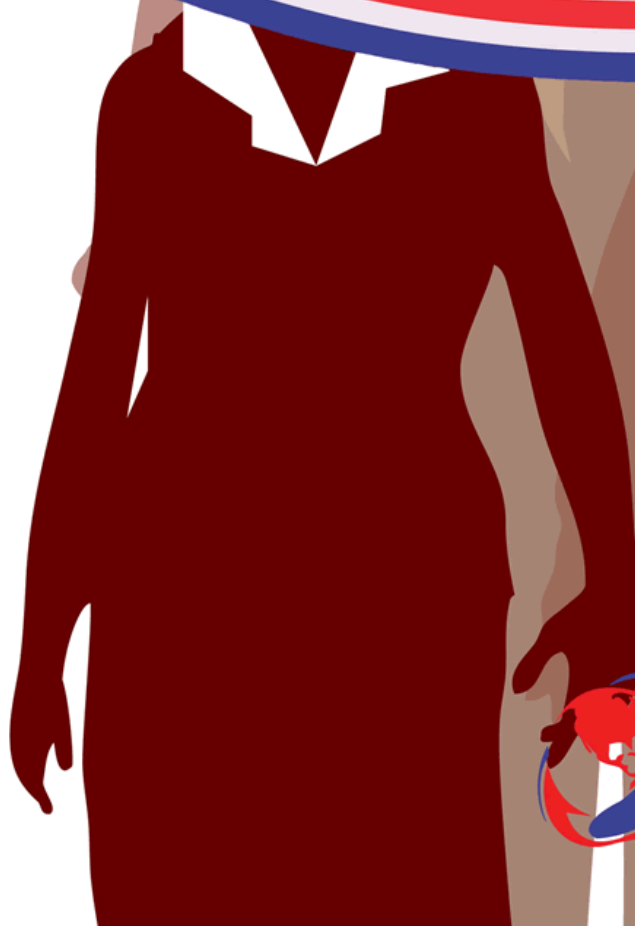


Journal of Human Resource and Leadership (JHRL)

EFFECT OF HUMAN RESOURCE INFORMATION SYSTEMS IN ADOPTION OF QMS IN KENYA'S ISO CERTIFIED STATE CORPORATIONS

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Abstract

Purpose: The purpose of this study was to determine the influence of human resource information systems in adoption of QMS in Kenya ISO certified state corporations.

Methodology: The proposed research consisted of a descriptive survey. The population comprised of fifty nine state corporations that were ISO certified on 9001:2008 series by the Kenya Bureau of Statistics. The study applied a stratified random sampling technique to select a sample size of twenty one state corporations. Purposive sampling technique was further applied to select four respondents in each of the twenty one selected state corporations. Questionnaires were used as the main data collection instruments and a pilot study was undertaken to pretest the questionnaires for validity and reliability. The gathered data was analyzed by use of Statistical Package for Social Scientists (SPSS) version 20. The analysis involved factor analysis; descriptive statistics where the means Standard Deviations and variances were established for all the factors tested in the questionnaires; Correlation analysis was done between the independent sub variables and the dependent variable; Linear regression analysis was also done; and t-test was used for the test of significance of individual coefficients. R-squared was used for the explanatory power of the model. The analysis was presented using tables and charts. The interpretations of data were also given as per the research objectives of the studies.

Results: Inferential statistics indicated that HRIS is very important in ensuring adoption of quality management systems in organizations.

Unique Contribution to Theory, Practice and Policy: Companies ought to examine their human resource information systems and for effectiveness before adopting the quality management systems.

Keywords: *Human resource information systems, adoption of QMS and ISO certified state corporations.*

1.0 INTRODUCTION

Organizational quality which is achieved through employee participation and aims at long term success through customer satisfaction and benefits to all members of the organization and the society is a manifestation of continuous improvement on organizational processes for individuals and organization as a whole (Rao & Ashok et al, 2007). This recognition has brought the need to institutionalize quality management systems in organizations worldwide. It has further brought wide recognition that Human resource management as one of the internal processes impacts on the organization's quality in terms of performance and bottom line results, contributing to overall effectiveness; leading to increased interdependency of corporate strategy and human resource management (Guthrie, James 2008). The cornerstone of a quality organization is therefore concept of the customer and supplier working together for their mutual benefit (Kunst & Lemmink, 2007).

A quality management system (QMS) is a set of coordinated activities to direct and control an organisation in order to continually improve the effectiveness and efficiency of its performance (Bunch & Rivers, 2007). Bunch and Rivers further note that QMS will ensure that two important requirements are met; the customers' requirements – confidence in the ability of the organisation to deliver the desired product and service consistently meeting their needs and expectations and; the organisation's requirements – both internally and externally, and at an optimum cost with efficient use of the available resources – materials, human, technology and information. These requirements can only be truly met if objective evidence is provided, in the form of information and data, to support the system activities, from the ultimate supplier to the ultimate customer. A QMS enables an organisation to achieve the goals and objectives set out in its policy and strategy. It provides consistency and satisfaction in terms of methods, materials, equipment, etc, and interacts with all activities of the organisation, beginning with the identification of customer requirements and ending with their satisfaction, at every transaction interface. These activities interact and are affected by being in the system. A quality management system (QMS) is also expressed as the organizational structure, procedures, processes and resources needed to implement quality management (Hitchcock & Willard, 2008).

The adoption of quality management systems in Kenya took its roots through the private sector as early as 1950s, this was during the establishment and development of international companies

such as Bata Shoe company, Kenya Breweries Company Limited (KBL), Barclays Bank and Kenya Power and Lighting Company (KPLC) among others, which needed to set standards of operations that are in tandem with other similar organizations in the world (Metri, 2007). The private sector in Kenya has over the time acquired certain international standards and has endeavored to sustain them in ensuring standardization of processes globally.

The adoption of quality management systems in Kenya public service dates back in July 1974 when the Kenya Bureau of Standards (KEBS) was established. The KEBS Board of Directors known as the National Standards Council (NSC) was subsequently established as the policy-making body for supervising and controlling the administration and financial management of the Bureau. The public organizations are required to adopt QMS through certification to the ISO standards currently documented under 9001:2008 series. Kenya Bureau of Standards certifies public organizations to ISO 9001: 2008 QMS as a means of adding value to products and services offered by certified firms. The ISO 9001:2008 standard is a set of quality practices that ensures that public enterprises use effective processes that are consistently monitored and continually improved. There are however, other certifying bodies that certify organizations with ISO, QMS standards like Bureau VERITAS, United Kingdom Accreditation Service (UKAIS) and Societe Generale de surveillance (SGS) among others but the focus on this study concentrated on organizations certified by Kenya Bureau of Standards.

According to KEBS, 2011 report on State Corporations standardization there were 60 state corporations certified on the ISO 9001; 2008 series as at December 31st 2011. Corporations that have been ISO certified and are continually maintaining the standards are Jomo Kenyatta University of Agriculture and Technology, Kenyatta University, University of Nairobi, Nyayo Tea Development Zones, Moi Teaching and Referral Hospital, and Kenya Energy Generating Company Limited among others. In Kenya's state corporations, the role of human resource management in facilitating adoption of quality management systems has not achieved a wide recognition and this has narrowed human resource roles to focus only on general employees' matters such as recruitment, training and performance management. Key roles of HRM identified as contributing towards achievement of better quality standardization include performance management, core competencies management effective leadership practices and Human resource information system but it is noted that the practices have not been embraced leading to underutilization of human resource roles towards adoption of quality management systems (KEBS,2011).

Human resource management (HRM) plays a predominant role in management of organizations' most important asset; the human resource, the people and lifeblood of organizations. HRM is an approach to people management, a distinctive philosophy in carrying out people-oriented organizational activities, (Torrington, Hall & Taylor, 2008). Armstrong, 2010 says it is the strategic and coherent approach to management of an organization's most valued assets – the

people working there who individually and collectively contribute towards the achievement of its goal.

1.1 Statement of the Problem

The overall objective of introducing ISO standards on Quality Management Systems in the Kenya public service in early 2000 was to improve on service delivery and for organizational success. It is however noted that in the last ten years, the performance of the Public Service and in particular the State Corporations has not been to the expectations of the stakeholders. According to a report by the Inspectorate of State Corporations (ROK, 2011), out of the fifty nine ISO (9001:2008 series) certified state corporations, only 10% recorded increased performance in performance evaluation results while the rest 90% exhibited poor performance. This is evident in the results of the performance contract evaluation results for the last three contract years which indicate that some ISO certified State Corporations continue to perform below the expectations and the set targets (ROK, 2012). The performance of some of the ISO: 9001:2008 certified state corporations showed poor as well as declining performance (based on the rating between '1' and '5' where '1' is for excellence and '5' for poor). On the other hand, some state corporations that are ISO certified recorded very good performance while others showed continuous improvement.

The success and improved performance in some of the state corporations may have been influenced by incorporation of strategic human resource management as an integral function in adoption of Quality management systems. According to a study carried out by Inspectorate of State Corporations (ROK,2010), some of the major draw backs on effective quality management systems included inadequate core competences coupled with poor management of the competences; poor leadership techniques/styles hindering execution of good governance and high turnover of both board of directors and top management; poor performance management strategies in assessing the performance of both individuals and the organization and lack of/ poor implementation of human resource information system among others. This study was carried out in an endeavor to find out why some ISO certified corporations continued to perform poorly in spite of the certification. Globally, some international organizations that have given human resource a priority as a means of influencing effective adoption of quality management systems have registered high organizational performance. For instance, in Germany TDK-Lambda, is one of the world's leading power supply manufacturers, achieved ISO 9001:2008 in the year 2008 following a rigorous assessment of its quality processes and procedures by the British Standards Institution (BSI). According to Gerry French, 2010 the Leading ISO auditor, TDK-Lambda strategic human resource functions gave much emphasis on quality management system, as it was the role of human resource management to lay down QMS implementation framework. On the other hand other international companies have given little or no attention to the strategic role of human resource management towards implementation of quality management systems and have declined in their performance while others have collapsed as witnessed in the Collapse of

Enron Company, which had a lot to do with improper utilization of the human resource (Olalla and Castillo, 2008).

These studies among others however have concentrated much on the role of human resource management in adoption of QMS in various other contexts leaving out the state corporations where QMS has not been well adopted. This is despite the critical role played by the state corporations in handling and offering services to the public. This research therefore focused on the role of human resource information system on adoption of quality management systems for Kenya's ISO certified state corporations. The Kenya's state corporations which were ISO (9001:2008 series) certified were the context of focus.

1.2 Objective of the Study

The objective of this study was to determine the influence of human resource information systems in adoption of QMS in Kenya ISO certified state corporations.

2.0 LITERATURE REVIEW

2.1 Theoretical Framework

2.1.1 The Human Relations Theory

Bernard, 1938 challenged the sole existence of formal organizations as had earlier been emphasized in the classical theories of management by Taylor, 1911, Max Weber, 1946 and Fayol, 1916 among others. He emphasized on the need to have informal organizations to complement the formal organizations. Roethlisberger & Dickson 1938 who reporting on the Hawthorne studies highlighted the importance of informal groups and decent, humane leadership later emphasized this. This school of thought therefore emphasizes on the need to give management systems a human touch. It can therefore be assumed that the role on human relations can affect how effective an organization is going to implement its quality management systems.

2.1.2 Systems Theory

According to Miller & Rice, 1967 the systems theory in the Human resource management context emphasizes on the need to treat organizations as open systems which are continually dependent upon and influenced by their environments. Katz & Kahn, 1964 argued that this theory is basically concerned with problems of relationships, of structure and of interdependence. There is emphasis on the interdependence with the environment and within the different parts of the system in transforming inputs into outputs within the environment. This theory is therefore likened with the Process based model of Quality management systems which also emphasizes on the interaction of systems and the role of both internal and external environment.

2.2 Conceptual Framework

Information management is the collection and management of information from one or more sources and the distribution of that information to one or more audiences. This sometimes involves those who have a stake in, or a right to that information. Management means the organization of and control over the structure, processing and delivery of information (Armstrong, 2010).

Human resource information management processes are effectively executed using Human resource information system (HRIS) which is defined as a computer based application for assembling and processing data related to the human resource management (HRM) function. As in other types of information systems, a HRIS consists of a database, which contains one or more files in which the data relevant to the system are maintained, and a database management system, which provides the means by which users of the system access and utilize these data. (Miguel, 2007). The HRIS thus contains tools that allow users to input new data and edit existing data; in addition, such programs provide users with the opportunity to select from an array of predefined reports that may either be printed or displayed on a monitor. Reports may address any of a number of different HRM issues e.g., succession planning, compensation planning, equal employment opportunity monitoring, recruitment process and staff performance appraisal (<http://www.referenceforbusiness.com>, 2010). Human resource management information system therefore makes work easier for organization and thus helps in continuous improvement. When all HRM functions are done through HRIS then the Contribution of HRM towards QMS adoption becomes a major milestone to any organization (Miguel, 2007).

2.3 Empirical Review

Kovach et al., 1999 defined human resource information system (HRIS) as a systematic procedure for collecting, storing, maintaining, retrieving and validating data needed by organization about its human resources, personnel activities, and organization unit characteristics. As in the case with any complex organizational information system, a HRIS is not limited to the computer hardware and software applications that comprise the technical part of the system it also includes the people, policies, procedures, and data required to manage the human resource function (Hendrickson, 2003). HRIS therefore can be deemed to support planning, administration, decision-making, and control in such applications such as employee selection and placement, payroll, pension and benefits management, intake and training projections, career pathing, equity monitoring, and productivity evaluation. (Gerardine DeSanctis, 2003). The aforementioned role of HRIS consequently translates into quick management response to organizational requirements and thus smooth implementation of quality management systems in an organization.

A study carried out by Watson Watt, 2002 found out that the four top metrics used in formal business cases supporting HRIS were improved productivity within the organizations, cost reductions, return on investment and enhanced employee communications. Sadri & Chatterjee

2003 found out that computerized HRIS function enables faster decision making, development, planning and administration of Human Resource because data is much easier to store, update, classify, and analyze.

Buckely et al., 2006 in their study “the use of an automated employment recruiting and screening system for temporary professional employees”- A case study; showed conservative savings due to reduced employee turnover, reduced staffing costs and increased hiring process efficiencies,. The researchers revealed that a cumulative savings yielded a return on investment thus improved organizational quality. Kovach et al., 2006 found out that human resource professional rely on HRIS to provide accurate data on performance appraisal and performance management and functionally contribute to achieving the organizational strategic goals. *It is therefore hypothesized that:-*

Hypothesis 4: *Automation of Human resource processes enhances the adoption of quality management systems.*

3.0 RESEARCH METHODOLOGY

The proposed research consisted of a descriptive survey. The population comprised a total of fifty nine state corporations that were ISO certified on 9001:2008 series by the Kenya Bureau of Statistics. The study applied a stratified random sampling technique to select a sample size of twenty one state corporations from the fifty nine which was a third of the target population.. Purposive sampling technique was further applied to select a total of four respondents in each of the twenty one selected state corporations. These respondents were; Head of human resource, Head of technical services, Head of ISO Internal Audit and Chair of Human resource Committee of the Board thus contributing to a total of eighty-four respondents. Questionnaires were used as the main data collection instruments and a pilot study was undertaken to pretest the questionnaires for validity and reliability. The gathered data was analyzed by use of Statistical Package for Social Scientists (SPSS) version 20. The analysis involved factor analysis to determine the factors that were suitable for further analysis; descriptive statistics where the means Standard Deviations and variances were established for all the factors tested in the questionnaires; Correlation analysis was done between the independent sub variables and the dependent variable; Linear regression analysis was also done to determine the influence of the independent variables on the dependent variable; and t-test was used for the test of significance of individual coefficients. R-squared was used for the explanatory power of the model. The analysis was presented using tables and charts. The interpretations of data were also given as per the research objectives of the studies.

4.0 RESULTS AND DISCUSSIONS

4.1 Response Rate

Initially the administered questionnaires to the respondents were 80 in number. However, the duly filled and returned questionnaires were 69 which is equivalent to 86% successful response rate. In research statistics, a response rate of more than 50% is considered adequate (Mugenda and Mugenda, 2003). Additionally Holbrook, Krosnick and Pfent (2007) support that surveys with response rates lower than 50% are less accurate.

4.2 Characteristics of Respondents

4.2.1 Respondents' Level of Education

The respondents were asked to indicate their level of education and this is presented in Figure 1. The results shows that majority of the respondents are university graduates as they constitute of 87%. Thirteen percent (13%) of the respondents have attained education upto to the PhD level. These results imply that majority of the top management in State Owned Corporations have satisfactory background in education.

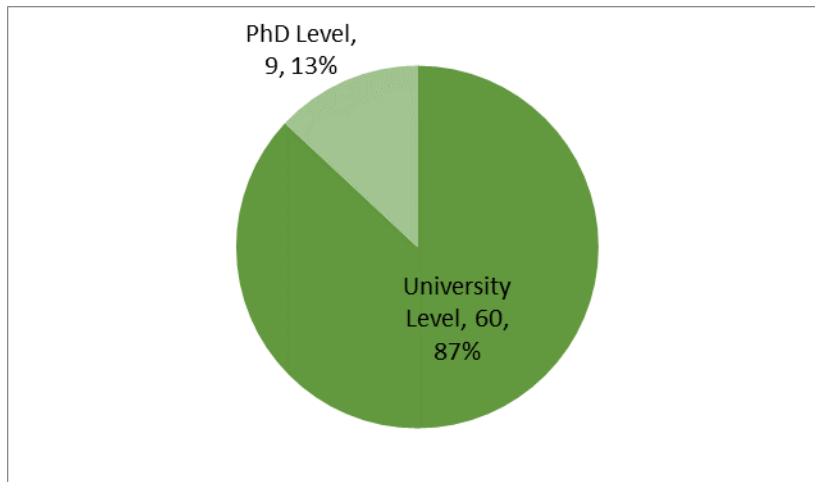


Figure 1: Level of Education

4.2.2 Job Titles of the Respondents

The targeted respondents for the study were Heads of; Human Resource, Technical Services, Internal Audit and Board Directors. Results in Figure 2 shows that majority 32% of the respondents were in the position of the head of human resource, 28% were heads of internal audit, 21% were head of technical services while another 10% were board directors. These

results imply that the information gathered for the study was objective enough as the targeted respondents participated reasonably in the survey.

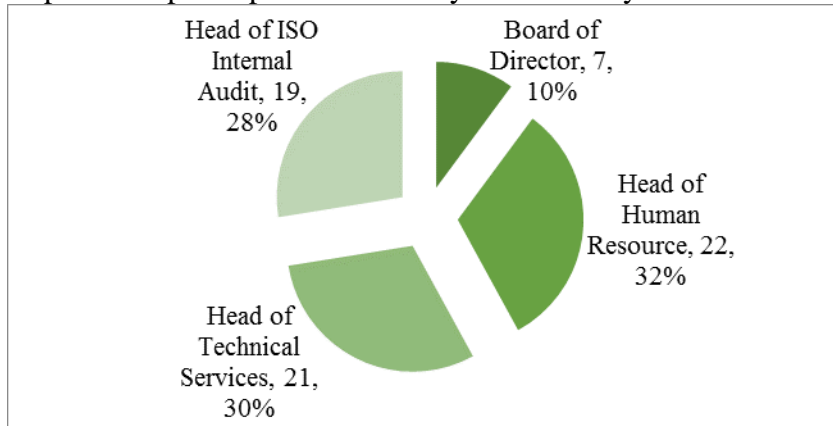


Figure 2: Respondents' Job Titles

4.3 Human Resource Information Systems and Adoption of QMS

The objective of the study was to determine the effect of human resource information systems in adoption of QMS in Kenya's ISO certified state corporations. Seventy eight percent of the respondents indicated that State Corporations' does not apply a human resource information system in automation of the human resource processes.

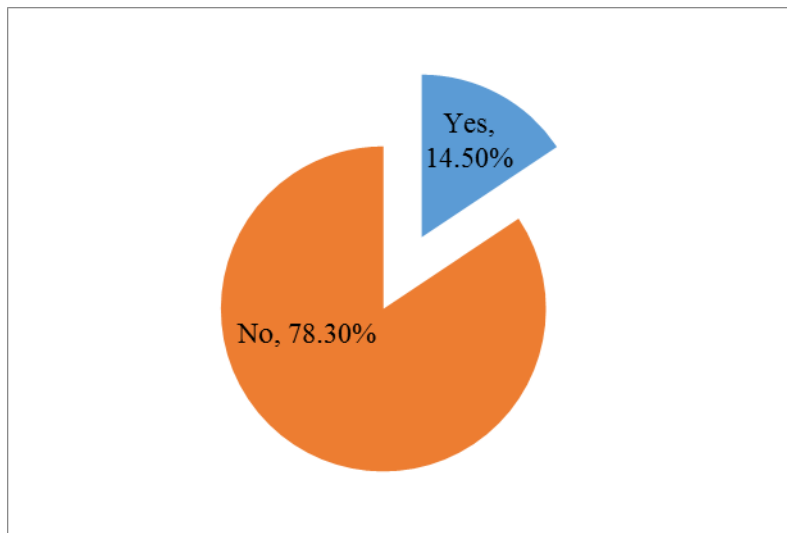


Figure 3: Organization Application of Human Resource Information System

Further results indicate that all human resource processes are not automated and there is no continuous update of the same as indicated by 72% response rate. Respondents disagreed that all

employees are conversant with the HRIS and use it effectively in adoption of QMS as supported by 80% disagreed responses. Eighty six (86%) of the respondents disagreed that HRIS is well integrated with other management systems. Additional results indicate that 88% of the respondents disagreed that the HRIS has enhanced the adoption of QMS in my organization. The overall mean of the responses is 2.21 which means that majority of the respondents disagreed that on the questions asked. This implies that employees in State Corporations are not familiar with human resource information systems and the systems are not updated nor are they up to date.

Table 1: Human Resource Information System and Adoption of QMS

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	Mean
All HR processes are automated and there is continuous update of the same	18.80%	53.60%	14.50%	8.70%	4.30%	2.26
All employees are conversant with the HRIS and use it effectively in adoption of QMS	14.50%	65.20%	4.30%	8.70%	7.20%	2.29
The HRIS is well integrated with other management systems	36.20%	49.30%	8.70%	5.80%	0.00%	1.84
The HRIS has enhanced the adoption of QMS in my organization	21.70%	46.40%	8.70%	10.10%	13.00%	2.46
Mean	22.80%	53.63%	9.05%	8.33%	6.13%	2.21

Table 2 shows results on factor analysis for responses to the statements on the influence of human resource information system in adoption of quality management systems in Kenya's ISO certified state corporations. The statements attracted a coefficient of more than 0.4 thus; they were retained for further analysis.

Table 2: Factor Analysis for HRIS

Statement	Coefficient
All HR processes are automated and there is continuous update of the same	0.619

All employees are conversant with the HRIS and use it effectively in adoption of QMS	0.838
The HRIS is well integrated with other management systems	0.619
The HRIS has enhanced the adoption of QMS in my organization	0.433

4.3.1: Relationship between Human Resource Information Systems and Adoption of QMS

Figure 4 shows the scattered plot for human resource information system and adoption of quality management systems. Results show that there is a positive relationship between HRIS and adoption of quality management systems thus, an increase in effectiveness in HRIS will positively increase the adoption of quality management systems.

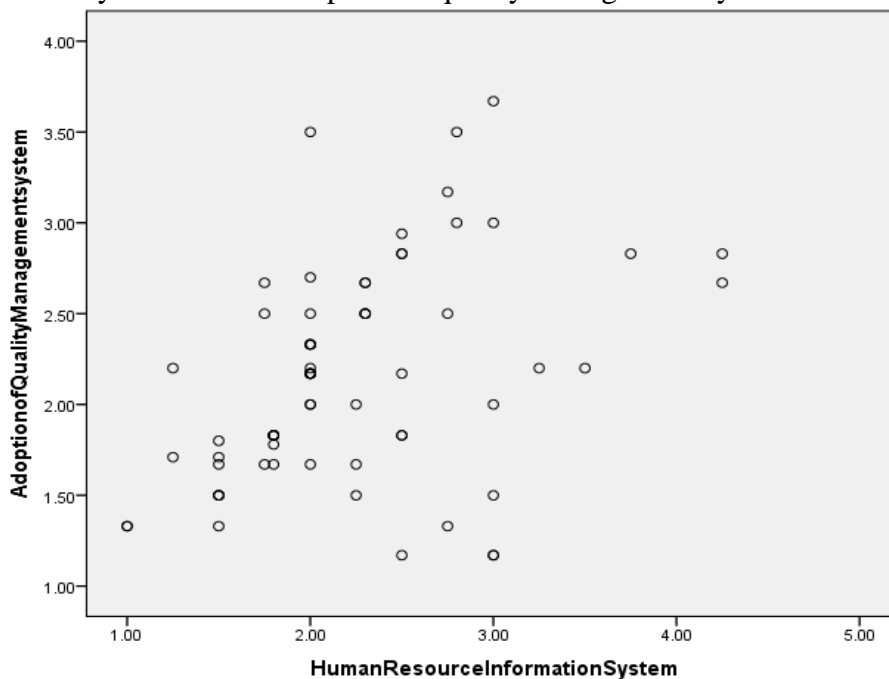


Figure 4: Scatter Graph Relationship between HRIS and Adoption of QMS

Table 3 presents Pearson’s bivariate correlation human resource information system and adoption of quality management. Results show that human resource information system was positively correlated with adoption of QMS. This is supported by a significant value of 0.054 and a positive correlation of 0.233. This implies that an increase in effectiveness of the human resource information system in Kenya’s State Corporations will increase quality management system adoption.

Table 3: Relationship between Human Resource Information System and Adoption of QMS

Variable	Coefficient	Adoption of Quality Management system	Human Resource Information System
Adoption of Quality Management system	Pearson Correlation Sig. (2-tailed)	1	
Human Resource Information System	Pearson Correlation Sig. (2-tailed)	0.404 0.001	1

Figure 4 presents graphical representation of the linear relationship between human resource information system and adoption of quality management systems. The results show that there is a positive relationship between the two.

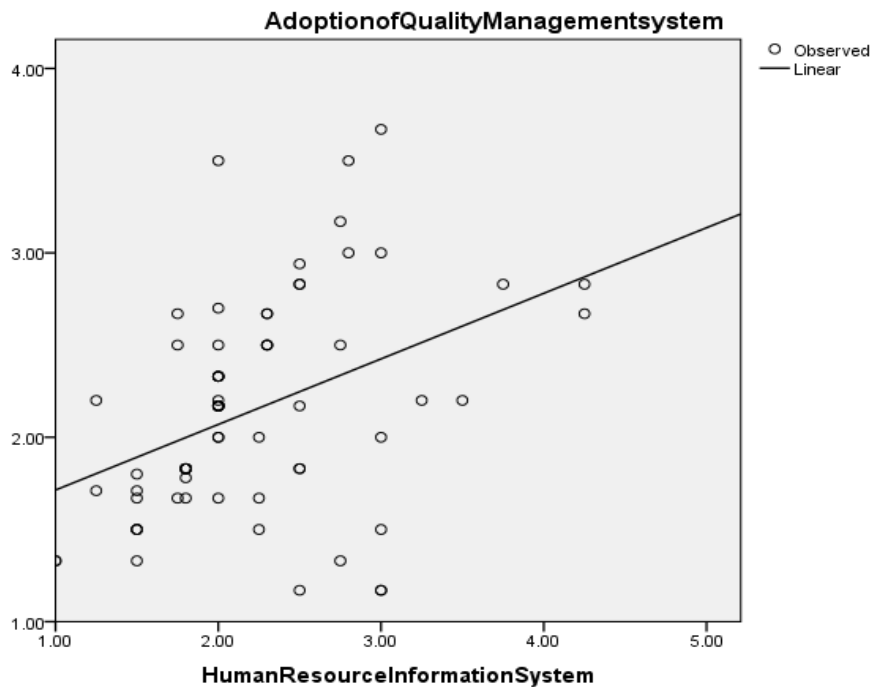


Figure 4: Linear Relationship between Human Resource Information System and Adoption of QMS

Table 4 presents the goodness of fit for the independent variable; human resource information system in determining adoption of QMS. Regression was done to analyze the significance of the independent variable (human resource information system) in the adoption of quality management systems. The R square of 0.163, which indicates that 16.3% of the variances in the adoption of quality management systems are explained by the variances in human resource information system, supports this. The correlation coefficient of 40.4% indicates that the combined effect of human resource information system have a strong and positive correlation with adoption of QMS.

Table 4: Model Fitness for HRIS

Indicator	Coefficient
R	0.404
R Square	0.163
Std. Error of the Estimate	0.54143

Table 5 provides the analysis of variance of the independent variable; human resource information system. Results indicate that the overall model was significant as indicated by a probability value of 0.001. The probability value is lower than the conventional value of 0.05 which determines significance. The significance was further supported by an F statistic of 13.043

Table 5: Analysis of Variance for Human Resource Information System

Indicator	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.824	1	3.824	13.043	0.001
Residual	19.641	67	0.293		
Total	23.465	68			

Table 6 displays the regression coefficients of human resource information system which is the independent variable. The results reveal that HRIS is statistically significant and has a positive relationship with the adoption of quality management systems. This is supported by a significant value of 0.001 and a positive beta of 0.356.

Table 6: Human Resource Information System Regression Coefficients

Variable	Beta	Std. Error	t	Sig.
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Constant	1.358	0.228	5.945	0.000
Human Resource Information System	0.356	0.098	3.612	0.001

5.0 SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

Findings indicate that Kenya State Corporations' human resource information systems are not automated this means the HR processes in such corporations are still manual. Further findings indicate that not all employees have received enough training thus; they have little familiarity with the human resource information systems. State Corporations in Kenya have no proper integration of HRIS which has limited the adoption of QMS in the organizations. Inferential statistics indicated that HRIS is very important in ensuring adoption of quality management systems in organizations. Increase in effectiveness in HRIS will positively increase the adoption of quality management systems.

5.2 Conclusions

Conclusions from the study are that State Corporations in Kenya have not automated their HR business processes and still operating manually. Employees lack support from the top management leading to lack of knowledge on the Human Resource Information Systems. The results imply that an improvement in human resource information systems will directly improve their competitiveness and fasten the adoption of quality management systems.

5.3 Recommendations

Companies ought to examine their human resource information systems and for effectiveness before adopting the quality management systems.

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International Journal of Human Resource and Leadership

ISSN 2519-9099 (Online)

Vol.2, Issue 6, pp 38 - 53, 2017



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