that there is a strong positive relationship between social class ($r = 0.808, p < 0.01$) and the adoption of plastic cards since it is an alternative way to express and create self-identity and status (Soper, 2007; Campbell, 2004; Faber, 2004). There is also a positive relationship between high income earners ($r = 0.611, p < 0.01$) and the adoption of plastic cards. This is supported Chan (1997); Kaynak and Harcar (2001); Gan *et al.*, (2006); Stiroh (2004); Stiroh and Rumble (2006). Moreover, it should be noted that there is a positive relationship between customer's lifestyle ($r = 0.523, p < 0.01$) and adoption of plastic cards. As a result, adoption of plastic cards has become the social standard of leisure and lifestyle and is easily accessible, and encouraged by society (Mueller *et al.*, 2007; Neuner *et al.*, 2005). Hence, **H2** is supported.

The Relative Benefits and Plastic Cards Adoption

Evidence has shown that the relative benefits were found to have positive relationship on plastic cards adoption and are considered important based on the empirical findings (r values ranging from 0.274 to 0.447, $p < 0.01$) for the adoption of plastic cards. Moreover, customers found various benefits in adopting plastic cards and they assume these facilities to be comfortable, cheaper, faster, more convenient, preference for speed, security, not having the burden of carrying cash and have control over the spending (Yin and DeVaney, 2001; Chakravorti *et al.*, 2001; Al-Hawari and Ward, 2006). The advancement in technology also have an effect on the adoption of plastic cards as it provides consumers with a convenient channel to shop for goods and services worldwide (Kaynak and Harcar, 2001; Lee *et al.*, 2000; Marshall, 2006). Hence, **H3** is supported.

Perceived Risks and Reluctance towards Plastic Cards Adoption

Empirical findings have shown that perceived risks were found to have a positive relationship with plastic cards adoption. The adoption of plastic cards can create various hassle for customers ($r = 0.453, p < 0.01$) and can also make customers overspend while making compulsive shopping ($r = 0.351, p < 0.01$). Furthermore, security measures has been found to be a major concern influencing the adoption of plastic cards since there is a positive relationship between plastic cards adoption and security measures

($r = 0.328, p < 0.01$). Security remains one of the most crucial and well researched areas of study in payment systems (Abrazhevich, 2004; Furnham, 1984; Hayhoe *et al.*, 2005). There are fewer tendencies regarding perceived risks in the adoption for security measures. Schiffman and Kanuk (2004) derived that consumer usually face uncertainty due to perceived risk and are unable to predict the consequences of their purchase decisions. Hence, **H4** is supported.

Empirical findings have shown that a strong positive relationship exists between shopping ($r = 0.715, p < 0.01$) and plastic cards payments in the next five years. This may be because more young people will be financially educated and this will enhance rational decision-making towards the adopting plastic cards (Robb and Sharpe, 2009; Joo and Grable, 2004). Moreover, there is a positive relationship between withdrawal ($r = 0.714, p < 0.01$) and plastic cards adoption as this process will involve less paper transactions and ultimately become more environmental friendly (Chakravorti and Shah, 2003; Borzekowski *et al.*, 2008; Scholnick *et al.*, 2008; Humphrey *et al.*, 1996, 2004). Furthermore, cardholders are very likely to adopt plastic cards for transfer of money ($r = 0.711, p < 0.01$) and business purpose ($r = 0.711, p < 0.01$). This is so because customers are given the convenience of 24-hours banking and it is a vital tool for effecting payments all over the world including businesses (Garcia-Swartz *et al.*, 2006; Bernthal *et al.*, 2005; Feinberg, 1986; Garcia, 1980; Hayhoe *et al.*, 2000).

Managerial Implications and Recommendations

In today's highly competitive banking sector, it is essential to note that various factors can impact on the adoption of plastic cards. One of the major implication of the study relates to financial awareness ($Loading = 0.559$). These findings reinforce many views and imply that there is a need to incorporate greater personal finance awareness amongst the younger generation, through public media and advisory services (Peng *et al.*, 2007; Kozup and Hogarth, 2008; Bell and Eisingerich, 2007).

Empirical results have shown a positive significance relationship between security and the adoption of plastic cards among customers ($r = 0.561, p < 0.01$). The result is aligned with different researchers who advocated that customers are skeptical about the security of online payments through plastic cards (Mueller *et al.*, 2007). It is suggested that banks use the chip technology as it is more secure than magnetic strips (Yeo, 2006). Hence, banks should discontinue magnetic strip credit cards and

implement chip-based cards. Chip-based cards are nearly impossible to re-create, allowing cardholders the confidence that their card cannot be used fraudulently and a "proper" system of measurement and risk assessment should be in place so that fraud can be reduced.

Evidence have shown there exists a positive relationship between that lack of financial awareness to customers ($r = 0.559, p < 0.01$) and the adoption of plastic cards. Therefore, banks need to be more proactive and responsible in promoting financial awareness concerning plastic cards among customers. Banks should to restore ethical practices in their public relations, marketing and promotion of plastic cards and focus more on retaining loyal customers with good credit discipline. As part of relationship marketing and building loyal customers, banks need to continuously update and educate customers today on suitable products tailored for their individual financial circumstances.

It is also interesting to note that the findings of the present study have highlighted that customers will adopt plastic cards since plastic cards offers various benefits (*Loadings ranging from 0.576 to 0.721*). Banks should provide their respective ATM in different branch location which will ease the transaction of customers and they will be more likely to adopt plastic cards in the future (Berger and DeYoung, 2006). Consumers also reported greater preference for speed, convenience, since they no longer have the burden to carry cash. Online shopping is not considered to be safe by customers and therefore banks should implement more security aspect about confidentiality for shopping online with plastic cards. In this respect, taking all these into consideration will help policy makers in the banking sector to better position to retain the loyal customers of plastic cards in the near future.

Conclusion, Limitations and Direction for Future Research

The present study has highlighted the need to have a more accurate re-look on how customers are involved in the adoption of plastic cards in Mauritius. Customers are putting greater emphasis on benefits of plastic cards such as speed, convenience, environmental friendly and international presence. Customers are also very keen about issues such as risks and security issues, new features and innovation when adopting plastic cards. Hence, it is highly recommended that the banks develop a deep understanding of the factors influencing plastic card

adoption in order to customise their marketing strategies to the potential customers. In fact, the research results can be useful and form practical tools for the policy makers and financial executives who are responsible for designing and marketing plastic cards features and innovation at various point of sale in Mauritius.

Limitations of the Research and Scope for Future Research

The present study has outlined the various factors impacting on the adoption of plastic cards among customers in Mauritius. The study had some potential limitations as focus was only on investigating users on plastic cards adoption and the perception of non-users and executives have not yet been tapped. Moreover, the study lacks a conceptual model on the various factors affecting plastic card adoption. The study has been conducted only to Mauritius as a developing nation.

Further Research Directions

In this respect, research should extend to non-users, banking executives in order to allow a comparative analysis on the factors impacting on plastic cards adoption among customers in Mauritius. Likewise, an integrated conceptual model relating to the various factors impacting on plastic card adoption among customers can be proposed and tested in order to overcome the conceptual limitations of the present study and the research can be extended to other emerging countries such as Rodrigues and Seychelles.

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