

The Role of Internet Banking In Nigeria Banking Sector

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Abstract- Despite the presence of many banks, long queues of customers waiting to pay in or withdraw cash are still a common sight in banking halls. These factor contributes to customers frustrations in the banking sector. The problems does not only limit to the customers but also to the staffs, because he/she has to attend to many customers and balance the account, after work ours they have the bulky work of putting every transactions in order, and this most times leads to leaving office late at night, constituting other security risk. This paper presents the benefits of internet banking in the banking industries, this new technology enables people to bank from their home or offices at their comfort zone. These are done online, either from a home or office computer or our Web-enabled smartphone.

Keywords: Banking, Internet, smart, code

1.1 Introduction

Online banking is simply a way to access and manage your bank, mortgage, credit card, loan or other account information via the Internet instead of visiting the bank in person or using the telephone.

Most banks, credit unions, credit card companies, mortgage companies, and other financial institutions now offer online banking, which allows you to use a computer with an Internet connection to:

- View balances in real-time
- View and search transactions
- Download monthly statements
- Transfer money between accounts
- Set up electronic bill pay

To access a financial institution's online banking facility, a customer with internet access would need to register with the institution for the service, and set up a password and other credentials for customer verification.

Whether a person can make or receive Faster Payments will always depend on whether the payment is within a bank's limits for sending faster payments and whether both accounts involved are set

up to send or receive them. If speed of your payment is important you should check with your bank.



Fig1.1 a long queue in the banking hall

1.2 Purpose of Study

Customers pass through stress every day when it comes to financial transactions, for example, to pay in money to someone's account require you go to your bank join the long queue outside the banking hall, which may sometimes It took you about 15 minutes to get inside the bank, where the real waiting will actually begin. Most times the crowd inside the bank is always intimidating, but you have to endure to withdraw the money, after the withdrawer you need to Trans to the persons bank with the risk involved in it.

Many other people go through the same time-wasting process on a daily basis, especially in densely populated urban Nigerian Cities.

1.3 Tools for Online banking

There are various varieties of online banking tools, including automatic savings, transfers between accounts, bill pay, and more. On your first log in, you'll want to take the time to familiarize with these features, and which ones would benefit you the most. Features vary, so if you don't see what you're looking for, you can also contact your bank for information.

Many offer live chat with a customer service representative online, but you can also contact them by phone for more information.

For system interactions, many app and mobile website designers start by looking at the desktop Web interface pattern: a form with drop-down menus. Here is a common pattern for one account to another transfers (i.e. transfers between two of your own accounts, such as current and savings):

From Account:

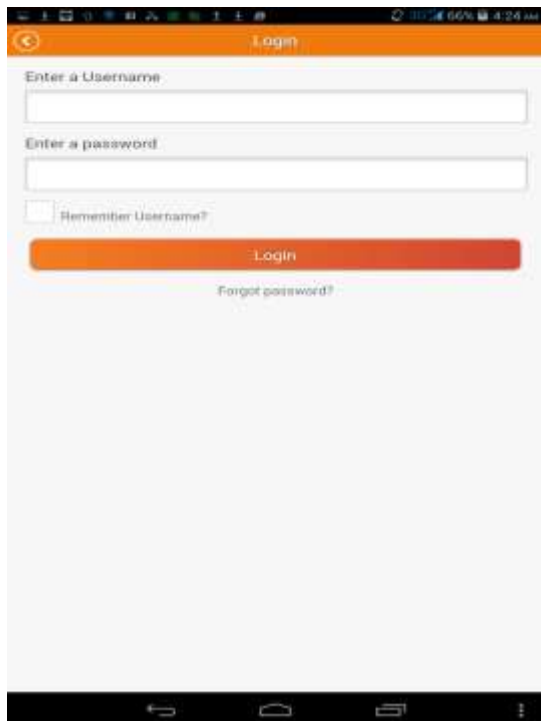
To Account:

Amount:

Description:

Fig 1.2 Design view of online banking application

2.1 How it works



Online banking facilities typically have many features and capabilities in common, but also have some that are application specific.

Fig 2.1 Login page of access bank mobile app

The common features fall broadly into several categories:

- A bank customer can perform non-transactional tasks through online banking, including
 - o Viewing account balances
 - o Viewing recent transactions
 - o Downloading bank statements, for example in PDF format
 - o Viewing images of paid cheques
 - o Ordering cheque books
 - o Download periodic account statements
 - o Downloading applications for M-banking, E-banking etc.
- Bank customers can transact banking tasks through online banking, including -
 - o Funds transfers between the customer's linked accounts
 - o Paying third parties, including bill payments (see, e.g., BPAY) and third party fund transfers (see, e.g., FAST)
 - o Investment purchase or sale
 - o Loan applications and transactions, such as repayments of enrollments
 - o Credit card applications
 - o Register utility billers and make bill payments

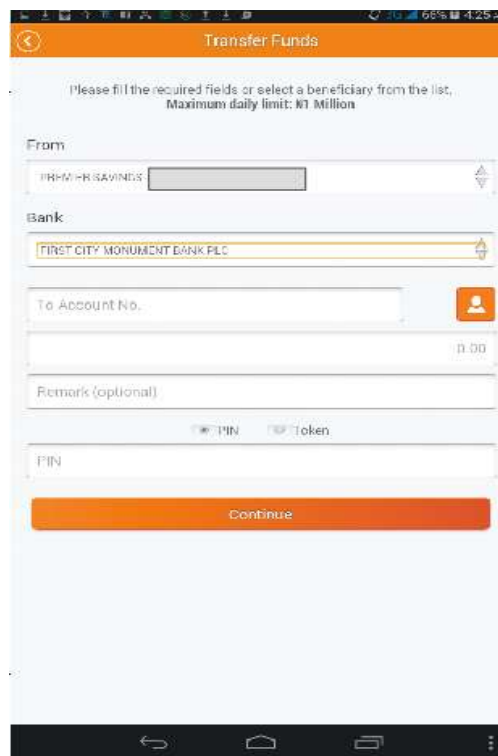


Fig 2.2 capture of access bank mobile app cash transfer page

- Financial institution administration
- Management of multiple users having varying levels of authority
- Transaction approval process



Fig 2.3 snapshot of access bank mobile app billing page

Some financial institutions offer special internet banking services, for example:

- Personal financial management support, such as importing data into personal accounting software. Some online banking platforms support account aggregation to allow the customers to monitor all of their accounts in one place whether they are with their main bank or with other institutions.

Benefits of online banking:

- Convenience

Direct banks are open for business anywhere there is an internet connection. Other than times when website maintenance is being done, they are open 24 hours a day, 365 days a year. If internet service is not available, customer service is normally provided around the clock via telephone. Real-time account balances and information are available at the touch of a few buttons. This makes banking faster, easier, more efficient and even more effective because consumers are able to always stay on top of their account balances.

Updating and maintaining a direct account is also easier. It takes only minutes to change your mailing address, order additional checks and check for current interest rates.

- Better Rates

The lack of significant infrastructure and overhead costs allow direct banks to pay higher interest rates on savings and charge lower mortgage and loan rates.

Some offer high-yield checking accounts, high-yield CDs and no-penalty CDs for early withdrawal. Some accounts can be opened with no minimum deposits and carry no minimum balance or service fees.

Services

Direct banks typically have more robust websites that offer a comprehensive set of features that may not be found on the websites of traditional banks. These include functional budgeting and forecasting tools, financial planning capabilities, investment analysis tools, loan calculators and equity trading platforms. They also offer free online bill paying, online tax forms and tax preparation.

- Mobility

Online banking now includes mobile capabilities. New applications are continually being created to expand and improve this capability on smartphones and other mobile devices.

- Transfers

Accounts can be automatically funded from a traditional bank account via electronic transfer. Most direct banks offer unlimited transfers at no cost, including those destined for outside financial institutions. They will also accept direct deposits and withdrawals that you authorize, such as payroll deposits and automatic bill payment.

- Ease of Use

Online accounts are easy to set up and require no more information than a traditional bank account. Many offer the option of inputting your data online or downloading the forms and mailing them in. If you run into a problem, you have the option of calling or emailing the bank directly. One advantage of using online checks is that the payee's information is retained, which eliminates having to reenter information on subsequent checks to the same payee.

Online banking is also environmentally friendly. Electronic transmissions require no paper, reduce vehicle traffic and are virtually pollution-free. They also eliminate the need for buildings and office equipment.

- Security

Financial information is sensitive so, Security of a customer's financial information is very important, without which online banking could not operate. Similarly the reputational risks to the banks themselves are important.[5] Financial institutions have set up various security processes to reduce the

risk of unauthorized online access to a customer's records, but there is no consistency to the various approaches adopted.

The use of a secure website has been almost universally embraced.

Though single password authentication is still in use, it by itself is not considered secure enough for online banking in some countries. Basically there are two different security methods in use for online banking:

- The PIN/TAN system where the PIN represents a password, used for the login and TANs representing one-time passwords to authenticate transactions. TANs can be distributed in different ways, the most popular one is to send a list of TANs to the online banking user by postal letter. Another way of using TANs is to generate them by need using a security token. These token generated TANs depend on the time and a unique secret, stored in the security token (two-factor authentication or 2FA).

More advanced TAN generators (chipTAN) also include the transaction data into the TAN generation process after displaying it on their own screen to allow the user to discover man-in-the-middle attacks carried out by Trojans trying to secretly manipulate the transaction data in the background of the PC.

Another way to provide TANs to an online banking user is to send the TAN of the current bank transaction to the user's (GSM) mobile phone via SMS. The SMS text usually quotes the transaction amount and details, the TAN is only valid for a short period of time. Especially in Germany, Austria and the Netherlands many banks have adopted this "SMS TAN" service.

Usually online banking with PIN/TAN is done via a web browser using SSL secured connections, so that there is no additional encryption needed.

- Signature based online banking where all transactions are signed and encrypted digitally. The Keys for the signature generation and encryption can be stored on smartcards or any memory medium, depending on the concrete implementation.

3.1 Attacks

Attacks on online banking used today are based on deceiving the user to steal login data and valid TANs. Two well-known examples for those attacks are phishing and pharming. Cross-site scripting and keylogger/Trojan horses can also be used to steal login information.

A method to attack signature based online banking methods is to manipulate the used software in a way, that correct transactions are shown on the screen and faked transactions are signed in the background.

Internet banking may be easy and convenient, but you need to be conscious of security. Anybody with your authentication details can access your bank account. That is why your Internet banking details is a major target in identity theft schemes. So, the key to Internet banking security is protecting your authentication information as well as making sure you access your internet banking platform from a secure and clean computer connected to a secure network. Ensure that you have the following in mind when using internet banking.

- Do not visit your Internet banking platform from an e-mail

Once in a while, you will receive an e-mail, claiming to be from your bank, with a link to your Internet banking platform. The e-mail may claim that there is a problem with your account and requesting you to login to your Internet banking account to clarify issues. It may even claim you have a huge deposit into your account and that you need to login to view it.

The catch here is that the link to your Internet banking platform provided on this e-mail is fake. The fraudster will design a website that looks like your Internet banking platform. If you fall for this scam and click on the link you will be taken to the fake website. If you enter your Internet banking login details, it will be captured by the fraudster and used to login to your real Internet banking platform.

To login to your Internet banking platform, visit your bank's official website and look for Internet or Online banking login link, click on this link to visit the Internet banking login page. Bookmark this page to make it easily accessible next time around. If you use Google Chrome browser, you can create an application shortcut for your Internet banking platform.

- Make sure the Internet banking site is secure

The web address of an Internet banking website should start with https:// (not http://). It must be Secured Socket Layer (SSL). Look for the padlock image that indicates a secure site. Each browser displays the security padlock sign in different locations. SSL encrypts the interaction between your browser (you) and your Internet banking platform, ensuring that the interaction between the two can not

be easily understood/read if intercepted by fraudsters. So don't login from the site that is not https.

- Get a Security token and keep it safe

A security token is a device that enable you authenticate yourself electronically during Internet banking transactions. A Security token adds a second layer of security, giving you more protection. If you are using Internet banking security token, a fraudster will also require your security token in addition to your PIN to access sensitive transactions on your Internet banking site.

That means that once you keep your security token safe from prying eyes, your Internet banking account will be safe from most threats. An Internet banking Security token will also enable you handle more of your banking needs online. So get one from your bank, it does not cost much.

- Connect to Internet banking from a secure computer

Make sure the computer you are using to access Internet banking services is secure. Follow simple internet security tips to prevent Internet banking fraud. Ensure you have the latest version of your operating system installed. Enable automatic update to ensure that your OS is up to date.

Make sure you have the latest anti-virus software and firewall installed. These will improve your Internet banking security. Internet banking requires a secure computer, an anti-virus will detect and prevent malware from infiltrating your computer, which gives you improved security.

There are some software's you can use that will enhances your browser security.

- Connect to Internet banking from a secure Network

Never access Internet banking services that involves logging into your Internet banking platform in a cyber cafe. Note that some Wi-Fi connections are just like cyber cafes. So do not access Internet banking services from an open non-secure Wi-Fi hotspot.

If you do not know the business responsible for maintaining the Wi-Fi hotspot, do not access Internet banking services from it. Access Internet banking services only from a Wi-Fi hotspot maintained by reputable organizations.

Do not access via those maintained by cyber cafes as cyber cafes are den of fraudsters and some of them are even owned by fraudsters. Internet services from

cellular networks (GSM/CDMA) are okay for your Internet banking transactions.

Armed with these tips, you should be able enjoy the convenience of online banking without risking catastrophic loss of your funds.

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