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SUSTAINABILITY OF FINANCIAL INSTITUTIONS: EVIDENCE FROM INFORMATION TECHNOLOGY AND SERVICE DELIVERY IN COOPERATIVE BANKS

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Abstract

The use of Information technology in banks is paramount for service delivery and sustainability of cooperative banks in particular. The current study sought examine the effect of IT on operation of Zigama Credit and Saving Society (ZCSS), perception of employees and customers on IT based service delivery as well as the relationship between information technology and service delivery for sustainability of ZCSS. Survey was used and to select eligible respondents to this study, probability sampling was employed. Data were collected using questionnaires and observations from sixty nine (69) respondents composed by employees and customers of ZCSS. The study revealed that IT was used in specialized task, data storage and communication as confirmed by 75.4% of respondents. IT helped the ZCSS to be effective and efficient as confirmed by 83.3% of respondents; accessibility to financial services was enhanced and there is a smooth relationship between customers and employees of ZCSS. The study also proved that there is a close relationship between Information Technology (IT) and services delivery for sustainability of a cooperative bank. The bank should adopt competitive strategies to cope with the proliferation of telecommunication companies that are offering financial services as compared to current banking industry.

Key words: Information Technology, Financial institution, Service delivery and cooperative bank.

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Introduction

Adoption and effective use of information technology in banks is looked as source of competitive advantage and sustainability of financial institutions once backed with satisfaction of customers in service delivery.

New technology-based services have emerged and brought several changes in financial sector (Hitt & Frei, 2002). Banks have invested heavily in IT to catch up with global development, improve the quality of customer service delivery and reduce transaction cost (Aliyu &Tasmin, 2012).

Studies on computerized accounting systems and financial reporting were conducted in banks to inspect the significance contribution of information Technology on preparation and publishing of financial reports as well as its role on service delivery. It was revealed that the banks recognize the importance of IT driven quality service delivery to their customers and its effect on future gains and sustainability.

According to MYICT (2015), Information Communication Technology (ICT) continues to boost the growth in the finance sector and contributes to improving the digital inclusion in Rwanda. IT in banks offers customers' flexibility in financial services (Ovia, 2001). The use of IT is witnessed in financial services delivery, unceasingly increased number of mobile payment subscription and electronic transactions, electronic billing machines deployment, online tax payments etc.

In Rwanda banks use IT for the purpose of rapidly accessing to critical information and the ability to act effectively. Literature shows that IT has increased the level of competition and banks were forced to integrate the new technologies in their system order to satisfy their customers while ensuring their sustainability.

Review of related literature

An attempt towards the definition of Information Technology (IT) was done by different authors, researchers and scholars. Rendulic (2011) defines IT as a technology which uses computers to

gather, process, store, protect and transfer information. For Rezaei *et al.,* (2014) IT refers to all forms of processing, storage and transmission of information that are used in an electronic format. Odunfunwa (2008) included communication in the definition and argued that information technology is a body of tools, with the convergence of communication and computer. Scholars affirm that it could not be suitable to work with a computer without being connected and for this extent the preferable concept to use can be Information and communications technology (ICT).
Rezaei *et al.,* (2014) assert that IT has operational and informational application in an organization. IT can be used in preparing payroll list, issuing personnel orders, distribution and allocation of labor, industrial costing and other specialized tasks. Data should be entered in IT where calculations, manipulations, reconciliation and output show the results for upcoming decision making (Dandago &Rufai, 2014). As far as informational application is concerned, IT facilitates the collection, storage and dissemination of information. Data warehousing facilitate the storage of information about customers and stakeholders (Adekunle *et al.,* 2013). IT has basically been used in communication and Connectivity (Dangolani, 2011; Ndubisi &Wah 2005; Cox & Dale, 2001). With IT, sophisticated product can be developed, reliable techniques for risks control can be implemented and financial intermediaries can reach distant market and expand markets (Dutta, *et al.,* 2015). Organizations that are using IT are likely to improve efficiency and effectiveness (Brücher, 2003).

According to Ostroff & Bowen (2000), employee attributes are influenced by the organization. Favorable employees and customers perceptions on IT related services are critical to the performance and sustainability of a cooperative bank. The banking industry should be on the apex in setting up exceptional relation with customers (Barnes, 1997). IT should be used as a catalyst to superior perception and satisfaction of both employees and customers.

Pamela & Gloria (2010) argued that there are three main drivers of customer satisfaction namely what is delivered, how it is delivered, and, perceived value for money. IT will lead to improved results when employees are motivated and energized to deliver superior quality (Shukla & Singh, 2014). The importance of IT on service delivery and productivity in banking industry was a subject of debate by different researchers and scholars. Shukla & Singh (2014) stressed that IT increase productivity of bank employees owing to single-point data entry, automatic printing of

statements and accurate computation of balance and interest calculations. Customers are in the best position to evaluate the quality of service delivery (Zethmal *et al.,* 1996).

Ayanda *et al.,* (2011) conducted a study on the perception of customers on IT in the Nigerian banking industry and revealed that, IT enhanced the effectiveness and efficiency of banking service and also created accessibility, smooth and mutual relationship between customers and bank. IT has become a crucial resource for the banks to provide value-added services to customers and remain competitive (Shukla & Singh, 2014). According to Titko & Lace (2011), the sustainability of a bank will depend not only on its ability to capture and retain customers but also on the skills of its employees.

As far as the relationship between IT and service delivery is concerned, Dangolani (2011) argued that a wide range of IT alternative delivery mechanism such as Internet, ATM reduces the dependence on the branch network as a core delivery mechanism. Joseph *et al*., (1999) in their study on the influence of technology on service delivery revealed that, the bank benefit from IT through queue management, efficiency, feedback/complain management, convenience, accessibility and customisation. Parasuraman *et al.,* (1985) assert that IT should enable the bank to offer quality service where reliability, credibility, access communication and responsiveness are among key dimensions. IT saves the time of the customers and the employees conspicuously, cuts down the expenses and facilitates the network transactions (Dangolani, 2011). IT should be used capture information on customers and use the later to monitor thFe customer's buying behavior (Egan, 2004).

Rezaei *et al.,* (2014) in their study revealed that the employment of IT systems increased the effectiveness of the organization, accelerated the speed of accessing to the information and timely data recovery. According to Mattos (1999), IT may enable the bank to manage long lines, transaction errors and limited time for serving customers.

Blili & Raymond (1993) concluded that the strategic use of information technology can both threaten and benefit small and medium-sized enterprises. In previous paragraphs studies showed that IT played a significant role on service delivery but there are other researchers like Agbolade

(2011) who argued that there may be little interruptions at times due to network failures, which may make customers unable to carry out transactions at a particular point in time. Despite the shortcomings IT continues to be a relevant tool in financial services and failure to adhere may shorten the sustainability of a cooperative bank.

Materials and methods

This study adopted survey to find out the perceptions of employees and customers on IT based service delivery in ZCSS. Standardized questionnaires and observations were used to collect data from respondents in order to understand their preferences, thoughts and behaviours on effect of IT on service deliver in cooperative bank.

The research population for this study included all Zigama Credit and Saving Society members including employees and customers. Probability sampling was used to select employees and customers who participated to this research and this makes a sample of sixty nine (69) respondents. Data collected were organized, edited and coded. Quantitative data were entered into Statistical Package for Social Science (SPSS) and were analysed using descriptive statistics.

Results and discussion

Data were collected from sixty nine (69) respondents and among them include six (6) employees and sixty three (63) customers who responded to the questions.

Effects of IT on operations of ZCSS

The need for automation of all financial services is of a great concern to all financial institutions. In this research respondents (employees) were questioned in a bid to know the operational and informational application of IT on activities of ZCSS.

Table 1: Operational application of IT

The use of IT helped ZCSS to speed up the transactions and to serve a great number of customers					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	83.3	83.3	83.3
	Agree	1	16.7	16.7	100.0
	Total	6	100.0	100.0	
The software is user friendly and facilitates in decision making					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	4	66.7	66.7	66.7
	Agree	2	33.3	33.3	100.0
	Total	6	100.0	100.0	
Accurate performance of tasks and specialized tasks					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	6	100.0	100.0	100.0
Cost reduction and bank efficiency and effectiveness					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	4	66.7	66.7	66.7
	Agree	2	33.3	33.3	100
	Total	6	100.0	100.0	
Preparing payroll and issuing personnel orders					
Valid	Strongly agree	6	100.0	100.0	100.0

Source: Primary data, 2016

Table 1 revealed that the IT helped ZCSS to speed up the transactions and to serve a great number of customers because of high speed connectivity and connected branches spread across the country; this was confirmed by 83.3% of respondents. IT facility helped banks to provide to customers services such as easy access to their account, checking account balance, funds

transfer, bill payment and mini-statement request, 16.7% of respondents agreed also to this statement. This was also agreed by Rezaei *et al.,* (2014) who argued that in operational application, IT should be used in bank specialized tasks such as funds transfer and bills payment. Information Technology speeds up bank procedures to accomplish transactions such as bill payment and balance inquiries (Aliyu & Tasmin, 2012).

The respondents were asked about the access and their level of understanding on the software used and 66.4% of respondents strongly agreed that the bank uses alphasoft software which user friendly and facilitate in decision making while 33.7% agreed that they received various trainings on how to use that software for them to provide quality service to customers.

This concurs with Dandago & Rufai (2014) who said that the software should be easily accessible. Raw data should be entered directly into the information technology where the system processes any calculation, manipulations, reports and reconciliation and the output shows the results as information in a meaningful manner to facilitate decision making.

As far as the accuracy and performance of specialized task are concerned, 100% of the respondents strongly agreed that the bank uses up to date technologies that enable them to accurately perform the tasks while being competitive in banking industry.

This is in agreement with Dangolani (2011) who argued that Information technology should increase the speed and reliability of financial operations and of initiative to strengthen the banking sector.

The results revealed that with the information technology the bank managed to reduce cost and increase its effectiveness and efficiency and this was confirmed by 67.7% of the respondents who said that generally their operational performance of ZCSS increased because of IT. This was also confirmed by Rezaei *et al.,* (2014) who said that information technology is operationally used by bank in order to remain cost effective while ensuring their sustainability. This also concurs with Aliyu & Tamin, 2012 who revealed also that Information technology can bring down cost of bank and ensures profitability. The progress of technology and the development of

worldwide networks have significantly reduced the cost of global funds transfer (Dangolani, 2011).

Respondents confirmed that information technology helps the bank prepare the payroll and in issuing the orders to personnel, this was confirmed by 100% of respondents. This matches with the view of Rezaei *et al.,* (2014) who stressed that operational application of IT includes the preparation of payroll, personnel orders, distribution and allocation of labor and industrial costing.

Table 2: Informational application of IT

The use of IT in ZCSS helps to hold basic information (storage)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	4	66.7	66.7	66.7
	Agree	2	33.3	33.3	100.0
	Total	6	100.0	100.0	
Distribution of information to customers					
Valid	Strongly agree	6	100.0	100.0	100.0
Information collection					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	4	66.7	66.7	66.7
	Agree	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

Source: Primary data, 2016

The table 2 details the informational application of information technology on the operation of ZCSS. The respondents assert that IT helps the banks to hold basic information about account holders and trace transaction history of customers. This was confirmed by 67.7% of respondents while 33.3% agreed on the assertion. This is also in agreement with Adekunle, 2013 who argues that organization will better customize and target communication effort once data warehousing integrates information about customers and other stakeholders.

As far as the distribution and communication of information is concerned; the findings revealed that IT helped the bank to provide up to date information about customer's bank account including instant transactions and this was confirmed by 100% of respondents. This concurs with Ndubisi & Wah (2001) who contends that Information technology is crucial for a communication-based process. Dutta *et al.,* (2015) had extended this when they said that IT increases access to critical information.

The findings also revealed that IT is paramount in collecting information about the transactions occurring between the bank and customers. The IT facilitated the ZCSS to know the transactions occurred between their customers and neighbouring banks especially through the use of Visa cards, this was confirmed by 100% of respondents. This is in line with Egan, 2004 said that the technology should be employed to capture information on customers and be in position to monitor the customer's buying behavior.

Perceptions of employees and customers on IT based service delivery in ZCSS

Perception of employees about IT based service delivery in ZCSS

Table 3 presents the perception of the respondents (employees) on IT based service delivery in Zigama Credit and Saving Society.

Table 3: Perceptions of employees on service delivery in ZCSS

IT increased efficiency and effectiveness					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	83.3	83.3	83.3
	Disagree	1	16.7	16.7	100.0
	Total	6	100.0	100.0	
Mobile banking, ATM Facilities and Transfer of money services are accessible?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	83.3	83.3	83.3
	Agree	1	16.7	16.7	100.0
	Total	6	100.0	100.0	
The use of IT has significantly reduced stress including long queue?					

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	83.3	83.3	83.3
	Disagree	1	16.7	16.7	100.0
	Total	6	100.0	100.0	
There is effective relationship between employees and customer while offering service					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	83.3	83.3	83.3
	Agree	1	16.7	16.7	100
	Total	6	100.0	100.0	

Source: Primary data, 2016

The table 3 shows that 83.3% of respondents strongly agreed that IT increased the efficiency and effectiveness while 16.7% disagreed to the statement. IT enhances accuracy in computation of balance, interest calculation and prompt performance of office duties. Respondents affirm that with the emphasis on efficiency and effectiveness the bank is likely to ensure its long-term survival and achieves its sustainability. This was also confirmed by Ostroff & Bowen (2000) who supported the use of IT and emphasized that, employees attributes are influenced by the organization. The importance of IT in enhancing efficiency and effectiveness was also emphasized by Shukla & Singh (2014) who stressed that IT increases productivity and efficiency through accurate computation of balance, interest calculation and easy performance of administrative tasks.

The results showed that the access to modern services such as Mobile banking, ATM facilities, transfer of money helped ZCSS to provide quality services to customers; this was confirmed by 83.7% of respondents who strongly agreed to the statement while 16.7% agreed. This concurs with Berger, 2003 who stressed that banks that are using IT related products can deliver high quality services. In the same vein, Aliyu & Tasmin (2012) contend that the increase of internet services and cash machines in various locations may affect the volume of customer service.

The respondents were questioned to assess whether the use of IT helped ZCSS to provide quality service and reduced the time spent by customers while waiting for service and 83.3% strongly agreed while 16.7 disagreed with the assertion. Joseph *et al.,* (1995) also contends that IT should influence the service delivery especially in queue management, accessibility and customization.

The findings in table 3 show that the use of IT in ZCSS has improved the relationship between the employees and customers while offering services, this was confirmed by 83,3% of the respondents who strongly agreed on that assertion. This is in line with Barnes (1997) who said that the banking industry should set up relations with customers than any service industry

Perception of customers about IT based service delivery in ZCSS

Apart from the perception of employees on services delivery in ZCSS the researcher wanted to know the perception of customers and findings were compiled in the table 4 below:

Table 4. Perceptions of customers on service delivery in ZCSS

Services received from ZCSS are of quality: ICT enhanced transparency, transactions processing are handled with minimum errors					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	46	75.4	75.4	75.4
	Agree	10	16.4	16.4	91.8
	Disagree	5	8.2	8.2	100.0
	Total	61	100.0	100.0	
Respect of deadline: ZCSS keeps its promises to deliver a service on the specified date and IT facilitated the exchange of information for this extent.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	23	37.7	37.7	37.7
	Agree	21	34.4	34.4	72.1
	Disagree	11	18.0	18.0	90.2
	Neutral	3	4.9	4.9	95.1
	Strongly disagree	3	4.9	4.9	100.0
	Total	61	100.0	100.0	
Customers loyalty: ZCSS maintains long term relationship with its customer because of IT					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	23	37.7	37.7	37.7
	Disagree	38	62.3	62.3	100.0
	Total	61	100.0	100.0	
Cost benefit analysis: The perceived value by customers					
		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	High	25	41.0	41.0	41.0
	Moderate	25	41.0	41.0	82.0
	Neutral	11	18.0	18.0	100.0
	Total	61	100.0	100.0	

IT facilitates communication with ZCSS and access to services from other financial institutions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	41	67.2	67.2	67.2
	Agree	20	32.8	32.8	100.0
	Total	61	100.0	100.0	

Easy access to IT (Mobile banking, ATM Facilities , Transfer of money)

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly agree	41	67.2	67.2	67.2
	Disagree	20	32.8	32.8	100.0
	Total	61	100.0	100.0	

Source: Primary data, 2016

The table 4 shows that 75.4% of respondents strongly agree that IT enhances transparency and transactions handled with minimum error, 16.4 % agreed while 8.2% of respondents disagreed. This concurs with Brücher (2003) who opined that an organization which adopts Information technology will improve efficiency, quality and transparency.

The respondents were asked whether ZCSS keeps its promises to deliver a service on specified time and 37.7% of respondents strongly agreed, 34.4% agreed, 18.0% disagreed, 4.9% of respondents were neutral while 4.9% strongly disagreed. The respondents assert that improvements should be made in credit services as they could wait longer for feedback. This embraces Ovia's ideas which stipulate that IT banks offer customers flexibility in financial services (Ovia, 2001).

As far as customers' loyalty is concerned, 62.3% of respondents disagreed and confirm that they could not maintain long-term relationships with the bank because of telecommunications

companies that are currently offering almost similar services as to the traditional banking system. It was also revealed that 37.7% of respondents strongly agreed that they will remain firm to ZCSS. This embraces the view of Aliyu & Tasmin (2012) who said that IT has created a new infrastructure for the world economy. The bank should assess how the web furthers their objectives of acquisition, retention and sustainability. Zeithmal *at al.,* (1996) argued that the service providers are the best to judge the message delivered to ensured banks performance and sustainability.

The results showed that the perceived value from IT service by customers is high as confirmed by 41% of respondents while 41% rated it as moderate. This is also agreed by Zethmal & Bitner (1996) who stressed the position of customers in evaluating the quality of service delivery.
With IT, the customer receives important communications from ZCSS and gets access to their account whenever needed. This was confirmed by 67.2% who strongly agreed while 32.8 agreed with the assertion. The customers of ZCSS benefit from partnership between ZCSS and other banks as they can withdraw money from nearing financial institutions other than ZCSS simply by using Automatic Teller Machine. This matches with Cox & Dale (2001) who said that Information Technology should facilitate communication. Dangolani (2011) insisted on the importance of IT on service delivery and said that IT should be used in communication and Connectivity. IT should be used in communication based process (Ndubisi &Wah, 2001).

The findings revealed that some customers do not have relevant skills in manipulating telephone and ATM facilities. Respondents stressed that they are not only challenged by accessing bank services using phones but also by the language used which sometimes requires accounting skills. This was confirmed by 32.8% while 67.2% strongly agreed that they do not have any problem about accessibility to IT services. The assertion concurs with Mattos (1999) who contended that Information Technology should help the bank to manage the problem related to the long lines, limited time for customers servicing and transaction errors due to the banks personnel.

Relationship between IT and service delivery

Financial institutions that are using IT related products customer services delivery are likely to be of high quality to those that do not. It is for this extent that the researcher wanted to know the relationship between Information Technology and service delivery for sustainability of ZCSS.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.896[a]	.804	.790	.20737

a. Predictors: (Constant), HQ services, Branch Network, ATM services, Mobile banking.

Findings in the table 5 provide both the coefficient of determination adjusted R Square and the coefficient of correlation R. The coefficient of determination (R^2=0.790) clarified the explanatory power of the model and indicated that 79 % of variation in respect to reliability on ATM services, Branch networks, Mobile banking and HQ services. The coefficient of correlation (R=0.896) is greater than 0.5, this indicates that there is a strong positive and moderate relationship between IT and service delivery. In the same vein Dangolani (2011) confirmed that has a major impact on the way banking and financial services are delivered.

Table 6 Estimated coefficients of the model

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.132	.261		-.507	.614
	ATM Services	.717	.060	1.317	11.902	.000
	Branch network	.301	.109	.239	2.769	.008
	Mobile banking	.973	.301	1.078	3.233	.002
	HQ services	-.717	.159	-1.695	-4.521	.000

Source: Primary data, 2016

The findings from the table 6 show the estimated coefficient of the regression model from this study. All coefficients are statistically significant considering the positive value of the coefficients and significance level is greater than 0.05. There is however a correlation between ATM services and reliability (b=0.717,sig=0.000) indicating that the ATM service explained as 71.7% of variation in the effectiveness of reliability in ZCSS, therefore there is significant and strong positive relationship between ATM service and level of reliability in ZCSS.

Furthermore, Branch network has moderate relationship with reliability (b=031, sig=0.008) indicated by 31% of the variation. This is in line with Dangolani (2011) who argued that ATM may reduce the dependence on the branch network as a core delivery mechanism. Mobile banking has positive and strongly relationship with reliability (b=0.973, sig=0.002) indicating 97.3%. Lastly, HQ service has positive and strongly with reliability (b=0.717, sig=0.000) indicating 71.7%.of the variation in the reliability with services offered by ZCSS HQs. Parasuraman *et al.,* (1985) also share the same views when they contend that to offer quality services determinants such as reliability, responsiveness, communication, access and credibility should be taken with utmost care and IT should facilitate to achieve desired quality in service delivery for better sustainability.

Conclusion

The study aimed at finding out the contribution of IT on service delivery in financial institutions. The findings showed that IT in cooperative banking especially in ZCSS plays a significant role in service delivery and sustainability. ZCSS has been exemplary in providing quality services, enhancing trust between employees and customers, promoting accountability, synchronized bank operations and ensure that the perceived value from IT related services by customers is high.

However, a caution vie should be made due to proliferation of telecommunication companies that are offering some of financial services that are offered by modern banking industry.

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