# Effects of Digital Adoption on Performance of Insurance Companies in Kenya

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***Abstract:*** **Technology, innovation and digitalization have been of benefit to a greater extent for organizations to achieve competitive advantage. Moreover, digital adoption is necessary as it enables firms to cope with changing needs of customers in the dynamic environment and has positive impacts in terms of customer satisfaction, faster service delivery, profit growth, consistency and processes improvements. The purpose of this study was to determine the effect of digital adoption on performance of insurance firms in Kenya. The specific objectives of the study were; to establish the extent of digital adoption by insurance firms and to establish the relationship between digital adoption and performance of insurance firms in Kenya. This study was guided by the technology adoption theory and the innovation diffusion theory. The study used descriptive research design and a census approach was adopted to target all the 54 insurance firms in Kenya as at December, 2020. Descriptive statistics were used to determine the extent of digital adoption in line with process, product and service while inferential statistics was undertaken using a regression analysis. The study established that there is a relationship between digital adoption and performance of insurance firms in Kenya, with digital adoption positively and significantly influencing performance of the insurance firms. The study concludes that digitalization enables the insurance firms to upgrade their processes, make product improvements and discharge quality services to their clients. The study recommends that insurance firms continually invest in technology and keep up with new innovations in order to enhance processes, products and service delivery to customers in order to improve company performance.**

***Keywords:*** **Digital adoption, Innovation, Firm Performance, Insurance Companies**

## I. INTRODUCTION

Technology, innovation and digitalization have been of benefit to a greater extent for organizations to achieve their competitive advantage their adoption is necessary as the environment is dynamic, consumer needs keep on changing and firms are forced to find ways to cope with these in order to survive and remain competitive. (Mwangi, 2018). The main drivers of digitalization include technology, leadership and innovation, efficiency, effectiveness, speed agility and customer ownership. The insurance sector is a driver of economic growth through provision of safety, financial stability and development. It is a social device that minimizes or eliminates risk of loss to life and property. It also reduces effects of loss of earning power, legal liability and unexpected expenses. Although insurance companies have generally been slow in technology adoption, they have not been left out in the dynamics of technology changes but need to adjust and adapt to technology fully (KPMG, 2015). According to Angima (2017), insurance firms are investing in advanced technologies that creates a policy for developing products through collecting customer information and analyzing market trends. The firms are also leveraging on innovation to improve access and intensify customer experience. Mwangi (2018) also notes that making use of technology, big data and social media will move the firms forward into the digital world. According to Mckinsey (2018) innovative insurance products and services eventually result to long term growth in revenues and market. Hence, for insurance companies to pay claims, yield profits, and remain competitive and profitable, they need to leverage on innovation and technology adoption which has positive impacts in terms of faster process improvement, service delivery and customer satisfaction, growth in revenues as well as profitability.

## II. THEORETICAL FOUNDATION

This study is guided by the theory of technology adoption (TAT) and the theory of diffusion of innovation. The two theories clearly show how technology users come to accept and use technology. The technology adoption model was first posited by Davis (1986) who avers that technology adoption is dependent on people's perception and attitudes toward the usefulness of a certain technology itself and the ease of use. Deming (2000), elaborates on Davis model and states that adoption is a process rather than a product. TAT models explains how users of the technology gradually come to accept and eventually use it to enhance performance. A number of factors influence the users' adoption of the technology including; Perceived Usefulness (PU) which explains the degree to which the user believes a certain system would improve performance and Perceived Ease- of -Use which measure the degree to which the user will believe the introduced system would be free from effort. Gradual alignment of digitization of processes, products and services, is critical in realizing increased performance in an organization. The theory is applicable in this study in that adoption of digitization through new technologies, new business models is realized when the digitization is perceived to improve performance, simplify policy document, increase service delivery, increase customer retention and eventually ease the effort of employees performing the work through

simplified processes, efficiency and effectiveness in the insurance companies.

Diffusion of Innovation Theory (DIT) is one among social sciences theories developed by Rogers (1962). It evolved from communication and explains how and at what rate a new idea, product or technology gains momentum and spreads overtime through organizations, population or social systems. This theory posits that four elements influence the spread of ideas which include, communication channels, innovation, time and social systems. Demir (2006) explains that organizations whose employees creates a positive attitude towards a particular technology earn it benefits which include reduced costs, growth and increased efficiency. He argues that the adoption of any technology or idea is dependent on the attitudes that individuals develop and the knowledge acquired through sharing and training. Organizations that fail to change and accept a new technology may gradually be wiped out due to low demand of their products and competition by emerging companies that embrace technology. This study proposes that having top management knowledgeable about technology can influence all the employees to adopt new digital technologies such as use of internet and social platforms when they engage them in decision making. The technology change and adoption eventually lead to increased performance and growth.

## III. LITERATURE REVIEW

*Concept of Digitization*

According to Gartner (2015), digitalization is the use of digital technologies with the intention of creating value, producing opportunities, changing business models and providing new revenue. Digitalization is a functional technological device that operates through binary computational codes such as computers, laptops, tablets and mobile phones. It may therefore disrupt the normal course of operations. According to Hinings et al. (2018), to disrupt is to interject the normal course or prevent something mostly a process or a system from functionally normally. These disruptions can occur in processes, structures and practices that change or endanger and replace old rules in organizations, ecosystems and industries. They enable organizations to meet customer needs, increase efficiency, enhance productivity, manage costs and improve product standards. Thus, digital technology advances the level of creativity of employees and speed up distribution of information. The emergence of digital technology represents a paradigm historic shift needed by organizations to change from traditional methods of doing business (Gubin, 2011).

Digital disruption processes can lead to a revolutionary change from former sustainable philosophies for value creation and capture by separating and recombining elements among resources (KPMG, 2015). The disruption encourages new products development to suit the need of the customers as opposed to creation of new products in closed boardrooms which fail after a short while. Thus, an innovative and flexible culture which is determined by market behaviours, taste and psychology of customers drive firms' sustainability and performance in the markets (Mona et al., 2015)

*Firm Performance*

Performance is a general measure of a firm's actual output or results as assessed against its intended outputs and is thus related to its overall health over a given period of time. Performance is the potential of a firm to utilize the available resources efficiently and effectively to achieve set strategies and objectives. An organizations' performance is centered on the kind of activities that are carried out in fulfillment of its mission. End results are the observable aspects that determine an organizations' performance (Valmohammadi&Servati, 2011) According to Richard, Devinney, Johnson and Yip (2009), organizational performance is the fulfillment of the intended mission of an organization which is obtained through good management, persistent efforts and superior governance in order to achieve goals. The multiple performance criteria on profit organizations includes; flexibility, responsiveness, cost, productivity, asset efficiency, proper utilization of resources and reliability.

There are various methods of measuring performance which include: Balanced Score Card (BSC), Knowledge Management (KM), and Total Quality Management (TQM). Kaplan and Norton (1996) focus on multiple indicators of organizational performance; customer perspective, learning and growth, internal business operation and financial aspects as the drivers of performance in an organization. They expressly elaborate that customer needs and satisfaction increase sales and revenues simultaneously, proper internal processes and systems reduce cost and enhances effectiveness, learning and growth equips employees to be flexible in culture change and adoption of new business models for simplicity and convenience and finally financial aspects improve due to improvements in productivity and cost saving.

Deming (2000) in his concept of TQM pivoted on zsdwe continuous quality improvements in the areas of service or product, employer-employee relations and customer- business relations. This culture of total quality drives the companies to provide customers with goods and services that meet their needs. Cohen and Olsen (2005) looked at the KM as a tool that include the extensive use of computer technology. In order to become more proactive to client demands and have competitive advantage, they emphasized on organizational learning, knowledge sharing, re-organization of internal processes and organization structures. This study will use BSC perspectives to measure firm's performance.

A number of empirical studies in this area include a cross-sectional study by Gitau (2013)who established that lack of adoption of new technologies and old distribution channels contributed to the slow penetration of insurance in the Kenyan market; Onikoyi (2017) on reasons why the customers interacted less with insurers than any other industry in Nigeria and related it to the failure of firms to establish social platforms for interaction and adoption of new technology; Youtie et al. (2008) on the impact of process, service and products innovations on US manufacturing firms' growth and

profitability with findings that service and process innovation positively impact on profitability and growth of companies.

## IV. RESEARCH PROBLEM

Businesses face various environmental changes from competition, technological innovations, and regulations including evolving customer needs. Competition necessitates businesses to invest in innovations in order to survive in the environment and realize their goals and objectives. (Teece, 2010). There is very, stiff competition in the insurance sector especially in the Kenyan market which has led to price undercutting, increased fraudulent claims, poor customer service and low insurance penetration. In addition, insurers have been slow in adapting technology and responding to external forces especially in technology dynamics but this is slowly changing as evidenced by the transformation the insurance companies have gone through during the past two decades (AKI, 2018). Some disruptive change has put pressure on conventional sales and old distribution prototypes to adopt digital models. In order to deal with the emerging challenges, insurers need to change their traditional business models and rethink on how to reduce costs, increase efficiency and improve customer satisfaction. One of the ways to remain competitive and profitable is to be strategically flexible in technology embracement and adoption through digitalization of their processes and products, hence the motivation for this study.

Some studies have been carried out in various countries to explore the relationship between factors such as innovation, and performance of various firms, Gunday et al., 2011- (Turkey); Ndesaulwa, &Kikula (2016)-Tanzania; Salim&Sulaiman (2011) - Malaysia and Kiragu (2016)-Kenya. However, these have not been specific on the effect of digitalization on firm performance in the context of insurance companies. This necessitates a study of this nature especially in the Kenyan Market. The study hypothesizes that digital adoption is significantly related to performance of insurance firms in Kenya.

## V. DATA AND METHODOLOGY

The study adopted a cross sectional descriptive research design and was carried out in Kenya targeting all 54 insurance firms operating as at December, 2020. Primary data on digital adoption as well as performance was collected from the Underwriting, Claims, Business Development and Information Technology Departments of these companies.

In this study, the dependent variable was Firm Performance represented by measures under the balanced scorecard (Kaplan & Norton, 1996) for customer perspective, internal processes, learning and growth as well as financial perspective using likert scale type questions. The independent variable was Digital Adoption, represented by the composite scores for the questions that were administered to the respondents. A 5-point Likert scale was used to measure the variables from 1 to 5 denoting "No Extent" (1), "Little Extent" (2), "Moderate Extent" (3), Large Extent" (4), and Very Large Extent" (5),

The study tested the following hypothesis:-

*$H_1$. There is a significant relationship between digital adoption and firm performance*

The linear regression model developed for this study was as follows:

$Y= \alpha +\beta 1X1+\beta\ 2X2+\beta\ 3X3 + e$

Where:

| Variable | Represented by |
|---|---|
| Firm Performance (Y) | Composite Score for customer perspective, internal processes, learning and growth and financial perspective |
| Digital Adoption in Processes($X_1$) | Composite score for processes |
| Digital Adoption for Products ($X_2$) | Composite Score Products |
| Digital Adoption in Services ($X_3$) | Composite score for services |
| $\beta_1$, $\beta 2$, $\beta\ 3$ | Coefficient for the respective determinant |
| $\alpha$ | Regression constant or Intercept |
| e | Error term |

Mean and standard deviation were used to reflect the responses on the variables while the relationship between the variables was analyzed using regression analysis

## VI. RESULTS AND DISCUSSION

The response rate from the study was 89%. A summary of descriptive statistics is as given in the following tables. Results in Table I show that on average, the respondent firms' digital adoption has greatly enhanced the processes of insurance firms (overall mean 3.73) with the level of utilization evident in practices such as continuous notices and reminders through messaging, easier, faster online claim lodgment and faster payment of renewal premiums. However, the level of digital adoption was lower with respect to online proposal form filling and discharge voucher signing as the clients were required to physically visit the offices

Table 1: Processes

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Continuous renewal notices reminders through messaging | 48 | 4.522 | .632 |
| Easy and faster online lodging of claims by customers through improved systems. | 48 | 3.936 | .727 |
| Faster payment of renewal premiums | 48 | 3.845 | .964 |
| Increased online policy document submission | 48 | 3.500 | .808 |
| Enablement of online proposal form filling and signing | 48 | 3.467 | 1.136 |
| Enablement of online signing of discharge vouchers through advanced systems. | 48 | 3.133 | .681 |
| **Overall mean** | **48** | **3.734** | **0.825** |

Source: Research Data

With respect to enhancement of the firms' products in relation to digital adoption findings show that digitization has led to

improvement in the firm's product offerings to a large extent (overall mean 3.99), with the use of digital platforms enhancing policy document issuance, introduction of new products, increased sales due to simple attractive products and online price quotations. These results are reflected in table II.

Table II. Products

| Statement | N | Mean | Std Deviation |
|---|---|---|---|
| Simplified insurance policy document | 48 | 4.342 | .764 |
| Enhanced and introduces new unique insurance products | 48 | 4.002 | .803 |
| Increased sales due to simple attractive products | 48 | 3.867 | .626 |
| Product quotation online | 48 | 3.786 | .507 |
| **Average** | **48** | **3.999** | **0.675** |

Source: Research Data

Table III shows the degree to which digital adoption has been useful to the firms in connection with offering better services.

Table III. Services

| Statement | N | Mean | Std. Deviation |
|---|---|---|---|
| Enablement of access to new markets and customers through Social Media | 48 | 4.216 | 1.098 |
| Increased customer engagement through Social Media | 48 | 4.066 | 1.362 |
| Improved complaint resolution with customers through Social Media | 48 | 3.867 | 1.105 |
| Improved experience and customer satisfaction through social platforms | 48 | 3.833 | 1.184 |
| Increased sales through referrals in the social platforms | 48 | 3.667 | 1.122 |
| **Average** | **48** | **3.93** | **1.174** |

Source: Research data

It is evident from the findings that digital adoption has contributed to service enhancement of the organizations (overall mean= 3.93), especially in the realms of access to new markets and customers, increased customer engagement and complaint resolution through Social Media, as well as increased sales through referrals in the social platforms.

The results on firm performance based on the balanced score card are reflected in Table 4. The overall mean of 4.02 reflects good performance, contributed to by increased customer satisfaction due to dis-intermediation, reduced paper work due to automation, increased customer retention to faster responses, minimal human errors and mistakes due to computer introduction and reduced operational cost due systems automation among others.

Table IV: Firm Performance

| Statement | N | Mean | Std. Deviation |
|---|---|---|---|
| Increased customer satisfaction due to disintermediation | 48 | 4.43 | .728 |
| Reduced paper work due to system automation | 48 | 4.24 | 1.189 |
| Increased customer retention to faster customer employee response | 48 | 4.13 | .681 |
| Reduced workforce resulting to cost reduction | 48 | 4.03 | .809 |
| Increased revenues due to new customers and referrals through social media | 48 | 4.03 | .986 |
| Minimal human errors and mistakes due to computer introduction | 48 | 3.97 | .765 |
| Employees are flexible in culture change and adoption | 48 | 3.96 | .696 |
| Enhanced efficiency in operation management | 48 | 3.87 | 1.137 |
| Increased revenues due to new customers and referrals through social media | 48 | 3.86 | 1.224 |
| Reduced operational cost due systems automation | 48 | 3.70 | 1.178 |
| **Average** | **48** | **4.02** | **0.939** |

Source: Research Data

Table V (a-c) shows the regression results of firm performance being predicted by digital adoption practices.

Table V: Regression Results: Dependent Variable-Firm Performance; Predictors – Product, Processes and Service

**a)** *Model Summary*

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .681[a] | .464 | .427 | .50585 |

a. Predictors: (Constant), process, products, service

**b)** *Anova[a](GOODNESS OF FIT)*

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 9.741 | 3 | 3.247 | 12.689 | .000[b] |
| | Residual | 11.259 | 44 | .256 | | |
| | Total | 21.000 | 47 | | | |

a. Dependent Variable: Firm Performance

b. Predictors: (Constant), process, products, service

c) *Coefficients*

| Model | | Unstandardized Coefficients | | Standized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| | (Constant) | 2.453 | .424 | | 5.780 | .000 |
| | Process | .242 | .086 | .389 | 2.640 | .008 |
| | Products | .170 | .070 | .322 | 2.405 | .020 |
| | Service | .276 | .095 | .428 | 2.915 | .006 |

a. Dependent Variable: Firm Performance

The models reveal a significant statistical relationship between these practices and firm performance ($P<.05$) with $R^2 = .464$, $F(3, 44) = 12.689$ with a standard error of .50585. Digital adoption practices explain 46% of variation in firm performance, while the other 53.6% can be attributed to other factors not considered in the study. Model coefficients as reflected in table 5(c) show that all practices namely process ($\beta = .242$), $p<0.05$), products ($\beta = .170$, $p<0.05$) and service ($\beta = .276$, $p<0.05$) are significant predictors of firm performance.

The resultant model therefore is becomes: $\mathbf{Y= 2.453+ 0.242X_1 + 0.170X_2 + 0.276X_3}$

The model shows that keeping all factors constant, performance will be held at 2.453. A unit improvement in processes holding all other factors constant would lead to 0.242 changes in firm performance. Similarly, a unit improvement in products will result to 0.170 variation in firm performance while a unit change in service would result to 0.276 changes in firm performance.

## VII. CONCLUSION AND RECOMMENDATION

The descriptive statistics findings revealed that optimal digitalization of processes, products and services by the firms affect performance as would be expected. Also, the influence of these practices on firm performance as hypothesized was significant. Hence for insurance companies to pay claims, improve processes, enhance faster service delivery and customer satisfaction, grow profits, and remain competitive, they need to leverage on innovation and technology adoption in order to increase access and enhance customer experience. This implies therefore that a profit oriented insurer should directly invest in digitalization of its processes, insurance products and services which then contributes to long term growth in revenues and market share for enhanced performance. The findings of the study are of significance to insurers in Kenya as they point to optimized digitization programs which will in turn translate to enhanced processes, business and better quality service and better performance.

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