ATM and Customer Satisfaction: A Case of the Banking Industry in Tanzania

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ABSTRACT

This paper presents the effects of ATMs on customer satisfaction in the Tanzanian banking sector. It is a new way of accessing banking services necessitated by customers' business needs and is enabled by fast changing technology. Due to achievements brought about by increased utilization of Information and Communication Technology (ICT) in society, the banking industry has introduced Automated Teller Machines (ATMs). ATMs provide a new method o f d ispensing c ustomer s ervices which are e xpected to increase e fficiency, s ales performance, and enhance customer satisfaction. Three different banks were used as a case study in o rder to a void bias a nd provide g eneral impressions o n ATM u se by c ustomers. Customers interviewed outside banks were free to express their views minimizing the bias of saying only positive things about ATMs. Consulted secondary sources of information provided understanding and challenges facing ATMs the world over.

The study establishes that ATM services enhance operations and customer satisfaction in terms of flexibility of time. ATMs add value in terms of speedy handling of voluminous transactions which traditional services were unable to handle efficiently and expediently. The level of this satisfaction is reduced by technological and processing failures, the perception that the service delivery mode is expensive and insecure regarding stand-alone ATMs, which creates customer d issatisfaction. There i s no c onsideration being g iven to p eople with disabilities such as blindness and people in wheel chair negates the role of serving customers, as they cannot access ATMs. The potential usage rate of ATM services will continue to increase the banking sector's competitive edge and numbers will rise in ten years to come in Tanzania. This p rovides opportunities t o overseas manufacturers and maintenance service p roviders, including skill-training opportunities for academic institutions.

Introduction

Services are defined as intangible experiences that cannot be tested in advance for their quality, reliability or performance (Gronroos, 1990) and thus they are riskier purchases than goods. The perceived risks may include financial, physical, performance, and time loss as well as quality aspects. On t he other hand Information Technology Development (ITD) has contributed to changes that people have never experienced before. The twenty first century has produced tremendous achievements brought about by ITD

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in communication and production facilities that have given a new outlook through automated, quick, economical and reliable services. In the past three decades, businesses, worldwide have experienced growth in the digital economy that has provided a new platform for new methods and strategies of doing business which has further challenged traditional ways of doing business. Digital technology uses electrons to transfer information that conclude transactions or enhance decision-making (Crede, 2000).

Production, manufacturing concerns and the Banking industry use ICT to provide a fast service (Crane and Bodie, 1996) because it is accurate and cost-effective enhancing customer satisfaction. Banks have adopted ICT with e-banking that works in three domains namely, Business to Business (B2B), Business to Customer (B2C) and Customer to Business (C2B). ICT use progressed through various stages and technology evolved over time. Using ITD in banking aimed at addressing the operational limitations caused by the increased number of transactions that were created by customer services' demand for services. Certain services that were routine in nature, such as cash withdrawals, balance checks and statements, are now provided without the help of a human teller. One of the areas where society has increased the utilization of information is in the banking industry, through the introduction of computers that were later integrated with telephone systems, faxes and Automated Teller Machines (ATM).

Automaticed teller machines are an electronic device, which allow banks' customers to make cash withdrawals and check their balances at any time without the aid of a human teller. Cards with chips that record the cardholder's personal financial details operate ATMs. Cash holders are given cards and personal identification numbers (PIN) to remember and use when accessing the facility to withdraw money from their accounts. ATMs dispense cash faster than would have been the case with manual operations. The machines are located in areas that are convenient to customers who may access services twenty-four hours a day. The services are available at bank branches, airports, large retail stores such as supermarkets and shopping malls, hotels, restaurants, stock control and other designated places. They are automatic and less expensive (Cox, 1992) helping to keep banks' operating costs low and efficient.

Research Problem

The Tanzanian customer is also becoming interested in timeliness, accuracy, competency, courtesy, professionalism, flexibility and easier banking. In addressing those customer interests, banks have established electronic payment schemes using access devices such as smart cards, point of sales (POs) terminals and ATMs. In Tanzania, some banks including Standard Chartered Bank {(T) (SCB)}, CRDB Bank, The National Bank of Commerce {(NBC) (1997)} and Tanzania Postal Bank (TPB) have installed ATMs at their branches. Customers are provided with services such as cash withdrawals, balance inquiries and mini-statements. The SCB ATMs are networked worldwide and therefore can be used by people who are not customers of SCB provided that they are holders of master and visa cards. It is observed that the CRDB and TPB cards are also used as plastic money for settling bills in some stores, petrol stations, restaurants and hotels.

In today's competitive business environment, quality service is a critical factor for corporate success. Studies have revealed a close link between ATM services and customer satisfaction (Bitten Court and Gwinner, 1996; Bitner, Brown

and Meuter, 1999; Hartline and Ferrell, 1996; Rafaeli, 1993). These studies show that delivering high quality service is linked to profitability, cost savings, and increased market share (Lovelock, 1994). It has been established that increased profit is influenced by several factors including customer identification, stronger customer loyalty, more cross selling of products as well as services and higher profit margins (Derlin and Dong, 1994). The relative advantages that bank customers perceive in using ATM services (*self-service technology*) lead to their satisfaction with the services they get (Meuter, et. all, 2000). For companies to increase usage of self-service technologies and generate satisfaction, they must emphasize the advantages such as time saved ease of use, and access. Customer perceptions of those benefits may also be an indicator of the failure of service providers to satisfy customers through traditional forms of interpersonal service delivery. Self-service technologies provide a fast service avoiding the declining service quality of the non-ICT-based process. With ICT, consumers generate their own services, at their own time and at a convenient location.

Despite the studies that have explored the relationship between ATM services and customer satisfaction, only a few have investigated customer interactions with technological interfaces such as ATMs in Tanzania. Kabalika (1999), on investigating customer interactions with technological interfaces, established that automation enhances customer satisfaction, regardless of age and gender, compared with traditional ways of being served by employees. The study (ibid) further observed the problems customers faced during interface with ATMs, such as during weekends and after office hours which caused dissatisfaction. No detailed information explained the reasons for the dissatisfaction observed/ experienced by customers. The above research

focused on one bank, the SCB, and so the findings could not easily be generalized, whereas the current study was conducted at three different banks.

Research on the impact of ATMs on customer satisfaction in the banking industry is important to an understanding of the factors that influence ATM services leading to customer satisfaction. This study went further into looking at technical and process failures including the design of ATMs' areas of operations.

The overall objective of the study was to assess how customers feel about ATMs' service delivery in giving customer satisfaction in the banking sector. More specifically, the study sought to establish whether or not ATMs remove delays in service provision and provide flexible services. Customers' attitudes towards ATMs' service delivery and their satisfaction with the banking sector of Tanzania were also examined. This included how customers view ATMs, the nature of the services provided by them and how they contribute to flexibility of service to customers. This study expects to assist bank managers meet customers' and banks' expectations in gaining mutual benefits.

The study shows what Tanzanian customers expect from ATM services. The results from this study will assist banks in knowing whether or not customers are satisfied with ATM services. Furthermore, the results will guide managers in meeting customers' expectations as a managerial necessity for earning the desired level of profits.

Literature Review

The Service Industry

The intangible nature of services challenges managers because the invisibility factor requires some serious thinking in order to provide a quality, reliable service, expected by both the company and the customer. Services are differentiated from goods by the following

characteristics as identified by Zeithaml, and colleagues (1995) and Lovelock 1989):

i) *Intangibility:* Implies that services cannot be touched, seen, stored, and displayed. Based on these features, the evaluation of customer service quality is difficult.

ii) *Inseparability:* Where consumers become part of the production process as opposed to being away from where a centralized mass production takes place. Services are produced and consumed simultaneously. Thus both the service provider and consumer must be present during production.

iii) *Perishability:* Services cannot be stored because they are produced and consumed instantly.

iv) *Heterogeneity*: There is variability in service performance that makes service standards unpredictable. It arises from employees' differences in skills and moods, thus making it difficult to control and maintain standards and quality. All the characteristic features create an impression that services are riskier purchases than goods. The perceived risks may include financial, physical, performance, time loss and other quality aspects.

Sullivan (1982) adds two more distinctive features of the service industry. These are *customer as well as demand and contact levels.* Customer and demand levels at a selected site happen when customers may put pressure on management, especially when demand increased unexpectedly and management was not prepared. The industry's

level of technology, that is whether the service uses labour intensive contact during service delivery, is another important feature in service characteristics.

In assessing problems in different organizations, Porter and Miller (1985) used "Value chain analysis" to determine how a firm gives value to its customers. Managements' service design, the production process, and customer services can enhance the value sought or gained by customers.

Automatic dispensers are not new in service delivery. They were introduced much earlier in the 20th century when postage stamps could be bought from vending machines. Other types of goods including refreshments (such as tea, coffee, chocolate and other beverages), photocopying cards, condoms, tampons, photographs, business cards and money are now dispensed using machines as well. Cash is dispensed by machines called automated teller machines (ATMs) which have been in use since the late 1930s. It is argued that Don Wetel invented the first successful ATM in the USA.

However, he may not be the first investor to create an ATM, an another inventor, Luther George Sinjian, is believed to have started an ATM in 1939, though it is still disputed as to which bank installed the first ATM. After patent issuance of 1973, it is argued that the first working ATM was installed in the New York-based Chemical Bank (http://inventors.about.com/library/inventors/blatm.htm 2004 April.) The same website shows that, by 1999, ATMs were in all the continents of the world including developed and developing countries. The largest number of ATMs was in Asia Pacific, followed by Europe and North America while South America, had fewer units. In the case of Africa at that time, they were

limited in almost all countries although they are now available (www.rbrldn.demon.co.uk/ history.htm). Table 1 presents the estimated number of ATMs in the world in 2005.

Table 1: *Estimated Number of ATMs in Some Countries in the World*

Country	Numbers	%
United Kingdom	54,000	3.6
United States of America	470,000	31.33
Canada	35,000	2.33
Africa	190	0.01266
India	11,000	0.733
Uganda	34	0.00226
Others	930,776	62.051
World	1,500,000	100%

Sources: *www.atmmarket.place;* *www.uganda mission.net*

Table 1 shows that the lowest number of ATMs in Africa and thus, per country, the number is very small. The number of ATMs, in the world however, is estimated to grow to 1.7 million by 2009. There are a total of 800 banks in Africa and several countries use ATM dispensing machines, including Kenya, Botswana, South Africa, Zimbabwe, Tanzania and Ghana (www.atmmarket.place.)

ATM is a product of Information and Computer Technology. The technology has the ability to (i) customize service offerings, (ii) recover from service failures, (iii) delight customers spontaneously, (iv) reduce waiting time for customers, (v) be an alternative channel for service delivery, and (vi) facilitate provision of vital information needed by customers in the shortest time possible (Lovelock, 1996; Mckenna, 1995; Bitner, *et. al.* 2000). Services offered by ATMs have become sophisticated based on what customers look for and in fulfilling their service requirements. They handle cash, routine enquiries such as current account

balance, and cheque book ordering and account transfers are processed (Cox, 1992). The ATM service is fast, taking not more than 15 seconds (Kabalika, 1999). The ATM have automated customer service functions that are available 24 hours a day.

In developed countries, the ATM network permits customers to collect cash from different banks as well as countries, especially where ATMs and credit cards link with visa and Master Card holders. An association for payment clearing services reported in 1994 that more than 530 million visa cardholders accessed more than 232,000 ATMs in 87 different countries (www.atmmarket.place.) Thus, the importance of ATMs has extended further into non-banking organizations as well.

Effective ATMs

In order to operate ATMs successfully, a bank needs computer hardware and software, internet service provider (ISP), adequate bandwidth, qualified ICT employees, reliable electric power supply and ATM machines. It is widely viewed and accepted from a business point of view that convenient, fast electronic support in transaction management helps reduce costs and enhances service delivery. Also it helps solidify. The relationship with customers ultimately leading to business growth as well because there is an increase in the volume of transactions and product penetration (http://biz.yahoo.com/bw/ o40408/856221htmlapril 04.)

Customer Satisfaction

Recognition of customer satisfaction in the 1930s and 1940s led to the emergence of the marketing concept, which called for organizations to concentrate and integrate their profit goals through customer satisfaction (Kotler and Zaltman, 1971; McCarthy and Perreault, 1984; Pride & Ferrel, 1991). Engel and colleagues

(1990) observed that a customer makes a purchase with certain expectations about what the product and/or service would do when used.

As such, satisfaction is based on the outcome. Satisfaction is a post-consumption evaluation that meets or exceeds expectation. It is hard to measure satisfaction especially when evaluating customers. Dissatisfaction is the outcome when expectations have not been met. Consumer satisfaction is one of the firm's assets acquired when a customer uses a company over time. Consequently, customer satisfaction is increasingly being valued as a key variable in models of customer behavior and takes a central place in marketing decisions (Parasuraman, 1998; Kotler, 1984).

Churchill and Surprenant (1982) defined customer satisfaction as a feeling a person experiences when comparing what was received with what was expected (Oliver, 1980). It is the product of the accumulated experience of a customer's purchase and consumption. Satisfaction is regarded as a reward by a buyer to compensate for the sacrifice of money, time, and effort which he has made (Anderson, (1974). Satisfaction involves an exchange and comparison process of what the customer receives in relation to some baseline. When customers' expectations are not met, then dissatisfaction occurs so that unhappy customers may complain and/or switch brands and sometimes spread negative comments by word of mouth about the product or company (Goldsmith, 1995; Landon, 1997). Customers may enter a market with expectations of benefits and performance. Comparing results of the services enjoyed with the expectation leads to positive disconfirmation or negative disconfirmation or conformation of expectations.

Disconfirmation, expectations and actual performance levels have an independent effect on customer satisfaction. A customer may respond to the same services provided, if characterized by positive expectations. Conformation will not operate unless service changes occur that are outside the range of experience based on norms. As banking is a continuous service, this connotes that customer response to banking services could be affected mostly by performance (Oliver, 1980).

Other researchers have challenged the disconfirmation of expectations model with a comparison of the standard value percept disparity model that was developed by Lock (1967) and later modified by Reilly (1983) who emphasizes individual values. The model asserts that customer satisfaction or dissatisfaction is an emotional response. Proponents of the value percept disparity model argue that it is attainment of values which customers seek, rather than conformation to their expectations. Despite the conceptual advantages of this model over the disconfirmation of expectations model, Reilly and co-workers (1983) argue that disconfirmation of expectations and value perception do not explain satisfaction. This is because the values sought are different as presented by the GAP model by Parasuaraman, Zeithaaml and Berry (1985). The authors argue (ibid.) that the difference between what customers are looking for and what they have received may be explained by some gaps that include:

i) The differences between management perceptions of what customers expect and what customers really do expect;

ii) The difference between management perceptions and service quality specifications –the standard gap;

iii) The difference between service quality specifications and actual service delivery. Are standards consistently met or delivered?

iv) The difference between service delivery and what is communicated externally. Are promises made consistently fulfilled? Or, is the desire created by the messages fulfilled?

v) Finally, the difference between what customers expect of a service and what they actually receive.

If those gaps are filled, it implies customer satisfaction. Discussions about elimination of those gaps, in particular the methods and approaches used, have stimulated many studies leading to what management should do to deliver quality services and satisfy customers.

Significance of Paying Attention to Customer Satisfaction

Many companies that measure customer satisfaction as a routine activity use the results in developing, monitoring, and evaluating products or service offerings and their employees. Sullivan and others (1993), Fornell and Werner (1987) and Anderson and co-workers (1994), in assessing theoretical and empirical findings, indicate that customer satisfaction has a strong influence on an organization's profitability leading to loyalty as well (Reicheld and Sasser, 1990). The authors (ibid) asserted the following:

i) When a customer gets used to a service, he/she uses it more and more and so, sales volumes increase,

ii) A company easily knows what the customer expects,

iii) A company can vary prices and usually increase them without fear of losing the customer, and

iv) Increased customer satisfaction leads to higher levels of customer retention and positive word of mouth communication as

well as increased revenue and market share. Increased revenue, if combined with reduced costs, leads to greater profitability (Rust, *et. al.,* 1995).

Customer satisfaction and greater profitability have the following patterns:

i) They cause the demand to curve upwards, making it steeper,

ii) They reduce marketing costs as regular customers can be profiled and given offers that they cannot easily ignore

iii) They increase marketing costs of competitors, and

iv) They reduce customer turnover and thus fewer customers need to be replaced (Fornel, (1992). Customer satisfaction is also a function of quality service. Management may desire to deliver quality service that may not be easy to comeby.

Service - Based Components of Quality

Quality is an attribute that is defined as a degree of goodness or worthiness or excellence. It is an attribute with a special characteristic or distinguishing feature (Oxford Dictionary). Since it is an attribute, it can be explained using a variety of variables. Gronroos (1990) suggests that perceived service quality is a result of an evaluation process in which customers compare expected perceptions of service delivery and its outcomes with what they expected. Zeithaml, Berry, and Parasuraman, (1985) identified criteria used by customers to evaluate services that include:

Reliability - involves consistency, accurate performance and dependability.

Responsiveness - timelines of service, making

transactions immediately, giving prompt service and helpfulness.

Competence - possession of skills and knowledge in the field of that service. A car mechanic with the requisite knowledge of a particular make of car will do a better job than one who claims to be a mechanic of all the vehicles in the world.

Access – involves approachability and ease of contact (that is, less waiting time; convenient hours of operation; convenient location of facilities).

Courtesy - politeness; respect; consideration; and friendliness of contact personnel.

Good communication - credibility; security, understanding customer. (Also referred to as empathy by Lovelock, 1996)

Tangible aspect - (that includes the appearance of the physical element); According to Kotler (1991), quality is also communicated through the price for the service. A high price usually signals premium and quality products, including services, to buyers. The packaging, distribution, advertising and promotion of goods also affect the product's quality image. Innovation in packaging services in a form that attracts customers is called for. Quality which falls short of expectations influences satisfaction and customer retention rather than quality that exceeds expectations. Poor quality leads to customer dissatisfaction.

Dissatisfaction

A complaining behavior is an expression of dissatisfaction through voice, exit, and no subsequent demand for the same service (Hirschman, 1970). Voice complaint is an active and constructive response that is vocal and attempts to change practices, including policies put in place by an organization. Exit is a destructive response that occurs when people dissociate themselves from the object of dissatisfaction by switching brands, reducing consumption or refusing to make further purchases. Loyalty refers to consumers' behaviour to remain with the same service provider. Thus, dissatisfaction is caused by technology failures; process failures; poor design; and customer-driven failures (Meuter et. al. 2000). ATMs are part of the technological service provision that this paper addresses relating to service delivery but issues of non-acceptance by customers could also emerge. The current dissatisfaction arises from the global increase in cyber thefts, especially through ATMs. World fraud reached more than $2.75 billion in 2004 according to Interpol. Customers are aware of this.

Empirical Studies

Service quality has received attention in research and practice in Tanzania by Komba (1997) who focused on hotel services, and Kabalika (1999) on the Standard Chartered bank only. Thus, research into ATMs' effects on customer satisfaction in the banking industry is very scanty in Tanzania. Little research has been done on customer interactions with technological interfaces such as ATMs (Meuter, 1999). Due to lack of data, it makes it difficult to have an in-depth understanding of the influence of ATM services on customer satisfaction in the banking industry in the country. The study examined the manner in which ATMs influence satisfaction in the banking sector in Tanzania.

Synthesis

The reviewed literature emphasizes customer satisfaction by offering quality services through ATMs by banks. Customer satisfaction is reached when banks live up to their promise of rendering a 24-hour service that is convenient, safe and meets the bank's goals. It is evident that no study has been done that the researcher is aware of that has explored the effectiveness of the interface of ATMs with their customers in a developing country such as Tanzania.

Research Methodology and Data Analysis

The research was a descriptive study that comprised both qualitative and quantitative research approaches. Primary data were generated from three banks chosen as case studies because more banks are introducing ATMs in service delivery. It was important to understand the processes that took place and the interrelationship of ATMs with their customers. The case study is a popular form of qualitative analysis entailing a detailed investigation of the cases in question, geared towards generating valuable information. The quantitative part gave objective factors that accounted for banks behavioral patterns as an integrated totality (See also Kothari, 1998).

Secondary data were of significant importance. As pointed out by Naoum (1998), they are less expensive to use than gathering primary data quickly to provide answers on a short-term basis. Where there are stringent budget and time constraints imposed on primary research, secondary research provides the needed data. The secondary data sources included annual reports and published and unpublished materials in the form of journal articles, papers and the internet. These contributed to the understanding of the issues

under study and were the basis for pointing out sources of satisfaction and dissatisfaction through the use of ATMs at Standard Chartered Bank (T) (SCB), CRDB, TPB and NBC. The banks selected were based on the long experience they had of promoting their services, including new developments taking place in their banks.

Thus information was collected using a scaled (Likert 5-point) questionnaire as a way of studying attitude/behavior towards the use of ATMs. A total of 142 people filled in the questionnaire. A checklist guided unstructured interviews for 30 respondents in order to study reactions to the studied attributes.

Data Analysis

Data cleaning and assessment were carried out to find out if the collected data were of good quality. All filled-in questionnaires were checked to see if they were correctly filled in and completed. Reliability of the instruments used gave a Cronbach of 0.82 value, which indicated that the instruments used were able to measure what was intended. Matrix analysis showed that many of the studied variables were highly correlated and these enabled other inferences to be drawn and the study of relationships to be carried out as presented in the next section. Expressions repeatedly given by respondents were recorded and used to explain the statistics presented in the study.

Research Findings

Concerning Tanzanian people and their source of earnings, it was found that different types of economic activities lead to different earning levels. The economic activities include the following:

a) Agriculture: where there is farming, livestock keeping, forestry, hunting and fishing;
b) Mining, quarrying;
c) Manufacturing and handcrafts;
d) Construction;
e) Wholesale, retail trade, restaurants including hotels;
f) Transport and communications;
g) Finance, insurance, real estate and business services;
h) Public administration, education, health, police, military and judiciary;
i) Electricity, water supply and sewerage services; and
j) Other general services

All the economic activities outlined above operate aa large, medium, small or micro enterprises. The small and micro businesses are largely informal.

Tanzanian People and the Use of Banking Services

Tanzania has 26 banks and 3 financial institutions (www.bot-tz.org), of which 9 (34.61%) have ATM facilities (www.bcstimes.com). There are also 80 bureaux de change in mainland Tanzania and 22 in Zanzibar. The banks and financial institutions have the potential of serving more than 35 million people, which was the population of Tanzania in 2002 (URT, 2004), although in a practical sense, it is not possible because all the banks are found in urban areas where only 23% of the population live. The rate of growth of the urban population is 5.11%, leading to an urbanization level of 29.6%. Of this population, 94% live in Dar es Salaam. Not all of those people are employed or have regular incomes that may be banked. The country has 17,535,000 economically active people engaged in formal and informal occupations (www.citypopultion.de/Africa.html.) Of the employed people, 77.9% are professionals, 1.3% are non-professionals, 18% are self-employed professionals, 4% self-employed non- professionals (URT. 2002).

Bank users are people employed in the formal sector where the majority work in the public and private sectors of the economy. This situation implies that only a small portion of Tanzania's population h as access t o the conventional banking system. It is worth observing that t he informal sector is also growing, although a large part of its transactions take part outside the banking system. Banks have to devise strategies on how to incorporate this sector into the system.

Cash Payment as Mode of Payment

The reader of this paper should be aware that the majority of transactions in Tanzania is on a cash basis as pointed out in a study by Mboma (1999 and 2001). Furthermore, people prefer handling their own cash, and/or keeping it in their homes. According to a report by the Bank of Tanzania (2003), it was shown that in 2002, Tsh. 495.4bn/= or 51.8% circulated outside the banks, while Tsh. 463.3bn/= or 48.3% was within the banking system (Table 2).

Table 2: *Outside Banking and Inside Currency Circulation in Tanzania in Billion/=*

Year	Outside Banking System		Inside Banking System		Total Currency in Circulation	Inflation Rate
	TShs.	%age	TShs.	%age	TShs.	%age
1985	12.7	50.2	12.6	49.8	25.3	34.2
1986	18.3	51.1	17.5	48.9	35.8	34.2
1987	24.6	52.2	22.6	47.8	47.1	32.0
1988	31.7	48.5	33.7	51.5	65.4	34.2
1989	41.1	49.9	41.3	50.1	82.4	25.7
1990	57.9	52.1	53.2	47.9	111.1	35.9
1991	63.6	46.5	72.3	53.5	136.9	28.8
1992	95.5	51.4	90.4	48.9	185.9	21.9
1993	122.2	49.5	124.9	50.5	247.1	25.2
1994	176.3	63.5	153.3	46.5	329.6	33.1
1995	244.3	67.0	184.0	43.0	428.3	28.4
1996	257.7	66.3	191.6	43.7	449.2	21.0
1997	287.8	59.3	206.0	41.7	493.9	16.1
1998	307.8	46.4	237.7	43.6	545.5	12.8
1999	384.8	60.8	247.7	39.2	632.6	7.9
2000	392.4	56.5	302.6	43.5	695.0	5.9
2001	411.6	63.7	354.4	46.3	766.0	5.1
2002	495.4	51.7	463.3	48.3	958.8	4.6

Source: *Bank of Tanzania Economic and Operations Report of the Years Ending June 2000:19, 2000:19 and 2003:56, 114, Table A3.1 and www.bot-tz.org.*

Table 2 shows that, throughout the decade, the amount of cash that circulated outside the banking system was higher than that circulating within the banking system. The amounts have been declining in recent years through control of the money supply and other fiscal policies and improvement of weather conditions leading to increased food supply that have reduced the inflation rate from 35.9% in 1990 to 4.2% in 2005.

ATM is a new method of getting services from banks so that the majority of customers need to be trained on how to use them.

Banking Services Before Introduction of ATMs in Tanzania

The paper focused on Customer to Business (C2B) so as to establish how ATM users felt about the current new banking services. It is known for years that customers either visited a bank branch or used a postal service in order to get financial services. A customer would be served by a group of bank employees who included a person who collected the cash book or cheque from the counter and gave them to a clerk who checked the customer's accuracy in filling out a form or writing a cheque, a verifier who checked if the customer had an adequate

cash balance, an accountant who endorsed the payment to the customer, a clerk who read out the name again and guided the customer to the counter where teller paid out the money to the customer.

There was a total of six encounters using five employees serving a single customer during cash withdrawal from a bank. The process took a minimum of 45 minutes during non-peak days, that is, before the end of the month. At the end of the month a customer could wait in a queue for two hours or more. Sometimes some bank employees used this crowded situation to serve their friends and relatives making banking services highly unsatisfactory.

Sales and payments through a bank are a necessity for employers due to increased incidents of armed robbery and hijacking of cash in transit when collected by accountants aiming at paying employees. However, some customers do not utilize this opportunity to save transit of cash but prefer to use a bank as a wage/salary collection centre.

The Use of ICT

Though the use of ICT is fairly limited in LDCs, the evidence shows that many of the countries have taken it as a challenge to access and get connected with the rest of the world. Speaking to bank managers, they observed that the move has become necessary because of the importance of being integrated in the global market as business communications are digitized today. Banks that operate in Tanzania have transformed their services including the introduction of ATMs, with the intention of generating income through service provision to businesses, government and non-government organizations and the public.

Pioneers of ATMs

The postal service in Tanzania was cited as an institution that sold stamps using vending machines. The ATMS, however, offer different and more services from postal vending machines. Meridian Biao bank introduced ATMs in Tanzania in the early 1990s followed by the Standard Chartered Bank (SCB) in 1997, the National Bank of Commerce in 2002, CRDB Bank in 2003, Postal Development Bank (PDB) and Eurobank in 2005. They installed ATMs to smoothen routine operations, including cash withdrawal, request of cheque-books, cash balances and mini-statements. Of all the banks presented above, NBC leads by having 55 ATMs countrywide followed by CRDB with 35 machines, and SCB and TPB with 3 each. Eurobank has 2 ATMs, while Exim has 5. NBC has 58 VISA enabled ATMs in the country. The number of ATM machines and services is growing fast in Dar es Salaam and elsewhere in the country.

NBC, SCB, CRDB and TPB have also introduced e-banking because of a desire to deliver quality service and because of its critical relevance in delivering superior customer value (Day and Wensley 1988). The SCB bank card is networked worldwide whereby it enables holders of master visa cards to access banking facilities as well. Tembo and Uhuru cards of CRDB and PBC are used to settle business transactions in place of cash. These are supported by 500 points of sale (POS) by CRDB with VISA connection infrastructure. PBC further extended its services in November 2005 so that cash may also be withdrawn not necessarily only through their current ATMs.

ATM Users and Gender Perspective

The study showed that both men (87%) and women (13%) used ATMs. Kubalika observed that 77.3% were males and 22.7% females in SCB. This was the situation in a foreign-owned bank. This pattern is a reflection of gender relations in Tanzania where a large number of males work in formal employment while there are few females. This also explains males' higher access to education than females and recruitment

policies based on academic qualifications which provide more opportunities for males than females. 22.7% of females are teachers of primary level, while the nursing profession is dominated by females. Therefore, it is no accident to find a low number of females using the services of ATMs.

ATM Users and Duration with a Bank

The majority of bank customers (56. 54%) had used bank services for 25-35 years. Few (1.12%) had used the service for more than 40 years. The remaining 43.44% have used bank services for a period of one to 20 years. The few long standing customers have high salaries and can afford to use chequebooks in place of ATMs. Such customers may use cheques to settle their transactions where accepted. Individual cheques are generally not accepted as a mode of payment in many situations because of mistrust created by the issuance of fake cheques.

Table 3: *Duration of Being a Customer of a Bank*

Years	Number of Customers	%age
Less than 1	3	1.78
5	21	12.5
10	9	5.35
15	13	7.73
20	25	14.88
25	35	20.83
30	33	19.64
35	27	16.07
40+	2	1.12
Total	168	100%

Source: *Survey Data*

Table 3 shows that more than 70% of those interviewed had been using bank services between 15 and over 40 years. Expressions given by those customers are based on long-term exposure to banking services where a

change such as the use of ATMs is noted but also requires an intelligent assessment of how that change has then taken by customers.

Table 4: *Customers' Age Profile and Use of ATMs*

Age in Years	Number of People	%age
18-25	2	1.38
26-40	47	32.63
40-50	93	64.58
58+	2	1.14
Total	144	100%

Source: *Survey Data*

Table 4 shows that customers of all ages use ATM services. Customers start using banking services at the age of 26 onwards (Table 4). The Tanzanian education system is the reason for the low number of customers of 18-25 years. Primary education starts at 7 years, followed by 6 years at secondary education level and three years in tertiary education. Upon getting a qualification, a person may find a job at the age of 24 years or more. The initial years of employment a person may prefer direct payment as he/she will be trying to settle down. Those captured in the study were university students, who have been instructed to open bank accounts in recent years so as to channel their allowances.

Customers' Views on ATMs

Right Decision to have ATMs

The majority of customers (76.7%) who used banking services observed that it was the right decision to introduce ATMs into Tanzania, while a few (23.3%) said it was not. Customers were happy to have ATM services for the following reasons:

Good for Management

All other forms of information are made available through the records that the ATM maintains in terms of where customers go when operating the machine. This is commendable because customers know their balances and the latest transactions as a routine, replacing customers' savings' books for those with savings account which maintained the withdrawals and deposits each time a customer visited a bank.

Service Delivery Duration

The ATM saved time since customers did not have to queue for a long time to withdraw cash compared with a bank that operates manually. Findings also showed that the service delivery time has reduced by the use of ATM facilities. A customer spent between 2 and 3.5 minutes, but not the 15 seconds observed by Kabalika (1999). Findings are c ompatible with the argument propounded by Cox (1992) that, proper use of technology such as ATM, saves waiting and queuing time compared with using traditional banking services, where long delays were experienced when large numbers of customers crowded into the banks. CRDB has introduced an information service through which customers check the balance of their account before going to the bank. This has reduced long queues and l arge numbers o f customers crowding into the banks.

Cash-withdrawal Frequency by Customers

Different customers utilized bank services differently. The study observed that many customers did not indicate that they used other banking services other than ATMs. Although this was beyond the scope of this study, it is an area of interest for banks and government to establish why available banking services are not utilized by potential customers. With respect to

ATMs, customers use them at different times of the month. What came out clearly was that majority or 62.27% used them once per month (Table 5).

The reasons were given in expressions such as: ".... the salary I am paid is too low to be kept in a bank". Furthermore, one customer added the following. "... I never wanted to keep my money in a bank. It is the employer's procedure." "...It costs money to travel to the bank to drawout money, and further to pay bank charges. ..." The attitudes expressed in customers' sentiments were due to their salaries being channelled through banks, a service they had never sought, and they were not convinced that it was good for them.

Table 5: *The Frequency of Using ATMs at Banks*

When	Number of Times of Using ATM in a Month	% age
Every day	4	2.81%
Once a week	14	9.85%
Once every two weeks	21	14.78%
Once a month	89	62.67%
Once every three months	8	5.63%
Never used	6	4.22%
Total	142	100%

Source: *Survey Data*

It was noted that some people used the ATM once every three months. They explained that they wanted to withdraw more than the amount of money set by the ATMs and had to use human-served counters. Once a person had accumulated a large sum of money would withdraw it to make a meaningful purchase. Those who went to the bank weekly did so

because it helped them to control their spending. It was observed that some customers had not used ATM services at all. One said that he uses a chequebook. A very frank customer simply said "...the machine is for young people. The machine was introduced without consultation with us customers...."

ATMs Potential Problems

a) However, current ATM services encourage some customers who may send a confidant to draw money out on their behalf without going through the u nnecessary long bureaucratic process in c onventional banking. This practice is based on customers' ignorance and the trust people place in one other – giving a helping hand. So far, no ATM crimes have been reported in Tanzania.

Furthermore, sharing pin numbers with another person is a current snag in ATM use although new technology that scans fingerprints and eyes is still being tested. It may take time to deploy such technology in Tanzania. ATMs are slow at times causing long queues during the daytime and at the end of the month when those customers whose salaries were paid into the banks come to the bank, thereby failing to give the satisfaction sought for. This raises concerns about service reliability.

b) Customers can get money at any time – a flexibility that was not provided for a long time by Tanzanian financial institutions. The presence of flexible services in terms of time enables customers to draw out cash 24 hours a day, 7 days a week, 365 days a year. The ATMs also offer flexibility (Table 6) in t erms of location from where customers can withdraw money at any place where such a bank has its ATM services, with the same charges, unlike the case of traditional banking services as supported by Guru (1990); Quinn (1996); Fisher (1998); and Hart (1996). Table 6 also presents a summary of the attributes studied as a reflection of customers' feelings about ATMs.

Table 6: *Comments and Attitudes Towards ATMs*

Attributes	Yes		No	
	Number	%age	Number	%age
Do you get a fast service at ATM?	101	67.3	33	22
Is there any flexibility with ATM?	118	78.7	21	14
Are you happy?	97	64.7	34	22.7
Are ATMs easy to operate?	81	54	45	30
Are there any savings?	105	70	30	20
ATMs were not sufficient	104	72.7	38	17.3
Average		66.56%		33.44%

Total respondents 142

Source: *Survey Data*

Customers' Feelings about ATMs

The results reveal something about customers' reactions to ATMs in Tanzania. The first four positive responses confirm the attributes that are expected to be met by ATMs as pointed out in the literature review and is in agreement with Sullivan (1982) who views that service adds value to a sector which in this study means that ATMs add value to banks.

Customer Satisfaction Level

In assessing satisfaction level, the coefficient of determination provided was 0.625 as a significant value. The results imply that so far ATMs were accepted because of the problems experienced when banking operations were carried out manually. The 0.375 coefficient, or 37.5%, was explained by the negative aspects expressed by customers and presented in Table 7.

Table 7: *Other Issues Raised by Customers*

Attributes	Who said "Yes"		Who said "No"	
	Number	%age	Number	%age
Security	5	3.3	145	96.7
Trustworthiness	4	2.7	146	97.3
Slowness	25	16.7	135	86.0
In favor of ATMs charges	9	6.0	135	90.0
Handling the ATM	20	13.3	130	86.7
Unreliable network	110	73.3	40	26.7
Withdrawal limitations	115	76.7	35	23.3
Off-line services	13	8.7	20	13.3
Temporary out of order displayed on the screen	55	38.2	87	61.8
ATMs off line	12	8.2	130	91.8
Service denied without reason given	2	0.1	140	99.9
Accessibility	52	36	90	64
Service after working hours	49	34.4	93	65.6
Speed	35	24.6	107	75.4
Secure location	31	21.9	111	78.1
Reliability	30	21.1	112	78.9
ATMs were not sufficient	104	72.7	38	27.3

Source: *Survey Data. N=142*

Reasons for Dissatisfaction with ATMs

23.3% of customers felt that the introduction of ATM services was not the right decision for different reasons which are presented in Table 7.

The issues raised by respondents in Table 7 reduce the value of the services delivered by ATMs. Part of these feelings arise out of peoples' tendency to hold large amounts of cash because transactions are met on a cash basis as reflected in Table 1. They also question the policy related to the maximum amount that can be of cash withdrawn from ATMs. At present, NBC offers a maximum single withdrawal of Tsh. 300,000, while DCB allows Tsh 400,000, or Tsh 2,000,000 per week. Sometimes, a customer has to withdraw twice when the machine contains 5,000/= notes only.

The Location of ATMs

Location preference is in residential areas, city centres and shops by banks. Banks are situated in urban and not rural areas, places where telephone and electricity services are accessible. If a Tanzanian travels to a village, he/she has to have adequate cash so as to sustain his/her stay until such a person gets to an urban area where cash is available.

ATM Processing and Service Delivery

When a receipt for a transaction's requested but is not available, the process is cancelled and the customer does not get any money. This causes some dissatisfaction because may not realize that, by avoiding ostling for receipt, he/she will get the service sought, that is, the withdrawal of cash.

Expressions given in Table 3 provide some important aspects that may need management's attention in order to be customer oriented. Some of the banks claim to be listeners and these short falls require their attention. However, it should be observed that, even though it may be a small number of customers, their comments should not be ignored, because each customer is important given the general tendency of large potential customers not putting their money into banks (Table 1). Neglect may lead customers to opt for o ther b anks that l isten to customers' complaints, no matter how trivial the complaint may be.

Accuracy of Machines

The machines were accurate in counts compared with experiences of shorts from manually delivered services. ATMs remove service providers' negative attitudes towards customers as well which are expressed through employees' verbal communication, a ctions and b ody language (facial and other gestures).

Customers' Satisfaction on Use of ATMs

The research also showed that ATM services enhance customer satisfaction through service delivery by the banking industry. The study revealed that problems faced by customers in using ATMs did not significantly exceed customer expectations in relation to their perceived performance. If an ATM was off-line for a long time, it produced dissatisfaction in customers because it increased customer costs as they had to move from an off-line bank branch to another branch. This reinforced the perception of ATMs as being user-unfriendly to customers subjected to such a situation. Although more than 85% of interviewed customers thought that they were user friendly, 15% said they were not. The services were also perceived as not giving a fast service at times by 23% of interviewed people. Furthermore, t he majority of customers observed limitations of using their cards to withdraw and get cash balances. The results are consistent with Meuter and colleagues' (2000) study that noted dissatisfaction arising from deficiencies advanced by customers.

More than 90% of respondents complained that their bankcards that did not assist them at merchant places. 2% said they did. These results are a reflection of a Tanzanian market dominated by the hard cash mode of settling business transactions and supported by a study conducted by Mboma (1999, 2001) and Table (1). However, a few companies have started to allow bankcards to settle bills, as a mode of payment for example Tembo card by CRDB, Uhuru Pay card by Postal Bank and SCB cards.

Furthermore, 23% of customers who owned the new Visa type of card currently provided by CRDB and PBC seemed to be satisfied while the rest did not (76.7%) because there was no infrastructure that supported this new method of payment. Many businesses did not have facilities that accept credit cards to pay for goods and services. The nature of these businesses is s mall and t hey use l imited technology in the conduct of business (Mboma, 2004, 2005).

Other Issues Raised

Fear and Resentment

Customers had the impression that ATMs were not necessarily secure by learning from the experiences of other countries. The experiences

of having untrustworthy employees in some banks in the past created some anxiety in new customers, though they were only guided on how to operate the ATM while the actual operation was done by the customer him or herself. This cencern came from a customer who had to ask for help in operating the ATM. ATM is a new technology which the majority of Tanzanians are exposed to it for the first time will take time for people to become familiar with it.

Other issues complained about included ATMs running out of cash, poor communication and small denominations. In addition, the fees charged for the use of ATMs were not justified and customers felt that it was an unnecessary cost given that their money was being used to do business by the banks.

Table 8: *Different Fees Charged by Each Bank*

Name of the Bank	Amount in Tsh.
National Bank of Commerce	300/=
Standard Chartered Bank	400/=
CRDB Bank	300/=
Tanzania Postal Bank	300/=

Source: *Survey Data*

Inter-bank charges are higher than those presented in the table. Some customers were reluctant to use ATMs because of lack of assurance of the safety of their money. In fact, others argued that there had been no consultation before the introduction of bank card for example, by NBC.

Some customers feared to use ATMs because they did not want to expose their ignorance to the public. Demonstrations to first-time users of the ATM had no privacy that made customers feel embarrassed or thought of as being ICT illiterate.

One respondent asked the following question, "Is there a better way of handling customers when teaching them how to use these complicated machines?" The question was raised because of unfamiliarity with the dialogue between customers and ATM screens, slow reading speed and use of the English language in ATMs (to show-off) by many customers instead of using Kiswahili.

Unreliability of the Network was another source of problems. At times, internet services were slow due to bandwidth limitations when ISPs (internet service providers) failed to get connections locally as well as with international satellites. ATMs were off-line from time to time due to reasons known to management, although stand-by electric power generators were available at branches at all times.

Limitation of 300,000/= per withdrawal at NBC was a source of dissatisfaction to some customers who needed to draw larger sums of money, bearing in mind that many transactions were conducted with cash (Table 2). Sometimes, cash dispensers carried smaller money denominations, which increased the time taken by a customer who had to repeat the process so as to get the desired amount of cash.

Furthermore, a customer felt unprotected after withdrawing his/her cash for fear of being mugged by delinquents hanging around. Although they used ATMs, customers were aware that ATMs were exposed to fraudsters. As noted before, Interpol's report of 2004 showed that more than $2.75 billion were stolen worldwide. In this regard, certain information was not passed on to customers: i) Customers were not cautioned that there were enterprising criminals who gather information about customers' information through debris; ii) It is possible phone booths/mobile phone capturing pin numbers could used to steal money; iii) ATMs with Windows XP embedded security are in danger of being robbed; and iv) stolen mail contributes to possible theft (www.wfaa.com,

www.atmmarket.place. These factors reduce the assurance savely that customers want.

The same international police report identifies the types of people that are involved in theft from ATMs. Most crimes are based on the manipulation of former operating system in bank. Eventually, this area will soon be targeted in Tanzania since the crimes are organized and executed by more than one person who may be residing in one or different countries. Hackers assist criminals as they have the skills and knowledge of how networks including systems work. For example, if one wants to understand how ATMs work, this knowledge is accessible though the internet. The Bank of Tanzania has also reported some bank frauds www.bot-tz.org 2004.

Customers complained about being charged Tsh 5,000/= while waiting to be issued with a cash withdrawal card. The cost was considered high and not the customer's fault for having to wait for such a facility before accessing bank services.

Banks do not segment its customers through ATMs at all as different customers may have different cash demands. It is further revealed that limited marketing promotion does not provide adequate education, awareness, interest and use of ATM services. Brochures printed in English also limit the general understanding of ATMs and other ICT services offered by banks. This questions the extent to which the marketing philosophy is applied in Tanzanian banks. Service delivery does not meet the responsiveness and empathy dimensions of quality services as pointed out by Zeithaml, Berry and Parasuraman in Lovelock (1996).

All the issues raised by different ATM users reveal that they are not satisfied, forcing the banks to pay attention to these shortcomings as supported by Sullivan (1993) who urged that

that routine activities be developed to monitor and evaluate services from time to time. Fornell and Warner (1987), Anderson et al 1994 and Rust et al (1995) emphasized customer loyalty to a service when satisfied and increased profitability if well maintained by an organization. Such loyalty reduces switching to another bank when competition exists.

Implications from Findings

For Management

Banks should conduct frequent studies to capture sources of service dissatisfaction. ATMs should provide fast, accurate, efficient, effective and reliable services. The satisfying values sought by customers vary in degree of acceptance levels. ATMs can only communicate with customers through their dialogue display on the screens. ATMs never capture the feelings, experiences, happiness or frustrations that customers go through and so banks need to design a different mechanism to capture this information by conducting frequent studies. Unfortunately, banks take time to organize studies. Long delays could lead to a high level of negative attitudes that may arise from loss of confidence and loss of customers, either through competitors or through abandoning the use of banking services.

Customize Cash Disbursement to Customers

Setting a standard maximum cash level causes dissatisfaction in the use of ATMs. With ICT in place, it is possible to set different cash withdrawal levels for different customers. The marketing philosophy should be extended to ATMs through marketing segmentation.

Improve Bankcards to Settle Debts (Credit Cards)

The research findings revealed that the use of ATM contributes to speed, accessibility, flexibility, convenience and accuracy. The capacity to handle voluminous transactions efficiently and expediently suggests turning those bank cards into credit cards. The present bankcards continue to perpetuate old way of transacting businesses – using the cash system. The cards do not transform the financial system not customers' behaviour and methods of payment. These views are also shared by www.unctad.org.

Consider Back-up Services

In the process of mastering the operations, a prompt service recovery is provided when ATM facilities go off line, as a counter service is available during official working hours that run between 8.30-14.45pm, whereas ATM is a 24 hour service. This calls for an improvement of bankcards that provide a limited service of cash withdrawal only. It was also strange to charge customers Tsh 5,000/= per transaction while the ATM card was being processed.

Conclusion

The study concludes that ATMs enhance customer satisfaction, but where the system fails, with periodic long queues and un-customised cash withdrawals, customer dissatisfaction mounts. The use of ATM services in the future will increase when ATMs become part of the banking sector's competitive edge that will be highly determined by how effectively and efficiently the new services operate with the use of ATMs. ATMs should not only be confined to bank buildings, but should also be placed in shopping areas such as Kariakoo or emerging new areas at retail stores and large hospitals and institutions that have large numbers of people, for example, in colleges, police barracks, military units and so forth, to enhance the flexibility of banking services to be directed at strategic customers and in strategic areas.

ATM is a new service in Tanzania but some service delivery dissatisfaction has been expressed, arising from technological failures, poor supporting services after office hours, including public holidays, confinement of ATM services to own banks and unexplained service charges which need to be addressed by management. Customers expect some answers and solutions in order to improve ATM services. Bank cards need further upgrading in order to reduce cash transactions, as well as increasing e-banking for more bank income.

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Appendix 1

Table: *List of Banks and Bureaux de change Registered in Tanzania by 2004*

Bank	Bank	Bank
National Bank of Commerce (NBC	CRDB Bank	Stanbic Bank (T) Ltd
International Commercial Bank (T) Ltd	Citi Bank (T)	Exim Bank (T) Ltd
Standard Chartered (T) Ltd (SCB)	Federal Bank of the Middle East (T) Ltd	Barclays Bank (T) Ltd
Postal Bank Corporation (PBC)	Azania BanCorp	Habibu African Bank
National Microfinance Bank Ltd	African Banking Corporation	United Bank of Africa
Akiba Commercial Bank	CF Union Bank Ltd	
Kenya Commercial Bank Ltd	Uarafrican Bank (T) Ltd	Bank of Baroda Ltd
The Peoples Bank of Zanzibar Ltd	Savings and Finance Commercial Bank	

Source: *wwww.bot-tz.org/bankingsupervision/*

Bureax de Change Names

Exchange Centre	Change	Riki Hotel	Hedal II Sokoni
Stadium	King's	Panjatan	Lions
Motel Impala	Crown	Victoria	H. S.Amon
Nothern	Equity	Boma Forex	Sharif Alwi
Benush	Galaxy Money Changer	Toreda	Small
Camel	Galaxy	DCT	Trade
WestEast	Globax	Trast	Tristar
Change	Kai	DBK	Unique
Sanya	Kariakoo	Joshua	Waljis
Arusha Forex	King's Palace	Chase	West
Classic	Local Curency	Executive	BS (Siss)
Clock Tower	M.G.	City Exchange	Palace Hotel
Luwance	Masai	S.H. Amon II	Golden
Roika	Maxcare	Amani	Rasilimali
Pesame	Mcsoms	Alpha	Memaid
Tanganyika	Mobile	Oriental	The terminal
Al-ary	Money Link	Jamani	Dahab Shiil
City Exchange		Samora	Livingstone
Amafhh	Prudential	Riki	Worldwide
Burea de Change 2000	Rocks		Jamani
Seaside Money Changer BDC		Financial Agency	

Source: *wwww.bot-tz.org/bankingsupervision/*

Bureax de Change Operating in Zanzibar

Icon	Adams	Old Market	Ndame
Express	Eagle	Universal	Arrival
Shangani	Accurate	Darajani	El Riyami
Local Currency Shangani	New Malindi	Five Stars	New Stone town
Departure	Queens	Baghani	Hilmy
Local Currency Airport			

Source: *wwww.bot-tz.org/bankingsupervision/*