

## E - The Banking Sector in Sudan: Between New Opportunities and Challenges

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In recent years, the development of information technology has had a great impact on almost all areas of life. Electronic banking services have enabled the banking industry to benefit from this. E-banking is the trend of the future as it has several advantages that give banks a competitive edge over their competitors and increase consumer satisfaction through better service. A number of factors may still hinder the success of online banking services, which are a major problem for consumers and financial institutions. The purpose of this essay is to review and focus on the many benefits and services offered by e-banking in the Sudanese banking sector and the associated difficulties. Despite the many electronic banking services available in Sudan, there are many obstacles to their successful implementation. This paper used an analytical/qualitative approach to analyse this issue. Excel was used to evaluate the primary and secondary data obtained.

**Keyword:** Introduction: E-banking, the banking industry in Sudan, its opportunities and challenges, and e-banking services.

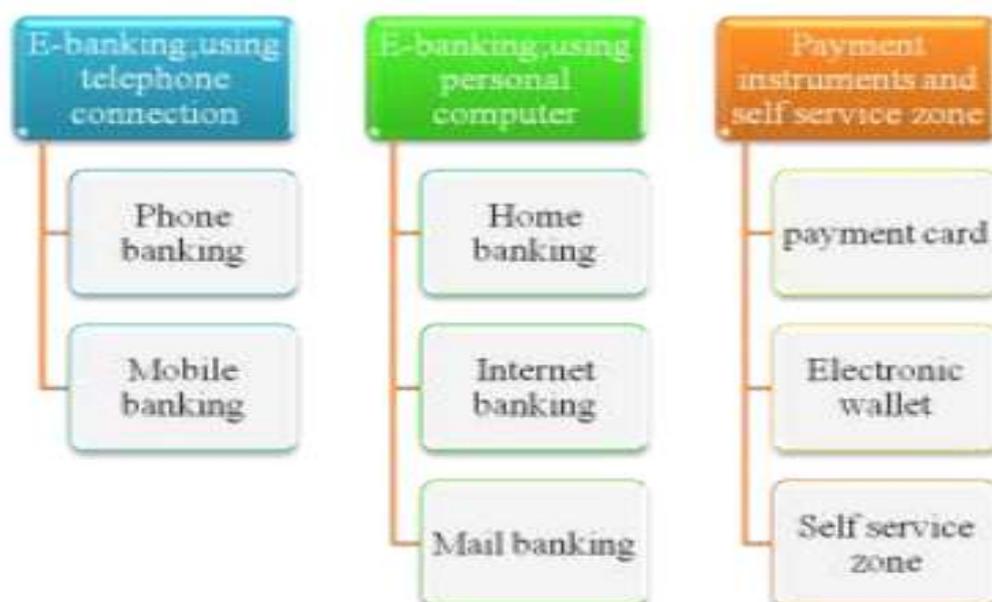
### Introduction

Global banking has undergone significant changes due to the rapid growth of information technology. Such mechanical development, which increased the provision of financial services, can be seen with the advent of electronic banking (E-banking). Internet banking is a term used to describe the electronic processing of all banking transactions, primarily online. Anyone with a computer and a web browser can access all kinds of virtual banks on their bank's website through online banking. For the online banking system, the bank uses a centralized database that can be accessed online. The menu includes all online services authorized by the bank. The next communication is determined by the type of service selected. With just one mouse click, online bank users from anywhere in the world can process money faster and more efficiently thanks to modern information technology. Banks see online banking as a valuable value-added tool to attract and retain new customers and support them by reducing their reliance on paper-based processes. communication with bank employees Thanks to online banking, customers

have the speed, efficiency, and effectiveness they need in today's fast-paced environment. Online banking is growing in popularity as more and more institutions around the world begin to offer it to their customers. However, countries like Sudan have started to give this support, although it is still far from actually implementing this new idea.

### E-banking services

Depending on the tools used, electronic banking can be broken down into the following categories: The figure below shows these instruments and their subgroups;



**Fig 1: E-banking Services**

1. Telephone connections used for electronic banking can be used for two different types of financial transactions: mobile banking and telephone banking (ATS) (SMS banking, GSM SIM Toolkit, and WAP).

Telephone banking means the provision of banking services through a regular telephone line. By calling a specific phone number, a customer of a financial institution receives important information. The customer's identity is verified based on the terms of the contract before sending the desired financial service information. A customer consultant, often also known as a telephone financier, is an employee of the bank who is qualified to provide all kinds of

information about goods and services and, after confirming that he is an authorized person, can also perform unrelated or dynamic activities. He can advise and refer clients to other banking services. Automated Telephone System an automated telephone system allows customers to use telephone buttons to select options from a menu. The service menu tree is often easy to use so selecting items does not take too long. A fax with more detailed information is sent to the customer either to the phone number reserved for him or to the number indicated by the customer. Internet Banking: Examples of mobile banking options include:

### **Mobile banking**

Short messages are delivered to the customer's mobile phone via the SMS bank. Like traditional phone banking, text messaging can be used for both passive and active activities. Thus, when a certain action is performed or requested, a text message is sent to the consumer, and the customer receives information about his account balance: The bank receives a well-planned message from the customer, processes it, and then fulfils the customer. request with a text message. b. GSM SIM Kit:

You can only use GSM SIM Toolkit on a phone compatible with this technology. With a software interface called GSM SIM Toolkit, you can change the menu of your mobile phone as you wish. This technology allows operators to modify mobile phone menus. As a result, only activated and paid features are displayed in the user menu. This technology was created in 1998. It was originally used by Radio Mobil and Expanding Bank in banking applications built with the GSM SIM Toolkit in the Czech Republic.

### **WAP or Wireless Application Protocol**

Although web pages and WAP are simplifications, they are often distinguished from each other. WAP focuses on textual content and displays its output on a small mobile phone screen unlike pages displayed on a computer screen. This is a special gateway to services provided by a company or mobile network provider. The customer must have a wireless device that supports WAP development as one of the requirements to use the assistive device. 2. Home Computers and Internet Banking: Electronic banking options for personal computers include:

### **Internet bank, Postipank and Kotipank**

Customers can manage their accounts on a computer from anywhere, including home or work, using the financial institution's home banking service. A home finance framework usually consists of two parts: software on the bank's computer and one on the client's computer. The

banking program acts as a communication server. Customer calls are answered, people are identified, data is collected, digital receipts are prepared, digital signatures are verified and information is forwarded to customers.

### **E-banking**

Online banking can be used from the office or home just like online banking, but it is not recommended for security reasons. c) Online banking:

Postipankki is another electronic banking service that allows you to contact the bank by email. The most used service is sending bills to the customer's mailbox based on a predetermined schedule. Email is not used for broader tasks.

Payment instruments and self-service areas There are other forms of electronic banking such as; self-service areas, payment cards, and electronic wallet

One of the most popular payment methods these days is a payment card, which allows authorized users to make cash payments or withdraw cash from a wide network of ATMs. A smart card corresponding to a partial card with a record of the total amount at the disposal of the user forms an electronic wallet. The savings account self-management area is an alternative workspace that is fully computerized and equipped with equipment and terminals that allow users to access various banking services. This eliminates the requirement for active and passive banking activities for bank employees.

### **Background of Electronic Banking in Sudan**

As part of its 1999-2000 Banking System Development Plan, the Central Bank of Sudan (CBOS) initiated the introduction of the latest information technology in the Sudanese banking sector. This year, Sudan used electronic banking for the first time. CBOS established the Electronic Financial Management Organization (EBS) in 1999 to oversee the development of Sudan's electronic banking sector. EBS is 30% owned by Sudatel Telecom Company, 21% by Sudanese banks, and 49% by CBOS. It was founded in 2000 and focuses on the development of banking technology, solutions, and payment frameworks. The EBS is responsible for the following six important frameworks that CBOS either promotes or prescribes:

### **Problem definition**

After the introduction of new technology in recent years, almost all banks in Sudan have gradually started to offer electronic banking services to consumers. Attempts to follow global standards may have affected the transition of the banking sector to technology. Other ideas include reducing costs, allowing foreign banks to operate in Sudan, and increasing competition between banks. Even then, despite its advantages and new features, it is believed that electronic banking is not widely used in Sudan.

The main objective of the research is an overview of the development of e-banking in Sudan, the various e-banking services and opportunities of the Sudanese banking sector, and the challenges of internet banking in Sudan. Hypothesis:

Internet banking increases the competence and vitality of the financial sector if it is well thought out and implemented. All the problems associated with Internet banking are reduced when customers accept Internet banking, are aware of its use, and are aware of the variety of electronic financial services available. About the target group of the study: Sudanese financial institutions and users of online banking services form the target group of the study.

### **Materials and methods**

The research uses logical and subjective strategies to achieve the goals of the evaluation. Excel was used to analyse the collected data. Data collection:

It is possible to combine two types of data sources: secondary and primary data. Secondary data are used to provide a preliminary understanding of the research problem; At the beginning of the research, it is necessary to find out what is already known and what new information is needed. Primary information is information that was not previously available. It aims to provide answers to specific research questions. More information:

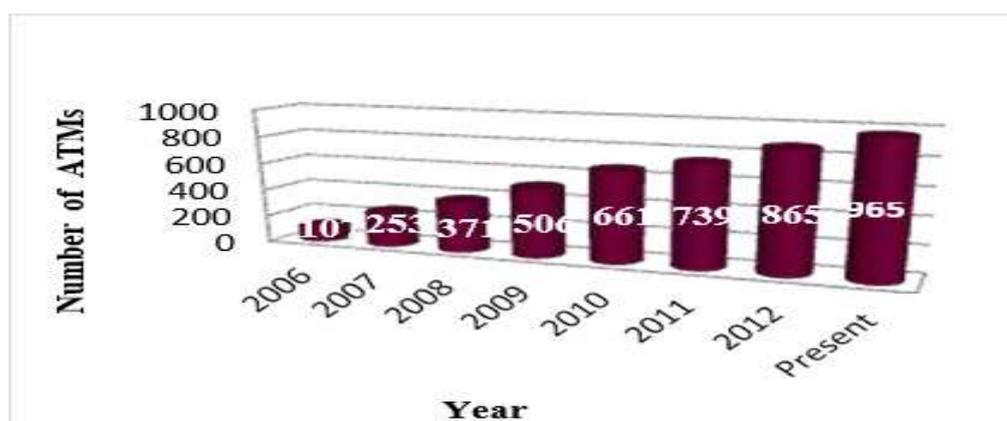
Secondary data was obtained from the internet, textbooks, newspapers, and magazines. Main Information:

Interviews with bank managers and employees responsible for the electronic channel were used to collect relevant data. Discourse:

This paper focuses on electronic banking services in the Sudanese banking sector;

- Development of electronic banking in Sudan, including new opportunities and different services provided electronically.
- Challenges caused by the adoption of electronic banking in the Sudanese banking sector.

The growth of e-banking in Sudan: In 2003, the Omdurman Central Bank launched the first e-banking ATM. Since then, there are more and more ATMs. The bar chart below shows the growth of the number of ATMs in Sudan from 2006 to today.



**Figure 2; Number of ATMs**

An explanation of ATMs;

The following are the components of an ATM:

Safe; This includes money that customers could withdraw and money that they could deposit. The safe couldn't be opened besides by approved faculty as it were.

Keyboard and small coloured screen; which customers use to communicate with the machine and send their requests. It shows in advance what to do; When there are no customers, the screen is used to promote.

Reader for smart and magnetic cards; to perform the requested operations by reading the information on the cards.

Due to an increase in the number of ATMs and their use by customers, the banking sector in Sudan has issued an increasing number of ATM cards over time. This is made clear by the number of cards issued between 2006 and the present, as shown in the chart below.

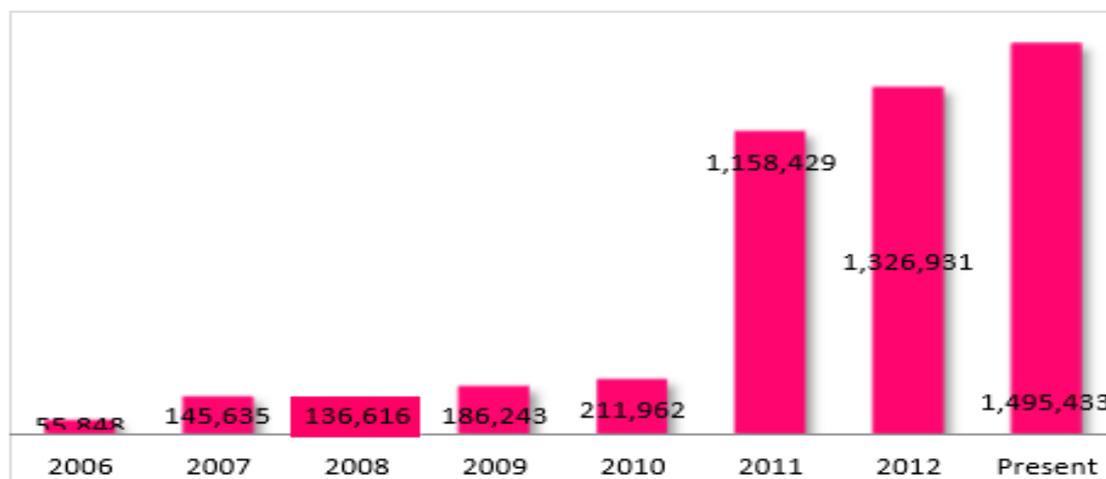


Figure 3; Number of Cards

small printer; Regarding customer information and vouchers for completed activities. Secure drawers, one for cash not processed by the machine and another for cards taken to prevent unauthorized use and abuse. Some machines are usually equipped with cameras to show who is using them for security reasons. By connecting machines via a network, each bank (Switch) or a specific bank can organize, enable or disable machine-based operations. Services provided by ATMs in Sudan; Currently, Only Faisal Islamic Bank ATM services include the ability to deposit cash, check balances, access micro accounts, change PINs, transfer money between accounts, pay bills, buy prepaid recharge cards for energy and mobile phones, and withdraw cash. Sudanese banks started utilizing electronic banking more often over time. Nowadays, banks in Sudan provide electronic banking services via ATMs, the Internet, and EPOS (Electronic Point of Sale). Moreover, mobile banking is the newest feature provided by Sudanese banks (M-bank). As a result of the widespread usage of mobile phones, especially in developing nations, it is one of the most recent strategies for developing information and communication technology (ICT) financial services. According to the Central Bank of Sudan (CBOS), only two of the 37 banks in Sudan offer mobile banking services. Therefore; Over the next few years, this service is expected to gradually spread throughout the banking sector in Sudan. Despite many channels, there are still obstacles to the adoption and successful implementation of electronic banking.

## **Problems with electronic banking in Sudan**

There are many barriers and factors affecting the success of internet banking in Sudan. These issues fall into two categories: challenges faced by the banking industry in addition to customer-generated issues – specifically, customer acceptance and willingness to use banking technologies. from a banking perspective;

The following barriers may hinder the successful implementation of e-banking in the Sudanese banking sector:

**Costs:** Acquiring and maintaining new information technology costs a lot. Because networks are expensive to set up and pay for, few access them even when computers are available. **Standardization:** Another problem facing financial institutions is hardware standardization. The Tieto superhighway directed the import of various IT brands from the financial institution. Technologists reveal that the imported development should work in a cool, dust-free environment with good maintenance support. Such conditions may not always exist in Sudan. **Illiteracy:** a major obstacle to the effective use of information technology in banks is illiteracy. In addition, information and communication education is of low quality. The problem of information availability and movement will not be solved until physical equipment and human skills and abilities are combined. **Infrastructure:** Lack of infrastructure remains a major barrier to ICT diffusion in financial institutions. Power outages and phone line failures are common. **Security:** In connection with the provision of services based on cutting-edge technology, the primary operational risks associated with electronic banking are security and system availability. Because security threats can come from both inside and outside the system, bank regulators and supervisors must ensure that banks have the right procedures in place to ensure system integrity and data confidentiality. External experts should regularly test and evaluate banks' security procedures to assess network vulnerability and resilience.

**Customer or customer perspective:** Bank customers have long been used to dealing with banks in a traditional banking way. As customers now expect to do business electronically, banking services have changed with the introduction of electronic banking. Customers may not be compelled to adopt a new financial innovation because of the added burden and uncertainty of communication. Therefore, adopting the technology should not be considered an easy choice at first. However, as a result of technological development, customers may encounter the following problems:

Anxiety and stress; are due to the use of information technology or ignorance of how to solve the problems of new technology. Cost: Learning new innovations is expensive, especially in a developing country like Sudan, where costs are likely to change the game. Security; When using an electronic channel, many customers worry that personal information may be stolen. Implementation of the Innovation Recognition Model (CAP) in the Sudanese financial sector:

In 1989, Davis made a model called the Innovation Recognition Model (hat); From an information systems theory perspective, it is a model of how users accept and use technology. According to the model, several variables can influence customers' choices about how and when they use another innovation. The model has four variables: how much a person consciously planned to perform a certain type of behaviour in the future or not." It successfully investigated behavioral intentions. Consider perceived trust, perceived risk, and perceived ease of use.

The below figure clarifies the Technology Acceptance Model;



### 1. PU or perceived usefulness

One of the core concepts of the Technology Acceptance Model is perceived usefulness (PU), which is defined as "the extent to which a person feels that the usage of a certain technology would boost his work performance" (TAM). PU is one of the most significant constructions. In Cap, PU is a crucial component that may be used to assess whether the customer understands the IS. Customers' expectations that e-banking will increase their access to banking services are the source of perceived value when this idea is applied to the adoption of e-banking in Sudan. This is demonstrated by the fact that many users of ATMs believed it was simpler to withdraw cash from an ATM than it was to visit a bank and wait in line. There are still not

many people who have this viewpoint about other online banking services. On the other side, a lot of individuals nowadays think that connecting with others online and speaking with them electronically would be beneficial in a variety of ways.

## **2. PEOS or perception of ease of use**

In the context of online banking, perceived ease of use (PEOU) is described as "the level of convenience associated with utilizing the system." Users are encouraged to adopt and employ new systems as a result, giving this leverage to shape favourable opinions. PEOU is regarded as straightforward and user-friendly e-banking. Many Sudanese still find it difficult to use electronic channels because they lack knowledge about e-banking and computer usage. The Mushroom Faith (PT)

Confidence is frequently defined as the conviction that someone or something is dependable, outstanding, authentic, viable, etc. Customers from Sudan don't trust internet transactions because they don't trust security and money. 4. PR: Risk is about intentional commitment to uncertainty. General risk identified. Randomization is a term that refers to people's emotional assessment of the seriousness of a bet. Sudanese customers are at risk when shopping online because there is no physical exchange, which affects the use of Internet technology. Therefore, many customers who do their financial transactions manually find it difficult to switch to an electronic channel and follow it, because they consider it less secure and riskier. For example, they believe that online banking transactions often fail, ATMs often fail, and that personal and financial information is not kept private or confidential.

## **Conclusion/recommendations**

Electronic banking services are very beneficial for both customers and the banking industry. Although this service has been implemented in Sudan, banks and their customers still face several challenges. This study investigated the challenges faced by various electronic financial management institutions in the Sudanese financial sector. In conclusion, the following suggestions could be made to encourage customers to do business electronically and to make the electronic banking channel more efficient: - Proper maintenance is needed so that the banking system does not collapse completely. As a result, important customer and banking information may be lost. - Customers should not have difficulties using the internet bank in terms of adaptability, accessibility, understanding, and ease of use.

The success of online banking depends only on a better internet connection. Therefore, the government must take a big part in creating the necessary infrastructure to promote electronic banking. This requires the availability of the latest means of communication and information and a constant supply of electricity. Both customers and the banking industry are serious about electronic security. Online banking services can be made more secure by taking a few steps, such as installing encrypted software, implementing a card control system, changing passwords routinely, studying test questions, and choosing a mixed password (e.g. alphanumeric). Last but not least, educational campaigns on the benefits of e-banking can help Sudanese banks better market their banking services to current and prospective customers.

## References

- 1) Alam, Nafis; Magboul, Ibrahim Hussien Musa; Raman, Murali, 2010, Challenges Faced by Sudanese Banks in Implementing Online Banking: Bankers' Perception.
- 2) Almobark, Miada Mohamed ,2013, An Experimental Study of E-Banking service channel with reference to mobile Banking in Sudan, repository.sustech.edu/jspui/handle/123456789/1935
- 3) Basel Committee on Banking Supervision, 2003, Risk Management Principles for Electronic Banking.
- 4) Dr. Ilham Hassan F. Mansour, Dr. Abuzar M. A. Eljelly, Dr. Abdelgadir M. A. Abdalla, 2014, [www.researchgate.net/publication/268747607\\_Consumer\\_s](http://www.researchgate.net/publication/268747607_Consumer_s)
- 5) Dr. Saritabahl, 2012, E-banking: Challenges & Policy Implications, [www.researchmanuscripts.com/isociety2012/65.pdf](http://www.researchmanuscripts.com/isociety2012/65.pdf)
- 6) Ing. Adriana Chovano, 2006, Forms of Electronic Banking, [www.nbs.sk/\\_img/Documents/BIATEC/BIA06\\_06/22\\_25.pdf](http://www.nbs.sk/_img/Documents/BIATEC/BIA06_06/22_25.pdf)
- 7) Jayshree Caavan, 2013, Internet Banking- Benefits and Challenges In an Emerging Economy, [www.impactjournals.us/download.php?fname=--1371887005-3](http://www.impactjournals.us/download.php?fname=--1371887005-3)
- 8) Jun Wu, 2005, Factors that influence the adoption of internet banking by South Africans in the Ethekweni metropolitan region, [ir.dut.ac.za/handle/10321/114](http://ir.dut.ac.za/handle/10321/114)
- 9) Mohamed A. Ismail, Mohammed A. Y. Osman, 2012, Factors Influencing the

- Adoption of E-banking in Sudan: Perceptions of Retail Banking Clients, [citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.299.3706](http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.299.3706)
- 10) Mustafa Hassan Mohammad Adam, 2013, Electronic Banking Problems and Opportunities: The Sudanese Context, [www.iiste.org/Journals/index.php/EJBM/article/download/](http://www.iiste.org/Journals/index.php/EJBM/article/download/).
  - 11) Nancy George Karma, Dr. Siddig Ballal Ibrahim, Dr. Abdel Hafiez Ali, 2014, Key Factors Affecting Mobile Banking Adoption Among Banks Customers In Sudan.
  - 12) Nikolai Partnov, 2013, Thibault Estier, E-Commerce Applications Evolution Issues: the case of E-Banking, [ceur-ws.org/Vol-456/paper5.pdf](http://ceur-ws.org/Vol-456/paper5.pdf)
  - 13) R. A. Gbadeyan, O.O. Akinyosoye, 2011, Customers' Preference for E – banking Services: A Case Study of Selected Banks In Sierra Leone, [www.ajbmr.com/articlepdf/ajbmr01n0412.pdf](http://www.ajbmr.com/articlepdf/ajbmr01n0412.pdf)
  - 14) Shilpan Vyas, 2012, Impact of E-Banking on Traditional Banking Services, <http://www.ijcscn.com/Documents/Volumes/vol2issue3/ijcscn2012020303.pdf>.
  - 15) Winfred Ofoe Larkotey, Ed. Danso Ansong, Dominic Damoah, Ebenezer Laryea, 2012, Attitudes of Customers toward the use of ATMs in Sub Saharan Africa: A Case Study of Ghana, [www.irjcsea.org/vol1issue3/paper25.pdf](http://www.irjcsea.org/vol1issue3/paper25.pdf)