

*Full Length Research Paper*

# The impact of technology on competitive marketing by banks: A case study approach

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Traditionally banks were not expected to struggle with strategies for attaining profitability, since enough profits would be made from the then readily available customers. Today, banking customers are now global tyrants; they represent and possess the power of international connectivity as they are increasingly anticipated to foster business with firms in other countries resulting in them seldom acquiring banking services from banks in their countries alone. This study is a fairly new research initiative endeavouring to examine and discuss the extent of technological utilisation in various competitive marketing practices of a financial institution in today's inexcusable 21st century competitive business environments. On this backdrop, the study investigated the impact of technology on competitive marketing by Standard Bank in King-Williams Town, Eastern Cape Province, South Africa. Quantitative research techniques were utilised to obtain customer and employees perceptions, opinions and experiences in e-banking services. To empirically investigate the research problem the study primarily hypothesised that the use of modern banking technology significantly impacted service delivery to clients. The study established that access to ATMs should be improved thereby requiring upholding of education on ATM usage since business transactions are occurring 24 h, and these can only be possible if there is a supportive banking network during the 24 h. The empirical results consistently support general competition trends occurring in the banking industry in South Africa and worldwide due to technological marketing. The results reflect an extensive prioritisation of e-banking but, however generally low usage levels of the recently developed banking technologies by customers. Practically, the study informs firms, particularly financial institutions on the key technology implications and manipulations of their value offerings from the South African milieu.

**Key words:** Technological marketing, heightened competition, e-banking, service delivery.

## INTRODUCTION

Initially, the adoption and utilisation of technology by banks was primarily to automate the back office, thus, computers were introduced as ledger-posting machines (Kannabiran and Narayan, 2005: 365). Today, the main challenge for banks is to be firmly integrated in the global supply chain and profiteer from increasingly global transactions. With transactional banking being embryonic

of e-banking use, compliant transactional banking systems need to cater for customers' specific business processes and workflow through integration with customers' Information Communication Technological systems (bmi-t, 2008). Concurrently, business environments continue to experience heightening deregulation and regulation, technological developments, globalisation and consumer preferences and expectations, disintermediation and remediation, intertwiningly (Durkin and Howcroft, 2003: 6; Kotler and Keller, 2006: 92 and 93). Amidst, these contemporary, intermingled, modified and complicated service and product delivery conditions,

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across industries, e-banking stand to drive global banking industry and business at large (Mia et al., 2007: 36). The concept of technological marketing is therefore inevitably proliferated in the new economy (Fang, 2004: 3) and vividly abounds a large part of the contemporary marketing practices as firms strive for superiority in the face of extreme competitive environments (Zineldin, 2000; Wai-Ching, 2008; Brady et al., 2008; Durkin and Howcroft, 2003; Fang, 2004). Conspicuously, the financial sector has continuously embraced heightening competition, globalisation and incessant technological developments, consequently spurring an increase of links and networks within the industry (Durkin and Howcroft, 2003: 61).

The digitalisation pervasiveness coupled with the internet as a major role player, poises information to be the new medium of exchange in markets and not just money (Hollensen, 2003: 495). Abratt and Russell (1999) highlight that unlike the olden days' where bankers' selection of banks was primarily influenced by rates, fees and prices charged, competition amongst banks has shifted towards service excellence, streamlined services and (above all) innovative products. Indubitably, global trade is more than fifty times greater than what it was in the 1950s (the time when e-banking began sprouting) and is poised to continue growing exponentially, thereby, inevitably and inexcusably impacting on the banking sector, respectively (Aronsohn et al., 2006: 5). Notably, e-banking is a global link amongst financial institutions and is an integral part of a new banking strategy that utilises digital networks for the processing of digital transactions and information (Stakelbeck, 2005). In the same viewpoint, Gates (1999: 1 - 2) believes that in the midst of competition where information about the market is ubiquitous globally, banks are spearheading the development of a world-class digital nervous system.

The rampant tempo of technological revolutions demands that investigations on implications of technology in marketplaces be intensified. Amidst these transcending technology transformations across the markets, banks in particular, have been greatly reconsidering their marketing strategies. Motivated by this ubiquity and vitality of technological competence as a contemporary business and marketing practice across industries and within firms, the paper comprehensively delineates technological marketing, regarded as a new concept in the marketing fraternity, per se. Further necessitating this research was the investigation of the effects and the extent of technological adoption in various marketing practices of a financial institution in the 21st century competitive business environment. In addition, the research is inspired to gain a wider understanding of how financial institutions use technology to manipulate and influence their value offering. In this regard, the project put focus on competitive marketing strategies applicable to the Standard Bank branch in King-Williams Town and how technology has influenced these strategies. The

primary technological elements which were measured are banking remote services (for example ATMs), internet, computers, telephone and mobile communications.

## LITERATURE REVIEW

Literature reviewed, herein, centres on the competitiveness of the 21st century technological marketing environments, delineating theory on the new economy and competition inherent to the banking sector in South Africa and globally. Also, focus is directed on the trends which are contributing to the contemporary Hypercompetitive conditions being experienced in the financial sector. The researchers endeavour to relate, as much as possible, the features of the new economy and the theory on competition to the case of Standard Bank in King-Williams Town.

### Technological marketing

Continuous technological advances in the external and internal business environments has pressured firms to prioritise new technological innovation, subsequently bringing into sharper focus the profiles of targeted market segments (Reedy and Schullo, 2004: 1). In the face of the twenty first century economy, marketing practices changes ideally to take advantage of the new technologies. Managers are compelled to respond to the risk and challenges of failure by appreciating and acknowledging the dangers of technological deficiency in line with competition in their respective industries (de Klerk and Kroon, 2005). The logic and consistency of the marketing process, namely: situation analysis, marketing planning, and strategy implementation and control are firmly endorsed in modern marketing technologies. Constant innovation is necessary to improve the marketing strategies and processes, to maximise the delivery of customer benefits and satisfaction (Reedy and Schullo, 2004: 5). Competition stemming from advanced technologies creates complex decision-making situations for managers in the banking sector and organisations nationally and globally. Digital computing, data storage and the ability to transmit digital signals through telecommunication networks will give firms an interactive marketing strategy which combines product features, product development, pricing and customer information. Businesses in the 21st century are expected to respond quickly to customer demands. Through technology, flexibility is increased and firms are able to attract customers and efficiently respond to their demands (Lamb et al., 2002: 637).

Marketers can choose to take advantage of one or more of the economic benefits and opportunities offered by new technologies. If incorrectly applied, however, they could raise complex ethical issues and also present

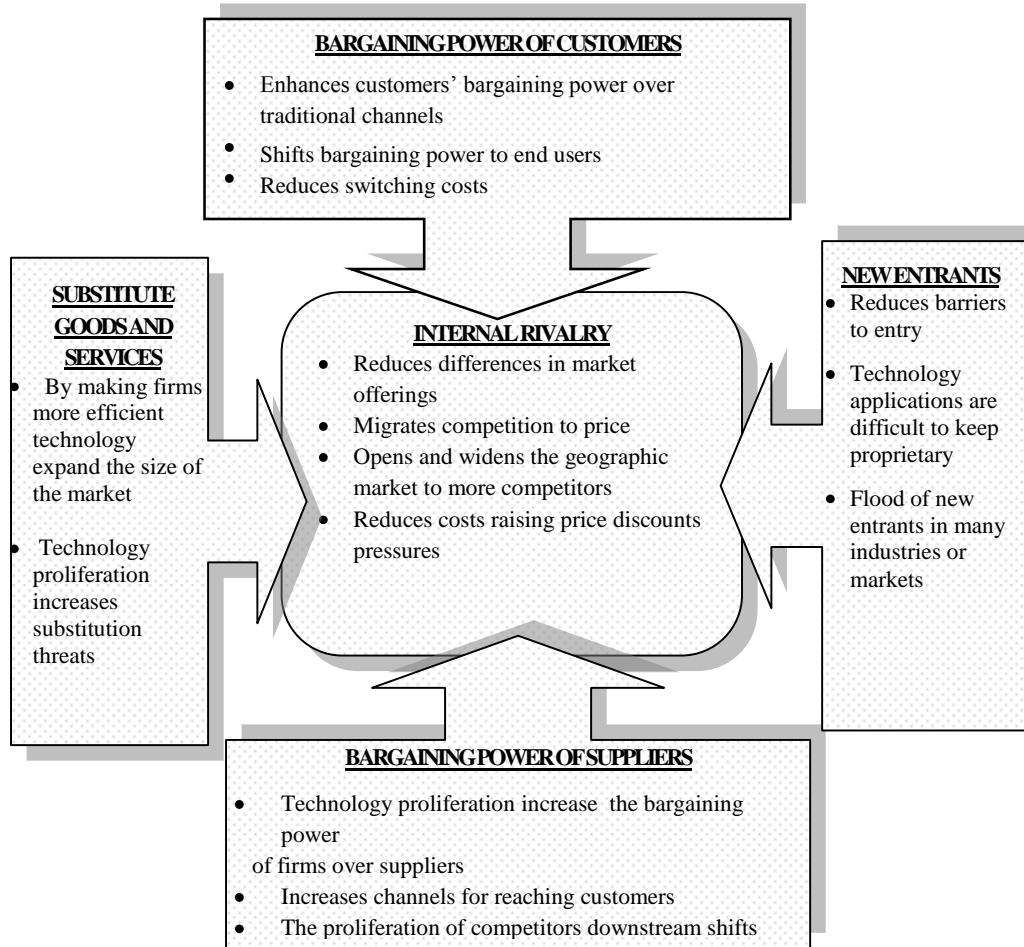


Figure 1. Technological competitiveness of markets. Source: Porter (2001: 67).

significant threats (Walker et al., 2006: 264).

### Technological markets

Technology is crumbling and bringing together markets to the extent that similar firms, with similar products and brands are being found in proximal markets. In other words there is no clear divisibility and exclusivity of markets globally and nationally which used to exist in the olden days business environments. Firms in any industry face at least five sources of competition as they compete for higher profitability in serving customers (Hellriegel et al., 2004: 104). Grewal et al. (2001: 18) indicate that electronic markets relate to IT mediated markets where buyers and sellers collaborate in a market space and exchange information regarding products, product specifications and terms of trade. Accessibility of markets has been exacerbated by the rapid growth of technology, resulting in hyper-competitive environments. Michael Porter's five competitive forces model that aids the description and assessment of the competitive structure of the banking sector with special attention on King-

Williams Town. Boone and Kurtz (1992: 44) assert that firms need to constantly monitor these factors since the integrated impact of these forces determines greatly the firm's potential of attaining profitability within a market. Figure 1 depicts the Porter's new model.

The following discussion summarises how technology can influence the market using the task environment, thus, the five competitive forces (Hellriegel et al., 2004: 104).

### *Rivalry from existing firms*

When a market is composed of numerous and almost balanced competing firms, overall competition in the industry intensifies. Prominently, competitors will utilise strategies such as price-cutting, improved service deliverance and quality (Hellriegel et al., 2004: 104). Focusing and specialising on the firm's internal activities as well as its competitors' strategies is crucial in winning today's competition. Irreplaceably, market competition intensifies when strategies by major competitors are combined with technological advancements in production

and product offerings. Thus, heightened competition in the financial sector is undeniably being proliferated by a dynamic interplay in massive technological use by banks (Malcolm and Martin, 2003: 96). Technology is viewed by many as a bank's principal vehicle for reducing its high-cost 'bricks and mortar' infrastructure.

As a result banks constantly search for new developments or better ways of operating their businesses. As of now, considerable trends are emerging that are aptly to gain impetus in the banking industries. For instance, as part and parcel of the improved thrust into retail banking, the banks are almost certainly introducing new and more user-friendly technology.

As competition for personal business intensifies, profit margins are shrinking thereby forcing banks to shift towards low-cost electronic transactions for continued earnings growth (Padgett and Mulvey, 2007: 375 - 376; Durkin and Howcroft, 2003: 63).

### ***Threat of substitute goods/services***

Competition increases when high quality substitutes exist in sufficient quantities and at competitive or comparable prices (Stevens et al., 2006: 115). New technologies result in new goods and services for consumers, improved existing products, better customer services and often lower prices. This is as a result of the development of more cost-efficient production and distribution methods (Boone and Kurtz, 1992: 56). Rapid growth in technologies particularly the internet and other faster communication and transport methods have improved the speed of business (Kotler and Keller, 2006: 13). Consistently, banks need to embrace that competition is unsparingly drifting from physical places toward computer-mediated environments (Hollensen, 2003: 395). Industry margins are continuously blurring, while channel disintermediation is increasing and the net result is that products and services become tradable inter-industries. In fact, in the financial sector technology has widened the platform at which financial institutions should compete on, since the substitutability of financial services has been increased.

When assessing, substitute services should not only focus on other banks such as ABSA, Nedbank, FNB and CAPITEC only. It has to also consider firms which are also providing services and products substituting the banking services for example supermarkets, insurance companies, the post office and even football clubs (Falkena et al., 2004).

### ***Threat of new entrants***

In many industries competition increases when it develops from outside the traditional industry. New entrants enter the market prepared to challenge the

incumbents with new methods of conducting business. Incumbents might find it difficult to develop sustainable competitive strategies against these new entrants. The incumbents must utilise innovative technologies and new forms of delivery, which are focused within the value chain, outsourced and integrated with up-to-date systems and infrastructures in order to remain competitive (Falkena et al., 2004). In some countries new entrants into some banking sub-markets, especially in the retail banking have included supermarkets, motor car manufacturers, do-it-yourself furniture stores, the post office, utility companies, insurance companies, and even well known football clubs (Falkena et al., 2004). The internet has changed the meaning of distance and geographical significance of places in the business fraternity.

Leinbach and Brunn (2001: 104 - 105) argue that the relative connectivity of cities on the internet- a band of networks, is bringing firms into proximal locations, as a result barriers to entry in the industry are difficult to establish with customers being reachable on commercial cyberspaces.

### ***Bargaining power of customers***

The extents to which customers wield power through purchasing strength clearly influence the competitiveness of a market. When a banking market is dominated by a few number of clients or where the client takes a large proportion of the bank's service, competition from customers is likely to be high (Malcolm and Martin, 2003: 98). Additionally, competition intensifies in an industry when buyers threaten to integrate backwards (Hollensen, 2003: 78). This has been prominent with traditional clients in the financial sector now involved in certain banking activities (Falkena et al., 2004). Technological dispensation in communication and transportation has empowered customers (Kotler and Keller, 2006: 13), and today's customers are highly informed and technologically enabled (Baker and Bass, 2003: 1 - 2). The growth in mobile phone ownership has led to customers being a step-ahead of marketers. Baker and Bass (2003: 1) describe the new customer as someone who is complex and somehow a difficult creature to serve. Customers have a wider choice of channels through which to connect with a brand and this is exacerbating the switching and mobility of customers, consequently the obvious result is increased customers' bargaining power. Banking is increasingly moving to online, thus, the resulting effect of technology in bank clients is even more established and more pronounced. This same consumer has been exposed ceaselessly to empowering technological advancements consequently widening the customer's reach.

The presence of the internet and mobile digital connectivity has eliminated the banking boundaries for

clients. Customers have seized to be only the consumers of services and products. Out of the desire to obtain higher customer satisfaction levels, customers are collaborating with producers in the production of services/goods. More and more customers prefer different versions of the same product or service (Hollensen, 2003: 398). Customisation favours modern technologies, and it is critical for firms to identify customer needs on an individual basis. The internet offers marketers the potential to view customers on a more personalised basis, and this enables customers to have products as per the order from across the globe. Through online services customers can co-create value through knowledge, interactions and experiences. Increasingly banks should be tailoring products at different rates for different clients and bringing new competitive offerings to the market (Strasheim and Pitt, 2001: 38). Internet enabled mobile devices are hurting and haemorrhaging specifically to banks which fail to adopt technology accordingly. Cell phone banking apart from internet banking, is currently the way of the future (Fisher-French, 2007: 1), with a large number of South Africans owning cell phones plying the potential for further developing marketing opportunities. Customers increasingly require instant gratification enhanced through the use of new technologies.

In the same limelight, (Gordon, 2007: 19) argue that there is an increasing number of banking clients who view cell phone banking to be cheap, secure, efficient, and more than anything convenient. Generally, the ownership of home PCs is increasing and overwhelmingly the future of banking will be carried indoors with clients being able to do banking twenty-four hours a day and seven days a week. What it means is that by ownership of modern technologies, customers will continue determining the pace of doing business, and who to trade with. The old adage 'a customer is king' has been increasingly fulfilled through the use of technology (Terbalanche, 2005: 10; Weeks, 2002: 5). The affordability of high performance technology, ability to complete transactions faster and more conveniently as well as the abundance of market information and knowledge also empowers contemporary customers (Zineldin and Vasicheva, 2008: 118).

### ***The bargaining power of suppliers***

The bargaining power of suppliers tends to be intensified when suppliers are concentrated or they contribute the larger component of the products that are bought by the customer. They can bargain for higher prices and this reduces the profitability of the bank (Jain, 1997: 91). All firms play the role of the supplier and customer in their competitive environments and each firm needs to balance its position as a customer as well as a supplier (Hellriegel et al., 2004: 106). Malcolm and Martin (2003:

98), also suggest that competition from suppliers is also increased when suppliers threaten to integrate forward. Fortunately, banks prominently operate in oligopolistic markets and as customers they command high bargaining power to their suppliers. However, with the banking technologies (softwares and hardwares) being supplied by few manufacturers, posing a challenge to banks (Mia et al., 2007: 41). Conclusively, in electronic markets suppliers can be considered as neither high nor low (Aronsohn et al., 2006: 13).

### **Competitive technological marketing strategies for firms**

Electronic marketing, the execution of delivering customer benefits and satisfaction coupled with electronic marketing resources, is growing at a high tempo. Certainly, technology modifies several aspects in the context of marketing. In these contemporary technologically aggressive environments, competitive marketing strategies derivative of the effects of technology are obviously the answer to encapsulate the challenges of increasing competition. Deighton and Kornfeld (2007: 7) argue that with the massive advent of interactive technologies, contemporary marketing has seized to be a matter of domination and control rather a matter of fitting in. Marketers need to appreciate the power of advanced technologies because competitive advantage is increasingly dependant on the application of advanced technologies (Porter, 2001: 66; Padgett and Mulvey, 2007: 376; Kamel, 2005: 308) developments in business related technologies enable the formation of international firms and a globalised consumer (Weeks, 2002: 4) e-commerce has no geographic boundaries because the internet creates connectivity throughout the world (Ambrose and Fynes, 2006: 3); technology influences action plans, as well as plans and goals (Lancaster and Reynolds, 2005: 355).

Advances in technology result in effective and efficient marketing process and outstandingly modern technologies have been able to provide better solutions contemporarily to marketers in areas such as the following:

### ***Technologicalship marketing***

According to Sheth and Parvatiyah (2000: 135), modern technology advances in IT, the current developments in sophisticated electronic and computerised communication systems make the maintenance of relationships easier. As suppliers and customers are dedicating their efforts towards massive technological application in business practises, the end result is that there is a possible disappearance of personal contact between the customer and the supplier. As a result marketers should

endeavour to integrate technology and relationship marketing to create long-standing relationships. The concept of technologicalship marketing advocated for by Zineldin (2000) is critical for successful relationship marketing programs. Marketers need to consider the development of proper technologicalship marketing programs in place of relationship marketing. Technology provides greater networking and communication capabilities which maintain and enhance contacts in relationship marketing. One of the major strategies of value creation in e-banking is the ability of websites to attract and maintain clients within the e-commerce zones (Hollensen, 2003: 433).

Lamb et al. (2002: 649), argue that information contained in the websites helps banking managers to know and understand their customers on a one-to-one basis. They further argue that through websites banks obtain the opportunity to build close relationships with customers, and they can tailor banking products according to client specifications. Computerised systems should be designed from a customer perspective and not only from internal productions and productivity-oriented viewpoints.

### ***Technology-led market segmentation***

E-commerce brings a fresh, creative and rewarding interpretation of market segmentation and the establishment of a solid and sustainable competitive position in a market. An active and participative marketing mix can be created for a particular target market through the application of technology. For instance a bank which has an effective and functional website can effectively and efficiently promote its offering by streamlining its services to individual customers (Reedy and Schullo, 2004: 147). Furthermore, marketers can attain the target market through the use of geo-demographic software models which offer reports, mapping and analysis of customers in a particular market. Customised marketing is being used by many firms to improve customer service experience. Banks, for instance use caller identification software to sort through in-coming calls. A certain customer is served by a specific operations group. Technology affects customer services by providing specific capabilities to the marketing function; these are speed and accuracy through which sophisticated technologies perform certain tasks (Eccles et al., 2000: 39).

Technological advances enable the marketer to identify specific prospects and deliver specific products/services for consumption by specific target markets.

### ***E-promotional mix marketing***

Marketers are demanding more and more performance from their promotional expenditures (Reedy and Schullo,

2004: 182), and they have greater value expectations for research and development expenditures. Technology influences almost every aspect of a marketing strategy. Most strategies have four elements which are; goals, strategies, action plans and programs (Ettlie, 2000: 93). The strength of the Web integrates and enhances the elements of the promotional mix. Technology enables marketers to design and manipulate promotional mix elements to maximise promotional benefits in different stages of the product life-cycle. For instance, in the declining stage of the product cycle personal selling complements promotions in pushing sales of the product as long as possible (Reedy and Schullo, 2004: 221 to 255). In technical terms, technology provides promotional interactivensess. While in conventional terms, with the development of client/ server applications, commercial messages easily flow between the supplier and the client. This gives the supplier a transmission capability.

Today, more and more people own digital communication devices, which provide the potential and capacity of enhancing numbers of business activities.

### ***Technology-driven marketing research***

Research has greatly benefited from the developed technologies. Amongst modern sophisticated technologies the internet and database have widely improved information gathering. Precisely these two result in faster and ease desktop research. One of the best marketing research tool is examining the competitor's web page, therein management can obtain a variety of valuable information on competitor's offering (Reedy and Schullo, 2004: 244). Since the web is used by many firms as the medium of communication with customers and other stakeholders. Also it is the doorway to online shopping for customers, as customers can click on hyperlinked tabs to get to different product categories. New technology increasingly facilitates the ease with which vital information for effective planning and decision-making can be collected, analysed and used. Advances in technology result in effective and efficient marketing process.

### ***Technology in marketing controls***

E-commerce aggravated trepidation amongst would-be customers and suppliers of many online sites (Reedy and Schullo, 2004: 366). Certain technologies today can perform certain control functions for marketing. To achieve the goals for marketing, the basic marketing philosophy of identifying and satisfying customer needs, certain marketing information is necessary. Comprehensive, reliable and up-to-date information is required by marketing from within and outside the organisation. Such information is needed for sales forecasts, and this

include customer reports, market research studies, market analyses, competitors, and economic trends (Eccles et al., 2000: 516 to 517). Equally important this information is essential for checking customers' credit-worthiness, which also forms part to marketing controls especially where credit transactions are involved.

### ***Technology in distribution channels***

In the financial sector technology is increasingly substituting traditional distribution channels. E-banking in form of cell phone banking and internet and ATMs is replacing the brick and mortar banking. The decrease in costs of getting to the internet and owning PC's increases prospects of technology taking over traditional distribution channels in the financial sector (Chen, 2001: 26). The adoption of technology for the web lifestyle is happening faster than was the case with electricity, cars, TV's and radios. The use of PCs has exploded in the workplace, homes, and schools. As consumers more readily accept and use the internet, more financial transactions (including banking, mortgage, utilities, and use of credit cards) will occur online. Computer software already enables clients to calculate online the effect of various instalments on their bank accounts while payment of bills is conveniently done online (Gates, 1999: 131 - 134). Firms should be aware that the impact of technology goes further than just using it for e-commerce but also to develop competitive strategies to gain competitive advantage and by providing useful information, expanding choice, developing new services, streamlining purchasing processes and lowering costs (Hollensen, 2003: 401). Technological upheaval and connectivity will transform competition and make product differentiation difficult. Banks have to consider consolidating their distributed database systems and integrate all their delivery channels with a view of delivering better services to their customers.

South African banks experience an increase in the use of ATMs, cell phone banking, and Internet banking as additional delivery channels. By combining e-data and traditional customer data, banks can personalise cross-selling campaigns and deliver them via the most appropriate channel. Understanding the marketplace and responding to its demand require up-to-date technological linkages. Sophisticated computer technology link marketing to the different business departments or other functional areas, such as information technology, finance, research and development, and customer service. All these functional areas are sustained by the same marketing information. With the internet and intranet greatly impacting the interaction of the whole enterprise, the IT department has largely become involved in the marketing strategies of the firm as they are tasked with developing the firm's website, a major marketing communication tool (Lamb et al., 2002: 637 - 638).

### ***Primary objective***

To determine the extent by which Standard Bank in King-Williams Town implemented advanced banking technologies in marketing strategies and practices.

### ***Secondary objectives***

- i) To determine the extent to which Standard Bank's marketing strategies employed technology in gaining a competitive advantage.
- ii) To determine the clients' perceptions on the level of satisfaction gained through the use of technology in transacting with the bank.
- iii) To ascertain to what extent customers utilised the various modern technologies of transacting with Standard Bank in King-Williams Town.
- iv) To outline technological characteristics that could be improved by Standard Bank in King-Williams Town in service delivery.

### **METHODOLOGY**

The research findings were subjected to statistical manipulation to produce broadly representative data of the total population and forecasts of future events under different conditions (Tustin et al., 2003: 89; Cant et al., 2003: 144). Qualitative research methods were not used as the data collection procedures are not strictly formalised as in a quantitative approach. The scope of the study was clearly defined unlike in qualitative research, thus, the research was carried out in King-Williams Town in the Eastern Cape province of South Africa and it was directed at the Standard Bank branch located in this area. The customers targeted were private bank customers. To the scale of this study, as in many cases, the actual population (private bank customers) figure could not be obtained since it is usually difficult to specify the actual number of the population and specify the elements (Cant et al., 2005: 178). A sample of 90 respondents was utilised in the primary research surveys. These respondents were selected using convenience sampling. The research methodology and selection of Standard Bank in the abovementioned town was underpinned primarily by the exploratory nature of the research. Exploratory research is initial research conducted to clarify and define the nature of the research problem by giving ideas as to how the research problem can be addressed. It is used when searching for insights into the general nature of the problem, the possible decision alternatives and relevant variables that need to be considered (research purpose). Typically, there is little prior knowledge on which to build (Tustin et al., 2003: 84, 87; Cant, 2003: 28 - 29).

The target population of this study was the retail customers and to the scale of this study, as in many cases, the actual population figure could not be obtained since it is usually difficult to specify the actual number of the population and specify the elements (Cant et al., 2005: 178). The research used assisted questionnaire through mall-intercepts in the collection of data. The questions contained in the questionnaire were mainly dichotomous questions, likert scale and checklist questions with a few open ended questions. The combination of the three types of questions ensures the collection of complete information from the respondents (Loubser, 1999: 221). These interviews were conducted in a structured form, and they were conducted with customers at designated points on the Standard Bank banking site and ATMs in the area of study. The research primarily uses descriptive statistical methods with the

**Table 1.** Client satisfaction in e-banking.

<b>Client loyalty</b>	<b>Strongly agree (%)</b>	<b>Agree (%)</b>	<b>Neutral (%)</b>	<b>Disagree (%)</b>	<b>Strongly disagree (%)</b>
E-banking effect on belongingness of clients to the bank.	14	45	15	21	6
Clients' advocacy of the bank to others.	23	45	0	10	0
User-friendliness of the bank's e-banking technologies.	16	55	26	3	0
<b>Variables</b>					<b>P-value</b>
Technology use and ranking of Standard Bank					0.0350
Technology use and customer partnership					0.0144
Technology use and user-friendliness of banking methods					0.0101
ATM usage and user-friendliness					0.0305
Chi-square extracts					

chi-square being the only inferential statistic which was used in this study. The chi-square method was utilised to establish the significance of the results amongst the variables tested by the study and it was also used to test for association of variables. STATISTICA is the statistical package which was mainly used in this article. The packages, Microsoft Excel and SPSS were also used for the analysis and production of graphs and tables.

## DATA ANALYSIS

Table 1 highlights on the p-values obtained after carrying the tests of associations. The significance outcomes for testing of associations from the items measured by the research instrument conclusively had significant relationships. Reliability was established through Cronbach Alpha value and pre-testing of the questionnaire was conducted amongst 15 respondents. The purpose of pre-testing is to test for the relevance of the statements in an environment similar to the proposed survey environment. The alpha coefficient ranges in value 0 to 1. The higher the score, the more reliable the generated scale is. Consistently, this study produced an acceptable Cronbach's alpha value of 0.82 with Cronbach (1951) arguing that 0.7 and above alpha coefficient values are acceptable.

## RESEARCH FINDINGS

This section presents the findings from the data collected from the data survey. The study considered 33 variables to enable an evaluation of opinions and behavioural information of customers in the e-banking services. The majority of variables were adopted from the literature review. With the banking technologies being prominently and currently used being the major instruments of usage and opinions variables. Primarily technology use refers to the use of e-banking instruments such as ATM's, EFTPS, internet, cell phone and Computer banking. The descriptive analysis of e-banking is presented first.

### Technology utilisation in service delivery and competitive advantage

The responses of customers were statistically weighted in

order to attain a ranking criterion. While on average the results show that Standard Bank leads the market in technological adaptation, the results reveal that the bank's customers perceive it as second to ABSA in using modern and sophisticated technologies in marketing. This is reflected by the findings from the study where 41% of the participants ranked ABSA first, while 38 % ranked Standard Bank. Both banks using the mode occupied the 1st ranked as the leaders in technological utilisation with FNB occupying the 3rd rank and there was no bank ranked 2nd. Altogether, 82.5% of the customers responded that they were influenced to bank with a bank which uses advanced modern banking technologies; with the remainder of the respondents indicating that their choice is not influenced by the bank's level of adoption of sophisticated technologies. Table 2 enlightens the gaps between ICT instruments ownership and its utilisation in e-banking activities.

### Client's satisfaction gained from using advanced technology

The researchers mainly used loyalty constructs to measure the satisfaction of customers and to determine the extent to which customers were attached and loyal to the technological facilities of Standard Bank. It is envisaged that satisfied customers are retained customers; consequently, satisfaction is strongly correlated to long-term relationships. Altogether 71% of the customers interviewed noted Standard Bank's technological facilities as user-friendly. 90% of the customers responded that they would encourage others to bank with Standard Bank and the remainder said they would not encourage friends or relatives. This reflects high customer loyalty.

### Utilisation of advanced banking technologies by customers

The researchers required customers to rank their preferences of the banking methods. The information



**Table 2.** Gaps in e-banking utilisation.

<b>Technology access</b>	<b>(%)</b>	<b>GAP access less usage (%)</b>	<b>Technology utilisation</b>	<b>(%)</b>
Computers	56	56	Computer banking	Nil
Cell phone	100	48	Cell phone banking	48
Internet	33	9	Internet banking	24
Own telephone	67	30	Tele-banking	37
Tv	83	53	Tv banking communication	30
Radio	71	65	Radio banking communication	06
		07	ATM banking	93
		24	EFTPS	76
		17	Bank by technology	83

For these methods it was assumed that every individual who has a bank account has access to these methods of e-banking tools.

<b>Chi-square extracts</b>	<b>P-Value</b>
<b>Variables</b>	
Gender and ownership of computers	0.0003
Computer banking by income group	0.0004
Computer banking by education	0.0386

shows that on average most customers prefer banking through ATMs followed by cell phones, and the least preferred method is telephone banking. Consistently, the majority of the employees on average perceived that customers were heavily using ATMs and over the counter banking methods. On average 39% respondents have been using the noted recently developed banking methods. In the presence of a multi-channel distribution system in the banking sector, this percentage reflects a significant representation. A sound basis to make conclusions on the significance of modern banking technology is also cited by the results on banking methods preferences by customers, where on average customers gave 41% rating over the recently developed banking methods. Conclusively, the majority of the clients perceived the use of sophisticated banking facilities by banks as a means of transacting and as an essential aspect in service delivery.

## MANAGERIAL IMPLICATIONS

There are greater opportunities of making banking more exciting and convenient through the use of more advanced technologies. The bank should consider their innovation towards voice recognition banking and online shopping. Innovativeness and enhancement of such methods will enhance Standard Bank's competitiveness. In line with current trends in the developed world, these methods seemingly are next in the upstream of banking technologies. The results obtained substantiate the theories of competition and specifically empirical studies on the competitiveness of the banking industry. As a result the bank should consider the intensity of competition from other banks, particularly ABSA. An encouraged strategy would be to transfer its IT function to

international suppliers of banking technologies. This offers solutions to the banks' technological problems and prospects. Technological marketing in future promises to be the core, if not the only delivery network for banks. Through the outsourcing of the IT department, the bank will be kept abreast of any developments in banking technologies. The results highlighted that the majority of the customers owned cell phones and approximately half owned computers. Also these customers prefer using these banking methods provided they are comprehensively familiarised to these methods. This information represents an opportunity for Standard Bank of moving from branch banking towards personal terminal branches in the form of PCs and cell phones. Standard Bank has to consider enhancing the usage of the owned cell phones and computers to create a sustainable competitive advantage. There is an increase in the number of banking customers who view cell phone banking to be cheap, secure, efficient, and more than anything convenient (Gordon, 2007: 19). Standard Bank should develop awareness programs in order to encourage the use of these new methods. Likewise, the access to ATMs should be improved thereby requiring upholding of education on ATM usage.

Business transactions are occurring 24 h, and these can only be possible if there is a supportive banking network during the 24 h. The bank should attempt to use more simple and accessible banking methods while also reducing functionality problems of ATMs. Standard Bank should increase the distribution of ATMs and make them more universally accessible to customers, as well as, expanding point-of-sale to small shops. Customers unmet information needs compared to the ownership rate of communication technologies by customers prompt a need for enhancement of the bank's promotional strategy. The use of e-mails and text messages has the

potential to deliver high rewards to the bank. The bank's management needs not to overlook the importance and power to customers of e-mails and text messages as sources of information. The results reflected that the ownership of mobile phones is high, and while the general growth rate of internet usage in South Africa is also high. The personal contact which has been eroded by the arrival of technological marketing can be fully replaced by the use of such methods and the result is long-term customer relationships. Without sidelining the traditional communication methods such as the radio and TV, these only need to be massively used and the effects are also substantive. The information should portray the accessibility of mobile and internet banking to both customers on the high end and the low end of the market.

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