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Smart Card Perception Gaps: Encumbrance on E-Tailing in Botswana

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Abstract

The need to explore consumer reactions to any form of marketing has been documented by a number of researchers to be central to the marketing concept. This article addresses customer and bank perception of smart cards on e-tailing, a technological innovation which will continue to be a critical component of customer firm interaction. The authors present a discussion of the resulting customers and banks' perception and their differences using the service quality gap model developed by Parasuraman et al. (1985). The resulting perception gaps (Gaps 1-4) between the bank and the customer present clearer areas that banks need to address in order to satisfy customers and build long term relationships.

Key words: smart cards, e-tailing, consumer perception.
JEL classification: L81, M31.

Introduction

The marketing literature has seen a substantial interest in the study of e-commerce, e-retailing (see, for example, the literature review of Mitchell 1995; Booker 1995; Lych and Lundquist, 1996; and 1998). Early research on this topic concentrated on 'how to market on the internet' (e.g. Internet Business Center, 1994; Direct marketing Magazine, 1995), but recent empirical research has gone in new directions. Of the new directions taken none, to the best of our knowledge investigates customer perception of smart cards in e-tailing.

Both companies and researchers are becoming increasingly aware of the importance of technology on service delivery and in a business' overall success (Meuter et al., 2000; Joseph et al., 1999; Kelly, 1989). In the banking industry, the adoption of technology has become the norm as a way of securing a competitive edge in the electronic age. Kelley (1989) notes the main purpose of adopting technology in service organisation is to reduce costs and eliminate uncertainties. Quinn (1996) suggests the use of technology helps to standardise services by reducing the employee/customer interface, while Dabholkor (1994) observes that technology based services have made new service delivery options to be available to customers thus making customer participation more widely possible. Clearly, Dabholkor (1994) and Quinn (1996) share the same views. Today, most banks in Botswana have Automated Teller Machines (ATMs) available countrywide at convenient locations to allow customers to withdraw cash and check their bank statements. Within the financial service literature, researchers like Thwaities and Vere (1995), Moeti (2000) have viewed convenience as a dominant criterion for customer satisfaction. In light of this, banks have also extended convenience to customers to use their smart cards at the comfort of their homes and offices to buy products both in the local and international markets. Smart card in the context of this paper will refer to credit and debit cards offered by major banks. It is postulated in this paper that the impact of smart cards on consumer behaviour will be dependent upon:

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- The importance of 'ease of use' (convenience) in service delivery compared to personal service;
- Customer's perception of the positive or negative role of smart cards in contributing to convenience – ease of use' compared to dealing with cash or using personal service.

It is increasingly evident from Meuter et al. (2000) point of view that these technological innovations and advances will continue to be critical component of customer firm interactions. Meuter et al. (2000), Joseph et al. (1999) and Kelly, (1989) observe that technological advances are expected to become a key criterion for long term business success. The proliferation of smart cards in the banking industry conveys the need for research to provide a greater understanding in the area of e-commerce. To the best of our knowledge little is known about customer perception regarding these technological options (smart cards) especially in e-tailing. To further our understanding in the area of e-commerce the researchers investigate customer perception regarding smart cards using service quality gap model.

The main objective of the study is to look into the perception held by bank customers on smart card. The banks' point of view is also sought to identify the bank's expectations and perception of smart card usage and to investigate if they are satisfied by the rate at which customers are adopting smart cards.

The secondary objectives of the study are two fold;

a) To determine customers' perceptions of smart cards compared with providers' expectations of service in terms of speed, swapping points efficiency, security and retailers assistance thus providing the smart card providers with the insight on how they could improve the service.

b) Gauge the awareness and usage of cards, to determine the necessity of educating the customers; thereby enhancing the business opportunities in the continent.

Theoretical foundations

Casual observation shows that in Botswana the adaptation of the new technology in the banking sector has not been fully absorbed by the customers as many of them still view the use of smart cards with suspicion. Although money technology has evolved and methods of payment have also changed, the customers still prefer cash as method of payment. This is despite the various media and industry experts' prediction of the demise of cash and the advent of the "cashless" society. Good (1997) in his study found out that majority of customers (about 54%) preferred payments by cash, 39% preferred third party Credit Cards (i.e., Visa), 23% preferred paying using a cheque 23.4%, 7% preferred store credit cards 6.5% whilst 1% preferred debit cards 1.0%. The same cash payment preference was reported by retailers in a survey conducted by Ernst & Young, in US. The survey shows also that 58% of retailers had a preference for cash transactions. The evidence from this survey is noteworthy, as it is easy to see the vast market potential for a product such as the smart card that is designed to be a replacement primarily for cash transactions.

Hepworth (2001) has noted Botswana as the biggest growing smart card market in Africa followed by Kenya and Mozambique. According to Hepworth (2001), in the year 2001, the smart cards usage in Botswana increased by 500 per cent compared to other developing countries thus making Botswana, the biggest growing card market in the world. Hepworth sites the reason behind the robust growth in card use as driven by a fast adoption of debit cards in all the major banks in the country. However the actual usage seems to be limited to withdrawal of cash with least utilisations of web purchases. These result in lost opportunities of wider goods selection and bargains for customers and under-utilization of facilities from the banks' perspective.

Challenges of e-tailing

There has been extensive discussion of the challenges associated with e-retailing, particularly in areas of security of payments (e.g Mitchell, 1995; Booker, 1995; Lych and Lundquist, 1996).

Some researchers (e.g Rowley, 1998; Resnick, 1995) have sought to explore the nature of the shopping experience, with a view to seeking to understand these products and customers most suited to this new channel.

It would appear most people have fear of using the internet for business purposes due to lack of security and privacy. A survey conducted by Machlis (1997) on 10,000 Web users found 'privacy' as the most important issue that scared most people from using the internet. The same results were reported by another study conducted by Tweney (1998), Merrick (1998), Joachim (1998) and Mand (1998). Tweney (1998), found out that a high proportion of the internet users (about 79%) were concerned about threats to their personal privacy. Mand (1998) also reports a high percentage of 78 of internet users who agree that privacy concerns make them use the web less extensively than otherwise. Prabhaker (2000) and Gantz (1998), support the internet users' position. The Web (technology) makes it easier than ever to collect and share personal information. With this in mind, Gantz, 1998) notes that it is unrealistic to expect profit driven businesses not to infringe on consumer privacy in an environment that makes it increasingly. Prabhaker (2000) supports customer's concerns for their security and privacy. He notes that customers should rightly be concerned about their security and privacy.

Prabhaker (2000) foresees a danger in the internet business particularly if the privacy issue is not proactively addressed. Prabhaker (2000) observes that if the privacy issue is allowed to gather momentum, it will increasingly stifle the growth of the internet as a business medium. He notes that it should be appreciated that smart cards that are in use today hold credit information of a customer and none of the customers would want their privacy infringed. Unless the issue of privacy is addressed to remove the perception of uncertainty, customers will remain reluctant to actively use smart cards as payment mechanism. It is not known to researchers how banks perceive this aspect which is shown to be of concern to most internet users. Along these lines we make an assumption that the four aspects namely; (a) security, (b) service awareness, (c) availability of facilities, and (d) connectivity speed affect encroach on the perception of smart cards both on the local and international market.

We further postulate that for a positive perception to result in the service delivery of e-tailing, the perception of the service quality by the customer should be similar or lower than the perception of the service provider (bank). The difference that occurs in the comparison of the two perceptions should results to gap identification. The gap is identified using the service quality gap model developed by Parasuraman et al. (1985).

Service quality perception and the gap Model

In the literature a considerable number of researchers have considered how service quality perceptions should be measured (e.g. Gronroos 1982; Babakus and Boller, 1992; Cronin and Taylor, 1992; Parasuraman et al. 1985; 1988; 1991; 1994; Zeithaml et al. 1988). Gronroos (1982) for example, defines the dimensions of service quality as consisting of functional and technical quality whilst Parasuraman et al. (1988) use terms that describe service encounter characteristics that is, reliability, responsiveness, empathy, assurance and tangibles. Parasuraman et al. (1988) definition dominates the literature. Zeithaml et al. (1988) define perceived service quality as the difference between consumer expectations and their perceptions resulting from the degree and direction of four gaps occurring in the internal process of service delivery. The basis for his definition is based on Parasuraman et al.'s (1985) SERVQUAL model contribution which views service quality as the gap between the expected level of service and customer perceptions of the level received.

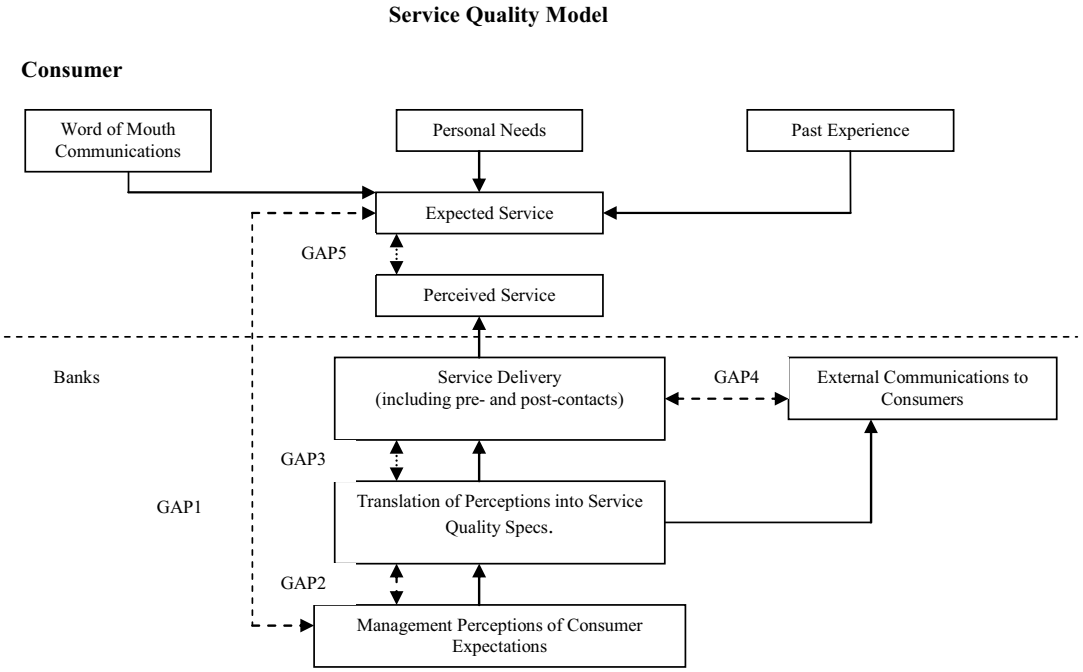

Fig. 1. The SERQUAL Model (Parasuraman et al., 1985)

Thus, the basic model guiding the investigation of customer perception of smart cards in e-tailing is based on Parasuraman et al.'s (1985) contribution of the five gaps. We believe Parasuraman et al. (1985, see pp. 45-46) have made a useful contribution to the marketing literature with the identification of service quality gaps that potentially affect customer's service quality perceptions. A primary weakness of the service quality gap framework is the specification of 'GAP 5' (P-E), which is the heart of the service quality framework.

In the context of this study these gaps could be explained as follows:

Gap 1: is the difference between consumer expectations of service and management's perceptions of these expectations. There are many reasons why bank managers may not be aware of what customers expect from smart cards. For example, inadequate market research, lack of interaction between management and customers and insufficient relationship focus i.e. focusing on transactions rather than on relationships or on new customers instead of existing ones. If banks have strong relationships with existing customers, Zeithaml and Bitner (2000) assert that Gap 1 is less likely to occur as companies will be able to understand the changing needs and expectations of their existing customer base.

Gap 2: is the difference between management understanding of customer expectations and development of customer-driven service design and standards. Zeithaml and Bitner (2000) consider customer-driven standards to be different from conventional performance standards that most service firms establish in that they are based on pivotal customer requirements that are visible to the customer. This would suggests that in banking poor service design in the form of bank's failure to connect service design (faclities) so as to allow convenience in its usage and the inappropriateness of physical evidence and in particular the servicescape may lead to customers developing negative perceptions towards smart cards. The servicescape – physical facility is of particular importance when using smart cards both in the local market and the international market so as to make the entire experience pleasurable.

Gap 3: is the difference between service specifications and actual service delivery as this will affect the customer's service quality perception. Even though the banks may be having guidelines and standards for performing service, Parasuraman et al. (1985) contend that high quality performance is not a certainty. Parasuraman et al. (1985) suggest that appropriate resources (e.g. the right people, system, and technology) must be put in place to facilitate service delivery. In addressing the issue recently, Zeithaml and Bitner (2000) found support to Parasuraman et al. (1985) suggestion. Zeithaml and Bitner (2000) found the difficulty associated with Gap 3 to involve the usage of intermediaries like retailers and agents who may be having poor employee/system-technology fit.

Gap 4: is the difference between the service delivery and what is communicated about the service to consumers. The key factors that contribute to Gap 4 are related to companies over promising in advertising, personal selling or through physical evidence cues. In the process, Parasuraman et al. (1985) observe that the companies fail to inform and educate customers of special efforts that they (customers) can exert to assure quality that are not visible to customers. Comments made by customers from Parasuraman et al.'s (1985, p. 45) study reveal that 'customers are not always aware of everything done behind the scene to serve them well'. This would suggest that it is important that customers be informed and educated about service benefits through all sources of communication available. According to Parasuraman et al. (1985) making customers to appreciate what they did not know could improve their perception of service.

Gap 5: is the quality that a consumer perceives in a service is a function of the magnitude and direction of the gap between expected service and perceived service. The key factors that contribute to Gap 5 are to ensure that services offered to customers meet or exceed their expectations of service.

Method

The survey reported in this article is an attempt to gain some understanding of customer perceptions associated with the adoption of smart cards on e-tailing. We also make a modest attempt at identifying some of the problem areas of some of the users both in the local and international market qualitatively.

Data Collection

On the basis of the literature review we developed a survey instrument, which comprised open-ended questions to allow freedom of expression from respondents. We drew a sample of 300 middle managers at random from both private companies and government. The selection criterion was based on whether the respondents possessed smart cards, used them to purchase goods and services both in the local and international market. Questionnaires with a letter soliciting their participation were sent to the identified respondents. Follow up attempts were made using telephone calls. Our data collection effort yielded 104 responses. The effective response rate was 35%, which is acceptable.

Access to bank managers was extremely difficult due to their busy schedule, confidentiality and competitiveness of sensitive information, leading to access difficult to bank managers. In Botswana there are five commercial retail banks of which three issue debit cards and credit cards. In this study, the analysis on banks' perception is based on two major banks out of the three that issue debit and credits cards, to which the researchers had access.

Reliability of data

The reliability of data analysis rests on the consistency with which reasons for not using smart cards are classified under the same category by the researchers and different judges. To ensure that we maintained reliability on data analysis, Miles and Huberman (1984) Edvardson (1992), Bitner et al.'s (1992) suggestions were taken into consideration. The mentioned researchers suggest the use of double-coders to provide a better reliable data. In view of their suggestions two coders were used. The researchers of the current study devised the framework for classification of customer

reasons for not using smart cards on e-tailing. The classification was given to a judge who happens to be knowledgeable in the area of study and was to code the descriptions of reasons stated by customers. The researchers' categorisation results were compared to those of a judge. This gave a 71% agreement. Where there were disagreement on the coding, these were resolved through discussions and consensus was reached giving 86% agreement to the final categorization which is a final coding acceptable reliability percentage.

Results

Customer Perception on smart cards

The results on customer perception on smart cards are presented in two formats; local market and international market to understand the perception held on smart cards in their usage.

The results of the local market are shown in Table 1 and further illustrated in Figure2 below:

Table 1

Perception held of Smart cards in the local market

Perception held of Smart cards	No. of incidents reported	% of incidents reported
Lack of proper information	51	31%
Fear of fraud	46	28%
Lack of facilities	33	20%
Time	22	13%
Forced to carry ID	14	8%
Total	166	100

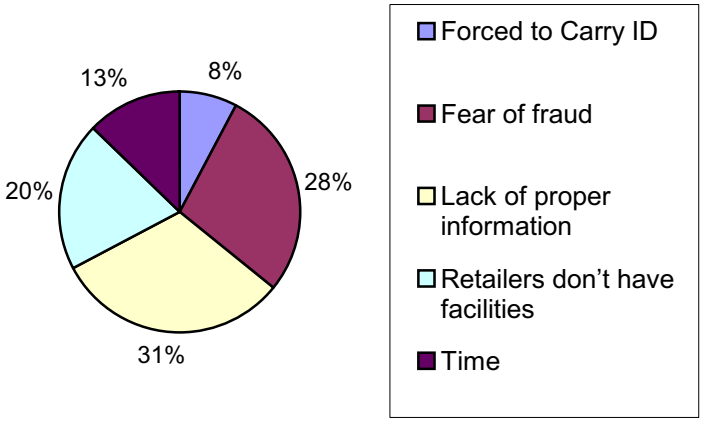

Fig. 2. Held perception of smart card in the local market

It is evident from the results that customers in Botswana have been slow in adopting smart cards in the local market. Of the 104 respondents, Table 1 shows that 166 incidents were reported that affect customer perception. The main reason cited for their slow adoption lie in the lack of proper information in the usage of smart cards. According to Figure 2, this accounted for 31% of incidents reported. Most respondents quoted that there is no education as to the usage of the smart cards and some people were not aware that the debit card could do more than cash withdrawal. The second reason cited was related to fear of fraud. This accounted 28%, During the survey it as evident that most of the respondents did not trust the machines with their cash or vital information

produced by the smart cards. On the other hand the lack of facilities was cited as the third reason, accounting 20 % of the incident reported whilst time factor accounted for 13%. The other additional incident reported were related to the enforcement to carry identity cards to use smart cards.

Table 2

Perception held of Smart cards in the International market

Perception held of Smart cards	No. of incidents reported	% of incidents reported
Lack of proper information	56	31%
Fear of fraud	75	43%
Lack of facilities	13	7%
Currency exchange rates	27	15%
Inconveniences with customs	8	4%
Total	179	100

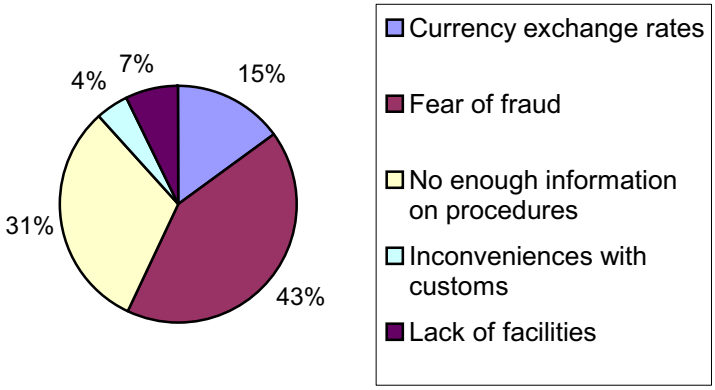

Fig. 3. Held perception of smart card in the local market

Table 2 shows a total of 179 incidents to impinge on customer perception to have been reported. The main reason that made them to have a negative perception towards smart cards appears to involve among others, fear of fraud (43% incidents reported). The second incident reported was the lack of proper information in the usage of smart cards.

The third reported incident is the currency exchange rates (15%) followed by lack of facilities such as computers and lack of connectivity. The last one reported involves inconvenience with the customs.

Banks' perception on smart cards

Local and international market

The banks believe that customers are not using the cards to their maximum usage. Their usage appears to be limited to the ATMs for cash withdrawals in the local market than being used for electronic purchases in the local and in the international markets. Even under these circumstances the banks report that in most cases the facilities appear to be faulty thus limiting the use of smart cards and increasing their negative perception towards their usage. The banks further acknowledge

that the customers are barred from using smart cards due to the lack of facilities to facilitate their usage both in the local and international markets. In the international market, the fact that the smart cards are in Pula value adds negatively by limiting the amount of money that one can use for purchases especially against strong currencies like US dollar and British pounds. Unlike customers the banks do not mention lack information (awareness) and fear of fraud as issue of concern in the usage of smart cards.

Discussion

It appears banks perception of the customer is that customers have proper information about the usage of smart cards both in the local and international market. The perception the banks hold is that they use smart cards for their purchases both in the local and international markets. The results of our study indicate that customers do not use smart cards in both local and international markets mostly because of lack of proper information of what the smart cards can do for them. This suggests the existence of Gap 4. Amongst the literature reviewed none of the researchers reported this as a major issue of concern. The results suggest that the underlying problems of e-commerce are different in different continents (Europe and Africa) and imply that the results of research in one continent especially from the developed countries cannot be superimposed to be generalisable to the African continent conditions.

The issue of smart cards fraud does not seem to carry much wait in the bank's perception. This is demonstrated by their advertisements, which usually display smart cards being safer than using cash. Customers, on the other hand, perceive smart card security as the main limitation to their using the smart cards in the local market. The same is perceived within the international market, and is rated highly. Our results with respect to smart cards usage in the international market support the findings of Machlis (1997), Tweney (1998), Merrick (1998) who in their studies also found lack of security and privacy to be the main drawback in web purchases. The dissimilarities of perceptions between banks and customers in our study clearly show that service quality perception gaps exist (Gaps 1 and 2) amongst the two groups.

The banks agree that there is a problem of faulty facilities. However, they do not perceive the lack of facilities as a problem whilst the customers do. This therefore reveals differences in perception in servicescapes, which is Gap 3.

Time in the local market plays a major role in the underutilisation of usage of smart cards whilst inconvenience in customs surfaces as one of the reasons in the international market. However, the banks do not perceive these as major problem. This is a classic example of Gap 2.

Limitation of the research and further research

It would be inappropriate to suggest that the results of this study are generalisable. The study has limitations, which have to be taken into consideration.

Criticism is directed to the study in that the research only considered the perceptions of only two banks, which were accessible to the researchers. The researchers recommend that the study be replicated to include other two banks, which offer smart cards to customers. Such an effort will provide a broader view of the issues that surrounds the dilemma covering the fear of using e-commerce effectively in Africa.

Retailers point of views were not solicited to get their perception on the usage of smart cards and to get gauge their level of satisfaction with the banks' services on smart cards. It is suggested that future research should consider incorporating the retailers' point of view to appreciate the impact of smart cards on the e-tailing.

There was no quantitative information on purchases done through smart cards from the international market, which was solicited to gauge the effectiveness of smart cards in e-commerce. Future research should consider incorporating these.

Conclusion

Although Botswana is reported to have the highest connectivity rates in Africa, e-tailing is still under developed in the country. The underlying factors contributing to the underutilisation of smart cards are different from those reported by other researches conducted in developed countries. The major reason cited why customers do not use smart cards particularly in the local market and also in the international one is among others, lack of information on the products and the processes. This suggests the need for proper public education on e-tailing by all the stakeholders. This would enable development of e-commerce not only on consumption but also on trade. The results of the study show that there is a difference between the banks and customers' perceptions of service quality. To close this gap, the results show that banks need to address Gaps 1 to 4 in order to satisfy customers when using e-tailing and to try building long term relationships with them.

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