

# CHANGE IN INFORMATION TECHNOLOGY AND ORGANIZATIONAL PERFORMANCE: A STUDY OF CONSOLIDATED HALLMARK INSURANCE PLC

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**Abstract:** Information technology is prone to constant change which organizations have to monitor, manage and cope with but despite that, there have been contradictions as some studies indicated that improvement in organization performance is as a result of information technological changes; while some studies present evidence obtaining weak or even no link between information technology changes and performance. This has made the research to examine the relationship between information technological changes and organizational performance. In this study the researcher made use of diagnostic research design. The researcher used ordinary least square method in running the regression analysis. The study revealed that there is a significant relationship between information technological change and organizational performance. The research recommends upgrade of Consolidated Hallmark Insurance Plc ICT platform to the latest version of global insurance business solutions software for selling and payment of policy online. Also, introduction of E-business unit to grow their share in the retail market and claims payment system

**Keywords:** Information technology, organization, Hallmark Insurance Plc.

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## 1. INTRODUCTION

### 1.1 Background of the Study:

During the recent years, information technology has received a great deal of attention not only from the academic field but also from the business world, because of its implementation in an increasing number of Organizations. Previous researches reveal that information technological changes contribute to the improvement of organizational performance (Sarv and Rajiv 2003), more satisfaction for the customer and more value creation etc (Gargallo-Castel and Galve-Górriz 2007). The dimension and extent of information technological changes depend on a variety of factors, including the type of information technology, management practices, organizational structure as well as the competitive and macro environment (Brynjolfsson et al 2002, Cooper et al 2000, Dewan and kraemer 2000). The advantages offered by information technologies changes, especially in terms of enhancing productivity, depend upon how these information technologies are integrated into an organization. Improved productivity and profitability have thus become a concern of all organizations, both public and private. At the same time, information technology is developing with blinding speed and is becoming the principal instrument for meeting this concern. This explains why many organizations are investing large amounts of money in implementing information technological systems.

In spite of the contributions of many scholars on how information technological changes contribute to organizational performance, there have been uncertainty and debate about the relationship between information technological changes and organizational performance. Some studies present contradictory evidence obtaining weak or even no link between information technological changes and performance (Davenport 1996). Brynjolfsson et al 2002 suggest several explanations for this apparent lack of relationship. These ranges from problems measuring productivity or investment, delayed results, to over-investment relating to agency costs

Many organizations realize that their systems do not have the necessary resources to meet the demands made on them. More and more time is required to complete projects and the work piles up. Based on this, Gagnon and Dragon, (2002) asked a question: Is the penetration of information technology really helping to improve the performance of organizations?

### **1.2 Statement of the Problem:**

It is perhaps a truism that the role and impact of information technology on today's organizations has significantly changed over the last decade. Across a wide spectrum of markets and countries, information technology is transcending its traditional back office role and evolving towards a strategic role with the potential not only to support chosen business strategies, but also to shape ones. Yet, there is increasing concern that the anticipated value of the investment in information is not being achieved. The problem is how to reconcile the dramatic increase in the role of information technology in insurance sectors with the evidence of minimal productivity and profitability. According to the report which covered the range of (1995-2010) 5years, Consolidated Hallmark Plc is witnessing poor performance in the insurance sector despite the reformation programmes on information technology carried out in the insurance system. It has been noted that the organization is facing some challenges like poor dissemination of information about the organization products, accumulations of workloads.

### **1.3 Objective of the Study:**

The researcher wants to determine the relationship between information technological changes and organizational performance.

1. To determine the relationship between information technological changes and organizational performance.

### **1.4 Hypothesis:**

#### **Hypothesis 1**

**H<sub>1</sub>** There is a significant relationship between information technological changes and organizational performance.

**H<sub>0</sub>** There is no significant relationship between information technological changes and organizational

### **1.5 Significance of the Study:**

It is expected that the study will help the management of the organization and other organizations to know how to handle information technological changes in a manner that will improve their productivity and performance.

### **1.6 Scope of the Study:**

This study is confined to information technological changes and organizational performance in Consolidated Hallmark Insurance Plc Onitsha as the focal point between 1993 – 2012. This is to enable the researcher have effective control over the study.

### **1.7 Limitation of the Study:**

The researcher encountered some difficulties in generating information from the organization due to security reasons. This problem was countered by the persistence of the researcher as regards to generating information from the organization.

## **2. REVIEW OF RELATED LITERATURE**

### **2.1 Conceptual Framework:**

It is clear that even though information technology has evolved from its traditional orientation of administrative support towards a more strategic role within an organization, there is still a glaring lack of fundamental frameworks within which

to understand the potential of information technology for tomorrow's organizations. The possession and the management of information is a key activity in an organization. The influence of process reengineering and innovations through information technology is likely to be bigger in banking than in other organization (David-West, 2005). Organizations require IT to coordinate enormous volumes of information (David-West, 2005). Information technology (IT) is perceived as a necessity to pursue the rationalization and cost management due to intensified competition in the service sector (DeBandt and Davis, 2000). Information technology has helped organizations to streamline the back office operations by improving both efficiency and cost reduction. Advances in information technology also influence the way organizations services are delivered with the aim of making it more convenient for customers. Many organizational branches are connected online real time (24/7). This clearly reduces the danger of carrying cash. Some organizations are able to deal effectively with global competition that offered low priced products/services with high quality service level. Competitiveness is no longer assured for the powerful organizations of the past; changing industry and market conditions had cause organizations to adapt to changes or die. The pace of changes has accelerated more product and service innovations, product life cycle have shortened and information technology advancements have become more rapid. Such responses may be minor adjustments or could entail an overhaul or revamping of an entire business process.

According to Adeleke (2011), the state of information technology determines the quality and quantity of goods and services produced. Organizational performance and development are determined by the state and types of information technology. Information Technology is prone to change, and the state of information technology have direct link to the relationship between the employer, employee and performance of the organization. Information Technology, labor and performance are interconnected. Several studies indicated a positive impact of information technology on cost reduction (Bhatt, and Grover, 2005), and many of the empirical studies on information technology business value discovered a positive association between information and performance using productivity, profit or any other operational performance as a measure for performance (Nigel, Kenneth and Vijay 2001). Barua et al (1995) argue that the association between information technological changes and performance become weaker as the distance between cause and effect widens. The author developed a model of information technology business value in which the impact of information technology on organizational performance is mediated by intermediate processes. A similar perspective was adopted by Weill (1992), who focuses on the ability of organizations to convert information technological assets into organizational performance, identifying several conversion effectiveness factors that mediate the information technology - performance relationship. Ringim, Razalli and Hasnan (2012) investigate the relationship between IT capability of a bank and its impacts on the performance based on resource based view. The theory explained the relationship between organization's resources and sustaining competitive advantage for superior performance relative to competitors (Fahy, 2000).

The adaption of information technology changes brought about information technological knowledge which is concerned with the extent to which a firm possesses a body of technical knowledge about objects such as computer based systems (Tippins and Sohi, 2003). IT knowledge encompasses professional qualification, expertise and skills such as programming, systems analysis and design, and competencies in emerging technologies. IT operations include IT functions, coordination and interaction with user community. Hence, IT operation was conceptualized as the extent to which organization utilizes IT to manage market and customer information. The computer based hardware, software and support staff were referred to as IT objects. Tippins and Sohi (2003) commented that IT capabilities, which are also known as IT competencies, improve performance through elimination of inefficiency, reduction of long term cost, improve service reliability and reduced transaction errors. In this study, the term IT capability is adapted from the study conducted by Tippins and Sohi (2003). The study used IT Knowledge, IT infrastructure and IT operations among the dimensions of measuring IT capability. Henderson and Venkatraman (1999), argue that the inability to realize value from information technology change is, in part, due to lack of alignment between the business and information technology strategies of organizations.

### ***2.1.1 Information Technology and Insurance Industry:***

According to Afshin, & Abdollah (2013) Insurance industry has experienced various transformations in recent sequential years which involved: deregulation in financial services section along with fundamental advances in information and communication technologies. The above mentioned transformations led to an increase in competition in insurance market and also created changes in the following ways:

- Emergence of new capital markets, especially in reinsurance section
- Significant growth of computer networks (such as the Internet) in marketing and sales of insurance products.

Afshin & Abdollah (2013) stated the current challenges faced in information technological development by insurance industry:

1. Lack of information architecture and standardization of insurance data in order to provide for aggregating common information and make an intensive and systematic supervision (on different tasks) possible,
2. Absence of a center for intensive data in central insurance and insurance companies in order to gain statistical and information needs
3. Lack of mechanization in financial, administrative and insurance operations.
4. Inefficiency of processes concerning customer-orientation to improve operations and services in insurance companies
5. Lack of expert human forces in the field of IT, problem in attracting such experts and effects of It on insurance industry.

### ***2.1.2 Information Technological System and Insurance Business in Nigeria:***

Indeed some researchers suggest that insurance among all other business in Nigeria has experienced significant impact of information technological system over the years. Most insurance firms in Nigeria are yet to employ information technological system in their operations, and the few that have employed information technological system are yet to identify its impact on their operations and employee job satisfaction Oladipo (2012.) However, the need to understand how information technological changes affect the Nigeria insurance business value is an important issue. This prompted Oladipo (2012), to clarify the impact of information system on Nigerian insurance industry in the wider context, therefore, the need to evaluate the rate of changes information technology have caused in Nigerian insurance industry in terms of creativity and innovation within the organization towards achieving competitive advantage in the market place remains a subject of contention in the insurance industry and national economy of Nigeria.

### **2.2 Theoretical Framework:**

The study anchored on socio technical systems theory as updated by Clegg (2000) which asserts that the design and performance of any organizational system can only be understood and improved if both social and technical aspects are brought together and treated as interdependent parts of a complex system. Organizational performance optimization cannot be achieved without the interaction of both social (human behavior) and technology (material information technology, procedures and related knowledge) inputs. The interaction of social and technical factors creates the conditions for successful or unsuccessful organizational performance. Organizational change program often fail because they are too focused on one aspect of the system, and fail to analyze in order to understand the complex interdependencies that exist in the system.

### **2.3 Empirical Framework:**

The findings of the study carried out by Christina (2009) using Difference-in-Difference approach on a panel of Swedish firms over the years 1997-2005 on “how firm productivity growth is affected by organizational changes and investments in IT”, indicated a positive and significant effect on total factor productivity growth for firms that invested in information technology (IT).

Bauer and Bender (2002) carried out a study using a German employer-employee matched panel data set to investigate the effect of organizational and technological changes on gross job and worker flows. The empirical results indicate that organizational change is skill-biased because it reduces predominantly net employment growth rates of unskilled and medium-skilled workers, whereas the employment patterns of skilled workers are not affected significantly. New information technologies do not have significant effects on gross job and worker flows.

The study carried out by Kabiru, Razalli and Norlena (2012) aimed at determining the effects of Information Technology (IT) capability on the organizational performance of Nigerian banks for improvement in quality of customer service and speed to enhance profitability performance and cost

Reduction. The study used stratified random sampling and simple random probability procedure in selecting 417 respondents from organizations. Multiple regression analysis was used to analyze the data using SPSS software. The findings showed that IT capability is significantly related to organization performance of banks based on resource based view (RBV) of organization performance.

Sarv, and Rajiv, (2003), carried out a study on “Performance Impacts of Information Technology: Is Actual Usage the Missing Link?” Time-series data were used to examine the effect of the Information technology usage on measures of profitability and quality in Indian hospitals. Multiple regression analysis was used to analyze the data using SPSS software. Technology usage was positively and significantly associated with measures of hospital profitability and quality, and this effect occurred after time lags.

The study carried out by Gargallo-Castel and Galve-Górriz (2007) on the impact of ICT and diverse complementary elements on three productivity measures. Survey data from 1225 Spanish firms were used to analyze the impact of ICT and diverse complementary elements on three productivity measures. Multiple regression analysis was used to analyze the data using SPSS software. The results show the importance of organizational human capital in order to increase the benefits of ICT in manufacturing industry.

### 3. METHODOLOGY

#### 3.1 Research Design:

The researcher made use of diagnostic research design which aimed at determining the relationship between information technological change and organizational performance.

#### 3.2 Method of Data Collection:

The researcher used secondary data which was sourced from the Annual Report and Account of Consolidated Hallmark Insurance PLC Onitsha, Textbooks, Academic Journals, articles and Proceedings in the internet.

#### 3.3 Method of Data Analysis:

The researcher used ordinary least square method in running the regression analysis. This helped to find out the relationship between dependent and independent variable: performance and information technological changes.

#### Model specification

$$\text{Performance} = f(\text{IT}) \text{ ----- i}$$

Performance (Dependent variable)

Information Technology (Independent variable)

#### Simple Regression Model

Objective 1

To determine the relationship between information technological change and organizational profit from 1993 to 2012

$$\text{Performance} = f(\text{IT}) \text{ ----- (i)}$$

$$\text{Performance} = n_0 + n_1\text{IT} \text{ ----- (ii)}$$

Where

$n_0 - n_1$  - Parameter Estimate

Performance (Dependent variable)

Information Technology (Independent variable)

Here performance is seen as profit of the organization. Agulanna and Madu (2003:125) stated that the performance of an organization is reflected on their profit. Therefore, the researcher used profit as the index of performance.

Year	Performance (Y) #	Information Technology
1993	132320	0
1994	301447	1
1995	1121595	2
1996	1158659	3
1997	1073980	4
1998	1132145	5
1999	1269851	6
2000	819944	7
2001	1306641	8
2002	1682969	9
2003	2176349	10
2004	2611304	11

2005	3031504	12
2006	3031504	13
2007	3776982	14
2008	2219221	15
2009	3026408	16
2010	3007537	17
2011	2751055	18
2012	2652980	19

Source: Annual Report and Account of Consolidated Hallmark Plc

The Empirical results of the required analysis carried out in this study are presented.

Model 1

To determine the relationship between information technology and organizational performance

**Correlation matrix**

This shows the strength of relationship and nature of relationship between variables, especially, between dependent and independent variables. Correlation in this context shows the nature and strength of relationship among the variables. It is significant or strong, if the value is more than 0.5 and weak or insignificant, if the value is less than 0.5.

	PERF	IT
PERF	1.000000	0.880873
IT	0.880873	1.000000

Correlation between a variable and itself is a perfect correlation which is always 1. Information technology has significant effect on the performance of the organization; this implies a significant increase in information technology will lead to significant increase in performance of the organization.

**Regression Analysis**

The model can be written as:

$$PERF = 440622.1 + 155115.5IT$$

$$S(E) = (218335.5) (19646.75)$$

$$T^X = 2.018097 \quad 7.895225$$

Dependent Variable: SER01  
 Method: Least Squares  
 Date: 11/24/13 Time: 12:56  
 Sample: 1993 2012  
 Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PERF	440622.1	218335.5	2.018097	0.0587
IT	155115.5	19646.76	7.895224	0.0000
R-squared	0.775937	Mean dependent var		1914220.
Adjusted R-squared	0.763489	S.D. dependent var		1041780.
S.E. of regression	506642.6	Akaike info criterion		29.20364
Sum squared resid	4.62E+12	Schwarz criterion		29.30321
Log likelihood	-290.0364	Hannan-Quinn criter.		29.22308
F-statistic	62.33457	Durbin-Watson stat		1.148625
Prob(F-statistic)	0.000000			

### **Interpretation:**

From the regression output, the R-square of the performance is 0.775 (significantly high) which implies the independent variables can adequately explain 77.5% of the variability in the dependent variable. This is to say that 22.5% of the variation in performance is accounted for by factors that are not endogenous in the model. The Adjusted  $R^2$  (0.763) takes cognizance of the loss of degree of freedom due to increase in the number of the predictors; one can say that it is not entirely different from the value of  $R^2$ . The calculated F- statistic is 62.33458 with the calculated probability of 0.000000 which is less than the level of significant 0.05.

More so the absolute value of the t – statistic of IT is statistically significant because its t- statistics and probability is greater than 1.96 and below 0.05 level of significance. IT is significant with t- statistic and probability of 7.895225 (0.0000) respectively. PERF is positively significant because t- statistics and probability is greater than 1.96 and below 0.05 level of significance with the following values respectively 2.018097 (0.0587). A unit increase in IT will lead to 155115.5 unit increase in performance of the organization. From the table above, IT has direct relationship with performance.

### **3.4 Findings:**

The researcher observed that there is a significant relationship between technological change and organizational performance of Consolidated Hallmark Insurance Plc.

### **3.5 Discussion:**

In spite of the significant relationship between information technological change and organizational performance, Consolidated Hallmark Insurance Plc Onitsha still struggles in its performance. This brought up the question as regards to the cause of the downturn performance of this organization. The researcher observed that the problem came from the management of the organization as they could not follow the moving trend of technological changes in order to increase the organizational performance, gain more access to its customers and that of their competitors. This organization has limited access to relevant information as regards to what, when and how to take a particular action that could boost its performance and gain more customers.

### **3.6 Summary, Conclusion and Recommendation:**

#### **3.6.1 Summary of Findings:**

In the course of this study, the researcher found out that the study is in conformity with the contribution of Michael, Narasimhan and Luke (2004) which state, "There is a significant relationship between technological change and organizational performance". In the case of Consolidated Hallmark Insurance Plc, Onitsha, there has been a problem of technological change because they do not follow the trend of technological change in the organization. This has caused so many harms in the efficiency of the organization.

#### **3.6.2 Conclusion:**

It is apparent that technology is a critical element of organizational transformations, this can only happen if it is done as part of a larger change effort regardless of whether the change is driving the technology or technology is driving the change. Organizations that are able to successfully undergo such changes will be better prepared for the future. Therefore, the successful management of change is a highly required skill. From all indications, it shows that Consolidated Hallmark Insurance Plc Onitsha lacks subordination of individual goals to the common goals and also lacks a valid framework for management and implementation of organizational changes.

#### **3.6.3 Recommendation:**

The researcher suggests that the following seen below should be applied in order to solve the existing problem.

1. The researcher recommends the organization should follow the pace of change as to explore and converge new information technologies that are accessible to both customers and industry; this can be done through upgrading their ICT platform to the latest version of global insurance business solutions software for selling and payment of policy online. Also, introduction of E-business unit to grow their share in the retail market and claims payment system.
2. The researcher recommends educational workshop for the staff and management of Consolidated Hallmark Insurance Plc, Onitsha, on the essence of change in technology, subordination of individuals to the common good of the organization and establishment of a valid framework for implementation of change.

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