

Technology readiness and EFTPoS usage in Zimbabwe

Richard Shambare

Tshwane University of Technology, South Africa

Keywords:

Adoption, banking, e-Banking, EFTPoS, technology readiness, Zimbabwe

Abstract

The Zimbabwean retail banking sector presents numerous lessons as well as challenges for the marketing of electronic banking services. Within the last decade, the Zimbabwean banking sector together with the economy experienced a near collapse in 2004, rebounded in 2009 with the formation of the coalition government and once again took another dip in 2012, when three retail banks were placed under curatorship. Notwithstanding this volatility, industry literature reports an increase in adoption rates of electronic banking channels. It is against this background that the purpose of this paper seeks to establish the relationship between technology readiness personality traits and the adoption of electronic funds transfer at point of sale (EFTPoS) within the context of 'volatile' developing economies such as Zimbabwe. Results broadly confirm the efficacy of these personality traits in predicting the adoption of technology-based banking services. This study provides new insights in that it suggests that technology readiness assumptions, regardless of prevailing economic conditions, will generally hold and remain good indicators for adoption even in uncertain and volatile situations similar to those observed in Zimbabwe.

Introduction

Despite the fact that financial services sector depends on market certainty, economic stability and fidelity, Zimbabwean banks, nonetheless, continue to thrive amid a hostile and uncertain environment. Of note, industry literature is abounding with reports of increased uptake of banking technologies such as automated teller machines (ATMs), cell phone banking (CPB), and electronic funds transfer at point of sale (EFTPoS) (Reserve Bank of Zimbabwe, 2011a). In an 'unstable' environment such as Zimbabwe (Richardson, 2005), it would be reasonable to assume that consumers would generally shy away from formal banking, as the risk profile of such a sector would usually be intolerably high. Despite this, patronage of the formal banking services in Zimbabwe including the adoption of technology-based banking services (Dube, Chitura & Runyowa, 2009). This apparent contradiction therefore requires further investigation. Firstly, are mainstream theories such as the technology readiness (TR) framework useful in explaining conditions in these difficult situations? Secondly, do consumers in volatile economies react differently when selecting and using banking services? Naturally, the Zimbabwean retail banking sector presents itself as an opportune case study for understanding the latter phenomena. More importantly, it presents numerous lessons as well as challenges for the marketing of electronic banking services such as EFTPoS especially given that within the last decade, the banking sector was at the brink of collapse.

Research objectives

Against this background, the purpose of this paper seeks to establish the extent to which traditional theories that have been tried and tested in relatively stable economies would fare in explaining the adoption of electronic banking services within the context of 'volatile' developing economies such as Zimbabwe. To achieve this, technology readiness as proposed by Parasuraman (2000) was utilised as a theoretical basis for this study to establish the relationship between personality traits and adoption of electronic banking services. Subsequently, the following hypotheses were developed:

- H₁: *Zimbabwean data will yield the same four technology readiness dimensions as initially established by Parasuraman (2000).*
- H₂: *Zimbabwean customers who currently have access to hi-tech products and services are more technologically ready than those customers who currently have no access to technology-based products and services.*
- H₃: *Zimbabwean customers who have a higher desirability towards using EFTPoS banking services are more technologically ready than those who use it less frequently.*

To remainder of the paper is structured as follows. The literature review is presented next. Following on, the methodology applied to test the above-mentioned hypotheses is described. Thereafter, results and discussions are presented.

Literature review

In financial services, technology “embraces the systems that underpin the delivery of services, the information systems, and the digital revolution driving fundamental changes in marketing and marketing communications” (Farquhar and Meidan, 2010:14). With technology therefore, the whole concept of a bank takes on a new dimension, in that the modern bank can be represented by a telephone in a customer’s home, a plastic magnetic stripe card (credit or debit cards), ATMs, or the Internet (Jayamaha, 2008; Prendergast & Marr, 1994). The amalgamation and convergence of the various information and communication technologies (ICTs) facilitate the extension of banking services beyond the conventional physical branch building. Consequently, ICTs allow for banking activities to be conducted from literally anywhere and anytime (Kumar & Gupta, 2008). It is for that reason that Farquhar and Meidan (2010) further explain that the banking culture has forever changed in that ICTs have placed remote banking into the mainstream culture.

While these findings are generally true in developed economies, the trend is also observed in many developing countries such as Nigeria, Kenya, and South Africa (Berndt, Saunders & Petzer, 2010; Chen & Li, 2010). Of particular interest, however, is that the electronic banking culture is fast catching up in countries such as Zimbabwe, which have become to be known as economically unstable and volatile (Dube et al., 2009; Richardson, 2005). A cursory review of the literature shows that there are very few studies that consider adoption of banking innovations in such economies, and even less that apply the technology readiness framework. The main focus of embarking on this study therefore would be to assess the applicability of Parasuraman’s (2000) TR framework in an economy that can be considered to be unstable and highly volatile (Mlambo & Raftopoulos, 2010; Robertson, 2011), an area that has not received much attention until recently.

The state of retail banking in Zimbabwe

As a direct result of the poor economic performance, the banking sector in 2004/ 2005 was in much distress. Financial institutions grappled to stay afloat as they battled hyperinflation and unprecedented levels of customer attrition. The banking sector rebounded in 2009 with the formation of the coalition government between the country’s three major political parties. Also in 2009, the country suspended use of the Zimbabwe dollar and adopted the American Dollar as the official currency to help ease further economic meltdown and instability, which had seen inflation to rise to way above 60, 000 per cent (Mlambo & Raftopoulos, 2010). In 2012, the sector suffered yet another setback when at least three retail banks were placed under curatorship and another’s licence being revoked by the country’s central bank (Reserve Bank of Zimbabwe, 2012).

Undeniably, the events of the past decade affect customers’ trust and confidence in the financial services sector (Farquhar & Meidan, 2010). It would not be unreasonable to assume that risk-averse consumers would rather not associate themselves with such unpredictability. Notwithstanding this, industry literature reports that the numbers of banking customers and among them, the use of electronic banking channels is increasing rapidly (Reserve Bank of Zimbabwe, 2011a; Reserve Bank of Zimbabwe, 2011b). While the increase in banking customers is laudable, it is equally astounding given the negative ratings of the economy. Very little explanation to the phenomenon exists owing to the lack of scientific research into the area, which also undermines the availability of reliable and verifiable statistics on the extent of the retail banking sector (Dube et al., 2009). What is known, however, is that owing to high unemployment levels, the number of unbanked individuals is still intolerably high (Reserve Bank of Zimbabwe, 2011b). For that reason, the Reserve Bank of Zimbabwe regards extending the reach of financial services by means of remote banking channels to the unbanked communities a high priority (Reserve Bank of Zimbabwe, 2011a). Therefore, understanding the diffusion of banking technologies in Zimbabwe transcends beyond just understanding the bounds of theoretical applications, but also might provide valuable insights into extending the reach of banking services to a critical mass of Zimbabwean consumers.

Electronic banking in Zimbabwe

Commercial banks in Zimbabwe provide a wide array of banking products and services including EFTPoS, which commonly is referred to as the Easy Pay System (Ho & Ng, 1994). EFTPoS refers a means of payment by which customers transfer funds, online, from their bank accounts directly to retailers’ bank accounts (Moutinho & Meidan, 1989). Using an electronic funds transfer (EFT) terminal installed at the point of sale (PoS), a customer swipes a credit, debit, or ATM card and enters a personal identification number (PIN) to authorise the transfer of funds.

However, ever since the country adopted a multicurrency regime, including the American dollar as its de facto currency in February 2009 (Reserve Bank of Zimbabwe, 2011b:36), acquiring small denominations of these currencies has been a challenge. Consequently, retailers struggle to provide change for transactions, especially the non-even bills. In such an instance, according to (Moyo, 2010), a customer has two options: (a) buy additional items so as to round off the transaction or (b) accept a 'credit note' from the retailer to use at a later stage. Consequently, a single trip to the grocery store can easily become stressful and complicated. The situation effectively forces consumers to buy unnecessary items (e.g., candles or sweets) and to carry two forms of money in the form of bank notes and credit notes. However, since the latter form of money can only be redeemed at the issuing retailer, consumers' sense of choice becomes severely compromised. Thus, to avoid these problems, authors such as Moyo (2010) articulate that consumer bodies including the Consumer Council of Zimbabwe (CCZ) increasingly are encouraging the use of EFTPoS, as coping strategies to manage the situation. So instead of "surgically slicing" ham or buying "unnecessary products", consumers simply resort to swiping exact amounts using debit or credit cards (Robertson, 2011). Consequently, EFTPoS is steadily becoming popular among Zimbabwean consumers (Reserve Bank of Zimbabwe, 2011a).

Technology readiness and consumer adoption of EFTPoS

Developed by Parasuraman (2000), technology readiness (TR) models consumers' personality traits and beliefs associated with technology usage. More specifically, it measures consumers' "propensity to embrace and use new technologies" (Parasuraman & Colby, 2001:27). TR is not a measure of competence of using a particular technology, it is an amalgamation of attitudes that determine consumers' disposition to interact with technology in general (Aldas-Manzano, Lassala-Navarre, Ruiz-Mafe & Sanz-Blas, 2009). Many authors including Yi, Tung and Wu (2003), Walczuch et al. (2007), Berger (2009) and later Chen and Li (2010) have found correlations between TR, TAM and TPB. In fact, Berger (2009) proposes that TR is an extension and addition to Davis's TAM in that its four constituent dimensions (optimism, innovativeness, discomfort and insecurity) that essentially measure attitudes.

When faced with a decision whether to adopt or reject a new technology-related product, the literature acknowledges that potential adopters deal with a complex set of emotions, some of which act as psychological barriers and others as enablers to adoption (Berger, 2009). Parasuraman and Colby (2001) illustrate that consumers harbour both favourable and unfavourable beliefs about a technology, with the dominant feeling determining adoption or rejection decisions. Accordingly, the technology readiness index (TRI) is a metric measuring consumer attitudes towards these psychological push and pull factors (Parasuraman & Colby, 2001). The 36-item TRI scale identifies four dimensions of TR which are ultimately responsible for adoption. These dimensions are explored next.

Optimism

Optimism refers to the beliefs that technology will provide increased control, flexibility and efficiency within adopters' lives or work. This point of view therefore acknowledges that technology enhances effectiveness and efficiency; a position proposed in numerous conceptual frames including TPB (Ajzen, 1991) and TAM (Davis, 1989). Optimism ties in very closely with the notions of relative advantage (Meuter, Bitner, Ostrom & Brown, 2005), perceived behavioural control (Ajzen, 1991), user-convenience (Maenpaa, 2006) and perceived ease of use (Berger, 2009). In their research, Parasuraman and Colby (2001) and later Tsikriktsis (2004) found that younger consumers tend to be more optimistic than the elderly.

Innovativeness

In the context of technology in general and TR in particular, to be innovative is the tendency to be a technology pioneer and thought leader within the community. Innovativeness measures people's beliefs of being at the forefront of technology adoption (Walczuch et al., 2007). Parasuraman and Colby (2001) explain that a vast majority of innovative individuals work in ICT-related disciplines, in which the development and use of new technologies integrate well with their life and work. By and large, this trend corroborates earlier findings about innovators and early adopters (Robertson, 1967; Rogers, 1995). For the most part, innovative individuals tend to be highly motivated and skilled in using technologies (Shivers-Blackwell & Charles, 2006).

Discomfort

While optimism is the trust that technology improves life and work by making it easier and more efficient, discomfort is the direct opposite. It is a general distrust of technology and the fear that it further complicates life (Tsikriktsis, 2004). To a certain extent, feelings of discomfort are comparable to those of perceived complexity or the lack of relative advantage associated with the technology. To this effect, consumers presenting high levels of discomfort fail to see the benefits of using technology in their present circumstances. Parasuraman and Colby (2001:61) articulate that these consumers do not hate technologies per se, but need reassurance that technology can perform as expected. Ideally, they should receive relatively more support, if they are to adopt and use technology.

Insecurity

Like discomfort, insecurity inhibits adoption of technologies. The major difference between discomfort and insecurity is that while the former is the distrust of technology in general, the latter is transaction specific. That is to say, consumers may be less willing to engage in certain transactions using technology. By definition, insecurity is in many regards similar to the notion of perceived risk (Brown, Cajee, Davies & Stroebel, 2003; Ho & Ng, 1994).

Collectively, the four TRI dimensions as explained in the foregoing section define individuals' technology readiness. Research demonstrates that behaviours associated with adoption of technologies correlate highly with TR (Berndt et al., 2010). Undoubtedly, one of the clear advantages of the TRI is the realisation that consumers possess a complicated mix of beliefs and emotions about technology.

Research methodology

A survey method was used to collect primary data from students at a Zimbabwean university in Harare. Three undergraduate students were trained as research assistants and helped with administering the instrument. The research assistants were positioned at strategic places within the university campus – close to dining halls, restaurants, libraries, and sports arenas – points where the density of students tends to be high between November 2011 and January 2012. Non-probabilistic sampling techniques were utilised; research assistants solicited volunteers to participate in the study by completing the self-administered questionnaires (Malholtra, 2010). SPSS 19 was used for data analysis (Field, 2009).

Sample

The entire sample comprised of a homogenous group of university students, and hence non-probabilistic sampling was deemed appropriate (Calder, Phillips & Tybout, 1981). In total 780 questionnaires were distributed. Of the 543 questionnaires returned, only 275 respondents reported using EFTPoS and thus considered the sample for this research and used for analysis. Table 1 illustrates the participants' demographic characteristics.

Table 1: Demographic Profile

	Demographic Characteristics	Percentage
<i>Gender</i>	Male	66
	Female	34
<i>Age</i>	20 years or below	26
	21 – 30 years	70
	31 years +	4
<i>Education level</i>	1 st year	32
	2 nd year	36
	3 rd year	19
	4 th year	13
<i>EFTPoS Awareness</i>	< 5 years	35
	5 – 10 years	42
	>10 years	23

Consistent with a student sample, respondents' ages ranged from 18 to 30 years, with a mean age of 21.20 years and a standard deviation of 1.83 years.

Results and Discussion

Technological readiness

To assess respondents' level of technology readiness, the 36-item scale developed by Parasuraman (2000) was utilised. Respondents used a 5-point likert scale (1 = strongly disagree; 5 = strongly agree) to rate the extent to which they agreed with each of the 36 questions. Descriptive analysis was performed on the responses of the 36-item TRI scale. Table 2 indicates that the TRI statement: "I like the idea of banking using this product because I would not be limited to the regular bank hours" was most significant, with a mean of 3.96. This provides further support for customers' need for convenience (Maenpaa, 2006). On the other hand, issues relating to technical support of banking products were observed to be most inhibitive when it comes to adoption, as shown by the lowest mean of 2.50 to the question (Table 2): "When I get technical support from my bank about this product, I sometimes feel as if I am being taken advantage of by someone who knows more than I do."

Table 2: TRI descriptive analysis

TRI Statement	Mean	SD
Other people come to me for advice on technological innovations.	2.98	1.262
It seems my friends are learning more about these banking products than I am.	2.79	1.263
In general, I am among the first in my circle of friends to acquire new banking technologies when they first appear.	3.20	1.229
I can usually figure out new banking products and services without help from others.	3.38	1.293
I keep up with the latest technological developments in banking technologies.	3.28	1.253
I enjoy the challenge of figuring out new banking products and services.	3.49	1.307
I have fewer problems than other people in using banking technologies.	3.69	1.118
I do not consider it safe giving out my credit card number or other banking details over a computer.	3.50	1.396
I do not consider it safe to do any kind of banking using this product.	2.42	1.243
I worry that financial information transmitted using this product will be seen by other people.	2.82	1.325
I do not feel confident doing business with a place that can only be reached online.	3.05	1.367
Any business transaction I do electronically should be confirmed later with something in writing.	3.87	1.190
Whenever something gets automated, I need to carefully check that the machine or computer is not making mistakes.	3.75	1.222
The human touch is very important when banking.	3.27	1.330
When I call a business, I prefer to talk to a person rather than a machine.	3.73	1.371
If I provide information to a machine or over the Internet, I can never be sure it really gets to the right place.	3.23	1.377
Technical support lines (and Call Centres) are not helpful because they don't explain things in the language I understand.	2.61	1.323
Sometimes, I think this product was not designed for use by ordinary people.	2.70	1.381
The manuals and instructions for this service are not written in plain language.	2.65	1.290
When I get technical support from my bank about this product, I sometimes feel as if I am being taken advantage of by someone who knows more than I do.	2.50	1.239
If I use this product, I prefer to use the basic model (or version) over one with a lot of extra features.	2.93	1.272
It is embarrassing when I have trouble with this service while people are watching.	3.20	1.371
There should be caution in replacing important people-tasks with technology because this technology can breakdown or get disconnected.	3.50	1.203
This product like many new technologies has health or safety risks that are not discovered until after people have used them.	3.05	1.241
This technology makes it too easy for governments and companies to spy on people.	3.25	1.318
This product always seems to fail at the worst possible time.	3.03	1.256
This product gives me more control over my finances.	3.74	1.142
This product much more convenient because it uses the newest technologies.	3.89	1.045
I like the idea of banking using this product because I would not be limited to the regular bank hours.	3.96	1.125
I prefer to use this product because it is the most advanced banking technology available.	3.81	1.105
I like this product because it allows me to tailor my finances to fit my own needs.	3.68	1.124
This product makes me more efficient in my job and life.	3.75	1.134
I find this product to be mentally stimulating.	3.56	1.169
This product gives me more freedom of mobility.	3.82	1.149
Learning about this product can be as rewarding as the technology itself.	3.82	1.117
I feel confident that this product will perform the functions I command it to do.	3.77	1.093

As previously mentioned, the TRI metric can essentially be broken down into four distinct factors. Of these, innovativeness and optimism are considered to be enablers of adoption. Since, discomfort and insecurity are recognised as those factors that inhibit adoption, they are reverse-scored. In calculating the overall TRI score, the item mean scores of TRI items (Table 2) are computed into averages. These averages are based on the different items constituting the TR dimensions. The results of the four dimensions as well as those for the overall score are depicted in Table 3. The overall TRI score is 3.1926. This score shows that Zimbabwean consumers have a moderate to high technological readiness index (Parasuraman, 2000).

Table 3: TRI descriptive analysis

Dimension	Mean	Standard Deviation
Innovativeness	3.3358	.7604
Optimism	3.7794	.7477
Insecurity	3.4018	.8003
Discomfort	2.9430	.7336
Overall TRI	3.1926	.4411

Hypothesis 1

Having established a moderate to high level of TR among the respondents (Table 3), it was instructive to conduct further analysis in order to test hypotheses. Hypothesis 1 sought to establish whether Zimbabwean (i.e., from a developing country) data would yield a similar structure of TR comparable to the evidence found in past works (e.g., Berndt et al., 2010; Chen & Li, 2010; Parasuraman, 2000; Parasuraman & Colby, 2001; Tsikriktsis, 2004). Factor analysis using the principal components analysis (PCA) utilising Oblimin rotation was used to test this hypothesis (Field, 2009).

Table 4: TR Factor analysis summary

Factor (Dimension)	% Variation	Cumulative %	Cronbach's alpha
Optimism	13.998	13.998	.862
Discomfort	11.865	25.864	.753
Insecurity	6.292	32.156	.736
Innovativeness	5.544	37.699	.668

As indicated in Table 4, a four-factor structure, accounting for approximately 38 per cent of variance, emerged. All the four TR dimensions loaded uniquely as single factors onto each of the four resultant factors, with no cross-loadings. The measure of internal consistency of these factors was assessed by means of Cronbach's alpha. Table 4 illustrates that the Cronbach's alphas ranged from .668 to .862, well above the minimum .6 threshold, and thus indicating good measures of reliability for the dimensions (Ozer & Gunluk, 2010).

Optimism loaded onto Factor 1 followed by Discomfort, Insecurity, and lastly Innovativeness (Table 4). Since optimism refers to the beliefs that technology provides the potential adopter with increased control, flexibility and efficiency, in this context, this suggests that using EFTPoS has considerable relative advantage of traditional forms of banking. Clearly, this consistent with past research findings that observed that the convenience associated with services such as EFTPoS is an important determinant of adoption (Ho & Ng, 1994; Kumar & Gupta, 2008; Maenpaa, 2006). Having said that, discomfort (an adoption inhibitor) was observed as Factor 2 or the second-most important factor related to EFTPoS usage. This is consistent with the TR theory, which presupposes a combination of both favourable and unfavourable beliefs about technology to influence its adoption (Parasuraman & Colby, 2001). In this instance, optimism appears more dominant and thus has greater effect than the inhibiting variables. Overall, these results, therefore, provide evidence that the four TR dimensions, as postulated by Parasuraman (2000), are indeed applicable and useful in predicting adoption behaviour even within developing nations' contexts. Thereby providing support for studies undertaken in other developing nations such as Berndt et al. (2010). More importantly, the findings indicate that TR assumptions also apply in economies characterised by market uncertainty and volatility such as Zimbabwe.

Hypothesis 2

TR further postulates that technologically ready individuals tend to accept and adopt technology-related products more than those who are less technologically ready (Parasuraman, 2000). Accordingly, Hypothesis 2 sought to investigate whether customers who currently have access to hi-tech products and services are more technologically ready than individuals who currently have no access to technology-based products and services. Ownership of three technologies or hi-tech products (i.e., cell phones, personal computers, and the Internet) was used to test this hypothesis. The sample was divided into two segments – those who owned and used the high-tech product and another group that did not use the product. Two-sample independent T-tests were applied to compare the differences in the means between the groups.

Table 5: TR Factor analysis summary

Technology	Technology used		t	p-value
	Yes	No		
Cell phones	3.2181	2.9778	-2.670	.008
Personal Computer	3.2408	3.0860	-2.662	.008
Internet	3.2710	3.1142	-2.961	.003

Table 5 illustrates that indeed technology readiness and usage of technology-related products are related. There was a significant difference in means between the two groups (those using and those not using the product) for cell phones, personal computers, and the Internet. In all the cases, the TR score for the adopters was significantly higher ($p < .05$) than that of the non-adopting group (Table 5). These results provide further support for the efficacy of technology readiness in predicting technology acceptance and usage. The implication of these findings is that individuals who use other technology products are more likely to be users of EFTPoS. This also is in line with results presented in Table 4, which indicate the importance of optimism in adopting EFTPoS in that general perceptions about technology being beneficial are important for technology usage. Consequently, the data supports Hypothesis 2.

Hypothesis 3

Further analysis on the notion of technology readiness and usage of technology was conducted. In this instance, it was importance to determine whether the rate of EFTPoS usage (or desirability) was correlated with the level of technology readiness. Desirability was operationalised by the frequency with which the banking channel was used. Respondents indicated the rate of usage for banking channels anchored at 1 and 6, with 1 being less than once a month and 6 indicating usage of more than three times a week. Scores of up to 3 were considered less desirable and those greater than 3 were classified as showing tendencies of high desirability for EFTPoS. A two-sample t-test indicated a significantly higher TRI mean score for consumers with high desirability ($t = -3.377$; $p < .001$); therefore providing support for Hypothesis 3. This clearly is further confirmation that higher levels of technology readiness influences increased usage of banking technologies such as EFTPoS. One-tail correlation analysis between TRI and EFTPoS also support the latter findings (Table 6).

Also shown in Table 6 are the correlation coefficients of the various banking channels and TRI and also when correlated among themselves. Therein, TRI was observed to record significant correlations between ATM desirability ($p < .05$) and EFTPoS desirability ($p < .01$). Given that ATMs and EFTPoS are closely related products in that both channels require plastic magnetic swipe cards or chip cards to transact, these results are not surprising. These two products (ATMs and EFTPoS) were also observed to be highly correlated ($r = .498$; $p < .001$).

Table 6: Correlations (1-tail) of TRI and desirability of banking channel

	1	2	3	4	5	6	7
TRI	1						
IB	.058	1					
Branch	-.026	.089	1				
ATM	.120*	.238**	.397**	1			
EFTPoS	.252**	.252**	.267**	.498**	1		
TB	.089	.676**	.128*	.229**	.262**	1	
CPB	.074	.763**	.115*	.276**	.237**	.662**	1

* $p < .05$; ** $p < .01$

However, what was interesting is the fact that the remaining four banking channels were not correlated with TRI, but were among themselves correlated. To illustrate cell phone banking usage was highly correlated with telephone banking ($r = .662$; $p < .001$) and with Internet banking (IB) ($r = .763$; $p < .001$). Albeit requiring further investigation, the foregoing appears to suggest a unique pattern with respect to the different banking products used. Another interesting finding relates to TRI and EFTPoS. Although it is a non-significant correlation, TRI and the physical branch usage seem to have a negative relationship, indicating that individuals with lower levels of TRI tend to use physical bank branches. This finding, albeit it being non-significant summarises the technology readiness concept, in that it shows that individuals with low TR scores do not favour using technological innovations, and the converse being also true.

Conclusion

The objective of this paper was to establish the extent to which the technological readiness theory is applicable in the financial services sector of a developing economic context characterised by market uncertainty and volatility. This area of study was seen as being one that has not been addressed fully in the existing literature as most of the studies reporting of technology readiness especially in the retail banking sector provide insights into developed economies predominantly the United States (Parasuraman, 2000; Parasuraman & Colby, 2001) and Europe (Berger, 2009; Tsiriktsis, 2004). Of those reporting on the developing world for instance Berndt et al. (2010) and Chen and Li (2010), none have focused solely on a volatile and unstable economies. Special attention on a volatile economy such as Zimbabwe was important for two reasons. Firstly, it is not uncommon for consumer behaviour especially related to money and banking in volatile economies to be fundamentally different from that observed in stable economies. Secondly, researchers sought to establish whether the assumptions of technology readiness do indeed apply in these extreme cases.

Generally, the results conform to previous studies, wherein the four TR dimensions hypothesised by Parasuraman (2000) and later by Parasuraman and Colby (2001) were observed to be associated with adoption behaviour. The latter was also demonstrated in studies such as that undertaken by Berndt and colleagues as well and by Chen and Lin, which specifically reported on developing nations' context. The implication of this is that technology readiness is indeed an important predictor of technology usage. Of particular importance is the fact that regardless of the market dynamics at play within the economy, consumers' level technology readiness remains an important indicator of technology usage even in the context of banking technologies.

Another important finding observed in this current study was the fact that increased usage of technologies is strongly correlated with technology readiness. In other words, the more technological ready consumers are the more likely they will use a technology more frequently and regularly. In addition, high levels of technological readiness indicate that consumers are more likely to use a different mix of technologies. This therefore implies that bank marketers should not consider the various banking channels as separate products. Rather, these should ideally be sold as a package or bundle of products to customers. This brings to mind the idea of cross-selling products, as evidence suggests that these products are hardly used in isolation, for instance, ATMs are almost always used together with EFTPoS and Internet banking together with cell phone banking.

Overall, the implications for financial institutions operating in difficult economic environments are that they should place more attention on understanding consumers' needs and bank patronage motives together with their technology readiness, which can best be estimated by consumers' usage patterns of other hi-tech products (Parasuraman & Colby, 2001).

As with any study, this study was not free from limitations. Focusing only on technology readiness as an indicator or predictor of EFTPoS usage can be viewed as a limitation. The sample composition, constituting only students is yet again another limitation. Future research could combine a more diverse sample over and above students. Also different conceptual frames in addition to technology readiness could be utilised to model adoption.

References

- Ajzen, I. (1991). The Theory of Planned Behaviour. *Organizational Behavior and Human Decision Processes* 50: 179-211.
- Aldas-Manzano, J., Lassala-Navarre, C., Ruiz-Mafe, C. & Sanz-Blas, S. (2009). The role of consumer innovativeness and perceived risk in online banking usage. *International Journal of Bank Marketing* 27(1): 53-75.
- Berger, S. (2009). Self-service technology for sales purposes in branch banking: The impact of personality and relationship on customer adoption. *International Journal of Bank Marketing* 27(7): 488-505.

- Berndt, A.D., Saunders, S.G. & Petzer, D.J. (2010). Readiness for banking technologies in developing countries. *Southern African Business Review*14(3): 47-76.
- Brown, I., Cajee, Z., Davies, D. & Stroebel, S. (2003). Cell phone banking: predictors of adoption in South Africa - an exploratory study. *International Journal of Information Management*23: 381-394.
- Calder, B.J., Phillips, L.W. & Tybout, A.M. (1981). Designing Research for Application. *The Journal of Consumer Research*8(2): 197-207.
- Chen, S. & Li, S. (2010). Consumer adoption of e-service: Integrating technology readiness with the theory of planned behaviour. *African Journal of Business Management*4(16): 3556-3563.
- Davis, D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*13(3): 319-340.
- Dube, T., Chitura, T. & Runyowa, L. (2009). Adoption and Use of Internet Banking in Zimbabwe: An Exploratory Study. *Journal of Internet Banking and Commerce*14(1): 1-13.
- Farquhar, J.D. & Meidan, A. (2010). *Marketing Financial Services, 2nd ed.* London, Palgrave MacMillan.
- Field, A. (2009). *Discovering Statistics Using SPSS, 3rd Edition.* Thousand Oaks, CA, Sage.
- Ho, S.S.M. & Ng, V.T.F. (1994). Risk Perceptions of Electronic Payment Systems. *International Journal of Bank Marketing*12(8): 26-38.
- Jayamaha, R. (2008). The Impact of IT in the Banking Sector. Colombo.
- Kumar, A. & Gupta, H. (2008). Branchless banking and financial inclusion. *Silicon India* August 2008: 40-42.
- Maenpaa, K. (2006). Clustering the consumers on the basis of their perceptions of the Internet banking services. *Internet Research*16(3): 304-322.
- Malholtra, N. (2010). *Marketing Research: An Applied Orientation, 6th Edition.* Upper Saddle River, NJ, Pearson.
- Meuter, M.L., Bitner, M.J., Ostrom, A.L. & Brown, S.W. (2005). Choosing among alternative service delivery modes: an investigation of customer trial of self-service. *Journal of Marketing*69 (April 2005): 61-83.
- Mlambo, A. & Raftopoulos, B. (2010). The regional dimensions of Zimbabwe's multi-layered crisis: an Analysis. *Election processes, Liberation movements and Democratic change in Africa.* Maputo, Mozambique, CMI and IESE.
- Moutinho, L. & Meidan, A. (1989). Bank Customers' Perceptions, Innovations and New Technology. *International Journal of Bank Marketing*7(2): 22-27.
- Moyo, J. (2010). "No change in Zimbabwe." *Mail & Guardian*, Aug. 02, 2010. from <http://mg.co.za/article/2010-08-02-no-change-in-zimbabwe>.
- Ozer, G. & Gunluk, M. (2010). The effects of discrimination perception and job satisfaction on Turkish public accountants' turnover intention. *African Journal of Business Management*4(8): 1500-1509.
- Parasuraman, A. (2000). Technology Readiness Index (TRI): A multiple-item scale to measure readiness to embrace new technologies. *Journal of Service Research*2(4): 307-320.
- Parasuraman, A. & Colby, C. (2001). *Techno-ready Marketing.* New York, The Free Press.
- Prendergast, G. & Marr, N. (1994). Towards a Branchless Banking Society. *International Journal of Retail & Distribution Management*22(2): 18-26.
- Reserve Bank of Zimbabwe (2011a). Monetary Policy Statement, January 2011, RBZ. January 2011.
- Reserve Bank of Zimbabwe (2011b). Monetary Policy Statement, July 2011. RBZ. Harare. July 2011.
- Reserve Bank of Zimbabwe (2012). Surrender of licence and closure of Royal Bank Zimbabwe Limited. Harare.
- Richardson, C. (2005). How the loss of Property Rights caused Zimbabwe's Collapse. *Economic Development Bulletin*4.
- Robertson, J. (2011). "Banks to return to SA coins." *Economic Views from Zimbabwe* Retrieved 19 February 2012, from <http://odettejohnrobertson.blogspot.com/2011/03/banks-to-return-sa-coins.html>.
- Robertson, T.S. (1967). The process of Innovation and the Diffusion of Innovation. *The Journal of Marketing*31(1): 14-19.
- Rogers, E. (1995). *Diffusion of Innovations, 4th edition.* New York, The Free Press.
- Shivers-Blackwell, S.L. & Charles, A.C. (2006). Ready, set, go: examining student readiness to use ERP technology. *Journal of Management Development*25(8): 795-805.
- Tsikriktsis, N. (2004). A Technology Readiness-Based Taxonomy of Customers: A replication and extension. *Journal of Service Research*7(1): 42-52.
- Walczuch, R., Lemmink, J. & Streukens, S. (2007). The effect of service employees' technology readiness on technology acceptance. *Information & Management*44 (2007): 206-215.

Yi, Y., Tung, L.L. & Wu, Z. (2003). Incorporating technology readiness (TR), into TAM: " are individual traits important to understand technology acceptance? *Diffusion Interest Group in Information Technology (DIGIT) Workshop*. Seattle, WA, DIGIT.