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Contributions of Information Management Practices on Performance among Selected Counties, Kenya

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ABSTRACT

One of the world's most vital resources is information as it's required to solve problems and make decisions affecting both the present and the future. There is enough evidence to explain that the degree of success enjoyed by an organization and its members depends largely on how well information is managed. While investment in information technology has not yielded corresponding impact on organizational performance, investment in information management has positively influenced organizational performance. This research aimed at establishing the effects of information management practices on performance and service delivery at Machakos, Murang'a and Kirinyaga County Governments. The objective of the research was to establish the information management practices employed and their effects on county governments performance. The study adopted the mixed research design method. Descriptive survey design was used to collect data. Stratified random sampling was used to select the participants. The study used analysis of variance (ANOVA) to allow the making of predictions from the data. Findings revealed that the main effects of information management practices employed in the respective county government were improved service delivery and functioning of public administration, decreased uncertainties and decreased time needed to carry out key county government procedures. Lack of resources such as funds, human resource, and infrastructure and managerial support were identified as the main hindrance to information management programmes. The study recommends the formulation of policies and strategies that are in line with organizational goals and strategies, the adoption of appropriate technologies and top management support for effective information management.

Keywords: Information, Performance, Practices, Service delivery, Information Technology. This is an open access article under Creative Commons Attribution 4.0 License.

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1. Introduction

The world's economic trends in business require organizations to respond quickly to demand and opportunities through competition and continuous expansion of domestic and international markets and by being innovative as well (Broun, 2011). This requires organizational members to move beyond and achieve higher frontiers which are achievable only by having the right information. Studies have shown that one of the world's most important resources is information since it is needed to solve problems and make decisions affecting both the present and the future. The degree of success enjoyed by an organization and its members depends largely on how well information is managed (Becker, 2012). Information as a resource of organizations has been defined differently by different authors.

The view of O' Brien & Marakas (2008) and Laudon & Laudon (2010) is that, information is data that have been processed into a form that is meaningful and useful to the recipient and has a real or perceived value and can cause a change in decision making. Robek, Brown, and Stephens (1995) describe it as any intelligence, which can be communicated in either graphic form or alphanumeric character, and which include records, documents, data and files created and maintained by organizations. Owiti (2011) defines information management as the controls that an organization needs to implement to ensure its sensibly managing information that relates to information infrastructure assets. The emerging trends in information technology (IT) have resulted in organizations using different approaches to effectively manage information. As a vital resource, information plays very important roles in the life of every organization and therefore its management has attracted the attention of practitioners and academics as well.

The usefulness of information as a resource is seen in the various roles that it plays in achieving organizational objectives. Researchers, including Adams (2006) and AlMobaideen et al. (2013) have also indicated that information provides the relevant intelligence, and serves as a valuable business resource, by providing knowledge that helps to reduce uncertainty in decision making, and consequently, aids planning and evaluation, while serving as means of communication, motivation and learning (Laudon and Laudon, 2010). These writers maintain that information corrects or confirms previous information and has surprise value in that it tells something the receiver did not know or could not predict, and it has value in the decision-making process in that it changes the probabilities attached to expected outcomes in a decision-making.

In Kenya, the new constitution introduced the devolved government regime of the County government and the National Government (Sharma, 2010). This therefore meant that, National Government functions were to be devolved to the County Government. Previously, information management had been largely implemented in the Central Government. It has nevertheless taken root in the 47 Counties spanning the entire country. According to Otike & Kingori, (2009), King'ori and Otike (2010), it has been greatly feared that corruption among other vices such as general misappropriation of public funds is not only bound to be devolved to but are also likely to be multiplied at County levels, and an organization therefore requires a good information management system to deter the would be offenders against such vices.

The growing adoption of information management practices has been driven by the requirements by the government and the information technology (IT) industry to better manage the quality and reliability of information in business and respond to a growing number of contractual regulatory and contractual requirements by the authorities (Bowen, 2010). Managing information brings together the collective judgments of individuals and groups within these organizations responsible for strategic planning, oversight management, and day-to-day operations providing both the necessary and sufficient response measures to adequately address the information management requirements of these organizations (Yusof & Southwood, 2013).

1.1 Need for the study

Effectively managing information is key to provision of service delivery as well as to development and performance of the counties, especially in successfully implementing strategies articulated in their blueprints (AlMobaideen et al., 2013). The role of information and by extension that of information management as an essential foundation upon which to base this performance strategy is not articulated (Yusof & Southwood, 2013). Indeed, apart from the occasional reference to the

intention to use information and communication technologies in a few areas, the focus has not been an overall information management strategy within the county governments in Kenya.

Capkun, Hameri, and Weiss, (2009) carried out a research study to determine the relationship between inventory and financial performance in manufacturing firms. The results they attained revealed a positive correlation between the firm's inventory management and its financial performance. Lwiki et al, (2013) using a survey carried-out in eight (8) sugar manufacturing firms in Kenya established that there is generally positive correlation between each of inventory management practices. Sahari, Tinggi and Kadri, (2012) conducted a study to determine a correlation between inventory management and firm's performance plus capital intensity. They concluded that there is a positive link between inventory management and capital intensity from the results they attained.

In this current study, it is postulated that the information management system existing in most county governments is impeded by a number of weaknesses, including poor planning for information management issues with the consequence that resources allocated for information management are inadequate, low regard for information management by managers and staff, and the information needs of the public sector players are not adequately met. Consequently, a gap therefore exists and an investigation into the contribution of information management practices on performance of county governments is deemed important, as a prerequisite to developing an information management system to manage information. This study therefore seeks to fill in this gap by examining the contributions of information management practices on performance among selected counties in Kenya.

1.2 Objective of the study

The specific objective of the study is to establish the information management practices employed by the county governments and its effects on performance.

1.3 Scope of the study

The research aimed at establishing the information management practices employed at the County Governments. The research was conducted in Machakos, Murang'a and Kirinyaga Counties in Kenya.

2. Literature review

The review focuses on the research and scholarly reports on information management practices in government institutions, and technological readiness on information management in government institutions while paying closer consideration to Machakos, Murang'a and Kirinyaga county governments.

2.1 Information management practices employed

Information management is a cycle of organizational activities from the acquisition of information from one or more sources, the custodianship and the distribution of that information to those who need it, and its ultimate disposition through archiving or deletion. This cycle of organizational involvement with information involves a variety of stakeholders, including those who are responsible for assuring the quality, accessibility and utility of acquired information, those who are responsible for its safe storage or disposal, and those who need it for decision making. Stakeholders might have rights to originate, change, distribute or delete information according to organizational information management policies. Information collected is normally managed through information management systems. Information management systems can be categorized into two, the manual system and the electronic system of management (Mairesse & Mohnen, 2012).

An information management system is 'an integrated user-machine system for providing information to support operations, management and decision making functions in an organization. The system utilizes computers, manual procedures, models for analysis, planning, control and decision making, and a database' (Davis and Olson, 1984). MIS facilitates managerial functioning and is an important input at every level in the organization for decision making, planning, organizing, implementing, and monitoring and controlling. MIS is valuable because of its content, form and timing of presentation and can either be manual or automated.

Organizations that do not have formal Information management practices will fail to leverage their managers' intellectual capital for business innovation and growth (O'Neill & Adya, 2007). MIS enables the exchange of experiences, which transfers the required information to the management levels to sustain competitive advantage since it affects the decision making to improve the quality of services provided. Therefore, Becker (2012) supported that it is imperative that these organizations continuously motivate their employees to share valuable information so that their intellectual capital can be leveraged.

2.2 Manual information management system

Some business owners prefer to use a simple, paper-based record keeping system generally referred to as the manual system. A manual information system does not use any computerized devices. The recording, storing and retrieving of data is done manually by the people, who are responsible for the information system. The manual information management system comprises of the people who are the recipients of information, the business procedures which are the measures put in place that define the rules of processing the data, the filling system which is an organized way of storing information, and reports which are generated after manually analyzing the data or information. In general, a manual-based information system is one that does not rely on any computerized systems as does a computer-based information system. A manual-based system will see information recorded and kept in different ways such as in files in paper form (Birgit, 2010).

There are certain advantages to using the manual system of record keeping, such as its Less expensive to set up, correcting entries may be easier with manual systems, as opposed to computerized ones that can leave complicated audit trails, the risk of corrupted data is much less, data loss is less of a risk, particularly if records are stored in a fire-proof environment, problems with duplicate copies of the same records are generally avoided, and finally the process is simplified as you don't need to be familiar with how data management software's calculate and treat your information. A manual system approach is less complex than electronic systems, which can make it easier for untrained people to access and manipulate data. Anyone can look through alphabetized filing cabinets to find a file. Locating and manipulating an electronic database information may require technical training, and user error can result in unintended alterations or data loss. Data can get out of order in the manual systems. If someone accidentally puts a file in the wrong place, or takes a file out of a cabinet and forgets to put it back, it can lead to lost data or the creation of additional copies of files (Laudon & Laudon, 2010).

2.3 Computerized information management system

Computerized information management systems were developed to address the challenges of manual information systems. The major difference between a manual and computerized information system is a computerized system uses a combination of software and hardware to record, store, analyze and retrieve information. It's an improvement of the manual system and has major advantages such as faster data processing and information retrieval, improved data accuracy, improved security of information*/n, reduced data duplication, an improved backup system, and also easy access to information. Computerized systems also come with their own share of challenges such as being expensive to set up and configure and thus way out of reach to most small companies. There is heavy reliance on technology and in the event that technology is not adequately updated, then there is the risk of fraud (Maceviciute, & Wilson, 2012).

Computerized management Information Systems provide information in form of reports and displays to managers and many business professionals. Managers may use their networked computer and web browser to get instantaneous display about the sales results of their daily sales analysis report to evaluate sales made by each sales personnel. Management Information System also takes into account integrative nature of information flow as well as the structuring of the organization around decision centers. Standards of performance are part of any good plans; hence, determination of standards like other aspects of the planning process depends on the availability of relevant management information system. Computerized management information system aids the functioning and monitoring of an organization (Munirat et al, 2014).

The new technology as a result of computerization helps to reduce managerial cost and human cost and makes work more accurate and faster; which make the county governments go to the electronic systems of managing. Form this point the role of (MIS) management information system is to manage the data, organizing, retrieving of the information which help the organization to provide services faster, and market more accurate and easier, which affect also the level of performance.

2.4 Information management practices and performance

Gray (2006) defines information management practices as mechanisms that help collect, store, and use information. Management Information Systems are distinct from regular information systems in that they are used to analyze other information systems applied in operational activities in the organization (Munirat et al, 2014). Information protectors analyze the current information management state, develop recommendations and present an implementation action plan. According to Beckinsale and Ram (2006), organizations ought to assess the recent situation in terms of technology and architecture, procedure, method and managerial readiness and subsequently use a proper course of action that will help attain the set business objectives.

The use of information technology is key, and when processing and handling information, employees must use IT resources provided and approved by the qualified managers for the level of sensitivity of the information concerned (Robles et al., 2008). It's also key to being Vigilant in the process. Files, documents or information whose disclosure or loss would cause serious harm should not be left unattended in any circumstances.

Performance is a systematic process for improving organizational performance by developing the performance of individuals and teams. It is a means of getting better results by understanding and managing performance within an agreed framework of planned goals, standard and competency requirements. Performance is much more than appraising individuals. It contributes to the achievement of cultural changes and is integrated with other key human resource activities, especially human capital management, talent management, learning and development and reward management to contribute to the overall performance of the organization.

African government have mostly operated in paper-based environment for a long time, the transformation process from manuscript to electronic systems is bound to be complex than is often realized (Larsen, Pedersen & Andersen, 2006). There is the need to fasten the messed papers before contemplating to computerize. When a decision is decided to computerize, it's necessary to maintain some hybrid system, which allows for parallel or complimentary paper and electronic systems to coexist for a period of time. Information Management practice play a vital role in facilitation of sustainable human development and good governance. According to Article 10 on the Constitution of Kenya (2010), public values and doctrine of governance are important in ensuring that county governments are implementing their various mandates in a bid to propel efficient public service delivery.

Kirinyaga, Muranga and Machakos county governments have all focused on hiring highly skilled labor force that are tech savvy in order to achieve their desired service delivery. Consequently, the county governments have focused on the development of the general and specialized skills for their human resources. However, the county governments have yet to formulate policies environment and legal frameworks that propel optimal enabled service delivery (Chalotra, 2015). Geared towards enhancing information management. Corruption scandals have also been on the rise due to failure of the counties to embrace a fully-fledged information management system. Further, public participation and shared services in these county governments are still minimal yet hindering the advancement of information management.

3. Methodology

The methodology includes the research design that was employed by the researcher, the sample and the instruments that was used in data collection, the systematic research procedure and techniques that the researcher used in collecting and analysing the data. This research adopted a descriptive survey design which describes characteristics of a population or phenomenon being studied. It involved observing the behavior of a respondent without influencing it in any way. It's the

best research design to use since it intends to obtain information that describes existing phenomena by asking persons about their perceptions, attitudes, behavior and values (Weaver and Olson's, 2006).

3.1 Target population

The research was carried out at three counties namely; Machakos, Murang'a and Kirinyaga county governments. These counties had been selected because they have a large population in terms of county staff. They are also ranked as the best performing counties countrywide in terms of service delivery. Questionnaires and interview schedules were used to collect data from the sample. The researcher used both quantitative and qualitative approaches. The target population of the study consisted of 285 employees, all employees working in management sections in Machakos, Muranga and Kirinyaga County. It included all the county information officers, regional supervisors, registry staff, records officers and clerical officers in the three county governments.

3.2 Research instrument

Kothari (2004), defines research instrument as a measurement tool designed to obtain data on a topic of interest from research subjects. It's developed by the researcher and provides information such as the purpose of the instrument, the population addressed and the variables measured. This research focused on a questionnaire and interview schedule for purposes of data collection. According to Kothari (2004), a questionnaire is an orderly set of questions printed and administered to the respondent to answer, either by selecting the answer in cases of structured questions or by expressing his/her opinion in case of open-ended questions. The questionnaires will contain open ended and closed ended questions. On the other hand, according to Falcome (2008), an interview denotes to a dialogue between two or more people where questions are inquired by the interviewer to elicit details or statements from the interviewee. The researcher probed for more details using these instruments in order to clarify ambiguous information about the three county governments of Machakos, Murang'a and Kirinyaga. According to Cohen & Manion (2004), the interview schedule consents the researcher to get in depth information regarding the study objectives and helps in getting qualitative data.

3.3 Sample and sampling technique

Egberongbe (2013) defines sampling as the procedure a researcher uses to gather people, places or things to study. A sample on the other hand is a subgroup of the population a researcher is interested in (Rosenthal & Rosnow, 2006). The researcher used stratified sampling in order to achieve the desired representation from various sub groupsand get sample population of the employees. In stratified random sampling, subjects are selected in such a way that the existing subgroups in the population are more or less reproduced in the sample (Tracy, 2012). The study will also use purposive sampling technique to get sample population from the County information coordinators of the three counties. Neuman (2002) states that purposive sampling uses interviewees who best facilitate the researcher to meet the research objective.

3.4 Data analysis and presentation

The researcher analyzed quantitative data collected through questionnaires by use of descriptive statistics such as frequencies, means, percentages and median with the help of the Statistical Package for the Social Sciences (SPSS) application software. The qualitative data which was collected through interviews was analyzed through content analysis. The data was evaluated and categorize into patterns or themes for analysis. Descriptive analysis was used to define the themes to express the findings of the analysis. Data of quantitative nature was presented using tables, charts, graphs and percentages.

4. Research findings

4.1 Pilot test results

Prior to the main study, a pilot test was conducted that primarily tested the relevance and reliability of the research instruments. In this study, the reliability of the instruments was tested using Crobanch alpha which was used in the research to verify the reliability of the construct. A total of 17 questionnaires were obtained among employees in the county government of Nyeri. Reliability of all

the four constructs representing the dependent variable performance and the independent variables information management employed, skills & knowledge of staff involved, resources & infrastructure, and challenges faced in implementationattracted a Crobanch alpha statistics of 0.84. A Crobanch alpha of more than 0.7 indicates that the data collection instrument is reliable (Field, 2009).

4.2 Descriptive results for information management practices employed

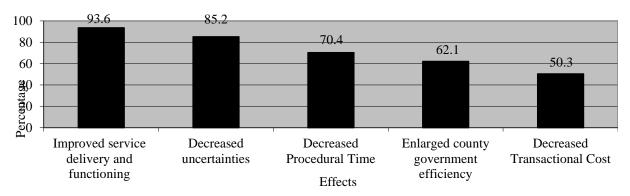


Figure 1. Descriptive Results for Information Management Practices Employed

From figure 1 above, a majority of the staff members (93.6%) pointed out that the main effect of information management practices put in place in their respective county government offices was improved service delivery and functioning of public administration; 85.2% indicated decreased uncertainties; 70.1% pointed out decreased time needed to carry out key county government procedures; 62.1% observed enhanced county government efficiency; whereas 50.3% indicated decreased transactional costs,

Additionally, the county information coordinators outlined a number of key effects of the information management practices that their respective county governments have employed. These included enhanced ease in execution of day to day operations in the county office, effective implementation of information management functions, increase in information retrieval and handling speeds, cost cutting due to improved handling and management of information, and improved order and structure in information classification in the county office. The researcher observed that there were diverse similar information management practices adopted in all the three county government offices. These practices included storage of county information data in online databases, as well as local storage of information in internal and external computer hard disks. These practices appeared to greatly increase information accessibility and handling and it also saved the operational time for both the staff and management.

Conclusively, the findings in this section indicate that there are information management practices in all the county government offices. The key effects of information management practices put in place in the county government offices were found to entail the advancement of operations and service delivery in the county government offices, improved efficiency due to reduced uncertainties, as well as time conservation. In concurrence with these findings, Trumbull (2012) posits that information management through computing technology, communication technology and mass storage technology are some of the areas of continuous development that reshape the way that governments enhance their service delivery operations through simplified access, improve efficiency in terms of information retrieval, and saving time spent in dissemination of information to users.

4.3 Diagnostic test results

4.3.1 Multivariate normality

Linear regression analysis requires all variables to be multivariate normal. If the residuals are not skewed, that means that the assumption is satisfied. In this study, normality was tested by using skewness and kurtosis and presented in table below.

Table 1.
Skewness and Kurtosis Table

Variable	Skewness	Kurtosis
Manual Information Management Practice	0.514	0.829
Automatic Information management	1.331	0.661
Practice		

The findings in table 1 above show that the value for skewness for manual information management system is 0.514 and 1.331 for automatic Information Management Practice employed. The data therefore shows that the data is normal because the skewness and kurtosis values are between +/-1.5. According to George and Mallery (2010) the values for asymmetry and kurtosis between -2 and +2 are considered acceptable in order to prove normal univariate distribution.

4.3.2 Correlation analysis

In this section, the study presents the research finding on the Pearson product moment correlation. Pearson product moment correlation was conducted to determine the strength of relationship between the study variables provided below.

Table 2.

Correlation Matrix				
Variables	Performance	Manual Information managemen t practices	Automatic information managemen t practice	
Performance	1			
Manual Information Management System	.564**	1		
Automatic information management System	0.686	0.802**	1	

From the findings on table 2 above on the correlation analysis between performance and manual information management system employed, the study found a positive significant correlation between performance and manual information management system employed as shown by correlation coefficient of 0.564. The positive correlation meant that the manual information management system in place was seen to affect performance. The study also found a positive significant correlation between performance and the electronic information management system as shown by a correlation coefficient of 0.686.

4.3.3 Univariate regression analysis

In order to test the hypotheses of the regression model that there was a significant effect between the independent variable and dependent variable, analysis of Variance (ANOVA) was used (Cooper & Schindler, 2010). According to Anderson, Sweeney and Williams (2002) Analysis of Variance can be used to test the relationship between independent variable and the dependent, and to test the goodness of fit of the regression model that is how well the model fits the data. The study therefore sought for information on the relationship between information management practice employed and performance. The results were recorded in table 3 below.

Table 3.
Model Summary for Information Management Practice Employed

Model	R R Square		Adjusted R Square	Std. Error of the Estimate
	.898ª	.806	.789	0.893

a. Predictors: (Constant), Information Management Practice Employed

Regression analysis was conducted to empirically determine whether Information Management Practice employed was a significant determinant of performance in organizations. Regression results in table 3 above indicate the goodness of fit for the regression between Information Management Practice employed and performance was strong. An adjusted R squared of 0.789 indicates that 78.9% of the variances in the Information Management Practice employed by organizations are explained by the variances in performance. The correlation coefficient of 89.8% indicates that the combined effect of the predictor variables has a strong and positive correlation with Information Management Practice employed.

ANOVA for Information Management Practice Employed

Indicator	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.178	1	5.178	13.278	.000
Residual	36.656	94	0.390		
Total	41.833	95			

Findings in table 4 above show the F statistic. The F value indicates whether the set of independent variables as a whole contribute to the variance in the dependent variable. An F value of 13.278 was found. Findings further show that the F value was significant (p=0.000) at 95%. This means that Information Management Practice employed is significant in predicting performance in the county governments.

Table 5.
Regression Coefficient for Information Management Practice Employed

Variable	Beta	Std. Error	t	Sig.	
Constant	2.890	·39	7.411	0.000	
Information management					
practice employed	.322	.88	3.644	0.000	

Table 5 above displays the regression coefficients of the independent variable Information Management Practice employed. From the above regression model shown in the table above, Information Management Practice employed and performance to a constant zero would be 2.890. It is established that a unit increase in Information Management Practice employed would cause an increase in performance by a factor of 0.322. This clearly shows that there is a positive relationship between Information Management Practice employed and performance. P-value was less than 0.05, which shows that variables covered in the study on Information Management Practice employed were statistically significant to influence performance.

The model is defined as Y= $2.890 + 0.322X_1$, where Y was performance and X_1 was Information Management Practice employed. This implies that a unit change in Information Management Practice employed would result to 0.322 units change in performance. The results reveal that Information Management Practice employed is statistically significant in explaining performance. The study concurs with that of Becker (2012) who asserts that information management practice employed must take into account the general strategy of the organization and understand the main directions in which the organization is going to influence performance.

5. Discussion

5.1 Discussion of findings

Findings from the analysis revealed that the main effect of information management practices employed put in place in their respective county government office were improved service delivery and functioning of public administration, decreased uncertainties and decreased time needed to carry out key county government procedures. County information coordinators observed enhanced ease in execution of day-to-day operations in the county office, effective implementation of information management functions, and increase in information retrieval and handling speeds. The researcher observed increase information accessibility and handling.

6. Conclusion

The findings led to the conclusion that key effects of information management practices employed put in place in Machakos, Murang'a and Kirinyaga County Governments offices entail advancement of operations and service delivery in the county government offices, improved efficiency due to reduced uncertainties, as well as time conservation.

The findings also led to the conclusion that the key challenges faced by Machakos, Murang'a and Kirinyaga County Government offices in implementation of information management practices are mostly socioeconomic; pertaining mainly to funding, infrastructure, information technology and human resources.

6.1 Recommendations

This study recommends that all the three county governments should establish strategies that will enable them to improve on the information management practices in place in order to offer more effective and efficient services. It is evident that all the three counties have established similar information management practices such as storage of information on online databases and local storage in internal and external computer hard disks. However, despite their availability, all the three counties are yet to achieve the highest standards and best practices of information management.

The study also recommends the formulation of policies and strategies that are in line with organizational goals and strategies, the adoption of appropriate technologies and top management support for effective information management. The policies should be adopted and endorsed at the highest level in the organization, and should be reviewed regularly to ensure that they reflect current business needs.

The study also recommends the creation of policies and procedures that control the creation, receipt, transmission and maintenance of records or information to ensure that creators of records are authorized and identified to protect against unauthorized addition, deletion or alteration of information. It is also very important to ensure that a records management policy is in place before implementing any information management program or practice.

6.2 Areas of further research

A study should be carried out on the synchronization of information in the counties in semi-arid areas to allow the public to access all services from at given county. This is because, such synchronization would make data accessibility easier and more effective thereby, enabling them to offer quality services.

A study should be carried out to establish how county governments can effectively document all their information management procedures so as to propel informed decision making and good information management practices. This is because, the lack of well-documented procedures hinders the realization of effective information management practices in the counties.

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