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The Impact of Digital Inside on the Financial Sector of Sub-Saharan Africa

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Abstract

The number of connections, interaction and transmission of information that we carry out using the digital technology is growing exponentially, blurring physical barriers and reducing the cost of accessing information. Interconnectivity, Mobile technology, the internet of things, Big Data, Artificial Intelligence and automation are the main exponential technologies to which Banks have to adapt now. The adoption process of digitalization hasn't been fully successful in sub Saharan Africa and the implementation process too is still lacking in many ways ie from employee's ability to use the right hardware and software to fully work digitally. Thus, the question of how has the digitalization of the Bank internal process and people impacted the bank's operations and productivity? This study made use of both qualitative and quantitative methods. All scales were tested for reliability using Pearson Correlation. The relationship between digitalization and employees of banks investigated using Pearson correlation coefficient. There was a positive correlation between the two variables [r= .275, n=46, p=.1], with increasing levels of digitalization associated with higher levels of employees' performance. Digital inside of banks brings about satisfied employees who create satisfied customers as they work within a shorter time effectively and efficiently. Thus, it can be concluded that digital inside plays a significant impact in the financial sector of Sub Saharan Africa even though most employees initially turn to be resistant to digital transformation in their way of work if it is not properly implemented as they see it as a possible cause of unemployment.

Keyword: *Digitalization, Internal processes, Productivity, Digital inside.*

Introduction

Banking and the financial sector have under gone radical changes and improvements in the last few years and is in a constant state of development. Since the emergence at the end of the twentieth century, digital technologies have achieved very rapid adoption within a very short space of time, leading to a process of transformation which is profoundly changing the society and the economy. The number of connections, interaction and transmission of information that we carry out using the digital technology is growing exponentially, blurring physical barriers and reducing the cost of accessing information. Interconnectivity, Mobile technology, the internet of things, Big Data, Artificial Intelligence and automation are the main exponential technologies to which companies and Banks have to adapt now.

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.

At the moment, digitalization is one of the major disruptors that is changing the banking business forever. With the advent of digitalization in the banking sector, the daily operations are becoming faster, cheaper and easier for customers to use and therefore every bank is grasping to adjust their own operations to fit the needs of a demanding customer. The customer has now become the dictator of the type of banking services that they would like to enjoy. Banks must transform or be faced out within the next coming years. Financial Technology companies, Fintech as they are commonly call are keeping the

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pressure and providing competitive financial inclusion services that were hitherto never provided by traditional banks.

Digitalization has brought the banking sector the need to become more customer-oriented. Improving customer experience is one of the most important elements of digitalization. Due to continuous development and improvement of technology and security of mobile phones, many banks have created mobile applications to facilitate payments. This digital trend is not limited to just banks, but also large technological companies. Large IT companies, such as Apple and Google, are also interested in the development of mobile payment and other digital financial services that opens the business model to competitors outside of the normal banking sector (Google 2016; Apple 2016, cited 8.12.2016). Today we talk of GAFA (Google, Apple, Facebook and Amazon) as key players in the digital financial space and will certainly be the biggest challenger to the traditional banking model.

Digital innovation is enabled by digital technology and digitization (Yoo et al., 2009) refers to the embedding of digital computer and communication technology into a traditionally non-digital product (Henfridsson et al., 2009). Digital innovation differs from other forms of innovation primarily due to the architecture and the generativity of digital technology (Yoo et al., 2012; Yoo et al., 2010a; Tilson et al., 2010). The architecture is modular and multilayered and due to standardized interfaces between the layers, it is possible to combine and reconfigure components to create digital innovations (Yoo et al., 2010a; Kallinikos et al., 2013). This layered characteristic of digital technology enables generativity which creates unbounded opportunities and features for digital innovations (Zittrain, 2006; Yoo et al., 2012). However, the architecture and the generativity also create challenges for how to organize digital innovation processes (Yoo, 2010; Yoo et al., 2012; Svahnoch Henfridsson, 2012).

Contemporary literature highlights the networked aspect of digital innovation where it is important, even necessary, to involve a wide set of heterogeneous actors (Tilsonet 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 Cloodt; 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). (Pohjola 2015, cited 28.11.2016). observed that digitalisation had hit most parts of the world based on data gathered from 2008-2012, but nothing was mentioned as to how digitalisation has affected the financial sector in Africa and how it might impact the future of banking in Africa as a whole and particularly sub-Saharan Africa. 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.

The adoption process of digitalisation hasn't been fully successful and the implementation process too is still lacking in many ways ie from employee's ability to use the right hardware and software or the appropriate to server the customer digitally. Thus, the question of; how has digitalization of the Bank internal process and people impacted the bank's operations and productivity?

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 60 employees of Ecobank, Bank of Africa and Diamond Bank by means of convenience sampling divided into 5 managers per bank and 10 non-managers. 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 the employees to fill and return

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 digitizing their internal processes to improve collaboration with the employees and the interact with all their stakeholders. The study was undertaken at the headquarters of these banks and a few affiliates within their African footprint.

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

Results

Correlation results

Employees Correlations results

		Financial sector	Digital inside
Financial sectors	Pearson Correlation	0.1	.275
	Sig. (2-tailed)		.064
	N	46	46
Digital inside	Pearson Correlation	.275	0.1
	Sig. (2-tailed)	.064	
	N	46	46

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Tita-sama (2018)

The relationship between digitalization and employees of banks was investigated using Pearson correlation coefficient. Finding shows that there was a positive correlation between the two variables [r= .275, n=46, p=.1], with increasing levels of digitalization associated with higher levels of employee's performance.

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Management correlations - results

		Financial Sector	Digital Enablers
Financial sector	Pearson Correlation	1	-.074
	Sig. (2-tailed)		.623
	N	46	46
Digital enablers	Pearson Correlation	-.074	1
	Sig. (2-tailed)	.623	
	N	46	46

**. Correlation is significant at the 0.1 level (2-tailed).

Source: Tita-sama (2018).

The relationship between digitalization and management involvement in digitalization 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= .623, n=46, p= 0.1], with increasing levels of digitalization is associated with lower levels of management stress as a result of increase in their training, provision of digital equipment and training to their employees on the various digital devices which allow them to do their jobs more efficiently than with the traditional tools thus increasing productivity in their banks.

Discussion

Findings on the effect of digitalization on the employee's various banks revealed that 43.1% of the respondents agreed that many branches have been closed down as a result of digitalization of the banking system and this is as a result of trained staff and equipment. 45.7% respondents less of their branches have been closed down as a result of digitalization of the banking processes and this is as a result of trained staff and equipment used. 82.6% respondents confirmed the statement that many new digital branches have been opened.

On employment, 23, 9 % of the respondents agreed to that fact that more people have been laid off during the past 18 months, 52.2% stated that less people have been laid off during the past 18 months while 23.9% of the respondents said no person has been laid off during the past 18 months in their banks.

The findings of this study go a long way to confirm with Kama and Adigun (2013) on financial inclusion in Nigeria, its challenges and the impact on employee's productivity

Findings on the number of complaints employees' received from customer about digital banks on monthly basis revealed that 23.9 had no complaints about delay in banking functions from customers view point, 52.2% of the employees were of the fact that they have received complaints from 1 to 5 times from their customers regarding the delay in banking operations from the customer's view point while 23.9% of the employees said they have received more than 5 complains on this from their customers

Also, employees were given the option to examine the complaints they have had in regards to high cost of service charges which revealed that 32.6% of the respondents said they have no complaint on this issue, 41.3% said they have had 1-5 complains on the high cost of services charges as a result of digital banks while 26.1 said they have had more than 5 complains.

On the aspect of complains regarding use of ATMs or online banking technologies 23.9% of the employees affirm that they have no complaint in this regard, while a higher percentage of the employees were of the opinion that they have had more than 5 complaints on a monthly bases on issues of ATMs or online banking technologies with a percentage of 54.5%.

In regards to the issue of wrong entries into account there were less complaints on this as 52.2 of the respondents were of the opinion that they have had no complaints on this issue.

On the use of digital tools, 32.6% of the respondent strongly agrees and 63% agreed to the fact that their banks use digital devices and enablers as tools to improve customer relationship while 4.3% of the respondents were neutral.

On profitability, 56.5% of the employee strongly agreed and 37% agreed that Digitalization helps you to identify profitable customers while, 6.5% of the respondents were neutral.

Testing the level of satisfaction of employee working through e-channel reveal that 28.3% of the respondents were very satisfied working with e-channels, 19.6% were just satisfied, 47.8% were highly dissatisfied while 4.3% of the respondent were neutral.

On the reaction of employee towards the introduction of digitalization in their various banks, 47.8% of the respondents (Managers) were of the fact that their employees are very resistant to the change, 17.4% of the respondent were of the opinion that their employees are resistant and 17.4% of the respondent were neutral while 13% said their employees are welcoming the idea of digitalization and 4.3% said their employees are very welcoming on the aspect of digitalization of the banks.

Conclusion

Basing on the findings of the stud, digital inside of banks brings about satisfied employees who create satisfied customers as they work within a shorter time effectively and efficiently. Thus, it can be concluded the digital inside plays a significant impact in the financial sector of Sub Saharan Africa.

Tables relating to the results

Table 1. The digital tools available to employees in the bank, today to ease their work live

	Frequency	Percent
Desktops and laptops	43	93.5
Mobile phones, BYOD	42	91.3
Collaboration tools – VOIP, Skype for business	42	91.3
Electronic documents sharing	36	78.3
Video conferencing and web conferencing	28	60.9
Automated workflow	28	60.9
Instant messaging	31	67.4
Social media – Whatsapp, Facebook, LinkedIn	28	60.9
Help desk	35	76.1
Intranet and extranet	35	76.1
Remotes access facilities	30	65.2
Unlimited internet access	29	63

Source: Tita-sama (2018).

Table 2. Making your potential customer aware of your location on the net

	Frequency	Percent
Advertising on the net	18	39.1
News media	16	34.8
Banks publication	11	23.9
Others	1	2.2
Total	46	100.0

Source: Tita-sama (2018).

Table 3. The relative importance of factors determining the provision of digital banking

	Frequency	Percent
Vision of the future	19	41.3
Prediction of customers' acceptance	19	41.3
Organizational culture of innovation	6	13.0
Market share or strength or organization	2	4.3

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Total	46	100.0

Source: Tita-sama (2018)

Table 4. Comparative aspects based on digital inside of your bank, before digitisation

No	Comparative aspects	Traditional Banks		Digital Banks		Both	
		F	%	F	%	F	%
1.	More facilities to employees	7	15.2	28	60.9	8	17.4
2.	Employees of which type of banks are more satisfied from job?	4	8.7	30	65.2	3	6.5
3.	Salary packages is comparatively better in	17	37	17	37	12	26.1
4.	Top management involvement – branch level is comparatively more in	30	65.2	9	19.6	7	15.2
5.	Total	58	31.5	84	45.7	42	22.8

Source: Tita-sama (2018).

Table 5. Differentiating strategies between

No		Traditional Banks		Digital Banks		Both	
		F	%	F	%	F	%
1	More information technology	18	39.1	19	41.3	9	19.6
2	Providing better quality of service	2	4.3	38	82.6	6	13
3	Innovative products and services	3	6.5	40	87	3	6.5
4	More labour intensive techniques	43	93.4	2	4.3	1	2.2
5	Recruiting young employees	11	23.9	33	71.7	2	4.3
6	Expanding branch network	25	54.3	16	34.8	5	10.9
7	Pitching into mergers and acquisitions	12	26.1	29	63	5	10.9
	Total	73	22.6	218	67.7	31	9.7

Source: Tita-sama (2018).

Table 6. The factors that contribute to better services in

No		Traditional Banks		Digital Banks		Both	
		F	%	F	%	F	%
1.	Higher return in deposits	18	39.1	24	54.3	4	8.7
2.	Overall Efficiency	15	32.6	24	54.3	7	15.2
3.	Customer shift	12	26.1	32	69.6	2	4.3
4.	More Profit	1	2.2	40	86.9	5	10.9

Source: Tita-sama (2018)

Table 7. Collaborative culture factor" in digital banks

Statements	S A		A		N		D		S D	
	f	%	f	%	f	%	f	%	f	%
Brings about group cohesiveness	4	8.7	34	73.9	5	10.9	3	6.5	0	0
Enhances the collaborative culture	5	10.9	34	73.9	4	8.7	3	6.5	0	0
Helps to communicate efficiency with peers	9	19.6	30	65.2	4	8.7	3	6.5	0	0

Source: Tita-sama (2018)

SA= Strongly Agree, A= Agree D=Disagree,=SD=Strongly Disagree, N=Neutral

Table 8. "Behavioral Factor" in digital-banks

Statements	S A		A		N		D		S D	
	F	%	f	%	f	%	f	%	f	%
Helped in reducing work stress	16	34.8	23	50	4	8.7	3	6.5		
helped in reducing chaos and confusions	12	26.1	26	56.5	5	10.9	2	4.3	1	2.2
Helped to do routine work more efficiently	7	15.2	27	58.7	6	13	3	6.5	3	6.5
Increased interest in work	13	28.3	27	58.7	3	6.5	2	4.3	1	2.2
Increased level of motivation	10	21.7	24	52.2	7	15.2	3	6.5	2	4.3
Increased level of job satisfaction	10	21.7	30	65.2	4	8.7	0	0	2	4.3

Source: Tita-sama (2018)

Table 9. Training and development factor" in digital-banks

Statements	S A		A		N		D		S D	
	F	%	F	%	F	%	F	%	F	%
Effective Training	10	21.7	30	65.2	4	8.7	2	4.3		
Enhanced technical skills	15	32.6	19	41.3	10	21.7	0	0	2	4.3
Increased effectiveness at job	8	17.4	28	60.9	8	17.4	2	4.3	0	0
Organized training programmes Increased confidence levels	18	39.1	24	52.2	1	2.2	3	6.5	0	0

Source: Tita-sama (2018)

Table 10. Knowledge management factor" in digital-banks

Statements	S A		A		N		D		S D	
	F	%	F	%	F	%	F	%	F	%
Empowered with better access to information	17	37	26	56.5	1	2.2	2	4.3	0	0
Empowered with more control over work	15	32.6	25	54.3	6	13	0	0	0	0
Enhanced creativity	17	37	20	43.5	8	17.4	1	2.2	0	0
Empowered to solve problems	17	37	20	43.5	7	15.2	2	4.3	0	0
Enhanced capacity to contribute in research & development activities	19	41.3	22	47.8	4	8.7	1	2.2	0	0
Increased involvement in decision – making	21	45.7	18	39.1	5	10.9	2	4.3	0	0
Magnified abilities to think and articulate thoughts	13	28.3	23	50	8	18.2	2	4.3	0	0

Source: Tita-sama (2018)

Table 11. Employee benefits with digital banking with 1 being the most beneficial and 5 been least

Statements	1		2		3		4		5	
	F	%	F	%	F	%	F	%	F	%
Minimizes the cost of transactions	13	28.3	21	45.7	10	21.7	2	4.3	0	0
Saves time	13	28.3	20	43.5	11	23.9	2	4.3	0	0
Minimize inconvenience	18	39.1	19	41.3	7	15.2	2	4.3	0	0
Provided up – to date information	22	47.8	11	23.9	12	26.1	1	2.2	0	0

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Facilitates quick responses	27	58.7	14	30.4	3	6.5	2	4.3	0	0
Improves service quality	14	30.4	10	21.7	18	39.1	1	2.2	3	6.5
Minimizes the risk of carrying cash	15	32.6	16	34.8	11	23.9	3	6.5	1	2.2

Source: Tita-sama (2018)

Table 12. Effects of Digitalization at your bank

STATEMENTS	**More than**		**Less than**		**None**	
	F	**%**	**F**	**%**	**F**	**%**
How many branches have been closed down	20	43.1	21	45.7	5	10.9
How many new digital branches have been Opened	38	82.6	6	13	2	4.3
How many people have been laid off during the past 18 months	11	23.9	24	52.2	11	23.9

Source: Tita-sama (2018)

Table 13. Number of complaints (per month) from digital Bank customers as compared to customers **of** traditional Banks

STATEMENTS	**No complaints**		**1-5**		**More than 5**	
	F	**%**	**F**	**%**	**F**	**%**
Delay in banking functions from customers view point	11	23.9	24	52.2	11	23.9
High cost of service chargers	15	32.6	19	41.3	12	26.1
Higher amount of minimum balance maintained in their accounts	21	45.7	16	34.8	9	19.6
Problems regarding use of ATMs or online banking technologies	11	23.9	10	21.7	25	54.4
Lack of attention or improper behaviour of bank employees	9	19.6	14	30.4	23	50
Wrong entries in their accounts	24	52.2	15	32.6	7	15.2

Source: Tita-sama (2018)

Table 14. Customer Orientation of IT Facilities

Statements	**S A**		**A**		**N**		**D**		**S D**	
	f	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**
Your bank uses digital devices and enablers as tools to improve customer relationship	15	32.6	29	63	2	4.3	0	0	0	0
Digitalisation helps you to identify profitable customers	26	56.5	17	37	3	6.5	0	0	0	0
Digital banking customers carry out more Transactions than traditional customers	16	34.8	27	58.7	3	6.5	0	0	0	0
Digital banking can help to offer more complete products of an equivalent quality with lower costs to more potential customers	22	47.8	22	47.8	2	4.3	0	0	0	0

Digital banking is helpful in product offerings	25	54.3	15	32.6	5	10.9	0	0	1	2.2

Source: Tita-sama (2018)

Table 15. The effects of digitalization and bank productivity

Statements	**S A**		**A**		**N**		**D**		**S D**	
	f	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**
There is a downsizing of employees due to the emerging technology, but efficiency in terms of productivity has increased.	11	23.9	13	28.3	9	19.6	1	2.2	12	26.1

Source: Tita-sama (2018)

Table 16. Employees satisfaction on e-channels

Statements	**HS**		**S**		**N**		**DS**		**H D**	
	f	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**
How satisfied are you with Working through e-channels?	13	28.3	9	19.6	2	4.3			22	47.8

Source: Tita-sama (2018)

Table 17. Reaction of employees to the introduction of digitalization

Statement	**VR**		**R**		**N**		**W**		**VW**	
	f	**%**	**F**	**%**	**f**	**%**	**f**	**%**	**f**	**%**
How can you describe the reaction of employees to the introduction of digitalization?	22	47.8	8	17.4	8	17.4	6	13	2	4.3

Source: Tita-sama (2018)

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