

The Impact of Digital Outside on Financial Sector of Sub-Saharan Africa

Article by Emmanuel Doh Tita Sama
Management, Texila American University
E-mail: titased@yahoo.com

Abstract

Digitalization has brought to the banking industry new business models, development concepts, from internet, mobile banking to monetization of transactions on different platforms and intermediaries. Currently there is no doubt that the banking sector is at a major crossroads. This disruption can be seen also from the demand and supply of financial services, forcing banks to develop new low-cost models. Due to this pressure, almost all commercial banks in West and Central Africa are in the process of crafting their own digital strategy with the principal objective of offering more inclusive banking services to the population who in their majority has limited or no access to banking facilities. Recent studies show that less than 10% of Sub Saharan Africa population is banked, yet not much research has been done in this area to understand why. Thus, the need to investigate the impact of digitalisation of Banks external (Digital Outside) processes on the financial sector, of Sub-Saharan Africa. This study made use of both qualitative and quantitative methods. The relationship between digitalization and customers of banks was investigated using Pearson correlation coefficient. There was a positive correlation between the two variables [$r = .236$, $n = 278$, $p = .05$], where increasing levels of digitalization is associated with higher levels of customers satisfaction. Based on the finding of the study, one can conclude that internet, mobile, ATMs, are the mostly used digital channel to reach the customers and thus increases the level of customer satisfaction and digital banking adoption in sub Saharan Africa.

Keywords: *Digitalization, Customers Satisfaction, Profitability, Digital outside.*

Introduction

Digitalization has brought to the banking industry new business models, development concepts and areas of improvements, from internet banking to monetization of transactions. Currently there is no doubt that the banking sector is at a major crossroads. The negative impact of the economic environment on banking, expectation of the prolonged period of low interest rate and the stagnation in lending leads inevitably to the quest for a transformation process, enabling cost to be reduced and revenue boosted. The disruption charactering the financial sector can also be seen from the demand and supply of financial services.

Digitalization is about taking control of the customer ecosystem by managing the entire business from a customers' perspective and rethinking the entire banking business model. These radical changes in banking sector requires the customers to be aware of the rapidly changing banking environment and the overall state of change in the financial sector.

Information technology (IT) is the digital enablement tool to achieve competitive advantage and, because of this, the usage of information technology, which broadly refers to computers, peripheral equipment and software, has seen a tremendous growth in recent years (Ho and Ling, 2010). Fung (2008:76) points out that the financial services industry has historically been among the largest investors in information technology because of the digital nature of its products and services. To date, the banking industry is investing heavily in information technologies, and these technologies are extensively utilized in their daily operations (Nor and Peason, 2008). The delivery channel for retail banking services is one aspect of the banking sector that has since gone through several innovative phases hinging on effective IT solutions (Yu and Guo, 2008: 7). The proliferation of Automated Teller Machines (ATMs), Telephone

Banking, Internet Banking, Electronic Payments, Security Investments, Information Exchanges and more recently Mobile Banking are testaments to the changes in retail banking brought about by IT.

Contemporary literature highlights the networked aspect of digital innovation where it is important, even necessary, to involve a wide set of heterogeneous actors (Tilson et al., 2010; Yoo et al., 2012; Eaton et al., 2015). However, this requires network activities that can handle the complexity related with digital innovation (Yoo et al., 2012), i.e. activities such as production and translation of knowledge and enrollment of actors (Pavitt, 2006; Dhanaraj and Parkhe, 2006). As different architectural layers of digital technology require different sets of knowledge, organizations typically need to collaborate to succeed with digital innovation (Andersson et al., 2008; Yoo et al., 2012; Kallinikos et al., 2013).

These collaborations include finding new ways of combining different technologies as well as doing business in the digital landscape where business roles might rapidly change (Van de Ven, 2005; Yoo et al., 2005; Vanhaverbeke and Cloudt, 2006). In digital innovation there is a need to find new ways of organizing activities that embrace and build on the networked aspects inherent in digital innovation (Yoo, 2010; Tilson et al., 2010; Yoo et al., 2012; Svahn and Henfridsson, 2012). Two main topics can be discerned within the community. The first topic concerns heterogeneous actors in digital innovation as a result of the characteristics of digital technology. This topic includes issues and challenges such as how to mobilize and involve actors in innovation networks who have different, and sometimes conflicting, interests and diverse knowledge bases (Yoo et al., 2009; Tilson et al., 2010; Eaton et al., 2015). The second topic concerns networked, complex and ambiguous digital innovation processes where generative, and malleable digital innovations are developed (Boland et al., 2007; Yoo 2010; Yoo et al., 2010a; Yoo et al., 2012; Thomsen and Åkesson, 2013).

The effects of digitalization on the financial sector can easily be correlated to the amount of people using internet banking and mobile phones to pay their bills as it is the dominating factor on average person's banking errands. When observing the figure below, which shows the amount of non-cash payment transactions per inhabitant through the years of 2008 to 2012, it can be seen that the Finnish consumers have moved to digital ways of paying faster than other countries (Pohjola 2015, Cited 28.11.2016.)

Every major commercial bank in Sub Saharan Africa and particularly in West and Central Africa has or is in the process of crafting its own digital strategy with the principal objective of offering more inclusive banking services to the population who in their majority has limited or no access to banking facilities. Recent studies show that less than 10% of Sub Saharan Africa population is banked. Banks see the penetration and densification of Mobile telephone access in this region as an opportunity for partnership to bring financial inclusion to the masses. There is also a huge knowledge gap about the role played by digitalisation in the financial sector of sub Saharan Economies as no proper research has been previously carried about the issue.

Thus, the investigation of the impact of digitalisation of Banks external (Digital Outside) processes on the financial sector, of Sub-Saharan Africa. This study is guided by the following research questions:

How has digital outside impacted the financial sector of Sub Saharan Africa?

Methodology

This study followed a cross-sectional descriptive research design. This design employed mechanisms that utilised systematic techniques and actions to gather raw data and generate data construction that depicts the existing features of a defined target population (Hair *et al.* 2010). Descriptive studies usually accommodate large sample sizes and make use of survey and questionnaire techniques to gather the necessary data required by a specific study (Solomon et al. 2006:113). Neuman (2007) argues that surveys are beneficial in providing information that is inherently statistical in nature. Cross-sectional study is the most frequently used descriptive research design. It involves the collection of information from any given sample of population elements (Malhotra, 2007).

Quantitative and Qualitative research methods are two broad approaches to research design that are often used in social science research. Qualitative research involves non-numerical examination and interpretation of observations for the purpose of discovering underlying meaning and patterns of relationships. It emphasises processes and meanings that are not generally examined or measured, in terms of quality, intensity or frequency (Zikmund, 2010). According to Aaker (2010), qualitative data collection uncovers information from the perspective of the interviewee about a phenomenon, such as behaviours and attitudes that are not directly observable, that is, ‘in someone else’s mind’. The findings of qualitative research are not used to test a theory and make generalisation about a population, but rather, to build a theory for further testing through quantitative methods.

This study made use of both qualitative and quantitative methods. During the qualitative stage, in-depth interviews were conducted with 100 users and 100 non-users of digital services in Ecobank, Bank of Africa and Diamond Bank by means of convenience sampling. This is in order to understand their underlying motivations for using or not using digitalized banking services. The findings from this interaction were used to refine the constructs during the quantitative phase. In the quantitative phase, a structured questionnaire using mostly closed-ended questions were distributed to a large number of respondents for them to fill in and return.

This study was based on a cross-sectional survey of individual customers of Ecobank, Bank of Africa and Diamond Bank within sub Saharan Africa. These banks were chosen for this study because of their geographical outreach in the region and the fact that they are in the process of offering digital banking services to their customers. The study was undertaken at the headquarters of these banks and a few affiliates within their African footprint.

Traditional sampling methods can be divided into probability and non-probability sampling methods. In probability sampling, units are selected randomly.

A questionnaire was used to collect data, mainly using a five-point Likert scale. Data collected in this study were analysed using the latest version of the Statistical Package for Social Sciences (SPSS). All scales were tested for reliability using Pearson Correlation.

Results

Customers correlations

		Financial sector	Digitization
Financial sector	Pearson Correlation	1	.236*
	Sig. (2-tailed)		.019
	N	278	278
Digital outside	Pearson Correlation	.236*	1
	Sig. (2-tailed)	.019	
	N	278	278

*. Correlation is significant at the 0.05 level (2-tailed).

The relationship between digitalization and customers of banks was investigated using Pearson correlation coefficient. Pre-tests were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a positive correlation between the two variables [$r = .236$, $n = 278$, $p = 0.05$], with increasing levels of digitalization associated with higher levels of customers satisfaction.

Discussion

The response rate for the study was 97% which according to Richardson (2005) any response rate of 50% and above is considered adequate and capable of generalization to other studies. For instance, Muñoz-Gallego, and Laukkanen (2010) posited that, with regard to electronic banking services adoption, men appear to be more task-oriented as compared to women and Internet banking is typically motivated

by goal achievement, therefore, the likelihood of males accepting digital banking is higher than that of females. On the other hand, Garbarino and Strahilevitz (2004) have also stated that the influences of social norm on intention to adopt a technology are stronger among men than women. Based on these men are more likely to adopt digital banking services than women. This presents a big potential of Bank in Sub Saharan Africa and specifically in West and Central Africa where the bank penetration rate is still very minimal and with men having more bank accounts than women.

While looking at the attributes of digital banking it was discovered that customers of Ecobank Cameroon and Nigeria pay much attention to the quality of service the bank offered to them with 81.1% of the respondents accepting this opinion. On the aspect of trust the customers in the various banks of Benin believe in trust while Senegal due to the low level of penetration of digital banking technology was low on both aspects. Cumulative respondents from the customers of the various banks have different attributes with the quality of service offered by the various banks occupying the greater percentage, out of the total respondent, 49.8% were for the quality of service, trust 22.4%, technology used 15.3%, and the least was location of bank with 12.5%.

On the aspect of customers satisfaction on digital banking customers of the various banks showed their strength with different opinions on the various channel. In Ecobank Cameroon, customers are dissatisfied with Promptness of card delivery, those of Nigeria and Senegal were neutral. These findings are in line with those of Kumbhar's (2011) who concluded that ATM users of private banks were more satisfied as compared to their counterparts in public banks. Attention was drawn to the increase in satisfaction derived by ATM users in both private and public banks if ATM service charges were reduced. Also, Aminu and Arhin (2011) showed that irrespective of all these attributes of the ATM service delivery, bank customers still underutilized the ATM service capacity by queuing in the banking halls to make cash withdrawals even when the amount may be withdrawn from the ATM.

Findings based on Customer satisfaction on Internet banking services shows that many of the customer of Ecobank are either neutral on the issues raise or dissatisfied but Diamond Bank and Bank of African Senegal customers are extremely satisfied with the internet banking services offer. According to Nupur (2010) there are several dimensions of service quality which include tangible, reliability, responsiveness, assurance, and empathy. However, not all the dimensions of service quality have a positive relationship with customer satisfaction. In spite of this, the prior research that was done by Rod et al., (2009) and Radhakrishna (2009) showed that the service quality of overall Internet banking is positively related to customer satisfaction.

Findings on ATM digital technology problems indicate that customers of the banks in Benin, 80.9% have problem with the ATMs either with card blockage, cash shortage, and non-printing of statement for them to have their balances. The item on card easily get blocked indicates that the clients are dissatisfied with this situation as a good number of the customer indicated.

Findings reveal that employees have difficulties in increasing customer expectation through the internal facilities of the digital bank as 78.3% respondents were divided over this issue in the various banks. Again, most of the respondents agreed with the fact that most employees, customers and management are very resistance to change which means that they prefer living in the traditional way of banking.

Conclusion

Basing on the findings of the study. The study concluded that internet and mobile transaction was mostly used as a digital channel. Further digital banking was considered fast and reliable and the speed was considered satisfactory. Not using internet to carry out transaction might be a limiting factor for the bank customer to experience speedy transactions. Customers were moreover confident that digital banking offers immeasurable speed of processing transactions which could not be compared to traditional banking. The study concludes that speed of transactions has an influence on customer's satisfaction as the speed of transacting increases

customers become more and more satisfied and thus the digitalisation of external processes has a significant impact on the financial sector of Sub Saharan Africa.

Tables relating to the results

Table 1. Customers attributes towards digital banking

	Quality of service		Technology used		Trust		Location		Total	
	f	%	f	%	F	%	f	%	f	%
Bank of African Benin	5	23.8	5	23.8	9	42.9	2	9.5	21	100
Diamond bank	15	38.5	5	12.8	12	30.8	7	17.9	39	100
Ecobank Cameroon	44	81.5	2	3.7	6	11.1	2	3.7	54	100
Ecobank Nigeria	12	66.7	3	16.7	2	11.1	1	5.6	18	100
Bank of Africa Senegal	41	42.3	18	18.6	6	6.2	32	32.9	97	100
Ecobank Benin	17	45.9	6	16.2	12	32.5	2	5.4	37	100
		49.8		15.3		22.4		12.5		

Source: Tita-sama (2018)

Table 2. Factors that influence the use of digital banks

	Time of transaction		Cost effectiveness		Ease of use		Technology savvy			
	f	%	f	%	f	%	f	%	f	%
Bank of African Benin	9	42.9	1	4.8	8	30.1	3	14.3	21	100
Diamond bank	14	35.9	11	28.2	12	30.8	2	5.1	39	100
Ecobank Cameroon	15	27.8	17	31.5	21	38.9	1	1.6	54	100
Ecobank Nigeria	5	27.8	3	16.7	9	50	1	5.6	18	100
Bank of Africa Senegal	50	51.4	31	31.1	7	7.2	9	9.3	97	100
	13	35.1	11	28.9	11	28.9	3	8.1	38	100
		36.8		23.5		30.9		7.3	267	100

Table 3. Digital banking services frequently used

A.			ABOB	ABOS	EBC	EDN	ABS	EBB
B.	Connected to the Internet at home or work to do their financial transactions	f	4	14	1	1	11	16
		%	19	35.9	1.9	5.6	11.3	42.1
C.	Uses E – mail	f	3	15	12	1	31	8
		%	14.3	35.5	30.8	5.6	31.9	21
D.	ATM / Debit card service	f	3	5	8	2	31	1
		%	14.3	12.8	3.9	11.1	31.8	26
E.	Credit card service	f	4	3	9	2	11	3
		%	19	7.7	33.1	11.1	11.3	11.9
F.	Online banking services	f	2	1	15	6	1	2
		%	9.5	2.6	38.5	33.3	1.03	5.3
G.	E – payments, (paypal, etc)	f	1	1	6	2	4	1
		%	4.8	2.6	15.4	11.1	4.1	2.6
H.	Electronic Fund Transfer (EFTs)/NEFT/RTGS	f	1	0	2	2	1	2
		%	4.8	0	3.8	11.1	1.03	5.3

I.	Mobile Apps	f	1	0	1	2	2	2
		%	4.8	0	1.9	11.1	2.2	5.3
J.	Bank to wallet & Wallet to Bank	f	2	0	1	0	5	3
		%	9.5	0	1.9	0	5.1	7.9
	Total	f	21	39	54	18	97	38
		%	100	100	100	100	100	100

Source: Tita-sama (2018).

Table 4. Satisfaction on digital technology usages

Promptness of card delivery	Extremely satisfied		Neutral		Dissatisfied		Extremely dissatisfied			
	f	%	f	%	f	%	f	%		
Bank of African Benin	2	9.5	8	38.1	7	33.3	4	19	21	
Diamond bank	11	28.2	14	35.9	6	15.4	6	15.4	39	
Ecobank Cameroon	2	3.7	22	40.7	29	53.7	1	1.8	54	
Ecobank Nigeria	2	11.1	15	83.3	1	5.6	0	0	18	
Bank of Africa Senegal	5/5.2		59	60.8	23	23.7	5	5.2	97	
	1	2.6	15	39.5	17	44.7	5	13.2	38	
		10.1		50.4		29.4		9.1		
Number of transactions	Extremely satisfied		Neutral		Dissatisfied		Extremely dissatisfied		Total	
Bank of African Benin	6	28.6	3	14.3	6	28.6	6	28.6		
Diamond bank	15	34.5	16	41	6	15.4	2	5.1		
Ecobank Cameroon	3	5.6	17	31.5	33	61.1	1	1.8		
Ecobank Nigeria	0	0	8	44.4	10	56.6	0	0		
Bank of Africa Senegal	16	16.5	59	60.8	17	17.5	5	5.2		
	0	0	23	60.5	8	21.1	8	21.1		
		14.2		42.1		33.3		10.3		

Source: Tita-sama (2018)

Table 5. Customer satisfaction on internet banking services

Account information and balance enquire	Extremely satisfied		Neutral		Dissatisfied		Extremely dissatisfied			
	f	%	f	%	f	%	f	%		
Bank of African Benin	2	9.5	12	57.1	3	14.3	4	19	21	
Diamond bank	14	35.9	12	30.7	10	25.6	3	7.7	39	
Ecobank Cameroon	1	1.8	31	57.4	22	40.7	0	0	54	
Ecobank Nigeria	11	61.1	5	27.8	2	5.1	0	0	18	
Bank of Africa Senegal	12	12.4	65	67	11	11.3	9	9.3	97	
	7	18.4	12	31.6	12	31.6	7	18.4	38	
		23		45.3		22.4		9.5		100

Source: Tita-sama (2018)

Table 5. Customer satisfaction on Internet banking services continue

Account to account transfer	Extremely satisfied		Neutral		Dissatisfied		Extremely dissatisfied		Total	
	F	%	F	%	F	%	F	%	F	%
Bank of African Benin	0	0.00	14	66.7	6	28.57	1	4.76	21	100
Diamond bank	12	30.8	15	39.5	9	23.08	3	7.69	39	100%
Ecobank Cameroon	2	3.58	22	38.6	29	50.88	1	1.75	54	100%
Ecobank Nigeria	5	27.8	6	33.3	7	38.89	0	0.00	18	100%
Bank of Africa Senegal	17	17.58	65	67	8	8.25	7	7.22	97	100%

Source: Tita-sama (2018)

Table 6. Customer satisfaction on telephone banking services

Reasonable number of voice prompts	Extremely satisfied		Neutral		Dissatisfied		Extremely dissatisfied		Total	
	F	%	F	%	F	%	F	%	F	%
Bank of African Benin	6	28.5	5	23.8	8	38.1	2	9.5	21	100
Diamond bank	17	43.6	10	25.6	7	17.9	5	12.8	39	100
Ecobank Cameroon	1	1.7	24	42.1	29	50.8	0	0.0	54	100

Source: Tita-sama (2018)

Table 7. Customer satisfaction on telephone banking services continue

voice directions / on line directions for new users	Extremely satisfied		Neutral		Dissatisfied		Extremely dissatisfied		Total	
	F	%	F	%	F	%	F	%	F	%
Bank of African Benin	1	4.76	14	66.66	2	9.52	4	19.05	21	100
Diamond bank	12	30.76	16	41.03	5	12.82	6	15.38	39	100
Ecobank Cameroon	3	5.55	25	46.29	25	46.29	1	1.85	54	100
Ecobank Nigeria	9	50	8	44.44	1	5.55	0	0	18	100
Bank of Africa Senegal	9	9.6	60	61.8	21	21.6	7	7.2	97	100
	1	2.6	12	31.6	20	52.6	5	13.2	38	100
		9.6		44.4		25.1		9.5		

Source: Tita-sama (2018)

Table 8. Customer satisfaction on mobile banking services

Pre-paid mobile recharge	Extremely satisfied		Neutral		Dissatisfied		Extremely dissatisfied		Total	
	F	%	F	%	F	%	F	%	F	%
Bank of African Benin	1	4.7	2	9.5	16	76.2	2	9.5	21	100
Diamond bank	6	15.4	7	17.9	13	33.3	13	33.3	39	100
Ecobank Cameroon	1	1.8	20	37.0	33	61.1	0	0.0	54	100
Ecobank Nigeria	9	50	6	33.3	3	16.6	0	0.0	18	100
Bank of Africa Senegal	24	24.7	46	47.4	21	21.6	6	6.2	97	100
	0	0.0	15	39.5	16	42.1	7	18.4	38	100

Source: Tita-sama (2018)

Table 9. Customer satisfaction on SMS banking services

Sms alerts about specific information to the bank services / new products	Extremely satisfied		Neutral		Dissatisfied		Extremely dissatisfied	
	F	%	f	%	f	%	f	%
Bank of African Benin	10	47.6	9	42.9	1	4.8	1	4.8
Diamond bank	24	61.5	6	15.4	5	12.8	4	10.3
Ecobank Cameroon	25	46.3	7	12.9	20	37	2	3.7
Ecobank Nigeria	8	44.4	3	16.7	7	38.9	0	0
Bank of Africa Senegal	56	57.7	11	11.3	26	26.8	4	4.1
	4	10.5	4	10.4	18	47.4	12	31.6
		45.3		18.3		23.8		9.1

Source: Tita-sama (2018)

Reference

- [1]. Aaker, D.A., Kumar, V., and Day, G.S. (2010) "Marketing research", 9th edition, New York: John Wiley and Sons.
- [2]. Anderson, C. L., and Agarwal, R. 2011. "The Digitization of Healthcare: Boundary Risks, Emotion, and Consumer Willingness to Disclose Personal Health Information," *Information Systems Research* (22:3), pp. 469-490.
- [3]. Fung, K.M. (2008) "To what extent are labor-saving technologies improving efficiency in the use of human resources? evidence from the banking industry", *Productions and Operations Management*, Vol.17 No.1, pp.75-92.
- [4]. Khalil Md Nor and Michael Pearson, 2008. Khalil Md Nor, Michael Pearson An Exploratory Study into the Adoption of Internet Banking in a Developing Country: Malaysia.
- [5]. Ho, S. C., & Liang, T. P. (2004). 'Consumer attitude toward mobile advertising: An empirical study'. *International Journal of Electronic Commerce*, 8(3), 65-78.
- [6]. Laukkanen, T. and Pasanen, M. (2007) "Mobile banking innovators and early adopters: how they differ from other online users? *Journal of financial services marketing*, Vol.13, No.2, pp.86-94.
- [7]. Neuman, W.L. (2007). "Basics of social research methods: qualitative and quantitative approach". Boston: Pearson/Allyn.
- [8]. Nor, K.M. and Pearson, J.M. (2008) "An exploratory study into the adoption of internet banking in a developing country: Malaysia", *Journal of Internet Commerce*, Vol.7 No.1, pp.29-73.
- [9]. Pohjola, M. 2015. Digitalisaatio ja tuottavuus finanssialalla. Cited 28.11.2016 & 24.1.2017, http://www.finanssiala.fi/materiaalit/Digitalisaatio_ja_tuottavuus_finanssialalla.

- [10]. Tilson, D., K. Lyytinen, C. Sørensen. 2010. Desperately seeking the infrastructure in IS research: Conceptualization of "digital convergence" 43rd HICSS.
- [11]. Yoo, Y., Henfridsson, O., and Lyytinen, K. 2010. "The New Organizing Logic of Digital Innovation : An Agenda for Information Systems Research," Information Systems Research (21 :4), pp. 724-735. Zittrain, J. 2008. The Future of the Internet and How to Stop It, New Haven, CT : Yale University Press.
- [12]. Yoo, Y. 2010. Computing in everyday life : A call for research on experiential computing. MIS Quarterly.
- [13]. Quarterly.
- [14]. Yoo, Y., R.J. Boland, K. Lyytinen. 2006. From organization design to organization designing. Organization Science 17(2) 215-229.
- [15]. Organization Science 17(2) 215-229.
- [16]. Yoo, Y., R.J. Boland, K. Lyytinen. 2008. Distributed Innovation in Classes of Network The 41st
- [17]. Hawaiian International Conference on Systems Science. IEEE, Big Island, Hawaii.
- [18]. Zittrain, J. 2006. The generative internet. Harvard Law Review 119 1974-2040.