

Effect of Application of Human Resource Information Systems on Performance of the Energy Sector in Kenya:

A Case of the Kenya Electricity Generating Company

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To cite this article:

Wambui, K. (2018). Effect of Application of Human Resource Information Systems on Performance of the Energy Sector in Kenya: A Case of the Kenya Electricity Generating Company. *Journal of International Business, Innovation and Strategic Management*, 1 (4), 83 – 103

Abstract: While KenGen accounts for 75% of the power market in Kenya, there are arguments of failure in delivery since Kenya suffers continued power supply inconsistencies from time to time. Due to this, the study sought to establish the effect of application of human resource information systems on performance of the energy sector in Kenya focusing on the Kenya electricity generating company. The study specifically focused on human resource acquiring systems, human resource development systems, human resource rewarding systems and human resource retaining systems. The target population of the study comprised of 50 employees from management and administration, Human resource, Accounts and Information Technology departments at KENGEN. A census was conducted on all the 50 employees. The study used primary data gathered by use of structured questionnaires and captured through a 5-point Likert scale type and also secondary data that was obtained by the use of a data collection template. Data gathered from the questionnaires was analyzed quantitatively using SPSS which generated both descriptive and inferential statistics. The findings revealed a positive and significant association between the human resource acquiring systems, human resource development systems, human resource rewarding systems and human resource retaining systems examined and the performance of KENGEN. The study concluded that an improvement in various indicators of human resource acquiring systems resulted to significant improvement in the performance of Kenya electricity generating company.

Keywords: *Human Resource, Information Systems, HR Acquiring Systems, HR Development Systems, HR Rewarding Systems, HR Retaining Systems*

Introduction

Human Resource Information System has become an integral, online and interactive tool deeply involved in the minute to minute operation and decision making of large organizations. Over the last decade information system have fundamentally altered the economics of organizations and greatly increased the possibilities for organizing work London, (2006). Human Resource Information System (HRIS) is one of the most important Management Information Systems, which contributes to human resource administration functions of an organization. HRIS, is aptly described by Noe et al., (2007), as a computer system used to acquire, store, manipulate, analyze, retrieve, and distribute information related to human resources. Modern HRIS needs to help organizations' by automating most of the HR planning functions. HRIS becomes an important strategic tool since it collects, manages and reports information for decision-making. Fully integrated organizational HRIS ought to interface with other systems enabling and enhancing the communication between departments such as payroll system with accounting system.

Statement of the Problem

Solow (2003) states that approximately 70% improvement in company performance can be attributed to the use of technology in company processes and administration duties. ICT scope ranges from influencing employees and consumers to companies' output. Snell, Stueber, and Lepak (2002) observe that HR can meet the challenge of simultaneously becoming more strategic, flexible, cost-efficient, and customer-oriented by leveraging information technology. They point out that IT has the potential to lower administrative costs, increase productivity, speed response times, improve decision-making, and enhance customer service all at the same time. However, this is not the case at KenGen. Despite the fact that KenGen has invested more in the use of IT including HRIS, its performance has been unsteady (Nyang'au, 2014). While KenGen accounts for 75% of the power market in Kenya, there are arguments of failure in delivery since Kenya suffers continued power supply inconsistencies from time to time (Solomon, 2015). Other scholars argue that the cost of maintenance excluding operation costs at KenGen per year averages to Kshs 900 Million and keeps increasing despite the fact that this is already a huge cost (Solomon, 2015). To date, KenGen produces 1912.7 Kilo Watts of electricity which is only 64% of its 3000 Kilo Watts target of 2018 (KenGen, 2015). This indicates that the performance of Ken Gen is not up to the expected potential. This happens despite the heavy investment in IT and the application of ICT in various administrative functions and that poses a question of how exactly it affects performance.

The application of ICT in human Resource processes has also experienced mixed outcomes at KenGen. For instance, the KenGen Intranet (2014) report indicates that KenGen has installed a biometric access system in its headquarters premises intended to eliminate cases of employee sneaking from work and encourage employees to report to their place of work on time and also assist human resource department in monitoring time aspect of the employees. However, despite the installation of biometric access system, employees still abscond duties, come late and even leave early than the company's official time. This system has not been very effective in KenGen despite the huge investment in terms of monetary and time the company incurred (Nyang'au, 2014).

The application of HRIS at KenGen was expected to yield sustainable performance but with the observation of unsteady performance, there was a need to establish the effect of Human Resource Information System on the Performance of Energy Sector in Kenya taking KenGen as a Case study. The study was also justified by the conceptual and contextual knowledge gaps of previous studies conducted on the topic. Studies for instance Atika (2011) looked at the factors influencing the effectiveness of human resource information system at the National Cereals and Produce Board, Kinyua (2010) investigated the challenges facing state corporations in Kenya in the implementation of human resource management information system, Fatuma (2013) investigated the perceived factors affecting the implementation of Human Resource Information System at Kenya Revenue Authority while Atsanga (2013) determined the perception of effectiveness of human resource management information systems by branch managers in Kenya Commercial Bank Ltd. Most of the studies centered on the challenges in implementation of HRIS thus creating a conceptual research gap. Few studies had focused on the effect of the system to performance and based on this, while this study sought to establish the effect of human resource information systems on organizational performance of energy sector.

Objectives of the Study

- i. To establish the effect of human resource acquiring systems on performance of Energy Sector in Kenya
- ii. To assess the effect of human resource development systems on performance of Energy Sector in Kenya
- iii. To determine the effect of human resource rewarding systems on performance of Energy Sector in Kenya
- iv. To analyze the effect of human resource retaining systems on performance of Energy Sector in Kenya

Literature Review

Theoretical Review

Resource Based View (RBV)

The RBV of the firm is a theoretical paradigm originating in the field of strategic management. The RBV assumes that resources and attributes of the firm are more important to sustained competitive advantage than industry structure and competitors' actions (Barney, 1997). Resources have been defined as the tangible and intangible assets a firm uses to choose and implement its strategies (Barney, 2001). This broad definition includes human, organizational, financial and physical resources. Barney (1991) and Teece, Pisano and Shuen (1997) have outlined a framework for determining if a resource can be considered a source of sustained competitive advantage. The key elements of this framework require resources to be valuable, rare, inimitable and not substitutable. Technology, natural resources and economies of scale can create value, RBV argued that these sources of value are increasingly available to almost anyone anywhere and they are easy to copy, whilst human resources which is defined as the pool of employees under the firm's control in a direct employment relationship (Wright & McMahan, 1992) can provide the firm with a source of competitive advantage with respect to its competitors.

The theory is relevant to the study as it explains the independent variable of the study which is HRIS. The RBV theory attributes improvement in firm performance to valuable resources or resource bundles (Barney 1991). ICT creates value to the firm indirectly as it affects other resources or processes which in turn lead to performance improvement and hence competitive advantage. The theory hypothesizes that the use of ICT positively improves performance. As the study sought to establish the effect of HRIS on performance, this theory was relevant as the study tested its applicability in the context of KenGen.

Human Capital Theory

Human Capital theory was proposed by Schultz (1961) and developed extensively by Becker (1964). Schultz (1961) in an article entitled “Investment in Human Capital” introduces his theory of Human Capital. Schultz argues that both knowledge and skill are a form of capital, and that this capital is a product of deliberate enterprise growth. The concept of human capital implies an investment in people through education and training. Schultz compares the acquisition of knowledge and skills to acquiring the means of production. The difference in earnings between people relates to the differences in access to education and health. Schultz (1961) argues that investment in education and training leads to an increase in human productivity, which in turn leads to a positive rate of return and hence of growth of organizations.

This theory emphasizes the value addition that people contribute to an organization. It regards people as assets and stresses that investments by organizations in people will generate worthwhile returns. The theory is associated with the resource based view of strategy developed by Barney (1991), the theory proposes that sustainable competitive advantage is attained when the firm has a human resource pool that cannot be imitated or substituted by its rival. The theory of Human Capital was relevant to the study as it explains the relationship between human capacity in terms of training and development and performance. For the employer, investment in training and development is a means of attracting and retaining people. These returns are expected to be improvements in performance, productivity, flexibility and the capacity to innovate that should result from enlarging the skills base and increasing levels of knowledge and competence.

Social Exchange Theory

The exchange theory views employment relationship as consisting of social or economic exchanges (Aryee, Et al. (2005). Economic exchange relationships involve the exchange of economic benefits in return for employees’ efforts and are often dependent on formal contracts which are legally enforceable. On the other hand, social exchanges are ‘voluntary actions’ which may be initiated by an organization’s treatment of its employees, with the expectation that the employees will be obligated to reciprocate the good deeds of the organization (Aryee et al., (2005). Perceptions of favorable exchange/ rewards from the employees’ viewpoints are expected to result in increased engagement to the organization. On the other hand, failure by the organization to provide sufficient rewards in exchange for employees’ efforts is likely to result in decreased organizational engagement. From this perspective, social–exchange theory suggests that employees respond to perceived favorable working conditions by behaving in ways that benefit the organization and/or other employees.

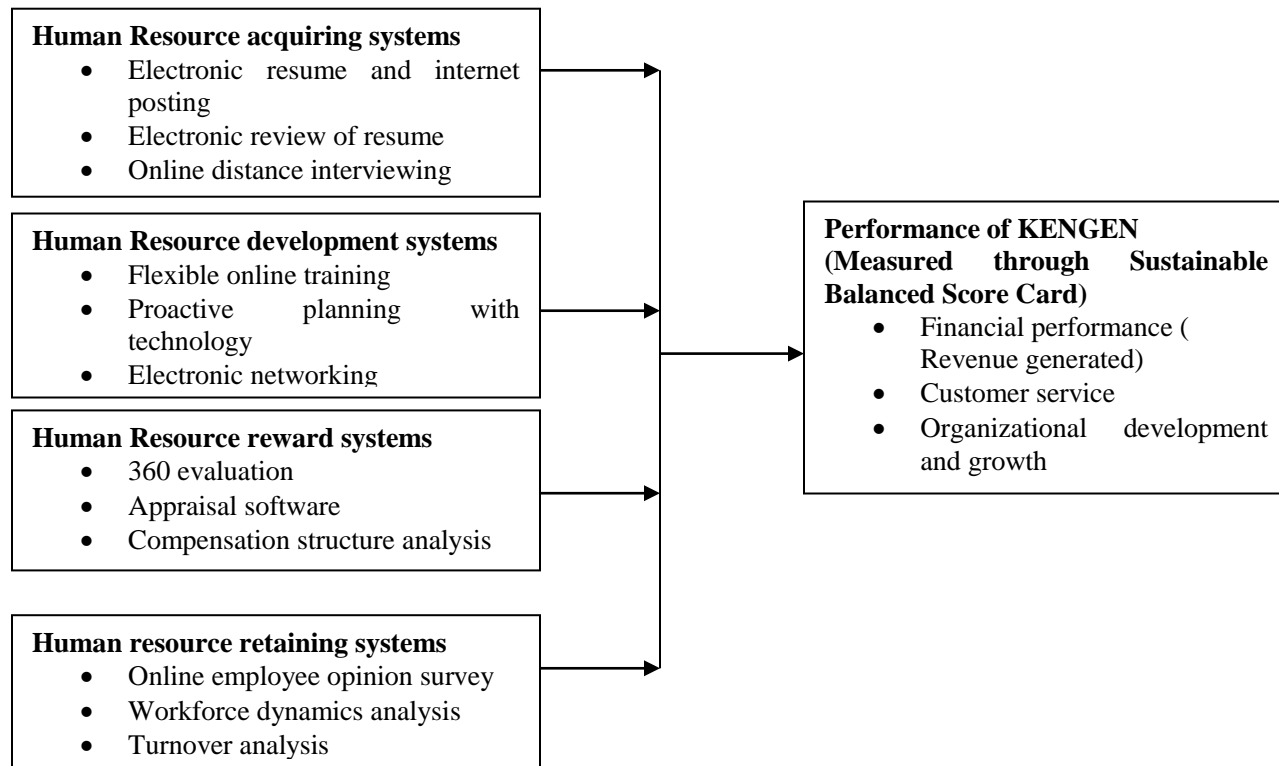
Equally, employees retaliate against dissatisfying conditions by engaging in negative work attitudes such as absenteeism, lateness, and preparing to quit the organization (Harr, 2009). The theory was relevant to the study as it hinges on the independent variable of the study which is human resource reward systems. The theory explains the employees' attitudinal engagement to the organization. According to the exchange perspective, employees exchange their identification, loyalty and attachment to the organization, in return for incentives from the organization. This implies that an individual's decision to become and remain a member of an organization is determined by their perception of the fairness of the balance of organizational inducements and the employee contribution. Meyer and Smith (2000) argue that unless employees believe they have been treated fairly, they will not be committed to the organization. This in turn affects performance of the organization.

Organizational Fit Theory

The theory was proposed by Drazin and Van de Ven (1985). This theory is also known as cultural fit theory. This theory observes that "no one acts alone" and everyone placed in his environment has technical and nontechnical elements that shape or influence the innovation of technology. This theory is dependent on the perfect mix of strategy, technology, task, organizational size, structure, and culture of the organization as there is no universal way to management for maximum efficiency and optimal performance to form a proper 'fit' with the environment and its systems (Reinking, 2012). Hence, there must be congruence between the information system and the organizational as information systems become more and more integral to the business. The institution must strive to find a system that is a good fit for the organization that quickly and naturally fall into the rhythm with the organization.

As Otieno (2010) finds out from survey findings, that public organizations favored SAP/R3 more than private organizations (41.5% vs 10.5%) adoption driven by their best fit, current business practices and package flexibility as more firms favored systems evolved from MRP II while the private firms (71% vs 42%) favored a mix of multiple systems which he owed the phenomenon to complexity of the organizations (Otieno, 2010). He noted that private firms are more likely to be involved in more business, complex operations, and more presence locally and globally as such HRIS systems might not be covering their needs which in cases might be specialized. On the other hand, local legislation has a great impact on public institutions as systems have to be configured to conform to Kenya's complex taxation policy, tax returns process, and lack of legislation to support electronic documents. The theory was relevant to the study as it informs the independent variable of the study which is HRIS. This theory informed the study that HRIS systems and its structure are intertwined unpredictably in a complex social interaction of IT and organization hence the critical challenge of HRIS delivering its intended value is the mutual adaptation between the IT and user environment. The efficient use of HRIS depends with the need and the reasons for its implementation and this understanding affects its results positively.

Conceptual Framework



Independent Variable

Dependent variable

Figure 1 Conceptual Framework

Human Resource Acquiring Systems

Armstrong (2006) says a recruitment system can perform several tasks including storage of applicants details, several retrieval and amendment of those details, matching curriculum vitae to person specification for short-listing purposes, link with internet recruiting processes, letter writing i.e. linking this system, word processing facilities, acknowledgement, invitation to interview offer and rejection and management report analysis of response by media and monitoring recruitment cost. Computerized recruitment packages not only automate recruitment correspondence but also enable users to determine instantly who has applied for which post, track progress in recruiting for specific post and match and process internal candidates (applicant tracking systems).

The database can be used in more advanced application to assist in establishing selection profile with the standard against which a potential job holder can be assessed in order that the right people are appointed to or promoted into jobs. Harnisch (2013) says that it is essential to ensure that selection and promotion procedure match the capacities of individuals to the demand of the work they have to do. Recruitment can be done through the internet, which is a global network that connects several networks worldwide and is without a doubt the

greatest information source the world has ever known. It has become part of the business landscape that nearly all organizations are connected to.

Human Resource Development Systems

Yang (2011) describes training as any process which the aptitude skills and abilities of employees to perform specific jobs are increased. Training is a continuous process in the career of individuals. Planned training is a deliberate intervention aimed at achieving the learning necessary for improving job performance. The administration should also include activities such as identification of suitable courses to meet training needs; making arrangement for off the job courses informing employees arrangements for courses, recording and mounting training expenditure against the budget, storing data on standard or individually tailored induction continuation or development training programs including syllabuses routing responsibilities for giving training, test procedure and progress reporting, generating notes and instruction for guidance for the concerned with providing or understanding on the training programs and finally storing progress reports, summarizing current and projected training activities and calculating the output of training programs (Yang, 2011). As development of technology proceeds at a rapid pace and cost of computer continues to decline, technology-based training methods are finding increased use in industry, academia and the military. Complex-based training encompasses both computer-assisted instructions which deliver training materials directly through computer terminals in an interactive format with the help of computer to provide drill and practice, problem solving simulation and gaining from the instruction (Qi, 2010).

Human Resource Reward Systems

Compensation is a systematic approach to providing monetary value to employees in exchange for work performed. Compensation may achieve several purposes assisting in recruitment, job performance and job satisfaction. This is a tool used by management for a variety of purposes to further the existence and productivity of the company. With the help of HR department, various compensation systems have been developed to determine the value of position. This system utilizes many similar components including job description, salary range/structure and written precedent. Compensation may be adjusted according to the business needs, goals and availability of resources in order to improve organizational performance (Farooq, 2013). Compensation may be used to recruit and train qualified staff, increase or maintain morale, reward and encourage people performance, achieve turnover and encourage company loyalty and modify practice of union. The major component of compensation system include job description which is a critical component of both compensation and selection system.

It defines in writing the responsibilities, requirement function duties, location and condition of job (Lau, 2010). According to Snell (2004), organizations without a formal compensation programs generally base the work of jobs on the subjective opinion of people familiar with the job. In such instances, pay rates may be influenced heavily by the labor market or in the case of unionized employees, by collective bargaining. Organizations with formal compensation programs however, are more likely to rely on a system of job evaluation to aid in rate determination. Even when rates are subject to collective bargaining, job evaluation can assist the organization in maintaining some degree of control over its wage structure.

Human Resource Retaining Systems

Employee retention systems refers to systems used by the organization in setting policies and practices companies use to prevent valuable employees from leaving their jobs (Glen, 2006). Employee Retention involves taking measures to encourage employees to remain in the organization for the maximum period of time (Griffeth & Hom, 2001). Leign (2002) also defines retention as keeping those employees that keep you in business. Nowadays, organizations are experiencing a balance of power shifting from employers to employees. Employees can be retained and satisfied within those organizations which keep on learning how to keep their employee satisfaction at the highest level. Sohailet, (2011) enlightened that employee retention as an important process for organisation performance to remain competitive. Thus for Organizations to remain competitive, they need to have in place employee who are focused, equipped with effective skills and committed to their work.

It means therefore, that crafting and implementing retention practice is a core function of Human resource management. Employee retention practice is a plan or policies that are practiced by an organization to retain its employees throughout their work life. In other words Retention means the long-term relationship between employee and the organization. Effective implementation of Employee retention practices increase employee loyalty, commitment and minimize employee turnover cost. By having a better handle of why the employees are leaving or want to leave the organization, effective retention practices can be adopted and reduce turnover (James & Mathew, 2012).

Organizational Performance

In today's knowledge-economy, organizational success depends tremendously on the performance of human resource management (HRM) (Lippert and Swiercz, 2005; Troshani et al., 2011). Furthermore, Human Resource Management (HRM) has recently turned its concentration on knowledge sharing and strategic workforce analysis and has been increasingly evolving into a significant contributor on the organizational strategic management (Rodriguez and Ventura, 2003; Troshani et al., 2011). This turn in HRM practices is partially attributed to technology enablers, such as human resource information system (HRIS) which consists of systematic procedures and functions to acquire, store, retrieve, analyze, manipulate, and disseminate relevant information concerning organizational HR (Lippert and Swiercz, 2005; Troshani et al., 2011).

To increase the effectiveness of HRM, organizations are becoming more and more dependent on HRIS (Ball, 2001; Lippert and Swiercz, 2005; Troshani, et al., 2011). Strategic value can be derived using HRIS tools that assist decision-making concerning vital HR functions (Farndale et al., 2010; Troshani et al., 2011). For example, an HRIS can be considered as a tool that provides strategic planners with the needed information enabling them to forecast future workforce demand and supply requirements. Moreover, it can be considered as a tool that helps employers in retaining the right employees.

Research Methodology

This study used a descriptive research design to describe the characteristics of existing phenomena. This design is appropriate because it is considered suitable for gathering information and generating appropriate conclusions with respect to the research questions (Mugenda & Mugenda, 2003). A similar research design has been adopted in studies such as Marete and Kihara (2018); Atosh and Iraya (2018). The study targeted the following

department, management and administration, Human resource department, Accounts department and Information Technology department at KENGEN. This is because they are the departments concerned with the use of HRIS in the company. The study adopted a census survey with regard to the unit of analysis since the population of the study was small. Therefore the sample size consisted of 50 employees in the above mentioned departments at KenGen. Israel (1992) argue that a census approach can be adopted for a population less than 200. The study used both primary and secondary data for analysis. The major data collection instruments were questionnaire for obtaining primary data and a data collection sheet that was used to collect secondary data on performance. Quantitative data gathered from the questionnaires were analyzed quantitatively using statistical package for social sciences (SPSS) computer software version 20. SPSS which generated both descriptive and inferential statistics. Descriptive statistics including the mean and standard deviation were used to capture the characteristics of the variables under study. Inferential statistics of regression coefficient and bivariate correlation were used to analyze the relationship of the dependent variable and the independent variables. The following regression model aided in determination of coefficients of the independent in relation to the dependent variable. The multivariate model is as follows: $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$

Where, Y = Performance of KenGen, X_1 = Human Resource acquiring systems, X_2 = Human Resource development systems, X_3 = Human Resource reward systems, X_4 = Human resource retaining systems, β_0 = constant (coefficient of intercept), Coefficient β_i $i= 1....4$ used to measure the sensitivity of the dependent variable (Y) to unit change in the predictor variables and ϵ is the error term which captures the unexplained variations in the model.

Results

Response Rate

A total of 50 questionnaires were administered to the study respondents. The total number of questionnaires that were filled and returned was 40, representing an overall response rate of 80%.

Respondents Demographic Information

Table 1 Respondent Demographic Information

Demographic Characteristic	Category	Percentage
Respondent's level of education	University	43.9%
	College	26.8%
	Secondary	9.8%
	Other	17.1%
Respondent current department	Management & Administration	10%
	IT	35%
	HR	47.5%
	Accounts	7.5%
Respondent length of service	> 8 years	22.5%
	5-7 years	35%

Demographic Characteristic	Category	Percentage
	2-4 years	30%
	< 1 year	12.5%

Descriptive Results

Human Resource Acquiring Systems

The findings of the study on influence of human resource acquiring systems on performance of the Kenya Energy Generating Company showed that respondents were neutral regarding the statement that Kenya electricity generating company has an effective online recruitment system for acquiring employees (mean =3.5). On whether Kenya electricity generating company uses electronic review and internet posting, the findings revealed that study respondents were also neutral regarding this statement (mean =3.85). The findings of the study on influence of human resource acquiring systems on performance of the Kenya Energy Generating Company further revealed that respondents, (mean =3.6). The findings also revealed that majority of the study respondents strongly agreed that KenGen uses online distance interviewing (mean =). Regarding keeping employee information online, the findings of the study showed that respondents agreed with the statement (mean =4.33). Respondents also strongly agreed that applicant tracking is done online at KenGen (mean =3.18). The findings also indicated that respondents were neutral regarding the claim that KenGen practices position analysis using HRIS system (mean =3.98).

Table 2 Human Resource Acquiring Systems

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
The organization has an effective online recruitment system	7.50%	7.50%	40.00%	17.50%	27.50%	3.50	1.20
The organization uses electronic review and internet posting	2.50%	2.50%	35.00%	27.50%	32.50%	3.85	1.00
The organization uses electronic review of resume	7.50%	15.00%	17.50%	30.00%	30.00%	3.60	1.28
The organization uses online distance interviewing	10.00%	0.00%	7.50%	12.50%	70.00%	4.33	1.27
Basic employee information is kept online	15.00%	12.50%	27.50%	30.00%	15.00%	3.18	1.28
The organization practices recruitment tracking online	0.00%	15.00%	37.50%	27.50%	20.00%	3.53	0.99
The company practices position analysis using HRIS system	0.00%	0.00%	42.50%	35.00%	22.50%	3.80	0.79
Manpower structure analysis is done using HRIS system	2.50%	7.50%	20.00%	30.00%	40.00%	3.98	1.07

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
Average						3.75	1.12

Human Resource Development Systems

The findings of the study on influence of human resource development systems on performance of the Kenya Energy Generating Company showed that respondents (mean =3.93) strongly agreed that the organization conducts online conferencing. The findings of the study also revealed that respondents strongly agreed that there is online training at KenGen (mean =3.9). The findings of the study also confirmed that respondents strongly agreed that KenGen practices proactive planning with technology (mean =3.58). Respondents were neutral to the claim that electronic networking is encouraged in the company (mean =3.05). The findings of the study also revealed that respondents strongly agreed that training needs cost benefit analysis is practiced using IT system at KenGen (mean =3.75). The findings of the study on influence of human resource development systems on performance of the Kenya Energy Generating Company the study respondents agreed that off the job training is practiced online in the company (mean =3.95).

Table 3 Human Resource Development Systems

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
The organization conducts online conferencing	2.50%	5.00%	30.00%	22.50%	40.00%	3.93	1.07
There is online training at the company	10.00%	5.00%	17.50%	20.00%	47.50%	3.90	1.34
The organization practices proactive planning with technology	10.00%	15.00%	20.00%	17.50%	37.50%	3.58	1.39
Electronic networking is encouraged in the company	17.50%	17.50%	27.50%	17.50%	20.00%	3.05	1.38
Training needs analysis is practiced using IT system	2.50%	2.50%	37.50%	32.50%	25.00%	3.75	0.95
Training needs cost benefit analysis is practiced using IT system	0.00%	0.00%	27.50%	32.50%	40.00%	4.13	0.82
Off the job training is practiced online in the company	2.50%	10.00%	10.00%	45.00%	32.50%	3.95	1.04
Average						3.75	1.14

Human Resource Reward Systems

The descriptive results of the study on influence of human resource reward systems on performance of the Kenya Energy Generating Company showed that respondents strongly agreed that payroll routine reports are prepared using ICT (mean =3.83). Regarding preparation of health routine reports using ICT at KenGen, the findings showed that respondents strongly agreed (mean =3.8). The descriptive results of the study on influence of human resource reward systems on performance of KenGen further showed that respondents strongly agreed that KenGen assesses market salaries structure through the internet (mean =3.4). The findings also showed that respondents agreed that compensation structure analysis is conducted using IT at KenGen (mean =3.6). Moreover, the descriptive results of the study on influence of human resource reward systems on performance of KenGen showed that respondents (mean =3.33). The findings also showed that the respondents strongly agreed that overtime amount calculation is done using ICT at KenGen (mean =3.88).

Table 4 Human Resource Reward Systems

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
Payroll routine reports are prepared using ICT	5.00%	7.50%	25.00%	25.00%	37.50%	3.83	1.17
Health routine reports are prepared using ICT	7.50%	10.00%	12.50%	35.00%	35.00%	3.80	1.24
The company assess market salaries structure through the internet	17.50%	5.00%	32.50%	10.00%	35.00%	3.40	1.46
Compensation structure analysis is conducted using IT	5.00%	10.00%	30.00%	30.00%	25.00%	3.60	1.13
Tips and Bonuses calculations is done using ICT	10.00%	20.00%	22.50%	22.50%	25.00%	3.33	1.33
Overtime amount calculation is done using ICT	2.50%	5.00%	27.50%	32.50%	32.50%	3.88	1.02
Pay structure is developed using a software	0.00%	0.00%	32.50%	42.50%	25.00%	3.93	0.76
Average						3.68	1.16

Human Resource Retaining Systems

The descriptive results of the study on influence of human resource retaining systems on performance of the Kenya Energy Generating Company showed that respondents strongly agreed that Kenya Energy Generating Company conducts organizational charting using ICT (mean =3.95). On whether KenGen practices turnover analysis using ICT, the findings of the study revealed that respondents strongly agreed to this statement (mean =4.2). On the same note, the respondents strongly agreed that workforce dynamics analysis is usually conducted at the company using ICT (mean =4.08). Further, the descriptive results of the study on influence of human resource retaining systems on performance of the Kenya Energy Generating Company showed that study respondents strongly agreed that there is an effective succession planning system at the company (mean =3.65). The descriptive results of the study on influence of human resource retaining systems also showed that strongly agreed that Promotion analysis is conducted using ICT at KENGEN (mean =3.6).

Table 5 Human Resource Retaining Systems

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
Organizational charting is done using ICT	2.50%	5.00%	27.50%	25.00%	40.00%	3.95	1.06
The organization practices turnover analysis using ICT	0.00%	7.50%	12.50%	32.50%	47.50%	4.20	0.94
Workforce dynamics analysis is usually conducted at the company using ICT	5.00%	2.50%	22.50%	20.00%	50.00%	4.08	1.14
There is an effective succession planning system at the company	7.50%	10.00%	30.00%	15.00%	37.50%	3.65	1.29
The company uses appraisal software to appraise the employees	12.50%	22.50%	37.50%	7.50%	20.00%	3.00	1.28
360 evaluation is conducted using ICT	10.00%	2.50%	32.50%	27.50%	27.50%	3.60	1.22
Promotion analysis is conducted using ICT	0.00%	0.00%	20.00%	32.50%	47.50%	4.28	0.78
Average						3.82	1.10

Organization Performance

The descriptive results of the study on performance of Kenya Energy Generating Company showed that the study respondents were neutral regarding the statement that Kenya Energy Generating Company has complied with set budgetary levels (mean =). Further, the descriptive results of the study on performance of Kenya Energy Generating Company showed that respondents agreed that there has been reduction in costs of operations at KenGen (mean =). On the same note, the findings of the study revealed that the respondents (mean =). Moreover, the findings revealed that respondents revealed that the customer satisfaction index has been improving for the last five years at KenGen (mean =). On the same note, the findings revealed that respondent strongly agreed that it takes lesser time to complete basic processes (mean =). Further, the descriptive results of the study on performance of Kenya Energy Generating Company showed that respondents were neutral regarding the statement that KenGen has maintained various certification standards e.g. ISO certification (mean =). On the same note, majority of the study respondents, (mean =) agreed that organizational development and growth has improved.

Table 6 Organization Performance

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
The organization has complied with set budgetary levels	5.00%	7.50%	40.00%	22.50%	25.00%	3.55	1.11
There has been reduction in costs of operations	5.00%	10.00%	7.50%	40.00%	37.50%	3.95	1.15
The organization responds to customer complaints promptly.	0.00%	5.00%	17.50%	22.50%	55.00%	4.28	0.93
The customer satisfaction index has been improving for the last five years	17.50%	2.50%	30.00%	12.50%	37.50%	3.50	1.47
Its takes lesser time to complete basic processes	10.00%	22.50%	20.00%	22.50%	25.00%	3.30	1.34
The company has maintained various certification standards e.g. ISO	20.00%	22.50%	30.00%	12.50%	15.00%	2.80	1.32
Organization is keen on improving employees skills and capabilities	0.00%	0.00%	40.00%	32.50%	27.50%	3.88	0.82
The organization has a policy that supports employee development for example study leave, sabbatical leave	0.00%	0.00%	32.50%	35.00%	32.50%	4.00	0.82
Organizational development and growth has improved	5.00%	12.50%	5.00%	42.50%	35.00%	3.90	1.17
Average						3.68	1.13

Trend Analysis for Company Revenue

The results for trends of the revenue indicated a steady increase in company revenue from Kshs. 16331million in the year 2012 to Kshs. 38610 in the year 2016. The trends of the company revenue therefore revealed that the company's revenue has increased steadily for the last five years owing to appropriate Human resource information systems put in place.

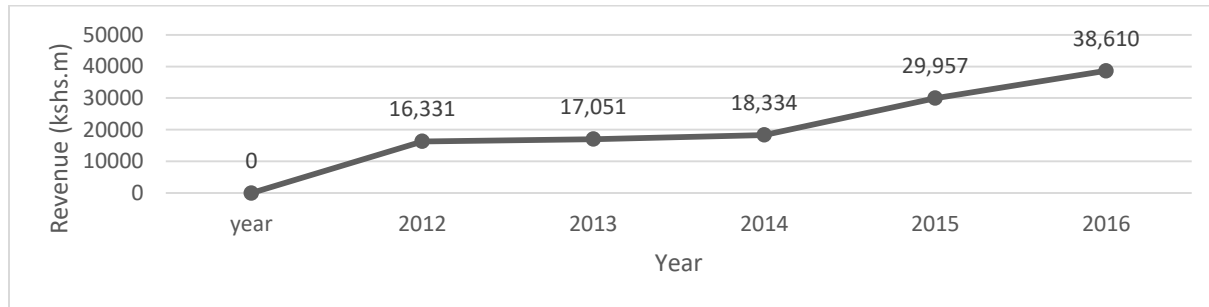


Figure 2 Trend Analysis for Company Revenue

Trend Analysis for Company Costs

The results for trends of company costs as shown in Fig. 4.6 indicated a steady increase in company costs from Kshs. 10266 million in the year 2012 to Kshs. 22339 in the year 2016. The trends of the company operating costs therefore revealed that the company's revenue has increased steadily for the last five years.

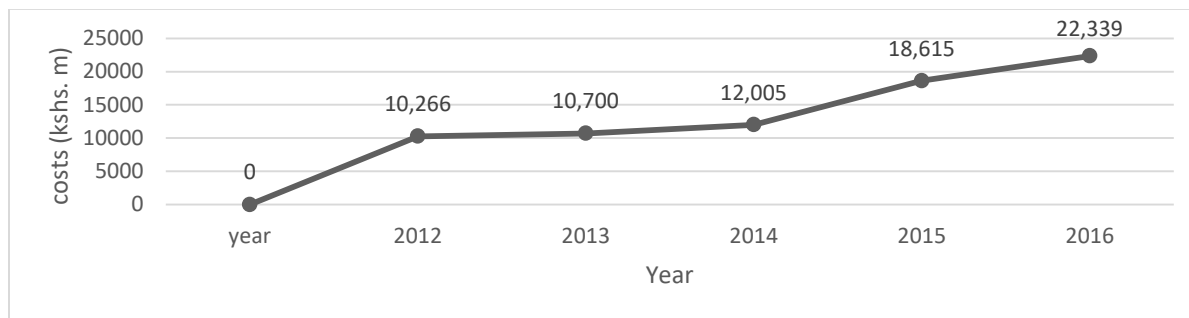


Figure 3 Trend Analysis for Company Costs

Correlation Analysis

The study used Pearson correlation coefficient to determine the connection among the study variables and the threshold for significance was set at 5%. The study findings on correlation are as presented in Table 7. The

study findings revealed a positive and significant relationship between human resource acquiring systems and performance of the Kenya electricity generating company ($R = 473$, $\text{Sig} < 0.05$). This therefore implies that an improvement in various indicators of human resource acquiring systems such as having an effective online recruitment system, using electronic review and internet posting, adopting an electronic review of resume, applying online distance interviewing to acquire employees, keeping basic employee information online, conducting online applicant tracking, practicing employee recruitment tracking online, practicing position analysis using HRIS system and conducting online analysis of manpower structure resulted to a significant positive change in the performance of the Kenya electricity generating company. The correlation also confirmed the existence of a positive and significant association between human resource development systems and performance of the Kenya electricity generating company ($R = 654$, $\text{Sig} < 0.05$) implying that an improvement in various indicators of human resource development systems resulted to significant positive change in the performance of the Kenya electricity generating company.

Table 7 Correlation Analysis

Correlations		HR acquiring systems	HR development systems	HR reward systems	HR retaining systems	Organization Performance
HR acquiring systems	Pearson Correlation	1				
HR development systems	Pearson Correlation	0.293	1			
HR reward systems	Pearson Correlation	.313	.482	1		
HR retaining systems	Pearson Correlation	0.18	0.24	.430	1	
Organization Performance	Pearson Correlation	.473**	.654**	.696**	.552**	1
	Sig. (2-tailed)	0.002	0.000	0.000	0.000	
	N	40	40	40	40	40

* Correlation is significant at the 0.05 level (2-tailed).

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

Regression Analysis

The model summary results as presented in Table 8 revealed that the four independent variables of Human resource acquiring systems, Human resource development systems, Human resource reward systems and Human resource retaining systems jointly had a strong positive influence on performance of the Kenya

electricity generating company as shown by a joint Pearson correlation of 0.895 . This implies that an overall improvement in all the four independent variables of Human resource acquiring systems, Human resource development systems, Human resource reward systems and Human resource retaining systems resulted to a strong positive improvement in the performance of the Kenya electricity generating company. The coefficient of determination (R-square) was 0.8 implying that the four variables of Human resource acquiring systems, Human resource development systems, Human resource reward systems and Human resource retaining systems jointly account for up to 80% of the variation in the performance of the Kenya electricity generating company.

Table 8 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.895	0.8	0.777	0.14642
a Predictors: (Constant), HR retaining systems, HR acquiring systems, HR development systems, HR reward systems			

The F statistic indicating the overall significance of the model is significant at 5% (Sig < 0.000) showing that the model was significant. The F calculated statistic of 35.047 > F (4, 35) critical value of 2.6414 confirming that the model was significant. The model significance results therefore imply that the four independent variables of Human resource acquiring systems, Human resource development systems, Human resource reward systems and Human resource retaining systems used in the study are suitable factors in predicting variation in the performance of the Kenya electricity generating company.

Table 9 ANOVA (Model Significance)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.006	4	0.751	35.047	.000
Residual	0.75	35	0.021		
Total	3.756	39			
a Dependent Variable: Organization Performance					
b Predictors: (Constant), HR retaining systems, HR acquiring systems, HR development systems, HR reward systems					

The regression results revealed that Human resource acquiring systems positively and significantly influenced the performance of the Kenya electricity generating company (Beta = 0.311, Sig< 0.05). This implies that a unit increase in various indicators of human resource acquiring systems resulted to 0.311 unit significant improvement in the performance of the Kenya electricity generating company. The regression results further revealed that Human resource development systems positively and significantly influenced the performance of the Kenya electricity generating company (Beta = 0.248, Sig< 0.05). This implies that a unit increase in various

indicators of human resource development systems such as conducting online conferencing, conducting online training at the company, practicing proactive planning with technology within the company, adopting and encouraging electronic networking in the company, conducting training needs analysis using IT system in the company, practicing training needs cost benefit analysis using IT system and practicing off the job online in the company resulted to a 0.248 unit significant improvement in the performance of the Kenya electricity generating company.

Table 10 Regression Coefficients

Coefficients	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.379	0.359		1.055	0.299
HR acquiring systems	0.311	0.07	0.388	4.447	0.000
HR development systems	0.248	0.067	0.324	3.673	0.001
HR reward systems	0.182	0.079	0.226	2.295	0.028
HR retaining systems	0.341	0.069	0.447	4.941	0.000

a Dependent Variable: Organization Performance

Conclusions

Established on the descriptive as well as inferential results obtained, the study concluded that an improvement in various indicators of human resource acquiring systems such as having an effective online recruitment system, using electronic review and internet posting, adopting an electronic review of resume, applying online distance interviewing to acquire employees, keeping basic employee information online, conducting online applicant tracking, practicing employee recruitment tracking online, practicing position analysis using HRIS system and conducting online analysis of manpower structure resulted to significant improvement in the performance of Kenya electricity generating company. The study also concluded that human resource development systems and the performance of Kenya electricity generating company were positively and significantly associated.

Improvement in Human resource development systems such as conducting online conferencing, conducting online training at the company, practicing proactive planning with technology within the company, adopting and encouraging electronic networking in the company, conducting training needs analysis using IT system in the company, practicing training needs cost benefit analysis using IT system and practicing off the job online in the company significantly improved the performance of Kenya electricity generating company. The final conclusion made by the study is that human resource retaining systems and the performance of Kenya

electricity generating company were positively and significantly associated with improvement in human resource retaining systems such as organizational charting done using ICT, practicing turnover analysis using ICT, conducting workforce dynamics analysis at the company using ICT, having an effective succession planning system at the company, using appraisal software to appraise the employees and conducting promotion analysis using ICT led to significant improvement in the performance of Kenya electricity generating company.

Recommendations of the Study

The study recommends that in order for the energy sector in Kenya and in particular KenGen to improve its performance, there is need to focus on adopting human resource acquiring systems such as having an effective online recruitment system, using electronic review and internet posting, adopting an electronic review of resume, applying online distance interviewing to acquire employees, keeping basic employee information online, conducting online applicant tracking, practicing employee recruitment tracking online, practicing position analysis using HRIS system and conducting online analysis of manpower structure. Another recommendation made by the study is that for the energy sector in Kenya and in particular KenGen to improve its performance, there is need to focus on adopting human resource reward systems such as using ICT to prepare payroll routine reports, preparing health routine reports using ICT, assessing market salaries structure through the internet, conducting compensation structure analysis using IT, applying ICT in calculating tips and bonuses, conducting overtime amount calculation using ICT and development of pay structure using a software. The study finally concludes that in order for the energy sector in Kenya and in particular KenGen to improve its performance, there is need to focus on adopting human resource retaining systems such as organizational charting done using ICT, practicing turnover analysis using ICT, conducting workforce dynamics analysis at the company using ICT, having an effective succession planning system at the company, using appraisal software to appraise the employees and conducting promotion analysis using ICT.

Conflict of Interest

No potential conflict of interest was reported by the authors.

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