

Impact Assessment of Electronic Wallets (E-Wallets) as a Veritable Tool of Transfer and Online Payments System in Nigeria

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25

Abstract: The study presents an impact assessment of Electronic- Wallets (E-wallets) as a veritable tool of transfer and online payments in Nigeria. The primary objectives of this study is to assess the impact of E-wallets as a means of payment in Nigerian, ascertain the challenges for effective implementation of E-wallet as a means of payment in Nigerian financial system, determine factors that enhances the implementation of E-wallet as a means of making online payment and transfer in Nigeria. The researchers used both primary and secondary data. The Taro Yamane's statistical formular was used to determine the sample size. The population of this study is 127 while the sample size is 109. The analyses of data were done using simple distribution table of frequency and percentages. The study reveals that E-wallets have great impact as a means of online payment and transfer in Nigeria. The research study also brought to lime light some challenges affecting the effective implementation of E-wallets as a means of online payment in Nigerian such as negative mind set of people, integrity, confidentiality and reliability. It was recommended that government and stakeholders should encourage the utilization of e-wallets as a means of financial transaction in Nigeria, increase ICT literacy, as well as development of local internet -based content. Embark on Massive education on the need for the use of e-wallets options as a means of financial transaction in the Nigerian financial system.

Key words: Electronic wallets, financial system, online transfer, Taro Yamane, online payment.

1.1 Introduction:

With the overcoming of barter in the history of mankind, financial transfer usually involve the exchange of goods and services with an equivalent abstract value such as money. Different monetary system has been evolving ever since money was invented as an abstract way of representing value, many systems for making payments have been in place. In the course of time, new and increasingly abstract representations of value were introduced. A corresponding progression of value transfer systems, starting from barter, through bank notes, payment orders, cheques and later credit cards, has finally culminated in electronic payment systems (Akingbola, 2006)

Okochukwu, (2010) observes that today's banking industry has moved into an era of menu-driven ultra robust specialized software programmes called banking applications. These applications can carry out virtually all banking functions relying heavily on information collection, storage, and transfer and processing. The application of electronic banking products/services to banking operations have become a subject of fundamental importance and concern to all banks operating within Nigeria and indeed a condition for local and global competitiveness.

Digital wallet/E-wallets refer to an electronic device that allows an individual to make electronic commerce transactions. This can include purchasing items on-line with a computer or using a Smartphone to purchase something at a store. Al-Smadi, and Al-wabel (2011) defines electronic banking as the conduct of banking business electronically which involves the use of information communication technology to drive banking

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business for immediate and future goals. Daniel (2013) describes e-banking as the provision of banking services to customers through internet technology. According to Basel Committee on Banking Supervision (2003), *electronic banking* is defined to include the provision of retail and small value banking products and services through electronic channels as well as a large value electronic payment and other wholesale banking services delivered electronically. Though, Sullivan, (2013) expressed that the definition of electronic banking varies among researchers partially because electronic banking refers to several types of services through which bank customers can request information and carry out banking services..

1.2 Statements of the Problems

E-banking was adopted by banks so as to improve their service delivery, decongest queues in the banking hall, enable customers withdraw cash 24/7, aid international payment and remittance, track personal banking transaction, request for online statement, or even transfer deposit to a third party's account. E-wallet or digital wallet is a new payment option by e-commerce players. E- Wallet is a complete new technology. Till date, not many are aware about the benefits of e-wallet/digital wallet. People who are already comfortable with old payment methods need to be convinced to use this alternative form of payment. In order to convince people, the benefits of e-wallet/digital-wallet must be explained. The problem of this study therefore, is the impact assessment of e-wallets as a variable tool for making online payments and transfer in Nigeria.

1.3 Objectives of the Study

The broad objective of this study remains an impact assessment of E-wallets as a veritable means for making online payment and transfer in Nigeria. While the specific objectives include to;

1. Determine the impact of E-wallets adoption as a means of online payment in Nigerian.
2. Ascertain the challenges of effective implementation of E-wallet as a means of online payment in Nigerian..
3. Determine the benefits of E-wallets as a means of online payment and transfer in Nigeria.

1.4 Research Questions

1. What are the impacts of the adoption of E-wallet as a means of online payment in Nigerian?
2. What are the challenges affecting the effective implementation of E-wallet as a means of online payment in Nigerian?
3. What are the benefits of E-wallets payment system as a means of online payment and transfer in Nigeria?

2.0 Review of Related Literature

2.1 Conceptual framework

E-wallet/digital wallets

An e-wallet is a software platform that individuals can employ in order to access and store online shopping information. E-wallets are accessible through smartphones such as iPhones and blackberrys.

E-wallets explained

E-wallets enable users to carry out financial transactions through an internet platform. This online method is considerably popular amongst business professionals as well as online shoppers as it provides users with a safe and secure method of making online payments. Additionally, this software enables users to avoid carrying large sums of cash around with them; they are able to pay for goods and services through an online portal. Most large technological companies have introduced e-wallet software to their customers, including Apple, Google and Microsoft. Moreover, e-wallets are very useful to users that want to make worldwide online transactions. Worldwide access, e-wallets are an excellent tool to facilitate online payments. E-wallets allow users to keep track of their payments as they save digital receipts which can later be printed off for the user's records. There are numerous advantages of using e-wallets, ranging from increased security to ease of access for conducting online payments. Due to the number of companies employing the use of e-wallets for customer payment transactions, it is advised that customers learn about the uses and restrictions of using e-wallets.

E-wallet: Hu, Tim. and Bentler (1999), refers to E-wallets an electronic device that allows an individual to make electronic commerce transactions. These can include; purchasing items online with PC personal computer or using a smart phone to purchase goods at a store.

Digital Wallet: A digital wallet is a system that securely stores user's payment information and passwords for numerous payments methods and websites. By using a digital wallet, users can complete purchases easily and quickly with near field communication technology. They can also create stronger passwords without worrying about whether they will be able to remember them later. Digital wallets can be used in conjunction with mobile payments systems that allows customers to pay for purchases with their smart phones. They can also be used to store loyalty cards information and digital coupons (Investopedia 2015). Increasingly, digital wallets are being made not just for basic financial transaction but to also authenticate the holder's credentials. For example, a digital wallet could potentially verify the age of a buyer to the store while purchasing alcohol "Digital wallets" is not a singular technology but has three major parts.

- The system (the electronic infrastructure),
- the application (the software that operates on top)
- And the device (the individual portion).

2.2 The Unique Features of E-wallets

E-wallet may be used to:

- Link multiple bank and prepared card accounts to your primary e-wallet.
- Transfer your commission payout/payroll to other bank accounts, including the ability to ACH or wire transfer fund domestically, or wire transfer funds to your bank account outside the US (strick ID requirements).
- Write a cheque or multiple cheques to pay bills, or to anyone else.
- instantly send money to anyone having an e-wallet using their email address and instantly receive money from other e-wallet holders.
- Transfer funds to or between prepaid cards (VISA, MasterCard, DISCOVER), that can be used at millions of retails and ATM locations worldwide with password protected statement.

2.2.1 Functions of E-wallet

The electronic wallet (E-wallet) provides all of the functions of today's wallet on one convenient smart card eliminating the need for several cards. E-Wallet also provides numerous security features not available to regular wallet carriers. Identification is required for every credit card transaction and the card is equipped with a disabling device if the card should be tampered with. Electronic-Wallet is a digital wallet (also known as E-wallet) which allows users to make electronic commerce transactions quickly and securely (Esezobor 2010). Electronic wallets being very useful for frequent online shoppers are commercially available for pocket, palm-sized, handheld, and desktop PCs. They offer a secure, convenient, and portable tool for online shopping. They store personal and financial information such as credit cards, passwords, PINs, and much more. According to Tobin (1956), E-wallet is an electronic wallet for most important personal information (credit cards, calling cards, passwords, PINs, account numbers and more). So like a real wallet; E-wallet keeps information in cards. Several related pieces of information for example, a username, a password and a URL. Also to personalize cards with icons, colours, and on some platforms, pictures. To help keep cards organized, the cards created are stored in categories. Wallet files can have many different categories, and can be put in any kind of card in any category. In addition, categories can be nested as well, allowing placing categories within categories.

Different Wallets as per need can be created, and different information in each wallet can be stored. For example, a personal wallet file for our own cards and an office wallet file that we share with an assistant or other members of our team. For example, we might want to place copies of the same cards in different files as appropriate and, we might want our business credit card listed in both of our wallet files for extra convenience. To facilitate the credit-card order process, many companies are introducing electronic wallet services. E-wallets allow us to keep track of our billing and shipping information so that it can be entered with one click at

participating merchants' sites. E-wallets can also store e-checks, e-cash and our credit-card information for multiple cards. A popular example of an E-wallet on the market is Microsoft Wallet. To obtain Microsoft Wallet, one needs to set up a Microsoft Passport. After establishing a Passport, a Microsoft E-wallet can be established.

CGAPE (2010), states that e-wallets can be used for micro-payments. They also eliminate re-entering personal information on the forms, resulting in higher speed and efficiency for online shoppers. Microsoft Passport consists of several services including, a single sign-in, and wallet and kids passport services. A single sign-in service allows the customer to use a single name and password at a growing number of participating commerce sites. The shopper can use e-wallet to make fast online purchases. Kid's passport service helps protect and control children's online privacy. We should protect our wallet file with a password. With a password protected wallet we must enter the wallet's password before we can see the information on any of the cards in that wallet. Anyone can open a wallet that does not use a password so we should set a password for a wallet that contains personal information. Dias, Denise, and Katharine (2010)

2.3 What is a Wallet?

A wallet is a small software program used for online purchase transactions. Starting with e-wallet when we set up an E-wallet for the first time, we are prompted to create a new wallet file to store our information in. When we are ready to add our own information, we can add new categories and cards to wallet and organize the information in a way that fits our needs.

E-wallet security

E-wallet protects your wallet information in two ways:

- By requiring a password before displaying any cards in a password protected wallet.
- By encrypting (making unintelligible) the information in cards in password protected wallets in the wallet file. This means that the information in the file is translated into a secret code so that it cannot be read by any other program.

Backup

For extra safety, we are encouraged to take backups of our E-wallet files (as well as all of our important information). The easiest way to do this is using the Automatic Backup feature available on Windows PC. On this platform, E-wallet will automatically make a backup of our wallet file each time we close E-wallet.

2.4 Technology of e-wallet

Joe (1952) observed that a digital wallet has both a software and information component. The software provides security and encryption for the personal information and for the actual transaction. Typically, digital wallets are stored on the client side and are easily self-maintained and fully compatible with most e-commerce web sites. A server-side digital wallet, also known as a thin wallet, is one that an organization creates for and maintains on its servers. Server-side digital wallets are gaining popularity among major retailers due to the security, efficiency, and added utility it provides to the end-user, which increases their enjoyment of their online purchases. The information component is basically a database of user-inputted information. This information consists of shipping address, billing address, payment methods (including credit card numbers, expiry dates, and security numbers), and other information. The key point to take from digital wallets is that they're composed of both digital wallet devices and digital wallet systems. There are dedicated digital wallet devices such as the biometric wallet by Dunhill, where it's a physical device holding someone's cash and cards along with a Bluetooth mobile connection. According to Joe (1952)

2.5 Benefits of E-Wallet

1. Send and receive payments anywhere in the world.
2. Unlimited transfers.
3. Easy recurring payments and transfer.

4. Manage our account from our mobile phone.
5. World Ventures-branded prepaid MasterCard available.
6. Security for our bank account and credit card numbers.
7. Email or SMS notifications after transactions
8. Being in complete control.
9. Access commissions faster.
10. Pull money into E-wallet from any bank account.
11. Receive wired funds/transfers directly into our E-wallet.
12. Pay into any bank account worldwide.
13. Transfer money from E-wallet to E-wallet without sharing personal account numbers
14. Request paper commissions checks.
15. Lower Costs: Employing the use of digital wallets removes the need for intermediaries, in a variety of forms. Purchases in-store may no longer require a cashier because the purchasing process becomes as simple as a tap or scan of a mobile device. Applications like Square can replace expensive POS (point of sale) systems that will reduce transaction costs for the business.
16. Competitive Advantage: Digital wallet applications provide a more convenient transaction processing method for customers, giving businesses that employ this technology a competitive edge in the market. It redefines the user experience of paying and incorporates a novelty aspect to each purchase.
17. Modern: Traditional cash-only businesses, such as craft fairs and flea markets, can now accept debit and credit cards. This opens up an entirely new aspect to payment methods in large markets, introducing many business opportunities and greater potential revenue.
18. Convenience: Users are able to get through a purchase in mere seconds with a simple tap or scan of their mobile device. The experience of purchasing items becomes quicker and easier - leading to a greater sense of satisfaction. Furthermore, with faster transactions, checkout lines within stores become much shorter.
 - **Increased Speed** in payouts and virtually no hang ups on regulatory requirements
 - **Better Efficiency** with dramatically reduced overhead costs especially with paper checks
 - **Ultra Flexibility** with your business configured to plug into the next high tech money saver

3.0 Methodology

3.1 Sources of data

The data for this study was gathered from two major source- primary and secondary sources. These two sources put together helped the researcher to produce a fairly report with minimum bias or errors.

3.2 Primary sources of data

These are facts that were collected by the researcher specifically for the research through instrument such as questionnaire. The questionnaire contained open ended and optional forms to eliminate bias in the choice of selection by the respondents, the interview questions were structured in line with the challenging research questions earlier raised in chapter one. Other primary sources were oral interviews and observations.

3.3 Secondary sources of data

The secondary sources were derived from existing but related tests, which were produced by earlier researchers. Specifically the materials used for extracting secondary information for this purpose included journals, magazine textbooks and internet.

3.4 Population of the study

Population could be defined as any group of people or objects which are similar in one or more ways and which forms the subject of study in a population survey.

The population distribution table is shown below

Table 3.1

Banks	Male	%	Female	%	Total	%
Union Bank Plc	3	2.4	4	3.15	7	5.5
First Bank Plc	5	3.9	4	3.15	9	7.0
Diamond Bank Plc	3	2.4	7	5.5	10	7.8
Network Operators	12	9.4	17	13.4	29	22.8
E-wallet users	41	32.3	31	24.4	72	56.6
Total	64	50.4	63	49.6	127	100

Source: Survey Data, 2017.

Table 3.1 comprises of various banks and their managers, Network operators and E-wallet users. out of 7 respondents from Union bank plc, 3 persons were male while 4 persons were female, out of 9 respondents from first bank plc, 5 respondents were male while 4 respondents were female, out of 10 persons from Diamond bank plc, 3 persons were male while 7 persons were female and 29 respondents were network operators out of which 12 persons were male and 17 persons were female and 72 respondents were E-wallet users, out of which 41 persons were male and 31 persons were female.

3.5 Sample size determination

Though several methods, techniques and procedures of sampling exist, the researcher decided to adopt Simple Random Sampling. Because the population of the respondents was known (randomly), the researchers decided to use Taro Yamane's formula of sample size determination.

The formula =
$$\frac{N}{1+N(e)^2}$$

Where N = population

I = constant

E = Degree of error (i.e 5% or 0.05)

Determination of Sample Size

$$\frac{127}{(0.05)(0.05)^2}$$

$$\frac{127}{1+(0.0025)}$$

$$\frac{127}{1+0.16} =$$

$$\frac{127}{1.16} =$$

Total = 109

4.0 Data Presentation and Analysis

Table 4.1: Questionnaire distribution Table

Option	No. Issued	%	No Returned	% No not returned	%	Total	%
Male	55	50.5	42	38.5	13	55	50.5
Female	54	49.5	47	43.1	7	54	49.5
Total	109	100	89	81.6	20	109	100

Source: Survey Data, 2017

Table 4.1 shows the questionnaire distribution. Out of 109 questionnaires distributed to respondents 89 or 81.6% questionnaires were returned 20 or 18.3% questionnaires were not returned. Therefore the analyses of the data of this study are built on 89 questionnaires.

Table 4.2: Determination of Respondents on the Knowledge of E-Wallets Payment

OPTION	FREQUENCY	%
Yes	45	50.5
No	44	49.5
Total	89	100%

Source: Survey Data, 2017

Table 4.2 shows that out of 89 respondents, 45 representing 50.5% have knowledge of E-wallets system while the 44 or 49.5% respondents do not have knowledge of E-wallets system.

Table 4.3: Determination of Respondent on the Impact of E-Wallets System among the Users.

Option	Frequency	%
Convenience	21	23.60
Fast/speed in transaction	30	33.71
Quality service	14	15.73
Ease in fund transfer	18	20.22
Others	6	6.74
Total	89	100

Source: field survey, 2016.

Table 4.3 shows that 21 respondents representing 23.60% states that convenience is among the positive impact of E-wallets system, 30 respondents representing 33.71% states that fast/speed in transaction is among the positive impact of E-wallets system, 14 respondents representing 15.73% states that quality service is another positive impact of E-wallets system, 18 respondents representing 20.22% states that ease in fund transfer is also among the positive impact of E-wallets system while the remaining 6 respondents representing 6.74% states that there are other positive impact of E-wallets system not mentioned here..

Table 4.4: Determination of the Respondent on the Benefit of E-Wallets As A Means of Payment in Nigeria Commercial Banks/Sector.

Option	Frequency	%
Reduce fraud	22	24.7
Strengthen bank stability	19	21.3
Convenience transactions	28	31.4
Leads to profitability	14	15.7
Others	6	6.7
Total	89	100

Source: Survey Data, 2017

Table 4.4 shows that 22 respondents representing 24.72% states that use of E-wallets as a means of payment in Nigeria by commercial banks reduces fraud. 19 respondents representing 21.25% states that use of E-wallets as a means of payment in Nigeria by commercial banks strengthen bank stability. 28 respondents representing 31.46% states that impact of E-wallets as a means of payment in Nigeria by commercial banks leads to convenience in transactions, while 14 respondents representing 15.73% states that use of E-wallets as a means of payment in Nigeria by commercial banks leads to banks profitability, while the remaining 6 respondents representing 6.74% states that there are other impact of E-wallets as a means of payment in Nigeria commercial banks.

4.5: Determination of the Respondents on the Challenges Affecting the Effective Implementation of E-Wallets as a Means of Transfer and Payment in Nigeria Financial System.

Option	Frequency	%
Poor infrastructural facility	34	38.2
Network failures.	23	25.8
Fraudulent practices	18	20.3
Others	14	15.7
Total	89	100

Source: Survey Data, 2017

Table 4.5 shows that 34 respondents representing 38.20% states that poor infrastructural facility are among the challenges affecting the effective implementation of e-wallets as a means of transfer and payment in Nigerian financial system, 23 respondents representing 25.84% states that network failures and pose as challenges affecting the effective implementation of e-wallets as a means of transfer and payment in Nigerian financial system, 18 respondents representing 20.22% states that fraudulent practices is also seen as challenges affecting the effective implementation of e-wallets as a means of transfer and payment in Nigerian financial system while the remaining 14 respondents states that there are other challenges affecting the effective implementation of e-wallets as a means of transfer and payment in Nigerian financial system.

Table 4.6: What are the Factors that Enhance the Implementation of E-Wallets as a Means of Payment and Transfer in Nigeria?

Option	Frequency	Percentage %
It's easy accessibility	32	35.3
Enhance economic growth	42	47.0
Convenience	7	7.8
Others	8	8.9
Total	89	100

Source: Survey Data, 2017

Table 4.6 shows that 32 respondents representing 35.36% states that factors that enhance the implementation of e-wallets as a means of payment and transfer in Nigeria is its accessibility, 42 respondents representing 47.0% states that factors that enhance the implementation of e-wallets as a means of payment and transfer in Nigeria is its enhancement to economic growth, 7 respondents representing 7.88% states that factors that enhance the implementation of e-wallets as a means of payment and transfer in Nigeria is its convenience and the remaining 8 respondents representing 8.99% states that factors that enhance the implementation of e-wallets as a means of payment and transfer in Nigeria are many others.

Summary of Findings, Conclusion and Recommendations

5.1 Summary of Findings

The following are the summary of research findings:

1. It was discovered that E-wallets have great impact as a means of payment in Nigeria.
2. The research study brings to lime light the challenges affecting the effective implementation of e-wallets as a means of payment in Nigeria, such as poor infrastructural facility, network problems and fraudulent practices.
3. The study observed that the implementation of e-wallet reduces fraud, strengthens bank stability, ensures convenience transactions and leads to profitability of banks.

5.2 Conclusion

Having carried out this study on 'an appraisal of E-wallets as a means of transfer and online payment in Nigeria, it was noted that banking industry has moved into an era of menu-driven ultra robust special

software programmes called banking applications. These applications can carry out virtually all banking functions relying heavily on information collection, storage, and transfer and processing. The application of electronic banking products/services to banking operations has become a subject of fundamental importance and concerns to all banks operating within Nigeria and indeed a condition for local and global competitiveness.

Digital wallet/E-wallets also refer to an electronic device that allows an individual to make electronic commerce transactions. This can include purchasing items on-line with a computer or using a Smartphone to purchase something at a store.

5.3 Recommendation

The researchers made the following recommendations which will enhance E-wallets as a means of transfer and payments in Nigeria.

Government should encourage the utilization of e-wallets in all the states of the federation.

There is the need for banks and the authorities in charge to educate the general public about operation of e-wallets options as well as the pros and cons of the system.

Legislation of a national policy on information communication technology (ICT) development should widely be embarked upon to aid the operation of e-wallets system in all the sectors of the economy, as this would enhance their effectiveness. This is because ICT reduces the work of the manager in terms of close supervision. It also improves the drive; initiative and quality of work of the employees thus assist them to be more committed to achieving the goals and objectives of the organization. This has the tendency of enhancing effectiveness among workers within the organization.

There is need to re-examine a whole range of both legal and regulatory issues which the emergence of electronic payment systems raises.

Awareness campaign about the need and importance of e-wallets system in any economy should be carried out to enable the public buy the idea and get interested. In other words, the CBN in conjunction with banks should embark on massive awareness campaign and operational education for proper acceptance of the system.

Government should also provide the necessary infrastructure and constant supply of electricity for easy take off of the system in all the states of the federation. In other words, critical infrastructure like power, security and telecommunication gadgets should be strengthened to ensure the effective application of e-payment system in Nigeria for satisfaction on the part of general public. Security of customers' cash transaction should be taken serious.

The organizations should always train and retrain their staff to ensure that they keep up with the dynamism of information technology. Implied from the above, foreign direct investment will increase, productive capacity will be doubled. This will improve standard of living of citizenry and further engender economic growth and development.

The outcome of this study will be of immense benefit to the management of financial institutions in Nigeria, since it will help identify most of the challenges faced by the banks as well as the complains tabled by customers regarding E-wallets.

Due to the number of companies employing the use of e-wallets for customer payment transactions, it is advised that customers learn about the uses and restrictions of using e-wallets.

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