TECHNOLOGICAL, ORGANIZATIONAL AND ENVIRONMENTAL FACTORS ON THE ADOPTION OF CLOUD COMPUTING IN INSURANCE INDUSTRIES IN KENYA: A CASE STUDY OF UAP-OLD MUTUAL, NAIROBI, KENYA

Ajowi, B., & Reuben, J.

The Strategic JOURNAL of Business & Change MANAGEMENT
ISSN: 2312-9492 www.strategicjournals.com
Vol. 6, Iss.4, pp 1342 – 1363 November 18, 2019. www.strategicjournals.com, ©Strategic Journals

TECHNOLOGICAL, ORGANIZATIONAL AND ENVIRONMENTAL FACTORS ON THE ADOPTION OF CLOUD COMPUTING IN INSURANCE INDUSTRIES IN KENYA: A CASE STUDY OF UAP-OLD MUTUAL, NAIROBI, KENYA

Ajowi, B.,[1*] & Reuben, J.[2]

[1*]Master Candidate, Management and Leadership, The Management University of Africa [MUA], Kenya
[2] Lecturer, The Management University of Africa [MUA], Kenya

Accepted: November 11, 2019

ABSTRACT

The main objective of this study was to find out how the technological, organizational and environmental factors affect the adoption of cloud computing services within insurance industries in Kenya with a case study of UAP-Old mutual. The study was anchored on Technological, Organizational and Environmental model; technology acceptance model and Innovation Diffusion theory in its argument. The study used descriptive research design and adopted the stratified random technique. The target population consisted of 483 employees at the headquarters in Nairobi out of which a sample of 215 was picked. This study used questionnaires with closed questions to extract responses from members of the sample population. Data collected was purely quantitative and it was analyzed with the aid of SPSS V23 and presented on tables, figures and charts. Additionally, the study used a multiple regression analysis for the purpose of analysing the relationship between the study variables. From results, Technological factors, Organizational factors and Environment factors all have a significant relationship with the adoption of cloud computing at 5% level of significance and 95% level of confidence. However based on the explanatory power of coefficient of determination the indepedent variables organizational factors had the highest expalantory power of 0.675 or 67.5%, P<0.05, thus being the most significant Variable; Environmental Factors had 0.575 or 57.5%, P<0.05 while Technological factors were the least significant with 0.527 or 52.7%, P<0.05). This showed that all the variables have significantly relationship with the dependent variable (adoption of Cloud Computing). The study also found that Technological factors affected the adoption of Cloud Computing at UAP-Old mutual; Organizational Factors had a positive influence on the adoption of Cloud computing at UAP-Old mutual; Further it was evident that Environmental factors have a significant influence on adoption to cloud computing at UAP-Old mutual. This showed that all the variables have a significant relationship with the dependent variable (Adoption of Cloud Computing). The study further recommended that to be able to develop new ideas, employees must have enough knowledge about the field they operate in to move it forward. To support this, a work environment that is tolerant and welcomes new ideas.

Key Words: *Technological, Organizational, Environmental, Cloud Computing*

CITATION: Ajowi, B., & Reuben, J. (2019). Technological, organizational and environmental factors on the adoption of cloud computing in insurance industries in Kenya: A case study of UAP-Old Mutual, Nairobi, Kenya. *The Strategic Journal of Business & Change Management,* 6 (4), 1342 – 1363.

INTRODUCTION

Many countries around the world remain underinsured Sen, (2016) estimates that the mortality protection gap in the Asia Pacific region amounts to US$58 trillion, while the shortfall in non-life insurance premiums from a sample of 42 countries exceeded US$150 billion. With cloud computing as a base for scaling innovation in insurance technology with advanced disruptive technologies like the internet of things (IOT) which has the potential of significantly improving risk pricing, which lies at the core of every insurance business (Sen, 2011). Connected devices like connected homes, wearable devices, smart meters can generate lots of data which results in a more accurate risk assessment of different policyholders. Insurance companies that adopted cloud computing will automatically increase data availability and enhance targeted risk assessment which will make them easier to have products for the different market segments as per the risk assessment hence lead to profitable options.

The insurance regulatory of Kenya reported on the insurance industry outlook for 2017. The report showed how Kenya insurance industry remained resilient even after the prolonged electioneering period with growth of 6.3% increase in premiums, which is an increase of KES 196.64 billion in 2016 to KES 209 billion in 2017. These show how the market is still untapped, and through the use of cloud computing as the base for disruptive technologies, the market may grow adversely (IRA, 2017). Cloud computing adoption has been increasing immensely worldwide. A case example of India. Cloud computing adoption in India increased from 1.3billion dollars in 2016 to reach 1.8 billion dollars in 2017 which Gartner projected it to be a 38% year to year growth and stated that the market would heat 4.1billion dollars by 2020. Gupta, (2018) The analysis showed how infrastructure as service is leading in India's cloud market growth closely followed software as a service and cloud management. They will be at 2028 billion dollars, 1006 billion dollars, and 281 billion dollars respectively. The significant drivers to cloud computing adoptions in India are minimal or no upfront ICT investments, performance agility due to improved machine learning and artificial intelligence which use cloud systems like processing power, pay-as-you need, and pay-as-you-go and finally device location independence (Gupta, 2018)

UAP Holdings Limited is the pan-African Financial Services Company with a primary purpose of acting as a holding company for the various UAP businesses. The Group's origins in Kenya date back to the 1920's when Provincial Insurance Company of East Africa was incorporated. UAP Insurance Company Limited was formed in 1994 after the merger of Union Insurance and Provincial Insurance following the merger of their respective parent companies - Union of France and Provincial of the UK. In 1996 UAP Insurance Kenya became part of AXA after the Paris-based firm acquired UAP in France. AXA divested in 2000 and UAP Group became a fully-owned Kenyan company. UAP Group embarked on a multi-phased restructuring plan in 2006 to shift from a traditional non-life insurance business to a broad-based Insurance and Financial Services Group. UAP Group has grown into a Pan-African Financial Services Group with a geographical footprint in six (6) countries namely Kenya, Uganda, South Sudan, Rwanda, Tanzania and Democratic Republic of Congo (DRC). The range of services and products have grown beyond General Insurance to include Life Assurance, Property Investments, Fund Management and related Financial Services such as insurance premium financing, financial advisory and securities brokerage.

Old Mutual Kenya is a wholly owned subsidiary of Old Mutual plc, an international financial services company, with expanding operations in life assurance, asset management, banking, and general insurance. Old Mutual is an FTSE 100 company in the financial sector and ranks as a Fortune Global 500

company. Old Mutual started in Kenya in the late 1920s and was directed from Salisbury until 1930 when a branch was established in Nairobi.

In 2014 Old Mutual acquired a controlling 67 percent interest in Faulu Kenya, the second-largest microfinance bank in Kenya, whose stock is privately held, for a sum of KSh3.6 billion (approx. US$40 million). In early 2015, Old Mutual, spent a total of US$253.1 million (KSh 23.1 billion) to acquire 60.66 percent shareholding in UAP Holdings. Later in 2015, Old Mutual began to consolidate all its investments in Kenya under one company, namely the "UAP Old Mutual Group. Old Mutual Kenya bough UAP insurance in 2016 under the umbrella UAP-Old Mutual. This saw their profits fell to 32.4 % before tax, which resulted in a massive layout of 89 personnel in the year of 2018.

Statement of the problem

Alkhater, Wills, and Walters, (2014) Observes that cloud computing is a paradigm that has emerged to deliver IT services to consumers as a utility service over the Internet. In developing countries, particularly Saudi Arabia, cloud computing is still not widely adopted. Chandrashekhar and Shashikumar, (2017) provide the factors that led to organization adoption to cloud computing as on-demand service, pay-per-use or Pay-as-u-go, reliability, cost-efficient, quick deployment, no long term commitments, and no software and hardware installations. Alzahrani, (2016) States that cloud computing and big data is a significant entity in the industry of information technology these days. He equates it to the internet and the web that took the world by storm in the 1990s and early 2000s. Cloud evolution was accelerated in 1999 through provision of agile enterprise level applications to the customers.

UAP-Old mutual insurance has had some challenges for not embracing cloud computing, either be it hybrid or fully cloud. The company has been faced with inadequacies of agility in that scalability within the ICT infrastructure of the company is limited. Deployment of products that can counter competition takes a longer than expected time since the organization has not embraced cloud computing as a way of deploying products faster to the customer. Inadequacy of systems facing customers that customers interact with daily 24/7, and 365 days have an issue of down times. System downtimes have eroded customer confidence in getting better quality, faster service. UAP-Old mutual has various challenges such as refusal to honor legitimate claims, mergers and acquisitions challenges, and increased horizontal and vertical competition from the 44 licensed insurance companies (Nalwenge and Koech, 2018)

Failure to embrace cloud computing into the organization strategy has made the company profits to sink deeper due to inability to implement destructive technologies, for example, Artificial intelligence which has to predict the pattern of the claim and reduces fraud. Big data analytics which helps the company forecast on potential customers and internet of things (IOT) which can help mitigate fraud. UAP-Old mutual total comprehensive incomes have been on a worrying trend;, in 2012 they posted a comprehensive income of Ksh 2,116,931; 3,41,356 in 2013; 2,795,812 in 2014; 956,627 in 2015; (100,991) in 2016; 137,449 in 2017 and (419,771) in 2018. The inconsistency in the firms financial performance was attributed by the management to increase in customers claims a factor that can be easily managed by adoption of cloud computing (Old Mutual-UAP, 2019)

Nevertheless, through a change of ICT strategy and align the business to cloud computing, it enables the business to collaborate easily than having tradition methods, improve performance, and uptime on customer-facing application. Cloud artificial intelligence (AI) may increase the voice of the customer by automating customer interaction and a cheaper cost than employing a number call center

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

agents hence reduce cost. Having cloud-based AI apps are so advanced that they can quickly discover important information and relevant findings while processing big data.

The merger of old mutual and UAP insurance brought lots of organization politics and lack of top management support to steer innovation. Many top talented employees, both within the ICT and products department left during the merger period. Lack of proper strategic direction and ploy strategies has made the organization not to champion the ICT department as a business lead hence making it very difficult to develop a cutting edge solution to customers faster and at a cheaper rate. This study therefore sought to investigate the influence of technological, organizational and environmental factors on the adoption of the cloud computing in the insurance industries in Kenya, a case study of UAP-Old mutual Nairobi Kenya.

Objectives of the Study

The main objective of the research study was to investigate the influence of technological, organizational and environmental factors on the adoption of cloud computing in the insurance industry in Kenya a survey of UAP-Old mutual Nairobi Kenya. The specific objectives were;

- To ascertain influence of technological factors on the adoption of cloud computing
- To examine influence of organizational factors on the adoption of cloud computing
- To assess influence of environmental factors on the adoption of cloud computing

LITERATURE REVIEW

Technology, Organization and Environment Model (TOE)

This theory has been utilised in this study to collaborate the Adoption of cloud Computing and Technological, organizational and Environmental factors. According to (Tornatzky and Fleischer, 1990) the original technology–organization–environment (TOE) model was developed for the adoption of innovations. Awa and Liu, (2016) Stated that TOE is a model that proposes three bits of organizational context that affects or influence implementation or adoption of innovations. The technological context implies to the pool of technologies which are internal or external to an organization about their perceived usefulness, compatibility, pilot test, and complexity in the learning curve.

Technology Acceptance Model (TAM)

The TAM collaborates the Adoption of cloud Computing, Technological and Organizational Environmental factors in this research study and thus it's the anchoring theory of the study. According to (Davis et al., 1989) the theory applies to any specific domain of human–computer interactions The TAM asserts that two salient beliefs PU and PEU determine technology acceptance and are the key antecedents of behavioral intentions to use information technology. The first belief, PU was the degree to which an individual believes that a particular system would enhance job performance within an organizational context (Davis et al., 1989). PEU, the second key belief, was the degree to which an individual believes that using a particular system would be free of effort (Davis et al., 1989). In addition, the model indicated that system usage was indirectly affected by both PEU and PU.

Innovation Diffusion Theory

Innovation Diffusion Theory (IDT) has been utilised in this study to try and explain the Adoption of cloud Computing and organizational factors. The Diffusion of Innovation Theory was first discussed historically in 1903 by the French sociologist Gabriel Tarde (Toews, 2003) who plotted the original S-shaped diffusion curve, followed by (Ryan and Gross 1943) who introduced the adopter categories that were later used in the current theory popularized by Everett Rogers. It was then introduced in 1962, the Innovation Diffusion Theory was fine-tuned by (Rogers 1995). Innovation diffusion theory focuses on

understanding how, why and at what rate innovative ideas and technologies spread in a social system (Rogers, 1962). In terms of the theories of change, Innovation Diffusion theory takes a contrary approach to study changes. Instead of focusing on persuading individuals to change, it sees change as being primarily about the evolution or "reinvention" of products and behaviours so they become better fits for the needs of individuals and groups. In diffusion of innovations, it is not people who change, but the innovations themselves (Les Robinson, 2009). On the other hand, diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers, 2003). Fichman (2000) defines diffusion as the process by which a technology spreads across a population of organizations. The concept of diffusion of innovations usually refers to the spread of ideas from one society to another or from a focus or institution within a society to other parts of that society (Rogers, 1962). The whole theory of Innovation Diffusion can be divided into four main elements (Ismail Sahin, 2006).

Empirical Review

Gutierrez, Boukrami and Lumsden, (2015). Analyzed the factors influencing managers' decision to adopt cloud computing in the united kingdom using the "Technology-Organisation-Environment" (TOE) model. They collected data through a self-created questionnaire based survey that was completed by 257 mid-to-senior level decision-making business and information technology (IT) professionals from a range of UK end-user organisations. The derived hypotheses were tested using various data analysis techniques including principal component analysis and logistic regression. The study found that four out of the eight factors examined have a significant influence on the adoption decision of cloud computing services in the UK. Those key factors include competitive pressure, complexity, technology readiness and trading partner pressure. The latter predictor; trading partner pressure, was the most significant factor for the adoption decision of cloud services reflecting organisations' concerns on legal regulations, co-creation and customisation, service linkage and vendor locking which adds complexity to the process of selecting an appropriate vendor.

Gutierrez, Boukrami and Lumsden, (2015), found trading partners (cloud service providers) significantly influence managers' decisions to adopt cloud services, however, further research is required to fully understand all the aspects involved especially with the growing number of vendors available. Although over 250 usable responses to the questionnaire were received and analysed, there was not a sufficient quantity of responses from each industry sector or organisation size to conduct further analysis. The study findings reveal the important role of cloud computing service providers to enable end-users to better evaluate the use of cloud computing. It also reveals that top management support is no longer a driver as organisations are starting to adopt cloud computing services on the basis of cheaper and more agile IT resources in order to support business growth.

Insurance industries are grappling with low interest rates, slow market conditions that are forcing the need for efficiency (Griffns, 2018). Rivalry among competitors is intense, while fintech innovators are increasingly developing products that offer consumers a variety of choices. System interoperability is one of the factors that affect insurance companies to adopt could platforms. O'Connor, (2017) Explained system interoperability as "the essential ability of computerized systems to connect and communicate with one another readily, even if widely different manufacturers developed them in different industries." Information systems should have the capability to exchange information between applications, databases, and other systems are critical whether the system is pure cloud or hybrid

cloud. He further classified interoperability into: foundational interoperability where information system can exchange the data with others; Structural interoperability which looks at the format for the data transferred semantic interoperability where different parts of the system change information.

Security of systems is also a factor that affects cloud adoption. (Odisha, 2015) On his journal of data security challenges and its solutions in cloud computing explains how security is a significant factor when it comes to cloud adoption. He states that local data which is being hosted on the cloud by cloud providers have a due care to make sure the data is given utmost care at all times. There are factors to consider while moving or hosting your data in the cloud. Odisha, (2015) Stated the factors as data security and privacy, challenges in migration, lack clarity in pay per use model, and integration of cloud-based model with legacy systems. Ramachandra et al. (2017) Explain that Forbes stated that 47% of the companies would delay their migration to cloud due to security concerns about skills gaps, lack of maturity, and different best practices. Some of the most pressing urgent issue in the cloud that has affected quicker adoption are privilege user access management, regulatory compliance, data location, data segregation data protection, and recovery support and long term liability. The last factor system uptime.

The heart or core role of any insurance company is policy underwriting policies and struggles put in by the appraisal agents openly decide how sound the insurance business will be sustainable and whether it will make an ethical return through the premiums or not. Hassan, Herry, and Khairudin, (2016) On their journal of cloud computing in organization stated that there is an increase in studies that have been conducted about cloud adoption in an organization with significant factors being technological, environmental, and organizational. Several factors affect organization cloud adoption.

Hassan, Herry, and Khairudin, (2016) organization size, scope, and amount of slack resources available, market share, and market capitalization. Organisation technological readiness is critical in for any technological absorption. A case example is tala Credit Company in Kenya. Tala is technological ready, and they have embraced IBM Watson artificial intelligence, which is a cloud-based solution that they use for analysis and to predict the creditworthiness of their employees. Organization culture is fundamentally determined by the size and scope of the company (Lauren, 2015). Organization culture may lead to resistance to technological change (Wroblewski, 2018). He suggested several elements that may help the organization to transform from these barriers, develop channels of communication, and to bolster the hard skills by offering hands-on training.

Kenya data protection bill 2018 has highlighted some of the features of data management. Most insurance industries have shunned away from cloud computing dues to legal backing as they fear their trade secrets may be leaked to their competitors. Challenges about data governance have not only affected insurance companies but have also affected government agencies. A case example is during the Kenya electoral petition 2017 where the plaintiff stated the electoral servers which were held in the cloud platform in Europe could not be open due to the time difference. (Kahura, 2017).

With increased innovation and adoption of new technology they usually have both negative and positive effects to the environment, Cloud computing affects the situation in the following ways:- power conservation – data centers require a cooling system, a considerable amount of power. Each item within the data center requires a dedicated, uninterrupted power system. Cloud computing has helped reduced

power consumption drastically by going green through virtualization technology (Scholtz, Govender, and Gomez, 2016). One factor that has made cloud computing to be viable in insurance industries in South Africa according to (Scholtz, Govender, and Gomez, 2016) is lack reliable electric supply due to insufficient power on the grid coupled with reliability in the building of new data centers which are costly. She states that Africa can excel more in area of cloud computing if adoption is done through mobile phones are they can be charged off grid using solar systems and have a broader reach to the internet than standard servers in data centers. Another concern is stable, reliable internet usage.

Erratic internet services hamper adoption of cloud services as they affect real-time applications. On a positive side in most developed counties, cloud computing has been greatly adopted due to carbon credit management. Companies that invest in cloud computing using the dematerialization process will achieve lower power cost, a cooling system that demands more power. Scholtz, Govender, and Gomez, (2016) gave other environmental factors as - lack of approved cloud standards, transborder information flow, no national, local department or agency cloud adoption strategy or guidelines in place.

Haslinda *et al.* (2017) conducted a study to examine the factors that influence cloud computing adoption by the SMEs. The study conducted a quantitative survey-based study to examine the relationship external environmental pressure, and cloud computing adoption. The study found that external pressure significantly influences cloud computing adoption. Wang *et al.* (2017) noted that multiple factors influence the decision towards E-government cloud as drivers and barriers for its adoption. Their study was intended to gain insights concerning all contextual influences on the adoption attitude of E-Government cloud. The results of their study showed that there are perceived environmental barriers from cloud technology characteristics that can reflect the adoption decision of E-government cloud.

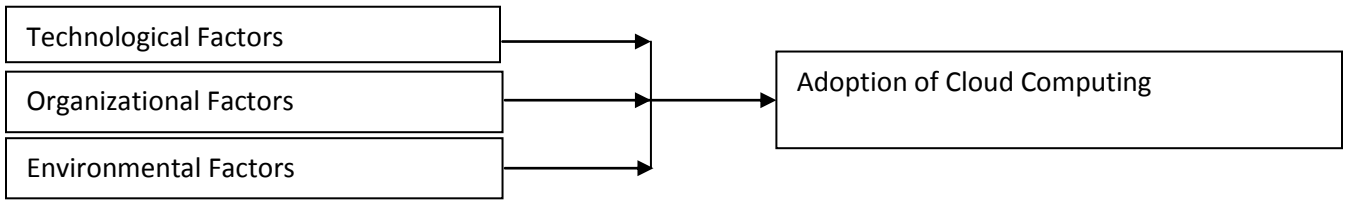

Figure 2: Conceptual framework

METHODOLOGY

This study used a descriptive research design. (McNeill, 2018) Descriptive research tends towards qualitative techniques but includes quantifiable data as well. Old Mutual-Uap had 4,000 employees countrywide but the study targeted the 483 employees at the Old mutual-Uap insurance headquarters office in Nairobi (Old Mutual-UAP, 2018). The study used the stratified random sampling method to select the sample size of respondents. This study utilized a questionnaire to collect primary data as used in various earlier research projects. Questionnaires were used since the study was concerned mainly with variables that cannot be directly observed such as views opinions, perception and feeling of the respondents. Questionnaires were distributed to the respondents then collected after the agreed period of time. Quantitative data collected was examined using descriptive statistics with help of a statistic software called statistical package for social sciences.

FINDINGS AND DISCUSSION

Technological factors and cloud computing

The first objective of the study was to ascertain influence of technological factors on the adoption of cloud computing in the insurance industry in Kenya in Kenya. The respondents were presented with Likert-type statements aimed at responding to this objective. The findings obtained were presented in Table 1.

Table 1: Technological Factors

Attribute	Weighted Mean	Std. Dev.
Cloud computing provides a web communication between customers and Insurance companies	3.6118	.66395
There is integrity of data on cloud computing services	3.6087	.67280
Cloud computing provides confidentiality,integrity and availability traid	3.6704	.59688
Cloud computing provides public key infrastructure when accessing information	3.7255	.60829
It is extremely difficult to test DRP/BCP over the cloud	3.6118	.66395
Fear of visibility and transparency has affected adoption of cloud services	3.6087	.67280
Fear of loss of data has limited adoption of cloud computing within the insurance industry	3.6118	.66395
Fears of leaking of sensitive information has limited the adoption of cloud computing	3.6288	.68744
Security threats and vulnerability affected adoption of cloud computing	3.7153	.58211
Oldmutual-UAP employees can leverage their ICT professional skills in the cloud	3.7704	.58960
The cloud computing system can be easily integrated with other systems in the organization.	3.6118	.66395
The cloud computing system suppliers can be changed without compromising the security of the information	3.6087	.67280
Cloud providers have too many demands for provision of the services	3.5952	.63920
The organization has the necessary infrastructure to adopt the platform	3.99	.933
The organization will still keep control of its data	3.88	1.166
Functional compatibility with the existing systems has promoted adoption of cloud computing	3.90	1.002
Cloud infrastructure platforms help migrate the existing infrastructure investment to the cloud	3.96	1.062
Average Weighted Mean	**3.712**	

With an average weighted mean of 3.712, and with weighted means ranging from 3.99 to 3.59, the respondents tended to agree to a great extent to the statement provided to them. As such, the respondents tended to agree to a great extent that: organizations that have the necessary infrastructure to adopt the platform which collaborates (Iacovou, Benbasat and Dexter, 1995) whom argued that organizations need financial resources to purchase assets to,assist in auditing of the third parties and that an organizational readiness for adoption of an innovation is dependent on technical skills and core IS capabilities build and leverage technology assets and plan an IT architecture. (Feeny and Willcocks, 1998)

The respondents also tend to agree to a very great extent that functional compatibility with the existing systems has promoted adoption of cloud computing which confirms (Wheeler (2002), (Zahra and George 2002) that dynamic capabilities, such as choosing new IT, matching economic opportunities with available technology, executing business innovation for

growth, assessing customer value, recognizing opportunities and developing absorptive capacity influences intergration of cloud computing system with other systems in the organization

The respondents also tended to agree to a very great extent that employees can leverage their ICT professional skills in the cloud since internally, e-transformation relies on competent employees who can manage an appropriate technical infrastructure and have ebusiness know-how. Externally, e-business technology availability is necessary. (Zhu et al. 2002).

The respondents also tended to agreed with the fact that there are fears of leaking of sensitive information has limited the adoption of cloud computing which supports the study done by (Ross, Beath and Goodhue 1996) that firms need a well-defined architecture, standards, and a reusable technology base.

Organisational factors and cloud computing

The study sought to examine influence of organizational factors on the adoption of cloud computing in the insurance industry in Kenya. The respondents were presented with Likert-type statements aimed at meeting this objective. The findings obtained are presented in Table 2.

Table 2:Organisational Factors

Attribute	Weighted Mean	Std. Dev.
Our products are perfoming well in the industry	3.91	1.109
We are well known by our products	3.99	.887
Our customers require tailor made solutions	3.87	1.054
Our revenue has muscle to shake-up the industry	3.98	1.056
Our voice of the customer is above peers	4.08	.901
Our marketing strategy is working well for the company	3.91	1.025
Senior management has been helpful in the use of the system	3.92	.970
My supervisor is very supportive of the use of the system for my job.	3.96	1.182
In general, the organization has supported the use of the system	4.01	.937
Senior management are concern about the effectiveness of the system	3.88	1.182
My supervisor understands company strategy	3.85	1.076
Senior management has created a well succession planning	3.90	1.058
My supervisor is well grounded on technical elements	3.85	1.137
Average Weighted Mean	**3.932**	

As shown by an average weighted mean of 3.932 and weighted means ranging between 4.08 and 3.85, the respondents agree to a very great extent that a customer has a bigger voice that the peers and that customers require tailor made solutions which was argued by (Gulati and Garino 2000, Ranganathan, Goode and Ramaprasad 2003) that customizability of new e-products and e-services can lock in customers by presenting a tailored solution rather than a generic portfolio of products and services. Similarly, a real-time interface and aggregation effects, through integration of complementary products and services, such as brick-and-click synergy also have the potential to add value and lock in customers (Amit and Zott, 2001).

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

Lastly, the respondents tended to agree to a very great extent that senior management has been helpful in the use of the system; the supervisors are well grounded on technical elements, understands company strategy and have enabled the culture of supporting the subordinates on the use of the system for their tasks; in general, the organization has supported the use of the system; senior management are concern about the effectiveness of the system and senior management has created an elaborate succession planning which is in line with (Schein, 1992) who argued that he focus is on the organizational level, on the openness of organizational culture to innovation and processes that accommodate change as being essential factors for e-transformation. Organizational culture is associated with the organization‟s sense of identity, its goal or core values, its primary ways of working and a set of shared assumptions and (Zhu et al. 2002) that organizational factors in terms of firm size; the centralization, formalization, and complexity of its managerial structure; the quality of its human resource; and the amount of slack resources available internally.

Environmental factors and cloud computing

The study sought to assess influence of environmental factors on the adoption of cloud computing in the insurance industry in Kenya. To this various Likert-type statements were presented to the respondents. The responses obtained were presented in Table 3.

Table 3: Environmental Factors

Attribute	Weighted Mean	Std. Dev.
Impact on customer's data put on the cloud has been slowed down due to lack of policy that governs personal data.	3.93	1.203
There should be regulatory policies on retention period of customers data kept on the cloud	4.23	.989
There are laws that govern processing of cloud data in a legitimate purpose	4.16	.884
There are laws that govern customer data over the cloud from abuse of disclosure	4.10	.995
Regulatory Policies on cloud adoption govern data that is kept in cloud services in third countries	4.12	1.018
There are regulatory policies and framework on how cloud computing service providers are audited by third parties.	4.03	.990
Regulatory Policies on cloud adoption do not support the quality of data provided	4.08	1.016
Competitors in the industry that use the system have more prestige than those who do not	4.17	.958
Competitors in the industry who use the system have a high profile	4.03	.983
The system has given the company a competitive advantage	3.94	1.109
Average Weighted Mean	**4.079**	

As shown by the average weighted mean of 4.079, the respondents tended to agree to a very high extent to most of the statements presented to them. With means ranging from 3.93 and 4.23, the respondents tended to agree to a very high extent that: There should be regulatory policies on retention period of customers data kept on the cloud; Competitors in the industry that use the system have more prestige than those who do not and; There are laws that govern processing of cloud data in a legitimate purpose. These finding agree with (Zhu et al., 2003) who argued that competitive pressure, the regulatory environment and lack of customer readiness are environmental influences on e-transformation and further the findings of Iacovou,

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

Benbasat and (Dexter, 1995) that competitive pressure drives e-business adoption.

The respondents went on to a very great extent that adoption of cloud computing ought to have regulatory Policies on cloud adoption to govern data that is kept in cloud services in third countries. This agrees with (Andal-Ancion, Cartwright and Yip, 2003) who argued that the drivers of digital transformation include electronic deliverability, information intensity, customizability, aggregation effects, real-time interface and missing competencies.

The respondents went on to agree to very great extent that the laws that govern customer data over the cloud should be secured to prevent them from abuse of disclosure. This agrees with (Iacovou, Benbasat and Dexter, 1995). who showed that regulatory environment can both promote and slow e-business adoption and e-transformation. Government and industry regulations can force resources to be allocated for compliance. For example, government imposed Sarbanes-Oxley compliance has diverted resources for public traded companies and large automobile manufacturers imposed EDI adoption on suppliers.

It came out clearly that regulatory Policies on cloud adoption did not support the quality of data provided. These findings agree with Barrett and Carr, (2004) who argues that imposed standards are problematic if resources are not available and that standards are often slow to evolve because of the need to reach consensus.

The respondents also agreed to a great extent that there are regulatory policies and framework on how cloud computing service providers are audited by third parties. (weighted mean of 4.03). This is in agreement with Iacovou, Benbasat and Dexter, (1995) whom stated that organizations need financial resources to purchase assets to,assist in auditing of the third parties

Adoption of Cloud Computing

The study sought to investigate the adoption of cloud computing in Kenya. To this various Likert-type statements were presented to the respondents to establish their opinion on the study subject. The responses obtained were presented in Table 4.

Table 4: Adoption of Cloud Computing

Attribute	Weighted Mean	Std. Dev.
Security and Access Controls (Risks)	3.86	1.086
.It is easy to access the system	4.03	.970
There are strict system access controls	4.02	.974
Data is hard to corrupt in in the system	4.06	.931
The system can easily be hacked	3.88	1.199
Average Weighted Mean	**3.97**	

As shown by the weighted mean of 3.97 the respondent tended to agree to a great extent to the statements provided to them. In this regard, the respondents tended to agree that security and access controls (Risks) are an issue; it's easy to access the system; there are strict system access controls; the system can easily be hacked and data is hard to corrupt in in the system findings that agree with (Akhusama and Moturi, 2016) that various challenges like business continuity within the insurance companies, service availability, data lock-in, data confidentiality, data transfer bottlenecks, and software licensing are greatlyreduced by cloud computing.

Correlation Analysis

The overall correlation analysis results were presented in Table 5.

Table 5: Overall Pearson Correlation Matrix

Correlations

		CC	OF	EF	TF
CC	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	187			
OF	Pearson Correlation	.822**	1		
	Sig. (2-tailed)	.000			
	N	187	187		
EF	Pearson Correlation	.758**	.708**	1	
	Sig. (2-tailed)	.000	.000		
	N	187	187	187	
TF	Pearson Correlation	.726**	.675**	.694**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	187	187	187	187

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

The relationship between Organizational factors and Cloud computing was 0.822 and was significant as supported by a probability value of 0.000 (p<0.05). The relationship between environmental factors and Cloud computing was 0.758 and was significant as supported by a probability value of 0.000 (p<0.05). The relationship between Technological factors and Cloud computing was 0.726 and was significant as supported by a probability value of 0.000 (p<0.05). The relationship between Organizational factors and environmental factors was 0.708 and was significant as supported by a probability value of 0.000 (p<0.05). The relationship between Organizational factors and Cloud computing was 0.822 and was significant as supported by a probability value of 0.000 (p<0.05). The relationship between Organizational factors and technological factors was 0.675 and was significant as supported by a probability value of 0.000 (p<0.05). The relationship between Technological factors and Environmental factors 0.694 and was significant as supported by a probability value of 0.000 (p<0.05).

Regression Analysis

Univariate Regression Analysis between Technological factors and adoption of cloud computing at Old Mutual

The first objective of the study was to establish the influence of technological factors on cloud computing. Regression analysis was conducted to empirically determine whether or not Technological factors significantly determine cloud computing. The results were presented in table 6 below;

Table 6: Univariate Regression Analysis of Technological Factors

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726[a]	.527	.524	.41193

a. Predictors: (Constant), TF

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

The results in Table 6 showed a relationship R = .726, which indicated a positive association between technological factors and cloud computing. The relationship was significant as supported by a probability value of 0.000 (p<0.05). This implied that the model applied could statistically and significantly predict the outcome variable. The study therefore, rejected the null hypothesis, H_o and concluded that technological factors have a significant influence on cloud computing.

Table 7: ANOVA for Technological Factors

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	29.091	1	29.091	171.441	.000[b]
	Residual	26.131	186	.170		
	Total	55.222	187			

a. Dependent Variable: CC
b. Predictors: (Constant), TF

The overall model significance was presented in Table 7. The ANOVA results indicated that the regression model predicts the outcome variable statistically significantly well with F statistic of 171.441. This indicated that the overall model was significant at 5% level and the relationship was not just by chance. This was supported by a probability value of 0.000 (p<0.05). This implies that the model applied could statistically and significantly predict the outcome variable. The study therefore, rejected the null hypothesis, H_{o1} at 5% level of significance and concluded that technological factors have a significant influence on adoption to cloud computing at old mutual. These results collaborate the findings by (Harfoushi et al., 2016) who stated that ICT infrastructure and ICT human resource readiness is critical to cloud computing success.

Univariate Regression Analysis between Organizational factors and adoption of cloud computing at Old Mutual

The second objective of the study was to establish the influence of organizational factors on cloud computing. Regression analysis was conducted to empirically determine whether or not organizational factors significantly determines cloud computing. The results were presented in table 8.

Table 8: Univariate Regression Analysis of Organizational factors

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.822[a]	.675	.673	.34122

a. Predictors: (Constant), OF

The results in Table 8 showed a relationship R = .822, which indicated a positive association between organizational factors and cloud computing. The relationship was significant as supported by a probability value of 0.000 (p<0.05). This implies that the model applied could statistically and significantly predict the outcome variable. The study therefore, rejected the null hypothesis, H_{o2} and concluded that organizational factors have a significant influence on adoption of cloud computing.

Table 9: ANOVA for Organizational factors

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.291	1	37.291	320.283	.000[b]
	Residual	17.931	186	.116		
	Total	55.222	187			

a. Dependent Variable: CC

b. Predictors: (Constant), OF

The ANOVA results indicated that the regression model predicts the outcome variable statistically significantly well with F statistic of 320.283. This indicated that the overall model was significant at 5% level and the relationship was not just by chance. This was supported by a probability value of 0.000 ($p<0.05$). This implied that the model applied could statistically and significantly predict the outcome variable. The study therefore, rejected the null hypothesis, H_{o1} at 5% level of significance and concluded that organizational factors have a significant influence on adoption to cloud computing at old mutual. These results collaborated similar findings by (Ismail, 2016) who looked at the organization characteristic as finical readiness, organization culture, technological readiness, and level of satisfaction with existing systems and found they positively influence cloud computing effectiveness.

Univariate Regression Analysis between Environmental factors and adoption of cloud computing at Old Mutual

The third objective of the study was to establish the influence of environmental factors on cloud computing. regression analysis was conducted to empirically determine whether or not envirnmental factors significantly determines cloud computing. The results were presented in table 10.

Table 10: Univariate Regression Analysis of Environmental factors

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.758[a]	.575	.572	.39027

a. Predictors: (Constant), EF

The results in Table 10 showed a relationship R = .758, which indicated a positive association between environmental factors and cloud computing. The relationship was significant as supported by a probability value of 0.000 ($p<0.05$). This implies that the model applied could statistically and significantly predict the outcome variable. The study therefore, rejected the null hypothesis, H_{o1} and concluded that environmental factors have a significant influence on adoption of cloud computing.

Table 11: ANOVA for Environmental factors

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	31.765	1	31.765	208.550	.000[b]
	Residual	23.456	186	.152		
	Total	55.222	187			

a. Dependent Variable: CC

b. Predictors: (Constant), EF

The ANOVA results indicated that the regression model predicts the outcome variable statistically significantly well with F statistic of 208.550. This indicated that the overall model was significant at 5% level and the relationship was not just by chance. This was supported by a probability value of 0.000 ($p<0.05$). This implied that the model applied could statistically and significantly predict the outcome variable. The study therefore, rejected the null hypothesis, H_{o1} at 5% level of significance and concluded that environmental factors have a significant influence on adoption to cloud computing at UAP-Old Mutual. These results refute the findings by (Tehrani, and Shirazi, 2014) who did not find enough evidence that competitive pressure was a significant determinant of cloud computing adoption.

Regression Analysis Summary

Table 12: Regression Analysis Summary

Objective	**Hypothesis**	**Proposed Data Analysis**	**Results Interpretation**	**Empirical model results**
To determine the influence of technological factors on adoption of cloud computing	Technological factors have no significant effect on adoption of cloud computing	Pearson's correlation, Simple regression analysis $CC=\beta_0+\beta_1TF+\varepsilon$ $CC=1.347+0.644TF$	If P value is <0.5 then significant linear relationship was noted – Statistical significance will be at $\propto<0.5$	R=0.726 $R^2=0.527$ P=0.000 There is a significant relationship between technological factors and cloud computing
To establish the effect of Organizational factors on adoption of cloud computing	Organizational factors have no significant effect on adoption of cloud computing	Pearson Correlation Stepwise Multiple Regression Analysis $CC=\beta_0+\beta_2OF+\varepsilon$ $CC=0.666+0.6803OF$	If P value is <0.5 then significant linear relationship was noted – Statistical significance will be at $\propto<0.5$	R=0.822 $R^2=0.675$ P=0.000 There is a significant relationship
To establish the effect of environmental factors on adoption of cloud computing	environmental factors have no significant effect on adoption of cloud computing	Simple regression analysis will be used $CC=\beta_0+\beta_3EF+\varepsilon$ $CC=1.208+0.682EF$	If P value is <0.5 then significant linear relationship was noted – Statistical significance will be at $\propto\geq0.5$, coefficient of determination (R^2)	R=0.758 $R^2=0.575$ P=0.000 There is a significant relationship between Environmental factors and cloud computing
To establish the effect of organizational, environmental factors and Technological	Organizational factors, environmental factors and Technological factors have no jointly	Multiple regression analysis was used $CC=\beta_0+\beta_1TF+\beta_2OF+\beta_3EF+\varepsilon$ $CC=0.339+0.187TF$	If P value is <0.05 then significant linear relationship was noted – Statistical significance will be	R=0.870 $R^2=0.758$ P=0.000 There is a significant relationship between technological factors

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

factors on adoption of cloud computing	significant effect on adoption of cloud computing	+0.485OF+0.236EF	at $\propto$<0.5	and cloud computing

Based on the study findings, the hypothesis equation model becomes

Adoption of Cloud Computing= 0.339 + 0.187TF+ 0.485OF+ 0.236EF

From the findings, the study found that holding Technological factors, Organizational factors and Environment factors constant, Adoption of cloud computing would be at 0.339. It was established that a unit increase in Technological factors while holding other factors (that is,Organizational factors and Environment factors) constant, will lead to an increase in adoption of cloud computing by 0.187 (p = 0.000). Further, a unit increase in Organizational factors, while holding other factors (that is, Technological factors and Environment factors) constant, will lead to an increase in adoption of cloud computing by 0.485(p = 0.000). A unit increase in Environment factors, while holding other factors (that is, Technological factors and Organizational factors) constant, will lead to an increase in organizational performance by 0.236(p = 0.000).

This infers that Technological factors, Organizational factors and Environment factors all have a significant relationship with the adoption of cloud computing at 5% level of significance and 95% level of confidence. However based on the explanatory power of coefficient of determination the indepedent variables (organizational factors have the highest expalantory power of 0.675 or 67.5%, P<0.05, thus being the most significant Variable; Environmental Factors has 0.575 or 57.5%, P<0.05 while Technological factors are the least significant with 0.527 or 52.7%, P<0.05). This showed that all the variables have significantly relationship with the dependent variable (adoption of Cloud Computing).

The significant positive relation between Technological factors and adoption of cloud computing collaborate the findings of (Kiriinya, 2014) who argued that technological factors were the most significant factor that affected CIC insurance from adopting cloud services by looking into the perceived usefulness and ease of use as the contributors to the technological elements. Similary these findings also collaborate (Borgman, Bahli, Heier and Schewski, 2013) whom indicated that the technology and organization context affect implementation decisions.

The significant positive relationship between organizational factors and adoption of cloud computing agree with (Zhu et al. 2002)that the focus is on the organizational level, on the openness of organizational culture to innovation and processes that accommodate change as being essential factors for e-transformation. Similary findings were put across by (Chatterjee, Grewal and Sambamurthy, 2002) whom colcuded that consequently, organizational age is likely to slow down e-transformation and Web assimilation.

The significant positive relationship between Environmental factors and adoption of cloud computing agrees with (Awa and Liu, 2016) who found that environmental context tells of operational facilitators and inhibitors context such as external support, competitive pressure, and trading partners readiness are vital features to adhere to when implementing the TOE framework under the environmental context. Similary the research study collaborates the findings of (Haslinda *et al.* 2017) who conducted a study to examine the factors that influence cloud computing adoption and found that external pressure significantly influences cloud computing adoption.

CONCLUSIONS

On the basis of findings of the study, a number of conclusions were made. To begin with, it was evident that Technological factors influence the adoption of cloud computing at the Old Mutual-Uap, Nairobi, Kenya. It was made apparent that the success of cloud computing relies heavily on the ICT infrastructure and ICT human resource readiness.

Regarding the influence of Organizational factors on the adoption of Cloud computing, the research study concluded that the organizational context is about its characteristics and resources since organizational context also relates to the structure and processes of a corporate ecosystem that constrain or facilitate the adoption and implementation of innovations within it. Further the institutions should aslo focus on top management support since it is stated that senior leadership is the sponsors of innovation.

Finally on the influence of Environmental factors on the adoption of cloud computing, the significance of competitive pressure that fosters and drives e-business adoption was stressed and the importance of regulatory environment and lack of customer readiness are environmental influences was also found to be of great importance by this research study.

RECOMMENDATIONS

The study suggested pertinent recommendations citing information from theoretical review and the study findings in line with the specific objectives of the study. The objectives were to investigate the influence of technological, organizational and environmental factors affecting adoption of cloud computing.

The study further recommended that to be able to develop new ideas, employees must have enough knowledge about the field they operate in to move it forward. The support for knowledge sharing and exchange of ideas in the in the work place is therefore argued as important for adoption of cloud computing. To support this, a work environment that is tolerant and welcomes new ideas, which includes freedom and challenges at work, shared objectives and open relationships between colleagues and managers were recommendable.

REFERENCES

Abubakar, A. D., Bass, J. M., and Allison, I. (2014). Cloud computing: Adoption issues for sub-saharan African SMEs. *The Electronic Journal of Information Systems in Developing Countries*, *62*(1), 1-17.

Agarwal, R., and Karahanna, E. (2000). Time flies when you're having fun: Cognitive absorption and beliefs about information technology usage. *MIS quarterly*, 665-694.

Ahmed, M., and Hossain, M. A. (2018). Cloud computing in organizations. *History Studies International Journal of History vol. 10(7)*, 241-264.

Akhusama, M., and Moturi, C. (2016). *Cloud Computing Adoption in Insurance Companies in Kenya.* . Pubs.sciepub.

Alzahrani, H. (2016). Survey on Cloud Computing Security Algorithms. *International Journal of Science and Research (IJSR), 5(4)*, 1865-1867.

Alkhater, N., Wills, G., and Walters, R. (2014, December). Factors influencing an organisation's intention to adopt cloud computing in Saudi Arabia. In *2014 IEEE 6th international conference on cloud computing technology and science* (pp. 1040-1044). IEEE.

Awa, H., Emecheta, B., and Liu, S. (2016). *Using T-O-E theoretical framework to study the adoption of ERP solution.* New York: Taylor and Francis.

Babbie, E. R. (2016). The practice of social research. Belmont, CA: Thomson Wadsworth.

Bailey, K. (2008). *Methods of social research*. Simon and Schuster.

Balasooriya, P. N., Wibowo, S., and Wells, M. (2016). Green cloud computing and economics of the cloud: Moving towards sustainable future. *GSTF Journal on Computing (JoC)*, *5*(1), 15.

Bharadwaj, S. S., and Lal, P. (2012, December). Exploring the impact of Cloud Computing adoption on organizational flexibility: A client perspective. In *2012 International Conference on Cloud Computing Technologies, Applications and Management (ICCCTAM)* (pp. 121-131). IEEE.

Borgman, H. P., Bahli, B., Heier, H., and Schewski, F. (2013, January). Cloudrise: exploring cloud computing adoption and governance with the TOE framework. In *2013 46th Hawaii international conference on system sciences* (pp. 4425-4435). IEEE.

Buabeng-Andoh, C. (2012). Factors influencing teachers' adoption and integration of information and communication technology into teaching: A review of the literature. *International Journal of Education and Development using Information and Communication Technology*, *8*(1).

Burn, J. M., and Ash, C. (2002). Knowledge management strategies for virtual organizations. In *Modern organizations in virtual communities* (pp. 1-18). IGI Global.

Cadete, L. (2018). *What is a pilot study?* 4bestevidence.

Chandrashekhar, A., and Shashikumar, H. (2017). Cloud Computing Service and Deployment Models . *International Journal for Research in Applied Science and Engineering Technology vol. 5(VI),* , 45-98.

Charlton, J. P. (2005). Measuring perceptual and motivational facets of computer control: the development and validation of the computing control scale. *Computers in Human Behaviour, 21*(5), 791-815. doi: 10.1016/j.chb.2004.02.027

Chatterjee, D., Grewal, R., and Sambamurthy, V. (2002). Shaping up for e-commerce: institutional enablers of the organizational assimilation of web technologies. *MIS quarterly*, 65-89.

Davis, F. D., Bagozzi, R. P., and Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science*, *35*(8), 982-1003.

Datt, S. (2018). *Measuring reliability of questionnaires.* Projectguru.

Debois, S. (2019). *10 Advantages and Disadvantages of Questionnaires. .* Surveyanyplace.

Doherty, E., Carcary, M. and Conway, G. (2015), "Migrating to the cloud", *Journal of Small Business and Enterprise Development*, Vol. 22 No. 3, pp. 512-527.

El-Gazzar, R. F. (2014, June). A literature review on cloud computing adoption issues in enterprises. In *International Working Conference on Transfer and Diffusion of IT* (pp. 214-242). Springer, Berlin, Heidelberg.

Fraile, R. (2018). *Why Does Cloud Computing Affect the Environment.* ECPI.

Griffin, J. T., and Fyke, S. H. (2016). *U.S. Patent No. 9,246,555*. Washington, DC: U.S. Patent and Trademark Office.

Gupta, D. (2018). *Cloud computing in India: Adoption, benefits, and challenges. .* New Delhi : Kogan Page .

Gutierrez, A., Boukrami, E., and Lumsden, R. (2015). Technological, organisational and environmental factors influencing managers' decision to adopt cloud computing in the UK. *Journal of Enterprise Information Management*, *28*(6), 788-807.

Halek, M., Holle, D., and Bartholomeyczik, S. (2017). *Development and evaluation of the content validity, practicability and feasibility of the Innovative dementia-oriented Assessment system for challenging behaviour in residents with dementia. .* Biomedcentral .

Harfoushi, O., Akhorshaideh, A. H., Aqqad, N., Janini, M. A., and Obiedat, R. (2016). *Factors Affecting the Intention of Adopting Cloud Computing in Jordanian Hospitals. .* MBA Thesis .

Haslinda, Hassan., Herry, M., and Khairudin, N. (2016). *Cloud Computing Adoption in Organisations: Review of Empirical LiteratureCloud Computing Adoption in Organisations: Review of Empirical Literature .* Master's thesis, Universiti Utara Malaysia.

Hasan, B. (2003). The influence of specific computer experiences on computer self-efficacy beliefs. Computers in Human Behavior, 19(4), 443-450. doi:10.1016/s0747-5632(02)00079-1

IRA . (2017). *Insurance Industry Annual Report 2017.* Nairobi : IRA.

Ismail, W. (2016). *Application Of Toe Framework In Examining The Factors Influencing Pre-And Post-Adoption Of CAS In Malaysian SMEs.* Singapore .

Itimu, K. (2018). *Kenya Mobile Penetration Closing on to 100%, CyberAttacks Decline. .* Nairobi : Techweez.

Kahura, G. W. N., and Kamaria, J. K. (2017). Social Cultural And Environmental Related Factors Influencing The Selection of Areas of Residence In Kenya: A Survey Of Nairobi Residents. *International Journal of Finance*, *2*(1), 17-41.

Karahanna, E., Straub, D. W., and Chervany, N. L. (1999). Information technology adoption across time: a cross-sectional comparison of pre-adoption and post-adoption beliefs. *MIS quarterly*, 183-213.

Kariuki, G. (2015). ICTs and governance: Understanding citizen-engagement in implementation of e-governance in Kenya. *International Journal of Electronic Governance*, *7*(3), 232- 252.

Khristy, H. (2017). *How technology impacts the insurance sector.* Xprimm.

Kim, D., Kang, S., and Moon, T. (2015). *Technology Acceptance and Perceived Reliability of Realistic Media Service. .* Indjst.

Kiriinya, D. (2014). *Factors influencing cloud computing adoption in organizations: a case of cooperative insurance company of Kenya .* Nairobi : United States International University.

Koul, S., and Eydgahi, A. (2018). Utilizing the technology acceptance model (TAM) for driverless car technology adoption. . *Journal of technology management vol. 13(46)*, 37.

Kothari, S. P., and Warner, J. B. (2007). Econometrics of event studies. In *Handbook of empirical corporate finance* (pp. 3-36). Elsevier.

Kwach, J. (2018). *Challenges Facing Insurance Industry in Kenya in 2018. .* Nairobi : Tuko .

Lauren, G. (2015). *5 Factors That Affect Organizational Culture.* Trupath.

Leidner, D., Alavi, M., and Kayworth, T. (2006). The role of culture in knowledge management: a case study of two global firms. *International Journal of e-Collaboration (IJeC)*, *2*(1), 17-40.

Low, C., Chen, Y., and Wu, M. (2011). Understanding the determinants of cloud computing adoption. *Industrial management and data systems*, *111*(7), 1006-1023.

Maletski, G. (2018). *Additional Main Benefits of Cloud Computing and Managed Services for Insurers. .* Microsoft

Markauskaite, L. (2007). Exploring the structure of trainee teachers' ICT literacy: The main components of and relationships between, general cognitive and technical capabilities. Education Technology Re-search Development, 55(6), 547-572. doi:10.1007/s11423-007-9043-8

Mbaka, C. (2018). *A decade after Kenya got undersea fibre optic cables, getting internet in rural areas is still elusive. .* Nairobi .

McNeill, C. (2018). *What Is Descriptive Research?* Gutcheckit.

Melhem, T., and Samia, K. (2019). *Assessing Country Progress Towards Digitization.* Washinton , D.C.: World Bank .

Microsoft. (2018). *Azure for Secure Worldwide Public Sector Cloud Adoption.* South Africa: Microsoft.

Mohsin, A. (2016). *A Manual for Selecting SamplingTechniques in Research. .* Nairobi : MPRA.

Munguti, S. (2018). Factors influencing the adoption of cloud computing in software development companies in Kenya. *International Academic Journal of Information Systems and Technology (IAJIST), vol. 2(1)*, 126-144.

Mugenda, O., and Mugenda, A. (2003). *Research methodology: qualitative and quantitative techniques.* Nairobi: Acts Press.

Mugesani, P. A. (2018). *Role of Corporate Social Responsibility Activities on Employees' Commitment to Firms Listed at Nairobi Stock Exchange in Kenya* (Doctoral dissertation, JKUAT).

Nalwenge, W., and Koech, V. (2018). *Insurance Industry Report 2018.* Aibcapital.

Nickolas, S. (2019). *What's an example of stratified random sampling? .* Investopedia.

Nunnally, J. C. (1978). *Psychometric theory*. New York: McGraw-Hill.

Ochieng, R. (2018). *Equitel; Kenya's First and Most Successful MVNO. .* Nairobi : Kenyanwallstreet.com.

O'Connor, S. (2017). *What Is Interoperability, and Why Is it Important? .* ADSC.

Peters, O. (2007). Social psychological determinants of mobile communication technology use and adoption: A comparison of three models to explain and predict mobile communication technology behaviour. Thesis, University of Twente

Ramachandra, G., Iftikhar, M., and Khan, F. (2017). *A comprehensive survey on security in cloud computing.* Elsevier.

Rogers, E. M. (1995). Diffusion of Innovations: modifications of a model for telecommunications. In *Die diffusion von innovationen in der telekommunikation* (pp. 25-38). Springer, Berlin, Heidelberg.

Rogers, E. M. (2002). Diffusion of preventive innovations. *Addictive behaviors*, *27*(6), 989-993.

Ross, J. W., Beath, C. M., and Goodhue, D. L. (1996). Develop long-term competitiveness through IT assets. *Sloan management review*, *38*(1), 31-42.

Sabi, H. M., Uzoka, F. M. E., Langmia, K., and Njeh, F. N. (2016). Conceptualizing a model for adoption of cloud computing in education. *International Journal of Information Management*, *36*(2), 183-191.

Satapathy, S. C., Avadhani, P. S., Udgata, S. K., and Lakshminarayana, S. (Eds.). (2013). *ICT and Critical Infrastructure: Proceedings of the 48th Annual Convention of Computer Society of India-Vol I: Hosted by CSI Vishakapatnam Chapter* (Vol. 248). Springer Science and Business Media.

Sauro, J. (2015). *How to Measure the Reliability of Your Methods and Metrics. .* Measuringu.

Sekaran, U. (2000) Research Methods for Business: A Skill Business Approach. John Wiley and Sons, New York.

Scholtz, B., Govender, J., and Gomez, J. (2016). *Technical and Environmental Factors Affecting Cloud Computing Adoption in the South African Public Sector. .* South Africa.

Sen, A. (2016). *Insurtech: Disruptions and Opportunities in the Insurance Industry.* Pinebrinsurtech.

Sherifi, D. (2018). *Perceived Usefulness and Perceived Ease of Use Impact on Patient Portal Use.* Block Chain .

Stieninger, M., Nedbal, D., Wetzlinger, W., Wagner, G., and Erskine, M. A. (2014). Impacts on the organizational adoption of cloud computing: A reconceptualization of influencing factors. *Procedia Technology*, *16*, 85-93.

Tan, M., and Lin, T. T. (2012). Exploring organizational adoption of cloud computing in Singapore.

Tanny, T. F. (2018). *Survey Research Design.* Tahmina.

Tashkandi, A. N., and Al-Jabri, I. M. (2015). Cloud computing adoption by higher education institutions in Saudi Arabia: an exploratory study. *Cluster Computing*, *18*(4), 1527-1537.

Tehrani, S. R., and Shirazi, F. (2014, June). Factors influencing the adoption of cloud computing by small and medium size enterprises (SMEs). In *International Conference on Human Interface and the Management of Information* (pp. 631-642). Springer, Cham.

Tornatzky, L. G., Fleischer, M., and Chakrabarti, A. K. (1990). *Processes of technological innovation*. Lexington books.

Turner III, D. W. (2010). Qualitative interview design: A practical guide for novice investigators. *The qualitative report*, *15*(3), 754-760.

Uap-Old Mutual Annual Report 2018

Uap-Old Mutual Annual Report 2016

Venkatesh, Viswanath; Morris, Michael G.; Davis, Gordon B.; and Davis, Fred D.(2003) "User Acceptance of Information Technology: Toward a Unified View," MIS Quarterly

Wanjiku, P., and Moturi, C. (2016). *Cloud Computing: Transforming Medium and High Tech Industries in Kenya. .* Nairobi .

Wang, Y. S., Wu, M.-C., and Wang, H.-Y. (2017). Investigating the determinants and age and gender differences in the acceptance of mobile learning. *British Journal of Educational Technology, 40*(1), 92-118.

WAWERU, J. N. (2018). Effect Of Public Debt On Foreign Direct Investment Inflows In Kenya.

Wilmot, A. (2005). *Designing sampling strategies for social qualitatives research: With particular refrence to the office for national statistics ' Qualitative respondent registrer.* CDC .

Wroblewski, M. (2018). *Technology's Impact on Organizational Changes.* Chron.

Yeboah-Boateng, E. O., and Essandoh, K. A. (2014). Factors influencing the adoption of cloud computing by small and medium enterprises in developing economies. *International Journal of Emerging Science and Engineering*, *2*(4), 13-20.

Zamboni, J. (2018). *What Is the Meaning of Sample Size? .* sciencing.com.

Zhang, W. M., Hu, J. S., Guo, Y. G., Zheng, S. F., Zhong, L. S., Song, W. G., and Wan, L. J. (2008). Tin-nanoparticles encapsulated in elastic hollow carbon spheres for high-performance anode material in lithium-Ion batteries. *Advanced Materials*, *20*(6), 1160-1165.