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Information and Communication Technology (ICT) and Insurance Companies Profitability in Nigeria

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Abstract

The study examines the impact of Information and Communication Technology (ICT) on insurance companies' profitability. It identifies the imperatives for adoption of ICT to promoting efficient and efficient service delivery in the insurance industry as a strategy for attainment of the profit maximization objectives of insurance companies in Nigeria. It is an empirical design study, using responses of structured questionnaire of 152 respondents from 18 insurance companies. The study concludes that there is a positive relationship between ICT adoption and insurance companies' profitability in Nigeria. This implies that adoption of ICT by insurance companies can enhance their efficiency, their quality of service delivery, and their profitability. The implication of the findings for practice is that insurance companies should endeavour to update their ITC facilities regularly, in view of its impacts on quality of service delivery and profitability. The paper highlights the need for regular training of insurance personnel to keep them abreast of the current innovations in the use of ICT so as to ensure that the industry contribute positively to the economy.

Keywords: information, communication, profitability, insurance company, Nigeria.

I. INTRODUCTION

From time immemorial, information and communication are vital and essential in all sphere of life. The development of science and technology has greatly enhanced every aspect of human endeavour. Thus, the global business environment has been revolution analysed by creativity, innovation and technological advancement thereby increasing customers' awareness and availability of wider range of sophisticated products/services. New technologies have significantly impact business organizations to overcome barriers - cost, time and distance - to global operations. Business organizations, insurance companies inclusive, operate in a complex, dynamic and competitive environment. Broadly, information and communication technology (ICT) involves the use of electronic devices for storing, processing, analyzing and distributing data. The rapid expansion and increasing use of ICT has immensely promotes scientific approach to information handing and processing. Moreover, ICT enhances management functions of planning, organizing and the nature of services offered in the insurance industry. It has greatly improved insurance operations globally in view of the available innovation devices to enhance the speed and quality of service delivery. ICT, therefore, enhances process and procurement required to attain organizational and industrial goals.

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The use of ICT in the insurance industry is relevant and beneficial considering the significant role of insurance in the economy. Amongst other, insurance promotes business activity by providing financial intermediary services necessary to induce economy growth (Ward & Zurbruegg, 2000; Liedtke, 2007). The insurance industry consolidation, particularly the recapitalization, seeks to ensure that the industry contribute positively to the economy (Obaremi, 2007). ICT usage has considerately improved operations and performance of businesses in Nigeria (Osabuohien, 2008; Obasan, 2011). Consequently, it is expected that the impact of the consolidation will enhance the use of ICT by stimulating some form of competitive advantage, accuracy and efficient transactions to improve the quality of service delivery in the Nigerian insurance industry.

II. SCOPE, OBJECTIVES AND SIGNIFICANCE OF STUDY

The study examines the impact of ICT adoption on insurance companies' profitability in Nigeria. Specifically, the objective of the study, include:

a) To identify roles and benefits of ICT;
b) To explore the impact of ICT adoption on insurance company profitability;
c) To preview development of insurance in Nigeria; and
d) To highlight the place of ICT in promoting efficient and efficient service delivery in the insurance industry in Nigeria.

Despite the benefits of ICT, many business enterprises have not adopted and integrated ICT into their operations. There is dearth of study on the roles of ICT in business enterprises in Nigeria. Moreover, the few available studies on ICT in Nigeria focused mainly on the banking sector (Osabuohien, 2008; Dauda & Akingbade, 2011; Emmanuel, 2011; Obasan, 2011); and on small medium scale industries (Adewoye & Akanbi, 2012). There is no literature on roles and adoption of ITC in insurance companies in Nigeria. The study intends to fill this gap and contribute to knowledge on the impact of ICT adoption on insurance companies' profitability in Nigeria. Consequently, the study is imperative in view of the need for insurance companies' to develop and maintain a high level of ICT usage in order to meet the nation's insurance needs, to enhance their profitability and to contribute positively to the economy.

III. REVIEW OF LITERATURE

IT embodies a convergence of interest between electronics, computing and communication. IT refers to a group of technologies that revolutionized the handling of information (Drew and Foster, 1994). Communication technology deals with the physical devices and software that link various computer hardware components and transfer data from one physical location to another (Laudon & Laudon, 2010). Broadly, ICT encompass technologies for processing and communication of information. Chowdhury (2000) states that ICT encompass technologies that can process different kinds of information (audio, video, text, and data), and facilitate different forms of communications among human agents, and among information systems. Thus, ICT are electronic devices for collection, processing, storage, transmission, and dissemination of information (Duncombe & Heeks, 1999; Marker, McNamara & Wallace, 2002; Ebijuwa, 2005).

Development of ICT assists firms to effectively integrate into the global market. Globally, the development of ICT is increasingly considered to be an important factor influencing economic growth (Tcheng, Jean-Michel, Viennois & Romdhane, 2007). According to Vu (2004), ICT can enhance firms' efficiency and competitiveness by:

promoting better communication and interaction with customers; facilitating significant cost savings through e-commerce and ICT enabled management techniques; and enhancing firms' growth and performance. Furthermore, the development of ICT facilitates better intra-firm communication and increases flexibility thereby facilitating the removal of physical constraints on organizational communication and promoting productivity gains through better management (Jeremy, Kenny, & Qiang, 2003). Investment in ICT can increase production activity and national output; thus, boasting demand for goods and services in the economy. Such investments can also increase employment, directly and indirectly (Alleman et al., 2002).

Notwithstanding the financial implications of ICT investment; such investment is worthwhile as ICT can improve information sharing, decision-making, coordination, product quality, responsiveness and distribution (Al-Mudimigh et al., 2001). Similarly, investments in ICT can also reduce operational costs and facilitate better communication (Datta & Agarwal, 2004; Waverman et al., 2005). Such investment is beneficial as development of ICT enables a firm to explore the global markets and firms improve performance (Jeremy, Kenny, & Qiang, 2003). The benefits of investing in ICT development include; improvement of information flows, enhancement of arbitrage abilities, facilitating price discovery, and substitution of costly physical transport by widening markets networks (Sridhar & Sridhar, 2009; Andrianaivo & Kpodar, 2011). This implies that there is a bi-directional (direct and indirect impacts) causal relationship between ICT infrastructure and economic growth (Sridhar & Sridhar, 2009; Adegbemi et al., 2012). Meanwhile, Richardson et al. (2006) identify five areas of ICT applications in support of firm development: economic development of product, community development, research and education, small and medium enterprises development, and media networks.

ICT are catalyst to economy growth and development (Kodakanchi et al., 2006). The role of ICT in national development can not be over emphasised. The United Nations Development Programme (2001) describes ICT as a powerful enabler of development due to its role in the society and national development. Likewise, Datta and Agarwal (2004) show that economic benefits of ICT can be direct (through increases of employment and demand) and indirect (notably through social returns). Moreover, effective ICT network provides necessary information need of a nation economy - industry, commerce, agriculture, services sector - to foster necessary structural linkages for sustainable growth (Bhatnagar, 2005; Anie, 2011). Decision on ICT investments must take cognisance other socioeconomic factors in order to facilitate growth in developing nations, including Nigeria (Mbarika et al., 2003).ICT are fundamental to every sector of the Nigeria economy. In this regard, Kramer et al. (2007) highlight the role of ICT in modern economy growth and development. According to them, ICT reduces transaction cost thereby improve productivity; offers immediate connectivity by improving efficiency, transparency and accuracy; substitutes for other, more expensive means of communicating and transacting; increases choice in the marketplace in order to provide access to otherwise unavailable goods and services; widens the geographical scope of potential markets; and channels knowledge and information necessary for sustainable development (Kramer et al., 2007, p. 7).

In Nigeria, ICT development and usage is promoted by the establishment of the National Information Technology Development Agency (NITDA) in 2001. NITDA is an agency responsible for fostering the development and growth of IT in Nigeria. The agency regulates, monitors, evaluates, and verifies progress of IT development, under the supervision and coordination of the Federal Ministry of Science and Technology

(NITDA, 2013). The agency power has further been enhanced by National information Technology Development Agency Act (NITDA Act) of 2007 to ensure effective operation and implementation of National IT policy in Nigeria. Nigeria is one of the world's fastest growing telecoms market and largest telecoms sector in Africa. Nigeria is one of the largest internet usage in Africa; with online population of 45, 039,711 users, representing 26.5% of the nations' population (ITU, 2013; IWS, 2013). In 2012, the nation's internet penetration was 28.4%, representing 28.9% of African total internet usage (ITU, 2013; IWS, 2013).This is far above the International Telephone Union's (ITU) benchmark of 1% (Ndukwe, 2005). This suggests that the ICT culture in Nigeria economy has improved significantly.

IV. ICT AND DEVELOPMENT OF INSURANCE IN NIGERIA

The entry of British trading companies in the region and subsequent increased inter-regional trade marked the beginning of modern insurance in Nigeria. Development of shipping and banking activities, coupled with increased trade and commerce necessitated handling of some of business risk locally (Adeyemi, 2005). The mode of operation of early insurance offices in Nigeria started as agencies of overseas insurance companies. The first insurance company, Royal Exchange Assurance Company Limited, was incorporated locally in 1921 by the Guardian Royal Exchange of London. Until the time of independent in 1960, there was virtually no wholly owned indigenous insurance company in Nigeria. During this period, insurance business was predominantly underwritten by the subsidiary of European companies with headquarters based in Europe (Irukwu, 1986). Subsequently, other agencies and companies were established, including: Patterson Zochonis (PZ); Liverpool, London and Globe; BEWAC's Legal and General Assurance; and the Law Union and Rock (Jegede, 2005). The World War II, particularly between 1921 and 1949, adversely impacted the growth of insurance because trading activities were obstructed both in Nigeria and United Kingdom. However, business activities gradually improved, and the Nigeria insurance industry improved accordingly.

The first indigenous insurance company, the African Insurance Company Limited, was established in 1958. By 1976, there were twenty five (25) insurance firms in Nigeria. The Nigerian government ventured into insurance business by establishing NICON and Nigeria Reinsurance Corporation in 1969 and 1977 respectively. This marked the beginning of governmental control in insurance in order to redress the excessive foreign control of insurance business in Nigeria. Prior to introduction of governmental control in insurance, a few foreign companies controlled over 75 per cent of Nigeria insurance portfolio. The insurance industry has grown, but not without its attendant challenges. Then, some of the challenges include poor market penetration, potential abuse, low level awareness, low operating capital, low local underwriting capacity and acceptance of foreign risks (Ezekiel, 2005). These challenges culminated to massive regulation of the Nigeria insurance industry, which has become substantially intensified in the last two (2) decades. The objectives of the insurance sector reforms include: to increase the industry's low retention capacity; to attract foreign capital infusion into the industry for enhanced premium growth and profitability; to achieve a consolidation that will produce companies capable of meeting claims obligations and compete at the continental and global levels; to enable operators to attract the wherewithal for strategic investments in human capital development for greater efficiencies; to create a competitive environment which promote brand activities, to increase investment and better public awareness of the benefits of insurance to society at large; to actualize necessary economies of scale to ensure that insurance is affordable and accessible; and to encourage the industry to leverage on synergies from mergers and acquisitions and other alignments to achieve superior product innovation, deeper market penetration and product distribution (Obaremi, 2007, p. 52).

The first major step at regulating the activities of insurance business in Nigeria was the report of Obande J. C. Commission of 1961. The commission report resulted in the establishment of Department of Insurance in the Ministry of Trade, which was later transferred to the Ministry of Finance. The report also led to the enactment of Insurance Companies Act of 1961, which took effect on 4 May, 1967. The Act established, among others, the office of the Registrar of Insurance to supervise insurance practice; minimum capital requirement; and other conditions for registration, monitoring, and control of insurance operation in Nigeria. Subsequently, several regulatory legislations have been promulgated. The National Insurance Commission (NAICOM) was established by the nation's penultimate military administration in 1997. NAICOM is a governmental agency responsibility for monitoring and regulating insurance business and practice in Nigeria. The first major recapitalization process was introduced by the Insurance Act 2003. Section 9 of the Act increased the minimum capital requirement by as much as 650%. There were still over 107 insurance, including reinsurance companies, left in the industry at the end of there capitalization exercise in February 2004 (Fatula, 2007). Section 9(4) of the Act empowered NAICOM to increase the minimum capital requirement from time to time.

Another recapitalization and consolidation exercise took place in 2005. The Nigeria insurance industry witnessed a major reorganization after the completion of the exercise in 2007. As at September 2005, there were one hundred and four (104) insurance companies and four (4) reinsurance companies before recapitalization. At the beginning of the exercise in 2005, varying degrees of radical increased capital requirements, as shown in Table 1, were prescribed.

The new minimum capital regime, which was to be complied with by the end of February 2007, changed the insurance industry considerably. Many companies were forced to merge in order to comply with the new minimum capital regime through mergers and acquisitions. Only 49 insurance and 2 reinsurance companies, out of the 104 insurance companies and 4 reinsurance companies in existence before the exercise, met the new capital requirement and were certified by the government in November 2007. Meanwhile, after a significant period of uncertainty in the industry, the number of insurance companies reduced drastically. The Nigeria insurance market at January 2013 comprised 18 life companies, 34 non-life companies, 9 composite companies and 2 reinsurance companies (NAICOM, 2013). Most insurers have significantly increased their retentions and capacities. This is beneficial to the industry as it enable insurers to raise their capital according to the risks they underwrite, and to concentrate on businesses in which they have core competence.

Table 1
Nigeria Insurance Companies Capital Base

CATEGORY	OLD CAPITAL BASE (2003)	OLD CAPITAL BASE (2007 TILL DATE)	INCREASE IN PERCENT
	(N)	(N)	(%)
Life Insurance	150 million	2 billion	1,223
General insurance	200 million	3 billion	1,400
Composite	350 million	-	-
Reinsurance	350 million	10 billion	2,757

The regulatory institution, NAICOM, is looking at the direction of a risk-based capital to facilitate recapitalization of insurance companies in accordance with the risks they underwrite. This is to ensure that insurance industry in Nigeria adequately address the gaps in risk management and supervision. In an effort to address the gaps in the risk management and supervision, NAICOM has decided to migrate from compliance-based supervision to rules-based supervision (Ayeleso, 2010). Moreover, the development of the new capital levels has enabled a number of Nigerian insurers to expand their interests into other regional markets; thus, enhancing the industry premium income and competitive advantage. Furthermore, there is an urgent need to address the challenges of improper conduct in the market. NAICOM has also addressed these challenges by published code of good corporate governance for the Nigeria insurance industry in 2009. Corporate governance is concerned with the role of stakeholders, and its impact on the collective welfare of society. OECD views the role of corporate governance as twofold: first, it covers the manner in which shareholders, managers, employees, creditors, customers and other stakeholders interact with one another in shaping corporate strategies; and second, it relates to public policy, and an adequate legal regulatory framework, which are essential for the development of good systems of governance (OECD, 2009).

The insurance sector is a major player and contributor to the nation's economic development. The sector is also crucial to sustainable development of a nation (Adeyele, 2011). Insurance is important to the national economy due to its economic and financial intermediation functions to household, businesses and government. However, the Nigeria insurance industry accounts for less than one per cent of the Gross Domestic Product (GDP) of the nation (NAICOM, 2013). Modern society and businesses are threatened by higher risks than ever. It is therefore necessary that insurance firms' should develop and maintain a high level of ICT usage in order to meet the nation's insurance needs, to enhance their profitability and to contribute positively to the economy. Hence, there is positive relationship between ICT and organizational activities (Wali, 2010). Recapitalization has resulted in installing substantially better developed IT facilities in insurance companies in Nigeria (Ayeleso, 2010). Development and usage of ICT in the insurance industry is relevant as its foster flexible, time conscious and customer focused service delivery. ICT infrastructure can reduce transaction costs, and improve outputs of firms in various sectors of the economy, including insurance (Röller & Waverman, 2001).

Thus, ICTs enable insurance companies to explore the benefits of technological advancements to take timely decision to improve the Nigeria insurance industry competitive advantage (Pankajakshi & Shailaja, 2012). Likewise, ICT adoption can impact the insurance industry significantly by improving the mode of operation and development of range of services to customers; by creating multi-channel communication between the company and customers; and by actualizing effective and efficient organization and management of customers' information (Caviello, 2008). Consequently, ICT, if adequately engaged by insurance firms, can facilitate creation and maintenance of a flexible business network of inter-organizational arrangements within the Nigerian insurance industry (Jaiswal, 2009). More interestingly, almost all the insurance companies in Nigeria have internet, website and on-line real time e-insurance facilities which have improved the scope of insurance companies in Nigeria.

Considering the fact that the insurance sector is a major player and contributor to the nation's economic development, coupled with the apparent benefits of ICT in enhancing competitive advantage of the Nigeria insurance industry; we posed the hypotheses that:

H_0: there is no positive relationship between ICT adoption and insurance company profitability in Nigeria.

H_1: there is a positive relationship between ICT adoption and insurance company profitability in Nigeria.

V. METHODOLOGY

Both primary and secondary data were utilized for the study. The literature is the secondary source; while, the primary data was collected through survey-structured questionnaires. The study was conducted between July 2012 and January 2013 within Lagos metropolis. The population of the study consists of 49 insurance companies in Nigeria in 2012. The sample is made up of 18 insurance companies, representing about 37%, randomly selected for the study. The sample is quite adequate as a sample of 0.05 proportion of the population is believed to be satisfactory in making inferences (Amadi, 2005). 180 participants, 10 each from the 18 selected companies, were enlisted for the study. Out of the 180 questionnaires distributed; only 152, representing about 84% response rate, participated in the study.

The questionnaire was specifically designed to accomplish the objectives of the study. The questionnaire is divided into 2 sections, containing 20 questions. The first section contains information on the respondents' age, sex, highest educational qualification, department/unit and position/level. The second section contains 15 questions that measure the role of ICT in profitability of insurance companies in Nigeria, using a five points Likert scale: strongly agree, agree, undecided, disagree, and strongly disagree. The survey responses were processed with Statistical Package for Social Sciences (SPSS/PASW). The statistical technique for data analysis is descriptive statistics, and the hypothesis is tested with Pearson product coefficient of correlation (r). Coefficient of determination (R^2) is also computed.

VI. RESULTS AND DISCUSSIONS

Of the 152 respondents, 82 (54%) were males; while 70 (46%) were females. Their age ranges from 19-58 years. More than half of the respondents' falls within 27-34 years (67.8%) age bracket; 8.6% were in 19-26 years age bracket; 15.8% were in 35-42 years age bracket; 5.9% were in 43-50 years age bracket; and 1.9% were in 51-58 years age bracket. Regarding their educational qualification; most of them have first degree (HND/BSc) which represents 56.6%, while 32.7% had Master degree and other professional qualifications. The least qualified among them had National Diploma (ND), representing 10.7%.

The responses to section B questions, as shown in Table 2, indicated that the majority of the respondents perceived that ICT enhances insurance companies' operations and performance. Specifically the findings showed that: The development of ICT promotes good corporate governance in the Nigeria insurance; ICT facilitates timely information processing and distribution; development of ICT facilitates timely preparation and distribution of insurance policy documents; ICT positively impacts insurance companies performance; insurance companies employ IT experts to manage their ICT facilities operations; insurance companies have technical know-how to operate their ICT facilities; there is adequate internal control over operation of ICT in insurance companies; ICT enables insurance companies to delivery quality services to customers; ICT enhances the speed of insurance companies service delivery; and there is a positive relationship between ICT adoption and insurance company profitability.

Table 2

Statistics and Percentage of Responses (Section B)

	STATEMENT/QUESTION	SA (%)	A (%)	U (%)	D (%)	SD (%)	CUMM (%)
1	Development of insurance operations through ICT promotes effective supervision of the industry by regulatory authorities	28.4	21.2	7.6	35.4	7.4	100
2	Development of ICT promotes good corporate governance in the Nigeria insurance	36.7	43.3	4.4	13.4	2.2	100
3	ICT facilitates timely information processing and distribution	58.6	41.4	0.0	0.0	0.0	100
4	Development of ICT facilitates timely preparation and distribution of insurance policy documents	42.2	57.8	0.0	0.0	0.0	100
5	ICT has positive impact on insurance companies performance	43.3	41.2	4.4	6.7	4.4	100
6	The cost of acquiring ICT in insurance companies outweighs its benefits	35.7	36.6	2.1	23.5	2.1	100
7	Insurance companies invest heavily on personnel on ICT facilities training	9.1	32.2	5.1	53.6	0.0	100
8	Insurance companies employ IT experts to manage their operations of ICT facilities	43.1	43.3	4.4	6.7	2.5	100
9	Insurance companies have technical know-how to operate the ICT facilities	32.6	45.2	11.1	8.9	2.2	100
10	There is adequate internal control over operation of ICT in insurance companies	39.6	43.6	8.9	7.9	0.0	100
11	ICT enables insurance companies to delivery quality services to their customers	39.7	60.3	0.0	0.0	0.0	100
12	There is constant update of the development of ICT in insurance companies	13.1	30.2	11.1	45.6	0.0	100
13	ICT enhances the speed of insurance companies service delivery	30.6	46.3	23.1	0.0	0.0	100
14	ICT reduces paper work in insurance companies	12.0	17.9	17.9	24.9	27.3	100
15	There is positive relationship between ICT and insurance company profitability	43.0	57.0	0.0	0.0	0.0	100

Source: Field Survey, 2012

Key: SA = Strongly Agree; A = Agree; U = Undecided; SD = Strongly Disagree; and D = Disagree

6.1. Hypothesis Testing

H_0: there is no positive relationship between ICT adoption and insurance company profitability in Nigeria.

H_1: there is a positive relationship between ICT adoption and insurance company profitability in Nigeria.

The responses to question 15 (see table 2 above) were used to validate the hypothesis. All the respondents agreed (43% strongly agreed, and 57% agreed) that there is positive relationship between ICT adoption and insurance company profitability.

Table 3
Correlations between ICT * Insurance Company Profitability

		ICT	Insurance company profitability
ICT	Pearson Correlation	1.00	.786**
	Sig. (2-tailed)		.000
	N	152	152
Insurance company profitability	Pearson Correlation	.786**	1.00
	Sig. (2-tailed)	.000	
	N	152	152

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

The outcome showed that there is very strong positive relationship between ICT adoption and insurance companies' profitability in Nigeria, as shown in Table 1 and 2. The relationship is significant with a correlation coefficient (r) of 0.786 of 78.6% at 5% level of significant ($p < .05$). Since the correlation between ICT and insurance company profitability ($r = 78.6\%$) is significant at $p < 0.05$, the null hypothesis is rejected and alternative hypothesis is accepted. This affirms that the two variables are positively related in the population. This implies that ICT adoption enhances insurance company profitability in Nigeria.

6.2. Coefficient of Determination (R^2)

The correlation between ICT and insurance company profitability (r) is 0.786; then, the coefficient of determination (R^2) is $(0.786)^2 = 0.617798$. The outcome indicates that 61.78% of the variance of insurance company profitability can be explained by adoption of ICT. Thus, there is a very strong correlation between ICT adoption and insurance company profitability. The study, therefore, concludes that there is positive relationship between ICT adoption and insurance company profitability in Nigeria. This is consistent with the findings on previous studies on ICT in Nigeria, which affirm that ICT usage considerately improved operations and performance of businesses in Nigeria (Osabuohien, 2008; Obasan, 2011).

The findings reveal that positive correlation exists between ICT and insurance company profitability in Nigeria. This implies that a marginal change in the level of the investment and adoption of ICT in the Nigeria insurance industry will result to a proportionate increase in the profit level. This suggests that the adoption of ICT by insurance companies in Nigeria will enhance their efficiency, their quality of service delivery, and their profitability. The major findings of the study as revealed by the results, presented in Tables 2 and 3 above, can be summarised as follows:

- The development of ICT promotes good corporate governance in the Nigeria insurance.
- ICT facilitates timely information processing and distribution.
- Development of ICT facilitates timely preparation and distribution of insurance policy documents.
- Factors that influence the insurance companies' intensity of ICT usage include the personnel age, educational qualification, computer literacy and personnel training on the use of ICT facilities.
- ICT usage positively and significantly impacts the speed of operations and service delivery, productivity and profit level of the insurance companies in Nigeria.
- Insurance companies employ IT experts to manage their ICT facilities operations.
- Insurance companies in Nigeria have technical know-how to operate their ICT facilities.
- There is a positive relationship between ICT and insurance company profitability in Nigeria.

The implication of the findings for practice is that insurance companies in Nigeria should endeavour to regularly update their ITC facilities, in view of its impacts on quality of service delivery and profitability. This is necessary in order to be relevant in the rapidly changing technological world. Moreover, ICT literacy enhances the skills and abilities that advance the use of computers and related information technologies to meet personal, educational and organizational goals (Lowe & McAuley, 2002). Consequently, regular training should be given to their personnel to keep them abreast of the current innovations in the use of ICT to ensure that the industry contribute positively to the economy. This will further enhance insurance companies' efficiency and quality of service delivery in Nigeria.

VII. CONCLUSIONS

Development of ICT assists firms' to effectively integrate into the global market. The insurance sector is crucial to sustainable development of a nation. The study is significant in view of the need for insurance companies' to develop and maintain a high level of ICT usage in order to meet the Nigeria's insurance needs, to enhance their profitability and to contribute positively to the economy. The study examined the impact of ICT adoption on insurance companies' profitability in Nigeria. It identifies the imperatives for adoption of ICT to promoting efficient and efficient service delivery in the insurance industry as a strategy for attainment of the profit maximization objectives of insurance companies in Nigeria. Using structured questionnaires of 152 respondents from 18 insurance companies, an empirical analysis was undertaken to explore the roles ICT plays in enhancing quality of service delivery and profitability of insurance companies in Nigeria. The data were processed with SPSS, and the hypothesis was tested with Pearson correlation. The outcome suggests that adoption of ICT by insurance companies can enhance their efficiency, their quality of service delivery, and their profitability. The implication of the findings for practice is that insurance companies should endeavour to update their ITC facilities regularly, in view of its impacts on quality of service delivery and profitability. The paper highlights the need for regular training of insurance personnel to keep them abreast of the current innovations in the use of ICT to ensure that the industry contribute positively to the economy.

REFERENCES

Adegbemi Onakoya, B. O., Tella, A. S., & Osoba, M. A. (2012). Investment in telecommunications infrastructure and economic growth in Nigeria: A multivariate Approach. *British Journal of Economics, Management & Trade*, *2*(4), 309-326.

Adewoye, J. O., & Akanbi, T. A. (2012). Role of information and communication technology investment on the profitability of small medium scale industries – a case of sachet water companies in Oyo State, Nigeria. *Journal of Emerging Trends in Economics & Management Sciences*, *3*(1), 64-71.

Adeyele, J. S. (2011). Economic liberation of insurance industry in Nigeria. *International Journal of Research in Management Science, 3*(5), 113- 118.

Adeyemi, M. (2005). *An overview of the insurance Act 2003. Issues in merger and acquisition for the insurance industry*. 61-78. In: O. C. Ezekiel, (Ed.). Proceeding of the NIA workshop on Insurance ACT 2003. Lagos: Nigeria Insurance Association.

Alleman, J., Hunt, C., Michaels, D., Mueller, M., Rappaport, P., & Taylor, L. (2002). *Telecommunications and economic development: Empirical evidence from South Africa*. Technical Report. Sydney: International Telecommunication Society. Retrieved March 15, 2010, from http://www.colorado.edu/engineering/alleman/print_files/soafrica_paper.pdf.

Al-Mudimigh A., Zairi M., & Al-Mashari M. (2001). ERP software implementation: An integrative framework. *European Journal of Information Systems*, *10*, 216-226.

Amadi, V. L. (2005). An investigation into the role of private sector in Nigerian higher education: A case study of the University of Abuja. *International Journal of Research in Education*, *2*(1 and 2), 113-122.

Andrianaivo, M., & Kpodar, K. (2011). *ICT, financial inclusion, and growth: Evidence from African countries*. IMF Working PaperWP/11/73, IMF. Retrieved January 11, 2013, from http://www.imf.org/external/pubs/ft/wp/2011/wp1173.pdf.

Anie, S. O. (2007). Rural Telephony: Challenges before the Nigerian telecom stakeholders and the citizenry. *The Information Technologist, 4*(2).

Anie, S. O. (2011). The economic and social benefits of ICT policies in Nigeria. *Library Philosophy & Practice (ejournal)*. Retrieved January 11, 2013, from http://digitalcommons.unl.edu/libphilprac/457.

Ayeliso, O. (2010). *Nigeria @50: Insurance in retrospect*. Retrieved October 14, 2012, from http://www.tribune.com.ng/index.php/insurance/11686-nigeria--50insurance-in-retrospect.

Bhatnagar, S. (2005). ICT investments in developing countries: An impact assessment study, information technology in developing countries. *Newsletter of the IFIP Working Group 9.4*, *15*(2), 1-8.

Browery, K. (1995). Africa: Missing Link? *Telecommunications*, *29*(10).

Chowdhury, N. (2000). *Poverty alleviation and information and communication technologies: Towards a Motif for the United Nations ICT Task Force*. Retrieved October 14, 2010, from http://www.eb2000.org/shortnote19.htm.

Coviello, A. (2008). *The impact of ICT in the insurance industry. The role of customer relationship management*. Retrieved January 15, 2013, from http://www.cersi.it /itais2012/pdf/002.pdf.

Datta, A., & Agarwal, S. (2004). Telecommunications and economic growth: A panel data approach. *Applied Economics*, *36*(15), 1649–1654.

Dauda, Y. A., & Akingbade, W. A. (2011). Technology innovation and Nigeria banks performance: The assessment of employee's and customer's responses. *American Journal of Social & Management Sciences*, *2*(3), 329-340.

Drew, E., & Foster, F. G. (1994). *Information technology in selected countries*. Tokyo: United Nations University Press.

Duncombe, R., & Heeks, R. (1999, November). *Information, ICTs and small enterprise: Findings from Botswana*. IDPM Manchester Working Paper No. 7.

Ebijuwa, A. A. (2005). Information and communication technology in university libraries: The Nigeria experience. *Journal of Library & Information Science, 7*(1 and 2), 23-30.

Emmanuel, O. S. (2011). ICT's, service delivery and operational performance in Nigerian banks: A survey of empirical research. *African Research Review*, *5*(4), 44-59.

Ezekiel, O. C. (2005). *The Nigerian insurance market in the context of the insurance act 2003: Issues in merger and acquisition for the insurance industry* (61-78). In: O. C. Ezekiel (Ed.). Proceeding of the NIA Workshop on Insurance ACT 2003. Lagos: Nigeria Insurance Association.

Fatula, O. (2007). *The imperative of recapitalization and consolidation in the Nigeria insurance industry*. Ikeja Bar Review (I and II), 128.

International Telecommunications Union (2013). *ITU [Online]*. Retrieved from http://www.itu.int/ ITU-D/ict/statistics.

Internet World Stat (2013). *IWU [Online]*. Retrieved from http://www.internetworldstats.com/stats1.htm.

Irukwu, J. O. (1986). *Insurance year book*. Lagos, Nigeria: Nigerian Reinsurance Corp.

Jaiswal, M. P. (2009). *Improving business performance: Role of ICT in SMEs*. 1-4. Retrieved January 16, 2013, from http://www.tea-india.org/pdf/ Role%20of%20ICT%20in%20SMEs.pdf.

Jegede, M. I. (2005). *A comprehensive analysis of the insurance act 2003 and its implications on the insurance business environment - issues in merger and acquisition for the insurance industry* (61-78). In: O. C. Ezekiel (Ed.). Proceeding of the NIA Workshop on Insurance ACT 2003. Lagos: Nigerian Insurance Association.

Jeremy, G., Kenny, C., & Qiang, C. Z. (2003). *Information and communication technologies and broad based development: A partial review of the evidence*. World Bank Working Paper, Technical Report 12. Washington, DC: World Bank.

Kodakanchi, V., Abuelyaman E., Kuofie, M. H. S., & Qaddour, J. (2006). An economic development model for IT in developing countries. *Electronic Journal of Information Systems in Developing Countries*, *28*(7), 1-9.

Kramer, J. W., Jenkins, B., & Katz, R. S. (2007). *The role of information and communication technology sector in expanding economic opportunity*. Initiative report No 22. Cambridge, MA: Kennedy School of Government, Harvard University.

Laudon, D. P., & Laudon, J. P. (2010). *Management information system: Managing the digital firm* (11th ed.). London: Pearson.

Lee, C. R. (1993). Achieving global connectivity. *Directors and Boards, 17*(2), Winter.

Liedtke, P. K. (2007). What's insurance to a modern economy? *The Geneva Papers on Risk & Insurance - Issues & Practice*, *32*(2), 211-221.

Lowe, G., & McAuley, J. (2002). *Adult literacy and life skills survey, information and communication technology literacy assessment framework*. Retrieved April 23, 2010, from http://www.ets.org/all/ICTL_2nd_framework.pdf.

Marker, P., McNamara, K., & Wallace, L. (2002). *The significance of information and communication technologies for reducing poverty*. London: DFID. Retrieved January 15, 2013, from http://www.dfid.gov.uk/pubs/files/ictpoverty.pdf.

Mbarika, V. W., KahMuhammadou, M. O., Musa, P. F., Meso, P., & Warren, J. (2003). Predictors of growth of teledensity in developing countries: A focus on middle and low-income countries. *Electronic Journal of Information Systems in Developing Countries*, *12*(1), 1-16.

National Information Technology Development Agency. Nigeria, NITDA. Retrieved from http://www.nitda.gov.ng/index.php/it-statistics.

National Insurance Commission Nigeria. (2013). NAICOM. Retrieved from http://www.naicom. gov.ng.

Ndukwe, E. (2005, August 12). *Challenges of corporate governance in the telecommunication sector*. Seminar Paper Presented at the Joint Action Committee on ICT Awareness & Development, Lagos, Nigeria.

Obaremi, N. (2007). Nigeria insurance special report: Big is beautiful. *African Business*, *4*, 51-62.

OECD (2009). *OECD financial market trends - The corporate governance lessons from the financial crisis*. Retrieved December 14, 2013, from http://www.oecd.org/ finance/financialmarkets/42229620.pdf.

Pankajakshi, R., & Shailaja, M. L. (2012). The role of information and communication technologies (ICTs) in service sector. *World Journal of Science & Tech.*, *2*(5), 66-70.

Richardson P., & Kraemmergaard, P. (2006). Identifying the impacts of enterprise system implementation and use: Examples from Denmark. *International Journal of Accounting Information Systems*, *7*(1), 36-49.

Roller, L. H., & Waverman, L. (2001). Telecommunications infrastructure and economic development: A simultaneous approach. *American Economic Review, 91*(4), 909-923.

Sridhar, K. S., & Sridhar, V. (2009). *Telecommunications infrastructure and economic growth: Evidence from developing countries* (vol. 2, 91-116). Retrieved January 16, 2013, from http://ru.essuir.sumdu. edu.ua/bitstream/123456789/8814/1/23.pdf.

Tcheng, H., Jean-Michel H., Viennois, I., & Romdhane, M. (2007). Telecoms and development in Africa: The chicken or the egg? *Convergence Letter* No 8.

United Nations Development Programme. (2001). *Creating a development dynamic: Final report of the digital opportunity initiative*. UNDP. Retrieved April 22, 2010, from http://www.opt-init.org/framework.

Vu, K. (2004). *Embracing the ICT revolution to promote economic growth in developing countries: Policy challenges*. Retrieved January 10, 2013, from http://www.hks.harvard.edu /m-rcbg/ptep/khuongvu/Embracing%20ICT-Policy%20Challeng-es.pdf.

Wali, O. (2010, June 21-25). *Promoting human resources in the public sector: Critical role of human capital in the performance of public services in Africa*. Regional Workshop Organized by CAFRAD, Tangier Morocco.

Ward, D., & Zurbruegg, R. (2000). Law, politics and life insurance consumption in Asia. *The Geneva Papers on Risk and Insurance - Issues and Practice*, *27*(3), 395-412.

Waverman, L., Meloria, M., & Melvyn, F. (2005). The impact of telecoms on economic growth in developing countries. *The Vodafone Policy Paper Series*, *2*, 10-23.