



## ADOPTION AND USE OF E-TECHNOLOGIES IN SELECTED COMMERCIAL BANKS IN UGANDA

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### Abstract

This reports the findings of the study issues concerning the adoption and use of e-technologies in selected commercial banks in Uganda. This study investigates the use of e-technologies services and research framework is based on adoption and usefulness of e-technologies to banks in Uganda. This theory survey was conducted to gather the data on adoption and use of e-technologies. Using a cross sectional survey design, the researchers found that much as most E-technologies are in place in these banks, there is still low level of adoption due to low levels of IT exposure by both bank staff and customers. The researchers thus recommend that several on the job training sessions be organized for staff and go extra mile to train customers as well.

**Key Words:** *Electronic, Bank, Technology, Security.*

### 1. Introduction

This study concerns itself with the adoption and use of electronic technologies in commercial banks in Uganda. Many banks have implemented some of these technologies and more are advancing towards the same. Dailies report that as more banks open, more crime related to technology emerge and adversely affect bank customers because their monies are take or otherwise, leaving one to wonder whether banks have done enough to serve their clients better with technology.

Liberalization brought several changes (i.e. electronic technologies) in banking industry. During pre-liberalization, one could deposit and withdraw money manually at the counters in the banking halls. Service standards were unfriendly one could grin and bear it. With post-liberalization, the tables have turned. It's a consumer oriented market paradigm. Technology is revolutionizing every field of human endeavor and activity. One of them is introduction of information technology into capital market (Barth, Nolle and Rice (1997). The internet banking is changing the banking industry and is having the major effects on banking relationship. The web has become more important for retail financial services than for many other industries.

E-Banking is becoming increasingly popular among retail banking customers. E-Banking helps in cutting costs by providing cheaper and faster ways of delivering products to customers. It also helps the customer to choose the time, place and method by which one wants to use the services and gives effect to multichannel delivery of service by the bank (Kolachi, 2006). This E-Banking is driven by twin engine of "customer-pull and Bank-push. Technology has been one of the most important factors for the development of mankind. Information and communication technology is the major advent in the field of technology which is used for access, process, storage and dissemination of information electronically. Banking industry is fast growing with the use of technology in the form of ATMs, on-line banking, Telephone banking, Mobile banking etc., plastic card is one of the banking products that cater to the needs of retail segment has seen its number grow in geometric progression in recent years. This growth has been strongly supported by the development of in the field of technology, without which this could not have been possible of course it will change our lifestyle in coming years.

Plastic money was a delicious gift to banks in market giving respite from carrying too much cash. Now several new features added to plastic money to make it more attractive. It works on formula purchase now repay later and there are different facts on plastic money. Credit card is a financial instrument, which can be used more than once to borrow money or buy products and services on credit. Banks, retail stores and other businesses generally issue these. On the basis of their credit limit, they are of different kinds like classic, gold or silver. Charged cards-these too carry almost same features as credit cards (Sathye, 1999). The fundamental difference is you cannot defer payments charged generally have higher credit limits or sometimes no credit limits. Debit cards-this card may be characterized as accountholder's mobile ATM, for this you have to have an account with any bank offering credit card. Over the years, the banking sector has seen a number of changes. Most of the banks have begun to take an innovative approach towards banking with the objective of creating more value for customers and consequently, the banks.

Taking advantages of the booming market for mobile phones and cellular services, several banks have introduced mobile banking which allows customers to perform banking transactions using their mobile phones. For instances HDFC has introduced SMS services. Mobile banking has been especially targeted at people who travel frequently and to keep track of their banking transaction (Agboola, 2004). One of the innovative schemes being introduced in rural areas was the credit card mode. It is easier for farmers to purchase important agricultural inputs. In addition to regular agricultural

loans, banks to offer several other products geared to the needs of the rural people. Private sector Banks also realized the potential in rural market. In the early 2000's banks began setting up internet kiosks in rural areas along with ATM machines to date. Such innovations come with challenges like security, literacy and administration.

Prevailing issues that require address in this study include: Bank customers country wide have lamented theft of either their cards, in the name of swapping, or their monies in the event of depositing or withdrawing from ATMs and using internet banking. This demoralizes clients and paints a bad picture of the bank in question. Corporate image is key in attracting and serving customers of any sort. Thus, this seems to imply that either customers are not well oriented or the bank has not done quite much to guarantee security of their clients' data.

Many banks have opened business (i.e. 29 commercial banks) as per Bank of Uganda annual report 2011. Almost all these banks offer services that go beyond borders of Uganda, implying mobile transaction or internet banking somehow. These services are timely in that people today leave their home countries for others to study, trade or visit all of which require money transactions at some point in time. This proposition seem to wonder whether all people are IT savvy to manipulate the technologies therein; failure of which such banks may lose money and clients at the same time.

Most banks transact in English and involve a lot of bureaucracy together with common technologies like biometric scans. Such technologies have been manipulated at the expense of client's ignorance to perform dubious acts in the bank, which has been by both insiders and outsiders. Cases of such nature may also imply legal intervention because someone's privacy may be jeopardized unknowingly or even faked to release vital information that will otherwise pin him/her (Malhorta & Singh, 2004). If these indicators are not checked in time, the cardinal role of banks, (i.e. keep and safe guard people's funds and avail them whenever required) will cease to be because people will lose trust and consequently banks will lose business, causing more fatal cases (e.g. attacks and robberies) for which banks were designed to mitigate. This study thus seeks to find out the readiness of commercial banks in adoption and use of electronic technologies in Uganda. The study sought to examine the existing electronic technologies in selected commercial banks in Uganda concentrating on adoption and usage of electronic technologies.

## 2. Literature Review

### E-Technologies

The following are some commonly used technologies in commercial banks today.

#### *Internet Banking*

The advent of the Internet and the popularity of personal computers presented both an opportunity and a challenge for the banking industry (Abor, 2005). For years, financial institutions have used powerful computer networks to automate millions of daily transactions; today, often the only paper record is the customer's receipt at the point of sale. Now that customers can connect to the internet via personal computers, banks envision similar economic advantages by adapting those same internal electronic processes to home use. Banks view online banking as a powerful value added tool to attract (Agboola, 2004) and retain new customers while helping to eliminate costly paper handling and teller interactions in an increasingly competitive banking environment.

To access a financial institution's online banking facility, a customer having personal Internet access should register with the institution for the service, and set up a password (under various names) for customer verification. Financial institutions now routinely allocate customer numbers (also under various names), whether or not customers intend to access their online banking facility. Customer numbers are normally not the same as account numbers, because a number of accounts can be linked to the one customer number. The customer will link to the customer number any of those accounts which the customer controls, which may be cheque, savings, loan, credit card and other accounts (Agboola, 2004). To access online banking, the customer would go to the financial institution's website, and enter the online banking facility using the customer number and password. Some financial institutions have set up additional security steps for access, but there is no consistency to the approach adopted.

Today, most large national banks, many regional banks and even smaller banks and credit unions offer some form of online banking, variously known as PC banking, home banking, electronic banking or Internet banking (Sathye, 1999). Those that do are sometimes referred to as "brick-to-click" banks, both to distinguish them from brick-and-mortar banks that have yet to offer online banking, as well as from online or "virtual" banks that have no physical branches or tellers whatsoever. The challenge for the banking industry has been to design this new service channel in such a way that its customers will readily learn to use and trust it. After all, banks have spent generations earning our trust; they aren't about to risk that on a Web site that is frustrating, confusing or less than secure. Most of the large banks now offer fully secure, fully functional online banking for free or for a small fee (Kolachi, 2006). Some smaller banks offer limited access or functionality; for instance, you may be able to view your account balance and history but not initiate transactions online. As more banks succeed online and more customers use their sites, fully functional online banking likely will become as commonplace as automated teller machines.

#### *Virtual Banks*

Virtual banks are banks without bricks; from the customer's perspective, they exist entirely on the Internet, where they offer pretty much the same range of services and adhere to the same federal regulations as your corner bank (Barth, Nolle and Rice, 1997). Virtual banks pass the money they save on overhead like buildings and tellers along to you in the form of higher yields, lower fees and more generous account thresholds. The major disadvantage of virtual banks revolves around ATMs. Because they have no ATM machines, virtual banks typically charge the same surcharge that your brick-and-mortar bank would if you used another bank's automated teller. Likewise, many virtual banks won't

accept deposits via ATM; one will have to either deposit the cheque by mail or transfer money from another account (Hernando & Nieto, 2005).

The following are some of the advantages of online banking: i) Convenience: Unlike your corner bank, online banking sites never close; they're available 24 hours a day, seven days a week and they're only a mouse click away; ii) Ubiquity: If you're out of state or even out of the country when a money problem arises, you can log on instantly to your online bank and take care of business, 24/7; iii) Transaction speed: Online bank sites generally execute and confirm transactions at or quicker than ATM processing speeds; iv) Efficiency: You can access and manage all of your bank accounts, including IRAs, CDs, even securities, from one secure site.

While these are some disadvantages of online banking. i) Effectiveness: Many online banking sites now offer sophisticated tools, including account aggregation, stock quotes, rate alerts and portfolio managing programs to help you manage all of your assets more effectively. Most are also compatible with money managing programs such as Quicken and Microsoft Money. Start-up may take time: In order to register for your bank's online program, you will probably have to provide ID and sign a form at a bank branch. If you and your spouse wish to view and manage your assets together online, one of you may have to sign a durable power of attorney before the bank will display all of your holdings together. Learning curve: Banking sites can be difficult to navigate at first. Plan to invest some time and/or read the tutorials in order to become comfortable in your virtual lobby (Balachandher & Rajendra, 2001). Bank site changes: Even the largest banks periodically upgrade their online programs, adding new features in unfamiliar places. In some cases, you may have to re-enter account information. The trust thing: For many people, the biggest hurdle to online banking is learning to trust it. Did my transaction go through? Did I push the transfer button once or twice? Best bet: always print the transaction receipt and keep it with your bank records until it shows up on your personal site and/or your bank statement.

### ***Electronic Fund Transfer***

Electronic funds transfer (EFT) is the electronic exchange or transfer of money from one account to another, either within a single financial institution across multiple institutions, through computer-based systems. The term covers a number of different concepts: i) Cardholder-initiated transactions, where a cardholder makes use of a card Direct ; ii) Payroll payments for a business to its employees, possibly via a bureau Direct ; iii) Payments, sometimes called electronic checks, for which a business debits the consumer's account for payment for goods or service. In the use of offline electronic money, the merchant does not need to interact with the bank before accepting money from the user. Instead merchants can collect monies spent by users and deposit them later with the bank. In principle this could be done offline, i.e. the merchant could go to the bank with his storage media to exchange e-money for cash (Malhorta & Singh, 2004). Nevertheless the merchant is guaranteed that the user's e-money will either be accepted by the bank, or the bank will be able to identify and punish the cheating user. In this way a user is prevented from spending the same funds twice. Offline e-money schemes also need to protect against cheating merchants, i.e. merchants that want to deposit money twice (and then blame the user). Blind signatures were used to achieve unlink ability between withdrawal and spend transactions. In cryptography, e-cash usually refers to anonymous e-cash. Depending on the properties of the payment transactions, one distinguishes between online and offline e-cash. A hard electronic currency is one that does not have services to dispute or reverse charges (Alzaidanin, 2003).

These technologies have registered various successes and the challenges that come therein are counter balanced with other emerging technologies like mobile banking. nonetheless, as technology proliferates, banks have to be vigilant in putting them to optimal use with keen consideration of cyber fraud and cyber laws.

## **3. Methodology**

The study employed both Qualitative and Quantitative approaches but inclined more towards quantitative paradigm. A cross sectional survey design was used. The study also was co relational in that more than one data were collected on one characteristic. This is so because the researcher wished to compare two or more characteristics from same group; explain how they vary together and predict one from the other. Co relational design was deemed worth because it provides rigorous and replicable procedure for understanding relationships; and indicates whether and to what degree a relationship exists between the quantifiable variables. This study considered all 23 commercial banks with 55 IT staff, in Uganda that have opened and run business for at least two years (BOU, 2012); using both scientific and non scientific sampling techniques-simple random and purposive respectively. The researcher ensured construct validity and factor analysis of the research tools. A content validity index of 0.74 rendered the tool to be declared reasonably construct valid. Reliability of the instruments was tested using the Cronbach Alpha and composite coefficient Methods of 0.71 for the questionnaire to be declared reasonably reliable or consistent. Cronbach alpha coefficient was preferred for internal consistence because the response modes were multiple in nature and require respondents' opinion about their study constructs. The mean and standard deviation for the assessment of the constructs.

## **4. Findings**

### ***Existing electronic technologies***

Table 4 indicates that security technologies' availability was assessed as satisfactory (3.12). This is good enough to guarantee security but there may be laxity by both users and bank administration to ensure their good use.

### ***Effect of electronic technologies on customer satisfaction***

Results indicate that user experience was assessed as satisfactory (3.41). This implies that majority of customers have suffered security threats and risks. This position seem to contradict results in table 1 in that with such technologies in place customers would have gone through such calamities. However, one cannot guarantee so since the more people become IT savvy, the more security risks related to IT emerge.

#### ***Technical mechanisms implemented to facilitate E-transactions***

Results indicate that technical mechanisms availability was assessed as very satisfactory (3.68). These results further affirm the contradiction; to the effect that all it takes to ensure security during transaction is available and in use, but one still wonders why the crime in on increase. Such security orientation seem to suggest that these risks and threats may not be caused by technology itself but other factors like behavioral orientations of staff, personal responsibility of customers among others, may be considered.

### **5. Conclusion and Recommendation**

The study thus concludes that the bank needs to do more than installing such technologies and offer training sessions for their customers; either on their mobile phones or at physical sites. The researchers thus recommend that: i) Regular security updates be provided to bank customers on their mobile phones and e-mails; and ii) Provide regular training to bank staff on IT related security cautions.

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