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Adoption and Use of Internet Banking in Zimbabwe: An Exploratory Study

Dube Thulani, Lecturer, Faculty of Commerce, Department of Business Studies, Bindura University of Science Education, Zimbabwe.
Postal Address: **P. Bag 1020, Bindura, Zimbabwe**
E-mails: tdube29@tsamail.co.za or tdube@buse.ac.zw
Dube Thulani is a lecturer of business information systems and his research interests include e-business, e-commerce, internet banking and general management issues.

Chitura Tofara, Lecturer, Faculty of Commerce, Department of Marketing Management, Midlands State University, Zimbabwe.
Postal Address: P Bag 9055, Gweru, Zimbabwe
E-mails: chituratofara2008@yahoo.com or chiturat@msu.ac.zw
Chitura Tofara is a Lecturer of Marketing at the Midlands State University in Zimbabwe. His areas of research include marketing, e-commerce, e-marketing and SME marketing and have written articles in the Journal of Internet Banking and Commerce (JIBC) and the Southern Africa Journal of Education Science and Technology (SAJEST) as well as a Discussion paper with the University of KwaZulu Natal South Africa.

Runyowa Langton, Lecturer/Dean of the Faculty of Commerce, Department of Business Studies, Bindura University of Science Education, Zimbabwe.
Postal Address: **P. Bag 1020, Bindura, Zimbabwe**
E-mail: lrunyowa@buse.ac.zw
Runyowa Langton is a lecturer/Dean of the Faculty of Commerce and his research interests include general management issues.

Abstract

This paper sought to explore the extent of adoption and usage of internet banking by commercial banks in Zimbabwe as well as investigate the challenges they face in the

adoption of this technology. An exploratory research design was used to achieve the envisaged aims of the study. Overall, the results showed that while the majority of the banks in Zimbabwe have adopted internet banking, usage levels have remained relatively low, as not many customers are using this innovation in Zimbabwe. Regarding the challenges faced by banks in the adoption of IB, compatibility with existing legacy systems, cost of implementation and security concerns ranked high. The implications of the study are that banks in Zimbabwe should vigorously promote the usage of IB among customers while policy makers such as the Government and the Reserve Bank of Zimbabwe should increase investments targeted at infrastructure development so as to encourage banks and individuals alike to adopt the innovation.

Keywords: **Electronic banking, Internet banking, Zimbabwe**.

INTRODUCTION

The internet is transforming the banking and financial industry in terms of the nature of core products /services and the way these are packaged, proposed, delivered and consumed (Sathye, 1999). It is an invaluable and powerful tool driving development, supporting growth, promoting innovation and enhancing competitiveness (Kamel, 2005 and Nath, Shrick and Parzinger, 2001). Banks and other businesses alike are turning to Information Technology (IT) to improve business efficiency, service quality and attract new customers (Nath et al, 2001 and Kannabiran and Narayan, 2005). Technological innovations have been identified to contribute to the distribution channels of banks and these electronic delivery channels are collectively referred to as electronic banking, (Goi, 2005). The evolution of banking technology has been driven by changes in distribution channels as evidenced by automated teller machine (ATM), Phone- banking, Tele-banking, PC-banking and most recently internet banking (Chang, 2003 and Gallup Consulting, 2008).

In Zimbabwe the first visible form of electronic innovation was in the early 1990s when Standard Chartered Bank and Central Africa Building Society (CABS) installed Automated Teller Machines (ATMs). Other forms of electronic innovations that have found their way into Zimbabwean banks are Electronic Funds Transfer Systems (EFT), Telephone banking, Personal Computer (PC) banking and recently internet banking. These have released banks from the constraints of time and geographical location (Kass,1994 cited by Goi, 2005) and has allowed banks to cut costs on transactions, improve their service delivery, and respond better to the demands of the market (Chang, 2003 and Sullivan and Wang, 2005). There has been a proliferation of electronic banking systems over the years, especially in developed countries where it is driving economies closer to cashless society as it removes the need for tangible currency (cash) and physical payment systems and replacing them with cards (plastic money) and internet (digital money) .

However in the Zimbabwean banking sector the adoption of this innovation has remained sluggish despite the convenience it brings to the customers and the banks. The sector has been gripped by a crippling cash crisis (shortages) since November 2007

which has brought the economy almost to a halt. Our grounding argument is that if the banks and policy makers (Government and the Central Bank) had been innovative and proactive the cash problems would have been mitigated as customers would have resorted to the digital payment systems that do not require them to visit banking halls for hard cash. While literature is abounding with studies conducted mostly in the developed world, in the Zimbabwean context this area is underrepresented as no studies to the best knowledge of the authors have been conducted in this area. It is against this background that this study endeavors to explore the extent of adoption and use of internet banking in Zimbabwe..

THEORATICAL BACKGROUND OF THE STUDY

Diffusion of innovation -Internet banking

The need to understand how and why technology has or has not been adopted for knowledge work in less-developed countries is important for managers/service providers and customers alike (Al-Sukkar and Hasan, 2005). There is a continuum of approaches for how managers deal with technological change (Bocij, Chaffey, Greasley and Hickie, 2003). Rogers (1983) provides a typical curve for the adoption of any innovation by businesses and individuals whether it is a new processor, DVD or a new business concept such as e-business. On one end of the continuum are early adopters and on the other extreme end are laggards. In the technologically developed world, information technology is faced by barriers such as the lack of top management support, poor quality design and inadequately motivated and capable users and in contrast most of the five hundred million citizens of the Sub-Saharan Africa have no access to telephone service or computers (Kwan and Zmud, 1987 and Odedra et al., 1993 both cited by AL-Sukkar and Hasan, 2005) that are fundamental in understanding technological change.

Numerous studies have been developed facilitating the mapping/ adoption of innovation with various industries, however very few studies have so far been published on the diffusion of internet-based platforms for the banking, most of them deal with the diffusion of ATMs in the financial sector (Corrocher, 2002). These studies have identified the main factors that impact on the rate of diffusion of an innovation and these include achievement of competitive advantage, reducing costs and protecting a strategic position (Bradley and Stewart, 2003). Jayawadhera and Foley (2000) revealed that internet banking is diffusing at a slow pace. It is difficult to establish up to what point innovation has been a management's objective and how far it has been influenced by factors beyond management control (Chorafas, 1987 cited by Bradley and Stewart, 2003). Karem (2003) notes that with internet banking there should be a management aspect to adopt internet banking with a long –term perspective which is looked upon as an investment not an expense. Bradley and Stewart (2003); Maholtra and Singh (2007); Corrocher (2002), Sullivan and Wang (2005) and Hannan and McDowell (1984) concur that factors such as organizational structure, size of business, number of previous adopters and entry of new competition to the industry may also affect the uptake of a particular innovation.

More so, both supply and demand factors impact on the decision to adopt a new

innovation. From the demand perspective there is some consumer demand for this facility while on the supply side protection of reputation, competition, cost saving, mass customization, retention and attraction of customers have been cited as influential factors on the diffusion of internet banking (Bradley and Stewart, 2003). On the other hand security lack of user-friendly technology, customer demand, high initial set-up costs, redundancy of existing high-cost legacy systems and lack of suitable skills have been highlighted as some of the most important issue delaying the adoption or diffusion of internet banking (Daniel and Storey, 1997; Moles et al., 1999; Esser, 1999; Daniel, 1999 cited by Bradley and Stewart, 2003, Karem, 2003 and Chang, 2003).

Internet banking (IB) defined

Internet banking refers to systems that enable bank customers to get access to their accounts and general information on bank products and services through the use of bank's website, without the intervention or inconvenience of sending letters, faxes, original signatures and telephone confirmations (Henry, 2000). It differs from online banking in that internet banking provides universal connection from any location world wide and is universally accessible from any internet linked computer (Bradley and Stewart, 2003; Henry, 2000; Rotchanakitumnuai and Speece, 2003; Jan-Her Wu et al., 2006 and Perunal and Shanmugan, nd). BIS-EBG (2003) cited by MU Yibin (2003) defines internet banking as the provision of retail and small value banking products and services through electronic channels as well as large value electronic payments and other wholesale banking services delivered electronically. Chang (2003), Sullivan and Wang (2005) view internet banking as a process innovation whereby customers handle their own banking transactions without visiting bank tellers. It also allows non-customers to visit virtual banks via the public network while Phone banking or PC banking provide only closed networks limited to the existing client.

Types of Internet banking

Diniz (1998), Henry (2000) and MU Yibin (2003) identify three functional level/kinds of internet banking that are currently employed in the market place and these are: Informational, Communicative and Transactional.

Informational (Websites) - This has been identified as the first level of internet banking. Typically the bank has the marketing information about the bank's products and services on a stand alone server. The risk is very low as informational systems typically have no path between the server and the bank's internal network.

Communicative/Simple transactional (Websites) – This type of internet banking allows some interaction between the bank's systems and the customer. The interaction is limited to e-mail, account inquiry, loan application or static file updates (name and address). It does not permit any funds transfers.

Advanced Transactional (Websites) - This level of internet banking allows bank customers to electronically transfer funds to/from their accounts, pay bills and conduct other banking transaction online like CABS in Zimbabwe.

Benefits of internet banking

The properties of internet make it an ideal medium for delivery of banking products and services (Jayawadhera and Foley, 2000). Various studies have been conducted on internet banking and the benefits that accrue from the use of this innovation are summarized in table 1.

Table 1: Benefits of internet banking

Benefit	Related Literature
• Cost Reduction	Bradley and Stewart (2003), Rotchanakitumnuai and Speece (2003), Jayawadhera and Foley (2000), Nath et al 2001, Al-Sukkar and Hasan (2005) and Singh (2004), Corrocher (2002),Chang (2003), Sullivan and Wang (2005).
▪ Increased customer base	Bradley and Stewart (2003), Jayawadhera and Foley (2000), Jen-Her Wu et al 2006 and Singh (2004), Corrocher (2002).
▪ Enable innovation and development of non-core business services	Jayawadhera and Foley (2000), Nath et al. (2001), Karem (2003), Corrocher (2002), Chang (2003).
▪ Marketing and communication	Jayawadhera and Foley (2000), Karem (2003), Corrocher (2002).
▪ Increased consumer loyalty and satisfaction	Jen-Her Wu et al 2006 and AL-Sukkar and Hasan (2005), Nath et al. (2001).
▪ High profit consumers	Nath et al. (2001).
▪ Ability to attract new consumers	AL-Sukkar and Hasan (2005).

AL-Sukkar and Hasan (2005) and Singh (2004) identify potential disadvantages of deploying internet banking. These are summarized as follows:-

- Indirect cost to the customer as internet banking has certain systems requirements such as accessibility to computers and browsers connectivity which are additional costs to the customer.
- Cash availability- customers cannot make deposits or withdrawals of hard cash when using the internet banking.
- Security concerns- banks and customers alike are concerned about unauthorized access to their systems ().

RESEARCH METHODOLOGY

Research design

An exploratory research design was considered the most suitable approach in view of the nature of the problem being investigated.A structured questionnaire adapted and modified from our previous research (Chitura, Chuma, Dube and Runyowa, 2007) on the adoption of e-commerce by SMEs was used as the main data-gathering instrument. The

instrument was pre-tested with a sample of three commercial banks in Bindura and modified to increase its clarity while peer evaluation was also undertaken to shape the final questionnaire design. The questionnaire was divided into four sections. Section A captured basic demographic information regarding the banks such as age of the bank, capital base and the number of branches nation wide. Section B captured information about the adoption and usage of internet banking services. Section C sought to determine the perceived benefits of internet banking and while section D captured information about the nature of the challenges faced in the adoption and usage of internet banking. The last two sections used a five point Likert Scale battery where the respondents were asked to indicate the extent to which they agree/disagree with various statements. Due to commercial confidentiality and sensitivity of the banking information the questionnaire was designed in a manner that did not require the respondents to reveal their names nor their banking institutions.

Data collection and analysis

The study sample consisted of all commercial banks in Zimbabwe. All the commercial banks in Zimbabwe are head quartered in Harare (the Capital city) hence it was imperative to focus on these branches as they generally reflect technologies by sister branches. Of the sixteen (16) banks only twelve (12) filled and returned the questionnaires giving a response rate of eighty six percent (86%). Data was collected over a period of eight weeks commencing from the second week of January 2008 to the second week of March 2008. Statistical Package for Social Sciences (SPSS) version 10 was used as the statistical analysis tool while descriptive statistics were computed and used in the interpretation of findings. The data was presented in the form of tables and graphs.

EMPIRICAL RESULTS

Data collected was coded before being analyzed. Bank profile is presented first followed by the sections on adoption and usage if internet banking, perceived benefits as well as the challenges that banks face in the adoption and implementation on internet banking.

Basic adoption characteristics for respondent banks

As can be viewed in table 2, the responses show banks profiles in terms of those characteristics that impact on the adoption of internet banking such as age, number of branches and value of capital in US dollars.

Table 2: Respondents profile

Survey Question	Response category	Frequency (N)	Percentage (%)	Cumulative Percentage (%)
Age	1-5yrs	5	56	56
	6-10yrs	3	33	89
	11-15yrs	1	11	**100**
	Total	**9**	**100**	

	Missing	3		
	Total	**12**		
Number of branches	< 5	2	16.7	16.7
	6-10	1	8.3	25.0
	11-20	1	8.3	33.3
	>20	8	66.7	**100**
	Total	**12**	**100**	
Capital (Asset base)	US$21000-US$35000	2	25	25
	US$36000-US$50000	1	12.5	37.5
	>US$50000	5	62.5	**100**
	Total	**8**	**100**	
	Missing	4	33.3	
	Total	**12**	**100**	

Most (56%) of the respondent banks indicated they had been operating for a period ranging from one to five years while 33% had been operating for 6-10 years. A significant number (62.5%) of banks have assets valued over US$50 000 and have been in business for a period ranging from three to five years.

Adoption and usage of Internet banking

All the bank respondents investigated indicated that they provide internet banking services either to corporate customers or to individual customers. As shown in table 3 below, 36% of the banks have used internet banking for less than three years; while 55% of the banks indicated that they have used IB as a delivery channel for between 3-5 years.

Table 3: Duration of internet banking usage

Duration of IB usage	**Freq**	**%**	**Valid %**	**Cum %**
1-2 years	4	33.3	36.4	36.4
3-5 years	6	50.0	54.5	90.9
>5 years	1	8.3	9.1	**100.0**
Total	11	91.7	**100.0**	
Missing	1	8.3		
Total	**12**	**100.0**		

When further asked to indicate the average usage of internet banking to serve their consumers per month, a majority (67%) of the banks indicated that they use less than twenty percent of service capacity while 16 % of the banks use between twenty percent and seventy five percent of the service capacity (see table 4 below).

Table 4: Average use of internet banking

Capacity Utilization of IB facility	Freq	%	Valid %	Cum %
<20%	8	66.7	66.7	66.7
50%	1	8.3	8.3	75.0
75%	1	8.3	8.3	83.3
>75%	2	16.7	16.7	**100.0**
Total	**12**	**100.0**	**100.0**	

The study sought to explore the relationship between the length of IB service usage and capacity utilization. Results in table 5 indicate that the two variables have a positive relationship (measured by correlation efficient of 0.675). Those banks that have been using internet banking for many years indicated a high capacity utilization of the service while banks that had just adopted the service are characterized by low capacity utilization.

Table 5: Relationship between duration of IB usage and capacity utilization

Variables		[1]	[2]
[1]	Pearson Correlation	1.00	0.675*
	Sig. (2-tailed)	0.00	0.023
	N	12	12
[2]	Pearson Correlation		1.00
	Sig. (2-tailed)		0.00
	N		12
[1] Length/Duration of Service, [2] Average usage per month			

* Correlation is significant at the 0.05 level (2-tailed).

Available Services and their usage

This appears to conflict Diniz's (1998) observation that most of the banks perform basic and transactional internet banking and are offering intermediate services like balance enquiry, bill payments and funds transfer. The findings in figure 1 show that payment of bills, checking of account balances, printing statement, funds transfer and ordering cheque books are by far the most popular applications of internet banking services. On the other hand opening of new accounts, applying for credit cards and loans were not popular services as many banks regarded these as services that require proper screening of consumers thus the need to go through a thorough face to face interaction.

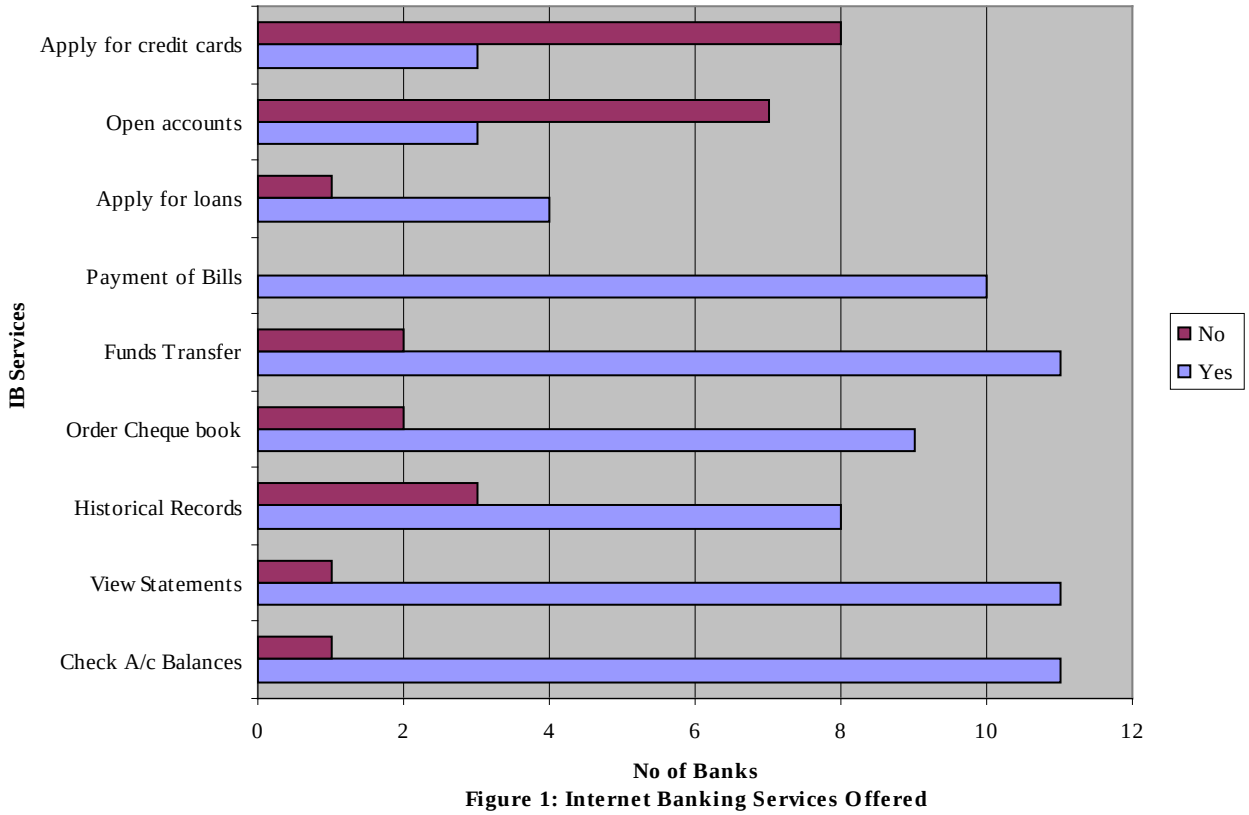

Figure 1: Internet Banking Services Offered

Benefits of internet banking adoption and usage to commercial banks

The respondents were asked questions, relating to their perceived benefits of using internet banking on a five point Likert Scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Their responses are shown in the figure 2 below. Overall the perceptions of IB benefits, in the agree/strongly agree category, were cost reduction (81.9%) and customer retention (80%) while customer attraction had a fair (63.7%) response. Development of non-core business activities/services had a very low rating of 36.4%. This benefit can only be realized by those banks with a highly developed internet banking infrastructure.

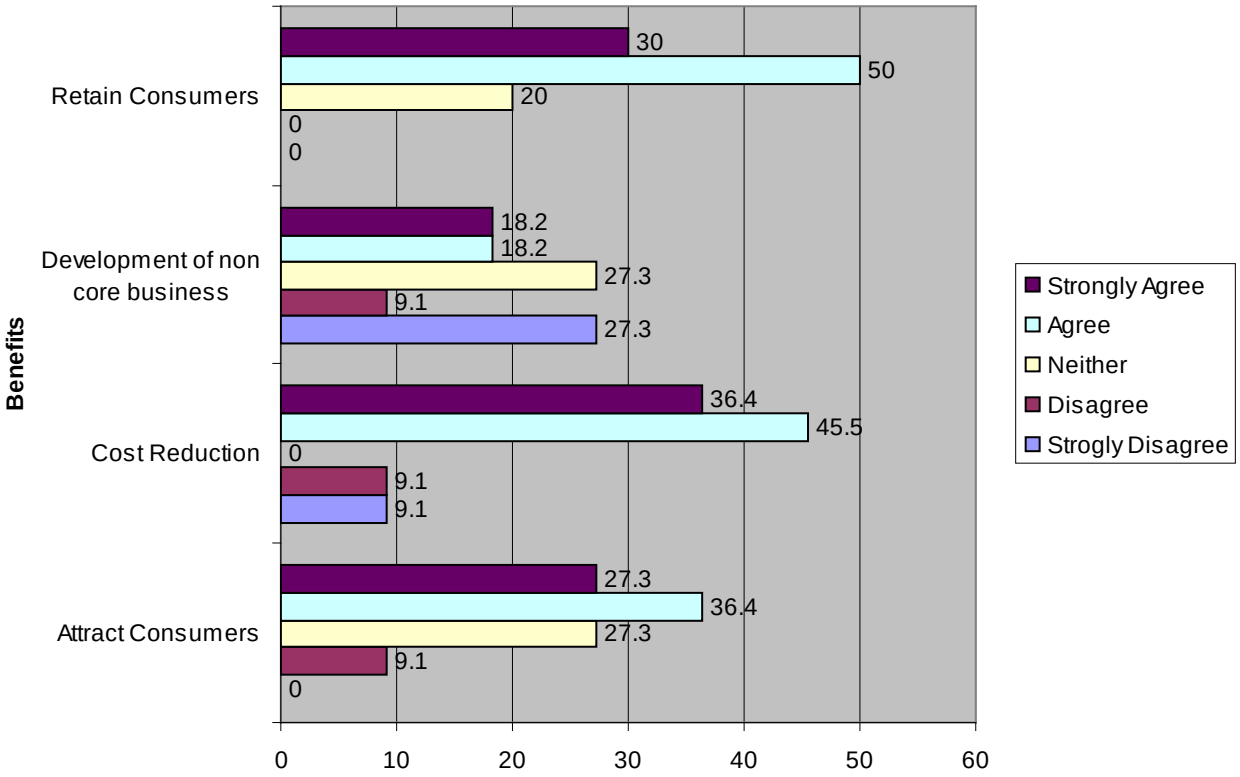

Figure 2: Percieved Benefits of IB Adoption

Internet banking adoption challenges

To establish the rank order for IB adoption challenges, the mean rating of each statement was computed. A variable with a mean larger than three was regarded as important. Compatibility with the existing systems, cost of implementation and security concerns emerged as the most significant inhibiting challenges since they have means greater than or equal to three (see table 5). Fifty percent (50%) of the respondents indicated that they have been strongly affected by lack of expertise and an equal number indicated that they did not view lack of expertise as a challenge in their bid to adopt and use this new banking channel. User acceptance and lack of legislation were ranked last.

Table 5: Descriptive Statistics on IB Challenges

Rank	Internet banking challenges	Freq (N)	Mean	Std. Deviation	Variance
1	Compatibility with existing systems	12	3.36	0.81	0.655
2	Cost of implementation	12	3.30	0.82	0.678
3	Security concerns	12	3.00	1.41	2.000
4	Lack of expertise	12	3.00	0.77	0.600
5	Inadequate legislation	12	2.91	1.38	1.891
6	Consumer acceptance	12	2.82	1.17	1.364

DISCUSSION

Maholtra and Singh (2007), Corrocher (2002), Sullivan and Wang (2005), Hannan and McDowell (1984) identified business size, age, capital and market structure among others as factors that determine the adoption of internet banking. This is contrary to our findings which rendered these factors insignificant as both big and small banks had adopted internet banking. Interesting to note was the fact that our findings rendered inadequate legislation an insignificant barrier and this is in conflict with the widely held view that lack of legislation is an important adoption barrier to internet banking (Kerem, 2003). This is probably explained by the fact that there is no specific legislation in Zimbabwe governing electronic banking (RBZ, 2003), which include internet banking. However, our results confirmed the findings by Singh (2004) and Sukkar and Hassan (2005) that challenges such as security, compatibility with existing systems, cost of implementation and lack of expertise were the major inhibitors/ barriers of internet banking adoption. Our findings showed that internet banking is at its low involvement stage/infancy in terms of being used by commercial banks in Zimbabwe. Low capacity utilization could be due to a number of reasons. This finding concur with the RBZ's (2001) assertion which concurs that while the Zimbabwean banking sector is significantly well developed technologically in comparison with other African banking systems, internet banking is not being fully utilized by banks and consumers alike as seventy five percent (75%) of the banks on average use fifty percent (50%) and below of the internet banking capacity. Kerem (2003) cited a number of internet banking critical success factors that included among the list enabling environment, quality of the regulatory framework, ICT usage promotion initiative and management aspects. Enabling environment relate to Government's own usage of information and communication technologies (ICTs) and designing a public key infrastructure where the public has got easy access to the ICTs and internet. Promotion of internet as a channel for accessing information and using services via adding content that is relevant and useful for the target groups.

CONCLUSIONS

The rate at which internet banking technology is adopted by firms constitute an important part of technological change. Using data on IB adoption by banks in Zimbabwe our study sought 1) to explore the extent of adoption and usage of internet banking, and 2) to investigate the benefits realized and challenges face by banks in the adoption and usage of internet banking to compliment their service delivery channels. In view of the extent of IB adoption, a majority of the banks have adopted this technology and are using the

service to reach and serve their clients (corporate and individual customers). Despite a seemingly good adoption rate, the extent of usage has remained relatively low as not many consumers are using the facility. The implication is that banks need to increase their marketing efforts by initiating awareness programs to raise customer awareness and interest in internet banking. The main usage of IB has been for checking account balances, payment of bills and funds transfers. Important perceived benefits of using internet banking were cost reduction, increased loyalty and attracting new customers. The adoption process of IB by banks was fraught with several challenges such as compatibility with legacy systems, cost of implementation and security concerns among others. The implication is that the Government must, through the Reserve Bank of Zimbabwe (RBZ), increase investments in education, infrastructure development to enable more firms and consumers alike to adopt the innovation.

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