RELATIONSHIP BETWEEN ELECTRONIC OPERATIONS AND ORGANIZATIONAL
PERFORMANCE AMONGST GOVERNMENT AGENCIES IN KENYA

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ABSTRACT

Organizations have to adapt ICTs to business processes. E-operations in government provide many opportunities to improve the quality of service to the citizens. Citizens should be able to get service or information in minutes or hours, versus today’s standard of days or weeks, citizens, businesses and state and local governments should be able to find required reports without having to hire the services of experts. The specific objectives for the study were to assess the extent of adoption of e-operations in Government Agencies in Kenya and to determine the relationship between e-operations and organizational performance in Government Agencies in Kenya. The study adopted a descriptive Research design, which ensured ease in understanding the insight and ideas about the problem. This research used both primary data and secondary data. Secondary data was obtained from Government Agencies in Kenya’s information systems. Primary data was collected through semi-structured questionnaires. Primary data was collected through semi-structured questionnaires. This was done using drop and pick method to the sample of 10% 175 respondents from 1750 employees working in government agencies in Kenya. The data from the questionnaires and the interview schedule was coded and the response on each item put into specific main themes. The data obtained from the research instruments was analyzed by use of descriptive statistics (frequencies and percentages) and inferential statistics. Based on the above findings, the study concludes that technology was used to a large extent in various departments which include: Risk analysis, risk control, risk monitoring and risk assessment. From the study the researcher also conclude that, lack of top management support, management fear of technology, security issues, literacy level of customers and lack of skill by the IT personnel was a barrier to service quality in the department.

Keywords: Diffusion of Innovations, Government and businesses, Government and citizens, Government and governments/agencies, Information and communications technology and Small and medium-sized enterprises
Background of the Study

E-operations refer to technology-based services that enable the digital interactions between a government and citizens (G2C), government and businesses (G2B), government and employees (G2E) and government and governments/agencies (G2G) (Irani & Love, 2002). According to Chase et al. (2004), operations’ strategy should develop an operating focus. The operating focus include the treatment of customers in terms of friendliness and helpfulness, the speed and convenience of service delivery, the price of service, the variety of services available, the quality of any tangible goods that are central to the service, and the type and availability of any unique skills that may be part of the service. E-operations in government is a key instrument for modernization and reforms as governments’ face continuing pressure and increasing their performance and adapting to pressure of new information society (Mclean & Jelassi, 2003).

E-operations government which has increasingly been identified within the government's development framework as an instrument for achieving economic prosperity (Waema & Mitulla, 2007). According to MoICT, (2008), Kenya E-operations in government Secretariat was set up in 2004 under the Office of the President to be an oversight body to galvanize all ICT projects within government aimed at enhancing service delivery of all the ministries. The Ministry of Information and Communications was set up in 2004 for the first time in the history of Kenya, mainly to handle the wider universal access goals to enable the citizens actively participate in a global economy which is increasingly knowledge-based).

E–Operations

The last two decades have witnessed a global shift towards electronic operations with the objective to introduce radical changes to the traditional approach of public service delivery. This shift has been driven by two global revolutions: the information revolution and the governance revolution (Heeks, 2001). Both revolutions were in turn made possible by advances in information and communication technologies (ICTs), which enabled cheaper and faster communication, and the method of information delivery, which transcended traditional paper-based operation boundaries and expedited the provision of public services through ICT mediums (Kumar and Best, 2006).

This shift is considered as top priority for agencies seeking to improve the efficiency and effectiveness of public services (Chen et al., 2006). A recent United Nations (UN) E-operations Research of 2012 (UN, 2012) found that almost all 193 Member-States have embarked on the implementation of some form of e-operations in government. The report also indicates a large variance in implementation between different Member States based on differences in management, cultural, infrastructure, and human agency factors. Each country offers a unique environment for implementing e-operations in government projects. Seemingly, each
environment has different motivations at the initial stages of implementation which might induce unique events that change the focus of e-operations in government strategies. Studying specific e-operations in government initiatives can therefore offer a deeper understanding of the phenomenon and create a learning paradigm for the e-operations in government research field (Jaeger, 2003).

Away from central public authorities, regional (also called rural) enterprises do not have direct, physical access to all the services that governmental or public agencies offer. Very often, these services are essential for enterprises, mostly small and medium-sized enterprises (SMEs) in such areas in order to perform their business operations. They include services offered by several types of governmental agencies/authorities, from taxation offices, legislative authorities and local authorities, to chambers of commerce (Huang, 2009; Salkute and Kohle, 2011). Information and communication technologies (ICT) aim at addressing such problems, first by providing the means for public authorities to deploy and offer electronic operations (e-operations) services, and second by facilitating rural SMEs in accessing these services from a distance. On the other hand, often professionals and citizens are not aware of electronically available public services, or do not know how to use them effectively to reap their benefits in their everyday business activities.

Organizational Performance
Organizational performance comprises the actual output or results of an organization as measured against its intended goals and objectives. The balanced scorecard focuses on four perspectives. These perspectives are financial, customer, internal business process and learning and growth. (Kaplan and Norton, 1996). Organizational performance is the concept of measuring the output of a particular process or procedure, then modifying the process or procedure to increase the output, increase efficiency, or increase the effectiveness of the process or procedure. The concept of organizational performance can be applied to either individual performance such as an athlete or organizational performance such as a racing team or a commercial enterprise or even a farm or livestock production. In performance improvement, organizational performance is the concept of organizational change in which the managers and governing body of an organization put into place and manage a programme which measures the current level of performance of the organization and then generates ideas for modifying organizational behavior and infrastructure which are put into place to achieve higher output.

E-operations and Performance
A substantial body of research has revealed the positive link between innovation and performance for government departments. Innovation can reinforce competitive advantages for government to serve people well and reach out to many (Harvey, 2000; McAfee, 2002). As adopting technology in logistics service process can also be considered as technological innovation for the department, it would be expected that there is a positive relation between technology adoption and supply chain performance for service providers. Moreover, based on the
resource-based view. A firm should develop a viable strategy to produce superior performance (Grant, 1991). Murphy and Poist (2000) argued that logistics services capabilities including efficient warehousing, transportation, and freight bill payment are drivers for superior supply chain performance. Technology can help item level identification, which is useful for easily and efficiently identifying each item within the entire supply chain (Davis and Luehlfing, 2004).

**Government Agencies In Kenya**

A government-owned corporation, state-owned enterprise, or government business enterprise is a legal entity created by a government, to undertake commercial activities on behalf of an owner government, and are usually considered to be an element or part of the state. There is no standard definition but the defining characteristics are that they have a distinct legal form and they are established to operate in commercial affairs or public policy objectives. They may also be fully owned or partially owned by Government.

In Kenya the state owned corporations fall under various parent ministries and established through acts of parliament and under provisions of state corporations Act(cap 446) laws of Kenya. The corporations are categorized on functional basis mainly financial corporations, commercial/manufacturing, regulatory, public universities, training and research, regional development authorities, tertiary education and training and service corporations. Some of the state corporations are semi autonomous in that they have their own budgets and generate their revenues and therefore do not rely on the state for funding, they however operate within the Government guidelines and mandate.

**Research Problem**

E-operations in government provide many opportunities to improve the quality of service to the citizens. Citizens should be able to get service or information in minutes or hours, versus today’s standard of days or weeks, citizens, businesses and state and local governments should be able to find required reports without having to hire the services of experts Heeks, (2003). Government employees should be able to do work as easily, efficiently and effectively as their counterparts in the commercial world (simplified delivery of service to citizens, 2002).

Although many governments from developing countries are enthusiastic about e-operations in government and offer some level of online service, why does it remain challenging to implement e-operations in government services? The simple reason is that e-operations in government is not easy. E-operations in government involves taking computer-based technologies and combining them with human-based administrative processes to create new ways of serving citizens.

Organizations have to adapt ICTs to business processes. Similarly, business processes have to adapt to ICTs. ICTs provide new functions to do things that were not possible. It is not only challenging for organizations to understand computer systems, it is also challenging to understand the business, legislative and political processes that makeup the day-to-day
operations of all types of government institutions. Many of the processes involve numerous steps and procedures that have evolved idiosyncratically to conform to legislation, mandates, and norms based on the formal bureaucratic structure and informal employee practices of each ministry.

Governments must understand the local context and local practices in which ICTs will be used to provide e-operations in government services (Robey et al. 2007). Generally, developing countries often adopt ICTs and software that are designed in the developed world and introduced to them through technology transfer programs. A largely unsuccessful case is one where some goals were attained but most stakeholder groups did not attain their major goals and/or experienced significant undesirable outcomes. However, while E-operations in government continues to be touted as an initiative critical for the transformation of government, the multiple interpretations and general vagueness of E-governance as a concept has been noted, partly due to lack of an in depth recognition of its complex political and institutional environments (Yildiz, 2007).

Many researchers have given it a goal to understand the initiatives that encourage the adoption of e-operations in government services in different environments. These studies have shown that despite different environments having different characteristics, there are general initiatives that promote e-operations in government adoption by ordinary citizens. E-operations should also be employed to improve the way public servants use public resources to support the society (Kerby, 2005). The true potential of electronic government with regard to more direct participation in governing and public decision making on part of citizens is not yet completely understood in my view. So, the determination of meaningful measures of e-operations in government success or failure with regard to citizen engagement needs some more consideration (Gabardi, 2001).

Locally, Kamuren (2006) did a Research on licensing strategy & competitive advantage in the vehicle tracking industry; a case of Car Track (K) LTD. Ndungu, (2006) carried out a research on sustaining a competitive advantage at British Airways World Cargo – Kenya. Kung’u (2007) carried out a Research on strategy implementation challenges in the main stream churches in Kenya while Mecha, (2007) did a study of strategy choice at the Kenya Pipeline Company using Ansoff’s grand strategies matrix. However, none of these local and international studies have centered their research on the relationship between electronic operations and organizational performance for government agencies.

**Research Objective**
The general objective of this study was to establish the relationship between e-operations and organizational performance amongst government agencies.
The specific objectives for the study are;

i. To assess the extent of adoption of e-operations in Government Agencies in Kenya?

ii. To determine the relationship between e-operations and organizational performance in Government Agencies in Kenya

**Theoretical Review**

As e-operations in government services are mostly provided using ICT, it is imperative that the understanding of Information Technology (IT) adoption be done. This understanding can further be extended to help us understand the uptake and adoption of e-operations in government systems. In 1989, basing his thoughts on the Theory of Reasoned Action (TRA) (Napoli, 2000; Castells, 1996, 2001), Davis developed the Technology Acceptance Model (TAM) in a bid to explain how the users come to accept and use technology (Curtin et al., 2003). The UTAUT helps managers assess the likelihood (probability) of success for new technologies as well as understand the drivers of technology acceptance. Everett Rogers’ theory of Diffusion of Innovations (DOI) within the framework of the diffusion approach aims to analyze the characteristics of technology adopters (Napoli, 2000).

**Theory of Technology Acceptance Model**

The Technology Acceptance Model (TAM) is an influential extension of Ajzen and Fishbein’s (1980) Theory of Reasoned Action (TRA). It was introduced and developed by Fred Davis in1986. TAM is a model derived from a theory that addresses the issue of how users come to accept and use specific technology. The model suggests that when users are presented with, for instance, a new software package, a number of variables influence their decisions about how and when they will use it. There are two specific variables, perceived usefulness and Perceived usefulness in the TAM model originally referred to job related productivity, performance, and effectiveness (Davis, 1989). This is an important belief identified as providing diagnostic insight into how user attitudes toward using (and intention to use) are influenced; perceived usefulness has a direct effect on intentions to use over and above its influence via attitude (Davis, 1989; Taylor & Todd, 1995). Incorporating concepts used in Expectancy Theory, Triandis (1980) proposed that an important factor influencing behavior is the expected consequences of the behavior.

Perceived usefulness was found to be significant constructs in the e-operations in government adoption literature (e.g. Carter & Belanger, 2004, 2005). Past research was inconsistent on whether perceived usefulness was the stronger determinant. Fu, Farn, and Chao (2006) and Norazah, Ramayah, and Norbayah (2008) found that behavioral intention was largely driven by perceived usefulness. Perceived ease of use was found to be significant constructs in the e-operations in government adoption literature (e.g. Carter & Belanger, 2004, 2005). Wang (2002) found that perceived ease of use was a stronger predictor of people’s intention to e-file than perceived usefulness. Perceived ease of use was found to have positively influenced the behavioural intention to use a system (Fagan, Wooldridge, & Neill, 2008; Hsu, Wang, & Chiu, 2009; Ramayah, Chin, Norazah, & Amlu 2005).

**Diffusion of Innovation Theory**

Research on the diffusion of innovation has been widely applied in disciplines such as education, sociology, communication, agriculture, marketing, and information technology, etc (Rogers, 1995; Karahanna, et al., 1999; Agarwal, Sambamurthy, & Stair, 2000). An innovation is “an idea, practice, or
object that is perceived as new by an individual or another unit of adoption” (Rogers, 1995, p. 11). Diffusion, on the other hand, is “the process by which an innovation is communicated through certain channels over time among the members of a social system” (Rogers, 1995, p. 5). Therefore, the IDT theory argues that “potential users make decisions to adopt or reject an innovation based on beliefs that they form about the innovation” (Agarwal, 2000, p. 90). IDT includes five significant innovation characteristics: relative advantage, compatibility, complexity, and trialability and observability. Relative advantage is defined as the degree to which an innovation is considered as being better than the idea it replaced. This construct is found to be one of the best predictors of the adoption of an innovation. Compatibility refers to the degree to which innovation is regarded as being consistent with the potential end-users’ existing values, prior experiences, and needs. Complexity is the end-users’ perceived level of difficulty in understanding innovations and their ease of use. Trialability refers to the degree to which innovations can be tested on a limited basis. Observability is the degree to which the results of innovations can be visible by other people. These characteristics are used to explain end-user adoption of innovations and the decision-making process.

Theoretically, the diffusion of perspective does not have any explicit relation with the TAM, but both share some key constructs. It was found that the relative advantage construct in IDT is similar to the notion of the PU in TAM, and the complexity construct in IDT captures the PEU in the technology acceptance model, although the sign is the opposite (Moore & Benbasat, 1991). Additionally, in terms of the complexity construct, TAM and IDT propose that the formation of users’ intention is partially determined by how difficult the innovation is to understand or use (Davis, et al., 1989; Rogers, 1995). In other words, the less complex something is to use, the more likely an individual is to accept it. Compatibility is associated with the fit of a technology with prior experiences, while the ability to try and observe are associated with the availability of opportunities for relevant experiences. These constructs relate to prior technology experience or opportunities for experiencing the technology under consideration. Compatibility, and the ability to try and observe can be treated as external variables, which directly affect the constructs in the technology acceptance model. After the initial adoption, the effects of these three constructs could be diminished with continuous experience and reduced over time (Karahanna et al., 1999).

Thus far, numerous studies successfully integrated IDT into TAM to investigate users’ technology acceptance behavior (Hardgrave, Davis, & Riemenschneider, 2003; Wu & Wang, 2005; Chang & Tung, 2008). Few have attempted to examine all IDT characteristics with the integration of TAM. In this research, we improve TAM by combining IDT characteristics, adding compatibility, complexity, relative advantage, and the ability to try and observe as additional research constructs to increase the credibility and effectiveness of the study.

Social-Technical System Theory of Information Technology

Theory of Planned Behavior (TPB) proposes that a person's intention to perform behaviour was the central determinant of that behavior because it reflects the level of motivation a person is willing to exert to perform the behavior Titah and Barki, (2006). The TPB has been largely used by researchers to understand a variety of health-related behaviors in various population groups. Eccles and colleagues (Ahmed, (1998) suggest that there is a predictable link between health care professionals’ intention to engage in behavior and their subsequent behavior.
A fundamental tenet of socio-technical systems thinking is that a technology on its own (in the form of its technical capability) had little meaning for purposes of organizational analysis, being truly comprehensible only in terms of the context in which it was embedded and, by extension, the organizational goals or transformations that it serves or enables (Simenda, K. (2009). Moving beyond a concern with one user and an interface, socio-technical systems theory argues that a network of social relationships surround all working practices (cooperation among workers over the course of a task, supervisory relationships, and general social interaction). The gainful employment of any technology hinges on the ability and willingness of users to employ it for worthwhile tasks (those deemed central to the organization's goals). Accordingly, any technology cannot be analyzed or understood in isolation of the goal-oriented organization it is intended to support. In order to jointly optimize both the social and technical attributes of any organization, allowance must be taken at the engineering level of the social dynamics of any organization or sub-unit within it (Simenda, (2009).

Socio-technical systems theory has given birth to a framework for technology design that emphasizes holistic job satisfaction (rather than just task performance) and user participation throughout the development process. Thus, socio-technical theorists recommend the analysis of all stakeholders, not just the direct users of a innovation, the formation of planning groups to oversee the design, the performance of prototyping exercises, and the analysis of likely impact the technology will have on the organization (Swanson, 1994). The intention of such a design process was to avoid unpleasant side effects in working practices and to ensure as much a social solution as a technical solution to the computing needs of an organization.

Determinants Of Operational Performance
The emergence of the digital economy and internet technology has transformed many aspects of operations management and marketing. E-operations offer a rich array of opportunities to improve business performance. Choosing a particular e-commerce application is a strategic decision that must be made in the context of the company's competitive strategy. Strategic approach to e-commerce decisions has become increasingly important as a result of the explosive adoption patterns rendering competitive aspects crucial (Swanson, and Crowston K., (2004). E-operation is one of the most popular forms of electronic technology applied to businesses and that its impact on competitive strategy and its formulation is regarded to be fundamental (Lanckriet and Heene, 1999). Adapting to changes in technology is a key factor driving competitive advantage (Porter, 1980; Miles and Snow, 1978).

Service Quality
Authors ard (199Bouch3) suggest that service quality is a key aspect that differentiates service offers and helps build competitive advantage, but Pinho et al. (2008) comment that delivery of public services by the use of ICTs is still in its early years and further that an ample number of citizens have had modest or no experience/interaction with it. According to Zeithaml et al. (2000) online service quality is the extent to which a website facilitates efficient and effective delivery of products and services. Rowley (2010) has accredited Zeithaml et al. (2010) work and states that it was helpful in developing scales and sets of
service quality dimensions. Akesson and Edvardsson (2010) study reveals five dimensions of change in the design of services because of the introduction of e-operations in government (service encounter and service process; customers as co-creators and sole producers of services; efficiency; increased complexity; and integration). The study discusses the significance of these findings with particular examples from transcriptions of the interviews. Jones et al. (2009) in his work mentions that e-operations in government within the next few years will transform both the way in which public services are delivered and the fundamental relationship between governments, the community and citizens.

Business success may simply be the extent to which your organization can produce a higher-quality product or service than your competitors are able to do at a competitive price. When quality is the key to a company’s success, quality management systems allow organizations to keep up with and meet current quality levels, meet the consumer’s requirement for quality, retain employees through competitive compensation programs, and keep up with the latest technology. A quality management system is a management technique used to communicate to employees what is required to produce the desired quality of products and services and to influence employee actions to complete tasks according to the quality specifications. However, despite the link/relationship existing between e-governance and quality of services, (Meuter et al. 52) calls for more research and Parasuraman and Grewal (2008) emphasized further investigation into the impact of technology on the service quality-value-loyalty chain.

Santos comments that service quality is one of the main factors that determine the success or failure of electronic commerce and Buckley (2004) adds that research lags behind because practitioners have focused mainly on issues of usability and measurement of use with little consideration for the outcomes. Over the past few years, there has been a great deal of deliberations by various researchers over the effectiveness of e-service in the public sector context. According to Chan and Al-Hawamdeh (2003) and Shackleton et al. (2005), many government agencies in the government sector have comprehended the imperative of using internet to provide services to citizens. Dabholkar and Bagozzi state that technology has had a remarkable influence on the growth of service delivery options recently.

**Information Systems**

A number of Information Systems (IS) researchers (Alter, 2003; Benbasat & Zmud, 2003; Guthrie, 2003; Holand, 2003; Whinston & Geng, 2004; Wu, 2003; Faraj, Kwon & Watts, 2004, Sein & Harindranath, 2004; Myers, 2003) have drawn attention to the concept of the Information Technology (IT) artifact. Of notable acknowledgement is the debate which was stirred by the article written by Benbasat & Zmud (2003), in which they polemically pointed out that the core of IS as a discipline, should be the IT artifact. While their assertion raised a lively debate on the core of IS as a discipline, its relevance to this article is their conceptualization of the IT artifact. They conceptualize the IT artifact to be: “The application of IT to enable or support some task(s) embedded within a structure(s) that itself is embedded within a context(s). Here, the hardware/ software design of the IT artifact encapsulates the structures, routines, norms, and values implicit in the rich contexts within which the artifact is embedded” (Benbasat and Zmud, 2003, p. 186). In aligning this concept of the IT artifact within the E-operations domain, the nomological net espoused by Benbasat & Zmud (2003) aided in grounding this study.
Kenya, just like many other developing countries, has joined the race of adopting E-operations in government, but largely depends on designs of information technologies from the industrialized nations (Kirlidog, 1996). Depending on technology designed and produced in developed countries is claimed to bring a cultural bias in favor of those developed countries' social and cultural systems which may create obstacles to obtaining certain envisaged impacts in practice (Hill et al, 1998). Orlikowski and Iacono (2001), while emphasizing the need for the centrality of the IT artifact in IS, pointed out that academics in the field have not deeply pursued the IT artifact as the core subject matter.

Patterson et al. (2003) also showed that the following critical success factors positively affected the adoption of ICT in SCM: organizational size; decentralized organizational structure; transactional climate and supply chain member pressure, and environmental uncertainty. Kwon & Zmud (1987) also suggested that these factors may be important to differing degrees depending on the context or technology. The Support Services Department integrates and coordinates activities across all links in the service delivery chain in support of government agencies in Kenya’s mandate. The mission of the department is to employ the best business practices in providing customer focused cost-effective, proactive and timely legal, planning and operational support services for enhanced and effective tax administration and its vision is to be the leading support services provider respected for professionalism, pragmatism and adaptability.

Orlikowski & Iacono (2001) define the IT artifact as bundles of material and cultural properties that are packaged in some socially recognizable form, which could be in the form of hardware or software. While chiding researchers of the need to refocus on this under theorized domain, Orlikowski & Iacono (2001) as well as Sein et al (2004) clearly point out that any IT-based artifact is contextual, thus suggesting that this socially and humanly recognizable IT 'form' differs, not only in essence but also in its effects.

**E-Reporting**

Traditionally, the collection of the CES, MWR data and other employment records has been by mail. The EDI Center, however, can facilitate collection of these data by offering centralized electronic data reporting. This reduces the burden for employers since they can generate electronic files directly from their payroll system, eliminating the need for manual transcription, and can send files covering all their locations to one place.

E-operations in government are the use of information technology to support government operations, engage citizens, and provide government services. According to Sharon (2002), e-operations in government incorporate four key elements, which reflect the functions of government itself: that, when combined, create a unified process: e-services, e-commerce and e-management.

According to Boyer et al, (2002) E-services is defined a service encounter is the initial landing on the home page until the requested service has been completed or the final product has been delivered and is fit for use. In short e-service is the electronic delivery of government information, programs and services, often (but not exclusively) over the Internet as well as the provision of services via the Internet. The term “service” implies the meeting of some public need and/or the system or operation by which people are provided with something they need. E-services often include e-commerce. E-commerce is the second
element of the e-operations in government process. It is defined as the electronic exchange of money for goods and services. Examples include citizens paying taxes and utility bills, renewing vehicle registrations and paying for recreation programs, as well as the government buying supplies and auctioning surplus equipment online.

Gabardi (2001) states that e-democracy can be something as effortless as electronic access by citizens to Governmental information. E-democracy can also be more intricate and can involve more interactions between citizens and government including e-voting. Hence E-democracy is defined as the use of electronic communications to increase citizen participation in the public decision-making process. It is also used to enhance the democratic processes within a democratic republic or representative democracy. An example of this process is electronic voters’ registration. Four models e-democracy as provided for by Kakabadse (2003) are; the electronic bureaucratic model which government provides published and downloadable information and the capacity to conduct transactions electronically to improve governmental functions and reduce costs; information management model which is the better levels of interactivity between citizens and governments especially in terms of access to government information and contact with officials; populist model citizens make known their preferences on range of issues through mechanism as such public meetings; the civil society model assumes that e-operations in government is transformational that the use of ICT, especially the internet, will transform the political culture and strengthen connections between citizens and promote a robust and autonomous site for public debate, which in turn will strengthen democracy. All the above elements require well articulated electronic process and procedure for ease of communication to relevant stakeholders.

Management
Management in business and organizations is the function that coordinates the efforts of people to accomplish goals and objectives using available resources efficiently and effectively. Management comprises planning, organizing, staffing, leading or directing, and controlling an organization or initiative to accomplish intended goals.

An innovation can refer to something totally new in society or an invention (Mclean, M. and Jelassi, T.2003or something within a particular setting, but not new per se (Vidgen and McMaster, 1996). In addition, the conceptual origins of E-operations in government lie outside the African continent, and more specifically Western nations and other donor organizations (Mclean and Jelassi, 2003).

When e-operations in government is exported from Western nations to African countries (Heeks, 2002), it is expected to achieve certain goals which, if realized, result in certain impacts in these governments. Technology transfer is taken to be a goal-oriented process intended to enhance the technological capabilities of the recipient organizations or countries (Autio and Laamanen, 1995). Kumar et al (2007) posits that large-scale state sponsored technology transfer projects are aimed at developing indigenous technological capabilities and meeting broader socio-economic objectives. E-operations in government, conceptualized at various levels of government can be considered as a large-scale initiative intended to achieve certain goals (impacts) that are envisioned in various policy documents. The proposition, that E-operations in government impacts influence its conceptualization in developing countries, finds justification from the technology transfer literature.

The packaging of E-operations in government assumes certain expected impacts before it is negotiated and transferred to recipient countries. These impacts determine which physical and informational
technological components are transferred (Kumar et al, 2007. Successful adoption of E-operations in government results in certain performance objectives being met, in the short, medium and long term. The basis of the claim is therefore that the expected impacts of E-operations in government are known a priority to the transfer and assimilation of its technologies in developing countries. Transfer of E-operations in government, as a goal-oriented process, envisages that developing nations can achieve better governance and other socio-economic impacts from its adoption. The transfer process and execution of organization strategy through plans, processes and procedures require a competent team to realize organization goals and objectives effectively and efficiently.

**DATA ANALYSIS**

**Regression Analysis**

The researcher conducted a multiple regression analysis. This was done to test relationship among variables (independent) on the relationship between e-operations and organizational performance amongst government agencies. The statistical package for social sciences (SPSS) was applied to code, enter and compute the measurements of the multiple regressions for the study.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.796(a)</td>
<td>.893</td>
<td>.591</td>
<td>.42945</td>
</tr>
</tbody>
</table>

Source: Research Data (2014)

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (E-operation) that is explained by all the four independent variables (E-reporting, Information system, service quality, Organizational management). Form the table, the coefficients of determination 89.3%.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>36.739</td>
<td>3</td>
<td>12.913</td>
<td>13.948</td>
<td>.000(a)</td>
</tr>
<tr>
<td>Residual</td>
<td>20.461</td>
<td>32</td>
<td>.864</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>57.200</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Data (2014)
The significance value is 0.000 which is less than 0.05. F critical at 5% level of significance was 2.32. F calculated is greater than F critical (value=13.948)

Table 4.3: Coefficients (a)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>.423</td>
<td>.369</td>
<td>.290</td>
<td>.004</td>
</tr>
<tr>
<td>Service quality</td>
<td>.453</td>
<td>.148</td>
<td>.757</td>
<td>5.869</td>
</tr>
<tr>
<td>Information system</td>
<td>.205</td>
<td>.123</td>
<td>.115</td>
<td>.935</td>
</tr>
<tr>
<td>E-reporting</td>
<td>.295</td>
<td>.138</td>
<td>.092</td>
<td>.688</td>
</tr>
<tr>
<td>Organizational management</td>
<td>.258</td>
<td>.131</td>
<td>.087</td>
<td>.674</td>
</tr>
</tbody>
</table>

b) Dependent Variable: E-operations

Source: Research Data (2014)

The regression equation established from the data in table 4.13 above is as follows:

\[ Y = 0.423 + 0.453X_1 + 0.205X_2 + 0.295X_3 + 0.258X_4 \]

The equation therefore depicts a positive relationship between E-operations and operations and organizational performance amongst government agencies in Kenya.

Summary of Findings

The general objective of this study was to establish the relationship between e-operations and organizational performance amongst government agencies. The researcher used primary data obtained through self-administered questionnaires with closed and open-ended questions. Study findings revealed that service quality was a key aspect that differentiated service offers and helped building competitive advantage to the organization. The study discusses the significance of these findings with particular examples from transcriptions of the interviews.

The study sought to establish extent of agreement to statement of barrier to service quality in the respondents department. From the study, majority of the respondents agreed to a very large extent that literacy level of customers is a barrier to service quality in the department as shown by a mean of 4.64 and a standard deviation of 0.85. The respondents further agreed to a large extent; that lack of top management support was a barrier to service quality in the departments as shown by a mean of 4.29 and a standard deviation of 0.89, that management fear of technology was also a barrier to service quality in their departments as shown by mean of 4.00 and a standard deviation of 1.04, that lack of integration of information systems was a barrier to
service quality in their departments as shown by a moderate extent mean of 3.85 and a standard deviation of 1.23; that Lack of skills by the IT personnel was a barrier to service Quality to a moderate extent as shown by a mean of 3.60 and a standard deviation of 1.35 and finally the respondent agreed to moderate extent that security issues was a barriers to Service Quality in their Departments as shown by a mean score of 3.48 and a standard deviation of 1.47. According to Akesson and Edvardsson (2010) the study revealed five dimensions of change in the design of services because of the introduction of e-operations in government (service encounter and service process; customers as co-creators and sole producers of services; efficiency; increased complexity; and integration).

On the Extent of technology use on aspects of risk management, majority of the respondents agreed to a very large extent that technology was used on risk control on risk management as shown by a mean of 4.8; That technology was use on risk monitoring as aspect of risk management to a very large extent as shown by a mean of 4.45; Futher the respondent agreed to large extent that technology was used on risk estimation and risk evaluation as an aspect of risk management as shown by a mean score of 4.23; That technology was used in Minimizing their impact by addressing probability and direct impact as aspect of risk management to a large extent as shown by a mean of 4.20 and finally the respondent in the department agreed to moderate extent that technology had been used in risk analysis as an aspect of risk management as shown by a mean of 4.17 in the table above.

The study further sought to establish the extent of agreement with statements related to the effect of E-reporting in the department. From the study, majority of the respondents agreed to large extent that Top management commitment to technology affected the performance on E-reporting as shown by a mean of 4.36 and a standard deviation of 1.10; that Technology integration into a firm's strategic management affected E-reporting to a large extent by a mean of 3.5; that User satisfaction with systems and External orientation affected the performance of E-reporting in the department to a moderate extent as shown by a mean of 3.10 and finally Environmental dynamism and Previous firm experience with technology affected the performance of E-reporting in the department to a low extent as shown by mean of 2.26 respectively in the table above. The findings relate to those of Jones et al. (2009) in his work mentions that e-operations in government within the next few years will transform both the way in which public services are delivered and the fundamental relationship between governments, the community and citizens.

On the level of agreement with statements on the effect of management on organizational performance, majority of the respondents were in agreement to large extent that improvement of human capital management affected the performance of the organization by a mean score of 4.36, improved quality (timeliness, accuracy, accessibility) of information affected organizational performance by a mean of 3.50; that Speeding up of information transfer and
processing affected the organizational performance to moderate extent by a mean of 3.10; the respondent further agreed that both Improved risk management and Improved Regions Liaison & Administration affected the performance of the organization to a large extent as shown by a mean of 4.26 respectively.

The four independent variables that were studied, explain only 89.3% on the relationship between E-operation and organizational performance amongst government agencies as represented by the $R^2$. This therefore means that other factors not studied in this research contribute 10.7% on the relationship between E-operation and organizational performance amongst government agencies. Therefore, further research should be conducted to investigate the other factors (10.7%).

The significance value is 0.000 which is less that 0.05 thus the model is statistically significance in predicting how E-reporting, information system, service quality and organizational management affect the performance of the organization. The F critical at 5% level of significance was 2.32. Since F calculated is greater than the F critical (value = 13.948), this shows that the overall model was significant.

According to the regression equation established, taking all factors into account (service quality, information system, E-reporting, organizational management) constant at zero, E-operation will be 0.423. The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in service quality will lead to a 0.453 increase in E-operation; a unit increase in information system will lead to a 0.205 increase in E-operation; a unit increase in E-reporting will lead to a 0.295 increase in E-operation; a unit increase in organizational management will lead to 0.258 increases in E-operation. This infers that service quality contribute more to E-operation followed by the by E-reporting. At 5% level of significance and 95% level of confidence, service quality had a 0.001 level of significance; Information system showed a 0.003 level of significant, E-reporting showed a 0.002 level of significant, Organizational management showed 0.02 level of significant hence the most significant factor was service quality.

On information system the study revealed that Kenya, just like many other developing countries, has joined the race of adopting E-operations in government, but largely depends on designs of information technologies from the industrialized nations. IT-based artifact is contextual, thus suggesting that this socially and humanly recognizable IT ‘form’ differs, not only in essence but also in its effects. E-operations in government provide many opportunities to improve the quality of service to the citizens. The study also found out that management played a critical role in the performance of the organization. Improved risk management and Improved Regions Liaison & Administration affected the performance of the organization.
Conclusion

Based on the above findings, the study concludes that technology was used to a large extent in various departments which include: Risk analysis, risk control, risk monitoring and risk assessment. Suggest that service quality is a key aspect that differentiates service offers and helps build competitive advantage. Business success may simply be the extent to which your organization can produce a higher-quality product or service than your competitors are able to do at a competitive price. When quality is the key to a company’s success, quality management systems allow organizations to keep up with and meet current quality levels, meet the consumer’s requirement for quality, retain employees through competitive compensation programs, and keep up with the latest technology. A quality management system is a management technique used to communicate to employees what is required to produce the desired quality of products and services and to influence employee actions to complete tasks according to the quality specifications.

The study further concludes that critical success factors positively affected the adoption of ICT in SCM: organizational size; decentralized organizational structure; transactional climate and supply chain member pressure, and environmental uncertainty. The mission of the department is to employ the best business practices in providing customer focused cost-effective, proactive and timely legal, planning and operational support services for enhanced and effective tax administration and its vision is to be the leading support services provider respected for professionalism, pragmatism and adaptability. From the study the researcher also conclude that, lack of top management support, management fear of technology, security issues, literacy level of customers and lack of skill by the IT personnel was a barrier to service quality in the department.

Recommendations

The study recommends that government agencies should adopt E-operations in the various department in order enhance work efficiency. The study also recommends since lack of top management support, security issues, literacy level of customers, management fear of technology and lack of skills by the IT personnel are barrier to service quality, measures should be undertaken to resolve these issues through training, support from management, employing security personnel in order to achieved organizational performance.
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