Human Resource Planning Subsystem and Firm Performance of Listed Companies at the Nairobi Securities Exchange in Kenya.

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ABSTRACT

Globally, information systems have revolutionized various sectors of the economy, and their significance is particularly pronounced in developed countries. Human Resource planning subsystem has emerged as a time-saving and cost-effective solution in managing human resources. The study aims to explore whether there is a significant link between Human Resource planning subsystem utilization and the performance of listed companies at NSE. This study examines the relationship between Human Resource planning subsystem and firm performance of listed companies at the NSE in Kenya. Human Resource planning subsystem is a crucial tool adopted globally to streamline human resource management practices, including HR planning and performance management. The study analyzes the effect of Human Resource planning subsystem components, such as HR planning and firm performance, particularly focusing on the financial perspective, using the return on assets ratio. The study adopts an explanatory research design to identify causal links between Human Resource planning subsystem factors and firm performance. Both primary and secondary data are utilized in this research. Secondary data from financial statements provided by the Capital Markets Authority is combined with primary data collected from questionnaires and interviews conducted with HR managers of thirty listed companies. The study establishes that Human Resource planning subsystem components have a positive influence on the performance of companies listed at NSE. Human Resource planning subsystem facilitates the Workforce Demand Forecasting, Workforce Supply Forecasting, Skills Inventory and Analysis, Succession Planning leading to enhanced performance. Moreover, Human Resource planning subsystem aids in decision-making related to salary increments, promotions, retention, recognition of performance, layoffs, and identification of underperforming employees. The study further reveals that Human Resource planning subsystem effectively manages external information outside the organization, contributing to improved performance. Additionally, Human Resource planning subsystem enables employees to access their payroll information offsite, promoting convenience and reducing payroll administration expenses. Based on the findings, the study concludes that Human Resource planning subsystem, particularly the recruitment and selection subsystem, significantly affects firm performance among NSE-listed companies. Additionally, HR planning subsystem also plays a crucial role in influencing firm performance. To enhance firm performance, the study recommends the implementation and improvement of the Human Resource planning subsystem. Furthermore, it suggests investing in the enhancement of the Human Resource planning subsystem, as it has a direct impact on a firm's performance.

Keywords: **Human Resource planning subsystem, firm Performance**

I. INTRODUCTION

1.1 Background of the study

The advent of Information Technology has brought about a profound transformation in the way business operations are conducted on a global scale. It finds application across a wide range of sectors within the global economy. It finds application in various sectors such as healthcare, agriculture, manufacturing, and service industries, among others. The convergence between information technology (IT) and various business sectors is an inherent and ongoing phenomenon. The integration of Information Technology in business operations has been shown to significantly enhance efficiency and effectiveness, resulting in substantial cost reductions and increased profitability across various business sectors. Although the upfront expenses associated with implementing Information systems may appear substantial and restrictive, it is imperative to recognize the immense and invaluable advantages that can be derived over time. Historically, organizations have prioritized the implementation of management information systems (MIS) in various functional departments, while neglecting the integration of such systems within human resources (HR) operations. The current landscape is witnessing a gradual transformation, wherein the automation of human resource management practices is becoming increasingly prevalent, encompassing various stages ranging from the initial hiring process to the ultimate stage of separation. Organizations allocate resources towards the implementation of information systems to effectively pursue their business objectives. These objectives encompass a range of critical outcomes, including the attainment of operational excellence, the facilitation of new product and service development, the cultivation of customer intimacy and service, the enhancement of decision-making processes, the achievement of competitive advantage, and ultimately, the assurance of long-term survival (Laudon & Laudon, 2009).

The proliferation of computerized management information systems (MIS) in firms of industrialized countries during the 1980s prompted a significant shift in HR practices, leading to the widespread adoption of human resource information systems in their day-to-day operations. Human Resource Information Systems (HRIS) have traditionally been regarded as sub-functions of Management Information Systems (MIS) within the realm of Human Resources (HR). Their purpose is to provide support for various HR activities, including planning, administration, decision-making, and control. The advent of the Windows operating system has catalyzed the emergence of smaller software companies that develop cost-effective, highly adaptable, and modular Human Resource Information Systems (HRISs). During the 1990s, there was a notable shift towards the implementation of advanced human resource (HR) practices that were specifically designed to enhance a company's overall performance objectives. As a result, the field of HR information systems (HRIS) experienced a corresponding evolution, transforming into highly sophisticated information expert systems equipped with analytical tools. These tools were specifically developed to facilitate effective decision-making processes in the realm of human capital management (Ostermann, Staudinger & Staudinger, 2009). The advent of information technology has had a profound impact on the human resources function over the course of the past decade. Information technology has evolved significantly over time, initially serving primarily administrative tasks like payroll and attendance management. However, in the present day, it plays a crucial role in enhancing various sub processes within the recruitment function. These include attracting candidates for both long and short-term positions, facilitating the generation, pre-screening, and processing of applications, as well as streamlining the contracting and onboarding of new hires. The utilization of information systems in recruitment processes is evident through a multitude of channels, such as online job advertisements on corporate websites and Internet job boards, online CV databases, various forms of electronic applications, applicant management systems, corporate skill databases, and IS supported workflows for the contracting phase (Keim & Weitzel, 2009).

The utilization of HR knowledge systems in the HR planning process facilitates the identification and analysis of workforce gaps, as well as the assessment of both the quantity and quality of the labor force. By leveraging these systems, organizations are better equipped to effectively plan for future workforce requirements (Dessler, 2014). The utilization of Human Resource Information Systems (HRIS) can significantly enhance long-term planning efforts by providing valuable insights into labor force planning and facilitating accurate supply and demand forecasts for manpower. Effective staffing practices require comprehensive information on various aspects of human resources management. This includes equal employment opportunities, separations, and applicant qualifications. Additionally, the development of employees necessitates access to pertinent information on training programs, salary forecasts, pay budgets, and labor/employee relations. Furthermore, a thorough understanding of contract negotiations and employee assistance needs is crucial in maintaining harmonious workplace dynamics (Shibly, 2011). Risk and security management is an essential function that can be facilitated by HRIS through the careful handling of private and highly sensitive individual data, as well as the implementation of robust multiplatform security measures. These factors are of utmost importance and must be thoroughly considered during the design phase of a human resource information system.

1.2 Statement of the Problem

The last decade has witnessed growth in the ICT ecosystem in Kenya. According to a survey conducted by International Data Corporation (IDC) towards the end of 2011, going by various Key Performance Indicators and the survey's market sizing for Kenyan ICT, the sector performed well with good growth in value, usage and access across most sectors between 2010 and 2011 with a shift to services as more infrastructure is put in place (The Global Information Technology Report, 2010–2011). The report goes on to say that, the government initiatives including infrastructure development, regulatory reforms (licencing frameworks), investment in public access centres, e-government projects, content creation, device subsidies, have all had a very positive effect in transforming the market, stimulating investment, ICT uptake and bolstering confidence in the overall ICT market. The industry has developed tremendously across all the sectors of the economy. The survey concluded that Kenya has surpassed Rwanda and South Africa in most aspects of ICT. This is a very encouraging fete bearing in mind that the two countries have been considered as the ICT powerhouses in the continent for a long time (The Global Information Technology Report, 2010–2011).

Technology adoption is linked with higher business outcomes (CedarCrestone, 2012). This development in ICT in Kenya needs to be taken up fully so that Kenya can benchmark with the best in the world. Best practices in human resource management should not be overlooked while embracing technology. This has not been happening in developing countries including Kenya. The use of human resource information systems should be taken up so that developing countries can be efficient in service delivery, effective and ultimately competitive globally. Now that Kenya is doing very well in terms of ICT infrastructure mainstreaming, organizations should leverage on this development and computerize all their operations.

A lot of literature has predominantly focused on the impact of HRIS in organizations (Alca´zar, Ferna´ndez & Gardey, 2005; Browning, Edgar, Gray & Garrett, 2009). It takes HRIS in organizations for granted with relatively little systematic attention being paid to the issues that surround their adoption. Yet, adopting HRIS can be challenging as it can be costly and it can take a long time before espoused pre-adoption benefits become available after HRISs are fully adopted. To date, HRIS adoption remains under-researched both in public and private sectors, and therefore, addressing it can provide a valuable contribution to both research and practice (Blount & Castleman 2009; Henriksen & Mahnke 2005). Also, research has shown that most organizations still appear to use technology merely to automate routine administrative tasks (CedarCrestone, 2010). This does not help leverage on the huge benefits of HRIS. If properly used, HRIS can transform how business is carried out in organizations and improve effectiveness and ultimately profitability of a firm.

Listed companies at the Nairobi Securities Exchange (NSE) are very competitive and their Human resource managers should be at the fore front in ensuring that HRISs are adopted and used optimally in their organizations so that they can leverage on their benefits. However, there is scanty research done in Kenya, to establish the relationship between human resource information systems and firm performance of companies listed at the NSE. The literature review reinforces this observation. The pressure on listed companies to remain profitable by the stakeholders makes them leverage on the best practices in the world, information systems being one of the best practices. The objective of this research was to investigate how the use of HRIS, strategically impacts firm performance.

1.3 Objectives of the study
1. To determine the relationship between human resources planning subsystem and firm performance of listed companies at the NSE in Kenya.

1.4 Research Questions
The study sought information that addressed and answered the following questions:

1. What is the nature and extent of the relationship between the Human Resources Planning subsystem and firm performance of listed companies at the Nairobi Securities Exchange (NSE) in Kenya?

1.4 Research Hypotheses
The research hypotheses were;

Ho_0: There is no significant relationship between the Human Resources Planning Subsystem and firm performance of listed companies at the NSE in Kenya
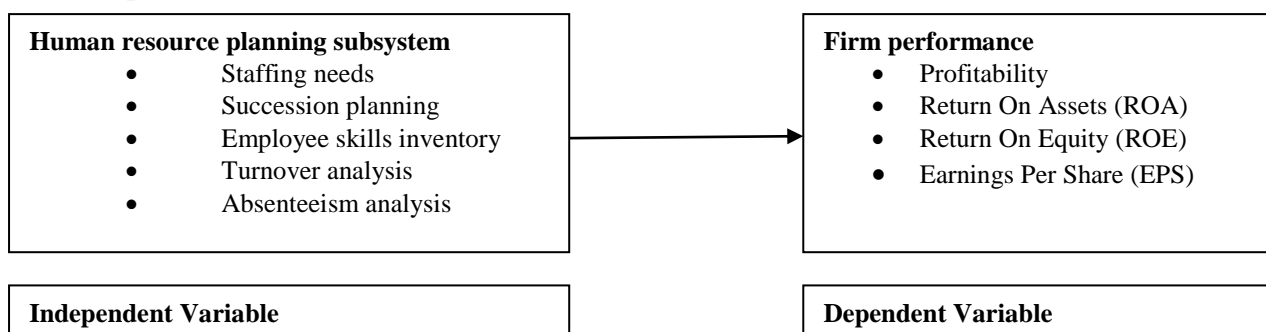
Ha_1: There is a significant relationship between the Human Resources Planning Subsystem and firm performance of listed companies at the NSE in Kenya.

2. Literature Review

2.1 Theoretical Framework:

Human Resource Planning (HRP) is a crucial procedure that connects an organization's human capital with its strategic goals and objectives. This study's theoretical framework is based on the Resource-Based View (RBV) and the Dynamic Capabilities Theory(Child, 2015).. The RBV highlights the importance of a firm's resources, especially human resources, in providing a long-term competitive edge. According to Dynamic Capabilities Theory, a firm's ability to adapt and adjust its resources through time leads to improved performance. As a result, an effective HRP subsystem can enable a firm to strategically acquire, develop, and deploy human resources, resulting in enhanced firm performance(Donaldson, 2012).

2.4 Conceptual Framework

Human resource planning subsystem	Firm performance
• Staffing needs	• Profitability
• Succession planning	• Return On Assets (ROA)
• Employee skills inventory	• Return On Equity (ROE)
• Turnover analysis	• Earnings Per Share (EPS)
• Absenteeism analysis	

Independent Variable	**Dependent Variable**

Empirical Review

It is a process of analyzing an organization's human resource needs under changing conditions and developing the activities necessary to satisfy these (Biswajeet, 2010). As a result all resources are used together in the best possible combination. HR planning plays a crucial role in an organization placing the right person in the right job at the right time. It forecasts the organization's human resource requirement and develops a plan to fulfill the future workforce positions. HR planning aids to align the organizational objectives with its human resource concerns through short-term as well as long-term strategic HR plan by evaluating the feedback regularly.

Several empirical studies have investigated the relationship between HRP subsystem and firm performance in various contexts. While some studies have found a positive and significant relationship between effective HRP practices and firm performance, others have shown mixed results. For example, a study by Becker et al. (2015) found that organizations with robust HRP systems tend to outperform their competitors in terms of profitability and market value. In contrast, a study by Huselid (2011) found that the relationship between HRP practices and firm performance is contingent on the external market conditions and industry characteristics.

Wirtky, Eckhardt, Laumer, Wild and Weitzel, (2011) in their research titled; Going beyond operational efficiency in HR using IT – A Literature Review of Human Resources Information Systems found no results explicitly discussing the use of HRIS for HR Planning. They recommended that HRIS researchers need to become more active in order to generate new IT approaches in HR in the area of HR Planning and in order to substantiate existing IT approaches in the areas of e-recruitment and e-learning. This impression is also supported by call for papers of The Journal of Strategic Information Systems for a special issue on "Realizing the Strategic Potential of e-HRM" (Grant & Newell, 2011) and a current special section on E-HRM in an e-business environment in the Journal of Electronic Commerce Research (Laumer, Eckhardt & Weitzel, 2010).

Critique of Existing Literature Relevant to the Study

HR departments are transforming themselves from a non-business-oriented, administrative cost-center to an internal business partner delivering additional value (Ulrich, 2008). Unfortunately, little is known how IT could enable such business support functions as HR to achieve sustainable business value (Laumer, Eckhardt & Weitzel, 2010). This might be explained by the fact that the IT penetration of corporate HR departments appears to be behind on that of core business functions. Although, the earliest mechanized employee information systems already appeared back in the 1940s, HR departments took little part in the technological advances that were occurring in the accounting and financial areas over the following decades.

In contrast, with the turn of the millennium, the IT enablement of core business processes reached a new level. Instead of automating existing processes, IT revolutionized business processes and allowed companies to provide their customers with a new value proposition. Examples are Amazon, Zara and Dell. Amazon pioneered online shopping, Zara completely abolished their costly in-store inventories through more accurate forecasting and efficiently integrated design, production and replenishment processes and Dell pioneered the built-to-order principle and produced and delivered a customized notebook in just 3

days after arrival of the order. These and many other companies distinguished themselves from the competition by using IT to perform processes differently, and therefore, gained a competitive advantage.

Despite the HR departments transforming themselves in order to gain a competitive advantage (Ulrich 2008), the IT support of HR processes is still behind that of core business processes because HRIS do not appear to go beyond operational efficiency yet (Wirtky, Eckhardt, Laumer, Wild & Weitzel, 2011).

The literature review shows many previous related studies in HRIS, however, most of them were theoretical. The studies done previously also do not link HRIS to firm performance. Most of them address effectiveness and efficiency. The existing literature on HRISs suggests that human resource information systems have an impact on human resource management but this impact is not investigated to see how it affects a firm`s financial performance. Early surveys suggested that HRIS were used predominantly to automate routine tasks. This has been overtaken by events and the research now should focus on how HRIS strategically makes the firm more profitable.

The review of literature revealed that HRIS studies are also mostly done in developed countries. Not many published studies have been done on HRIS in developing countries where Kenya falls. Critical scrutiny of the existing literature also found out that HRIS in human resource planning has not been studied previously. Scholars have been researching on; recruitment and selection, training and development, performance management and reward management in the past.

Despite the growing body of literature on HRP subsystem and firm performance, there are some limitations in the existing research. First, most studies have been conducted in developed countries, and there is limited research in the context of emerging economies like Kenya. Second, some studies have used subjective measures of firm performance, which may introduce bias and measurement errors. Third, there is a lack of longitudinal studies that examine the long-term impact of HRP practices on firm performance. Finally, there is limited research on the mediating or moderating factors that influence the relationship between HRP subsystem and firm performance in the Kenyan context.

Research Gaps

Based on the critique of existing literature, the following research gaps are identified: There is a need for studies that specifically examine the relationship between HRP subsystem and firm performance in the context of Kenyan listed companies at the Nairobi Securities Exchange. Secondly, future research should focus on using objective financial metrics, such as return on assets, return on equity, and market capitalization, to measure firm performance accurately. Thirdly, more longitudinal studies are required to understand the long-term impact of HRP practices on firm performance over time. Lastly, Comparative studies between firms with different levels of HRP effectiveness could help identify best practices and benchmarks for improving firm performance.

Materials and Methods

Research Design:

This study used a descriptive case study and correlational research design to justify the relationship between the independent variables and dependent variables. The main aim for the choice of these two research designs is to allow the study to determine the strength and direction of a relationship so that later studies can narrow the findings down and, if possible, determine causation experimentally.

Target Population

The target population of this study was the listed companies at the Nairobi Securities Exchange. Target population is that population which a researcher wants to generalize the results of a study (Mugenda, 2008). The NSE has a total of 60 listed companies. These companies deal with different products and services and they are classified as such. The classification is as follows: agricultural, commercial and services, telecommunication and technology, automobiles and accessories, banking, insurance, investment, manufacturing and allied, construction and allied and energy and petroleum. The study targeted Human resource managers of these listed companies who filled in questionnaires so that the relevant information could be obtained. The Human resource managers were obtained from a population of sixty listed companies at the Nairobi securities Exchange.

Sectors of the Kenyan economy

S. No	Sector	Number	% of the listed Companies
1.	Agricultural	7	11.7
2.	Commercial and services	9	15
3.	Telecommunication and Technology	2	3.3
4.	Automobiles and Accessories	4	6.6
5.	Banking	10	16.7
6.	Insurance	6	10
7.	Investment	4	6.6
8.	Manufacturing and Allied	9	15
9.	Construction and allied	5	8.3
10.	Energy and Petroleum	4	6.6
	TOTAL	**60**	**100%**

Sampling Frame

A sampling frame consists of a list of items from which the sample is to be drawn (Kothari, 2009). The sampling frame in this study was drawn from 60 listed companies listed at the Nairobi securities Exchange.

Table 3.1: Sample Size

S. No	Sector	Number	Proportion	Sample size
1.	Agricultural	7	50%	**4**
2.	Commercial and services	9	50%	**4**
3.	Telecommunication and Technology	2	50%	**1**
4.	Automobiles and Accessories	4	50%	**2**
5.	Banking	10	50%	**5**
6.	Insurance	6	50%	**3**
7.	Investment	4	50%	**2**
8.	Manufacturing and Allied	9	50%	**4**
9.	Construction and allied	5	50%	**3**
10.	Energy and Petroleum	4	50%	**2**
	TOTAL	**60**		**30**

Sample and Sampling Technique

This study used purposive sampling and quota sampling techniques to get the right sample. Judgment (purposive) sampling enables you to use your judgment to select cases that will best enable you to answer your research questions and to meet your objectives. This form of sample is used when working with very small samples such as in case study research and when you wish to select cases that are particularly informative (Neuman, 2009).

Therefore, in judgment sampling, the researcher needs to be knowledgeable about the target population (Cooper & Schindler, 2010). In this study human resource managers of 30 listed companies at the NSE were asked to give insights about the use of HRIS at their workplaces. The study collected data from the human resource manager in each of the 30 listed companies in the sample. The total sample size was 30 respondents, that is, one respondent in each company. The study arrived at this sample size by employing quota (proportionate) sampling from each sector of 50% due to the small number of firms in these sectors. Judgment sampling was used to obtain the sample from the fifty percent of the proportionate sample in each category. This helped in having a proper mix of multinationals and local companies in the sample.

Data Collection Instruments

Both primary and secondary data were used in this research. The primary data was used due to its nearness to the truth and ease of control over errors (Copper & Schindler, 2010). Primary data was collected using a self-administered questionnaire. Questionnaires are instruments completed by the respondents themselves (Bryman, 2012). Questionnaires are the most frequently used method of data collection in management research. They are relatively easy to use, inexpensive, and are often the most plausible alternative for measuring unobservable constructs such as attitudes, values and preferences, intentions, and personalities (Saunders, Lewis, & Thornhill, 2007). In this research a questionnaire was used as a general term to include all techniques of data collection in which each person is asked to respond to the same set of questions in a pre-determined order (De Vaus, 2013).A questionnaire provides accurate information and reaches a large number of respondents.Secondary data was collected from the Capital Markets Authority in form of financial statements of the listed companies.

Data collection Procedure

Creswell (2013), defines data collection as means by which information is obtained from the selected subjects of an investigation. In this study, purposive sampling and quota sampling techniques were used to get the right sample. Judgment (purposive) sampling enables one to use judgment to select cases that will best enable one to answer research questions and to meet the objectives.Questionnaires were self-administered and two research assistants assisted in the delivering of the questionnaires to the respondents. The research assistants were also engaged in the collection of the filled in questionnaires. Face-to-face Interviews were conducted to HR managers so as to corroborate the results obtained by the questionnaires.

Pilot Test

Cooper and Schindler (2010), indicated that a pilot test is conducted to detect weaknesses in design and instrumentation and to provide proxy data for selection of a probability sample. According to Babbie (2013), a pilot study is conducted when a questionnaire is given to just a few people with an intention of pre-testing the questions. Pilot test is an activity that assists the research in determining if there are flaws,

limitations, or other weaknesses within the interview design and allows him or her to make necessary revisions prior to the implementation of the study (Kvale, 2007). A pilot study was undertaken on 5 listed companies to test the reliability and validity of the questionnaire.

Data Analysis and Presentation

The study used qualitative and quantitative techniques in analyzing the data. After receiving questionnaires from the respondents, the responses were cleaned (checking for outliers), edited, classified, coded and tabulated to analyze quantitative data using Statistical Package for Social Science (SPSS) version 20.0 software and descriptive and inferential statistics. Linear Regression was applied to test the effect of independent variables on firm performance. Linear regression was chosen for its ease of understanding and it is the most suitable analysis method (Saunders, Lewis, & Thornhill, 2007). The results were presented in form of graphs, pie charts, tables and figures.

A descriptive survey design which tries to illumine problem of research further by explaining variables of concern, was adopted by this study because it is relevant to social scientist and people having interest in original data collection in order to describe a population too large for observation. The research took place in the Kenyan County of Kisumu. The county is in Nyanza region in Kenya with a target population of 11 State corporations in the Energy and Petroleum Sector. The county covers a total of 2,085.6 km^2 and 567 km^2 covered by water. The target population comprised 99 senior managers selected equally (nine each) from the 11 energy and petroleum state corporations based in Kisumu County. The 99 senior officers comprised of the target population. A census survey was carried out on these senior officers. The study took nine persons from every corporation to come up with 99 persons for the study. Primary data was obtained by administering questionnaires

Primary and secondary data was employed in data collection on strategy implementation and Kenyan energy and petroleum sector state corporations performance. Primary data is the information received first hand from the participants regarding their experiences and perspectives while secondary data is one that was previously gathered form a different project and not the one at hand and includes information in company's books, financial records and other related sources. The management gave this information. Expert opinions in the field study were sought by the researcher to determine research's validity which made easy the needful revision and fine tuning of the questionnaire thus improving validity. A pilot group of 9 participants was selected (10% of the target population), for testing reliability. This was meant for refining the data collection tool for the participants in the main study not to have challenges in responding to the questions. Cronbach Alpha coefficient (α) was used to estimate reliability. The collected data was analysed using SPSS and presented in text, figures, and tables.

Results

Response Rate

The study targeted a sample size of 30 respondents all of which filled in and returned the questionnaires making a response rate of 100%. This response rate was excellent to make conclusions for the study. According to Mugenda (2008), a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent

Descriptive analysis

Table 4. 1: HR planning subsystem influences firm performance

Opinion	Frequency	Percent
Yes	24	80.0

No	6	20.0
Total	**30**	**100.0**

The study sought to determine whether HR planning subsystem influences the performance of companies listed at NSE. From the research findings majority of the respondents as shown by 80% agreed that HR planning subsystem influences the performance of companies listed at NSE whereas 20% of the respondents were of contrary opinion as shown in table 4.37. This implies that HR planning subsystem influences the performance of companies listed at NSE as confirmed by the majority respondents.

Wirtky, Eckhardt, Laumer, Wild and Weitzel, (2011) in their research titled; Going beyond operational efficiency in HR using IT – A Literature Review of Human Resources Information Systems found no results explicitly discussing the use of HRIS for HR Planning. As the literature reviewed revealed, the situation has not changed much since then, but the emerging technologies in HR analytics and cloud computing will heavily complement HR planning thereby contributing to the firms' profitability.

Table 4.2: Extent to which HR planning subsystem affect`s the firm's performance

Extent	Frequency	Percent
To a moderate extent	4	13.3
To a great extent	21	70.0
To a very great extent	5	16.7
Total	**30**	**100.0**

The study sought to establish the extent to which HR planning subsystem of an HRIS affects the firm's performance. From the research findings, 70% of the respondents indicated to a great extent, 16.7% of the respondents indicated to a very great extent whereas 13.3% of the respondents indicated to a moderate extent as shown in table 4.38. This implies that HR planning subsystem of an HRIS affects the firm's performance to a great extent.

Table 4. 3: Extent to which HR planning subsystem affects s the firm's performance

	N	Minimum	Maximum	Mean	Std. Devi.
HRIS makes better and faster decisions	30	2.00	5.00	3.80	0.71
HRIS identifies specific key positions and targets specific employees	30	3.00	5.00	3.70	0.65
HRIS minimizes costs associated with succession planning	30	3.00	5.00	4.13	0.68
HRIS manages internal information within the organization	30	3.00	5.00	4.13	0.57
HRIS manages external information outside the organization	30	2.00	5.00	3.57	0.90
HRIS constantly analyses and matches the demand for human resources	30	3.00	5.00	3.90	0.61
HRIS forecasts supply of human resources	30	2.00	5.00	3.90	0.61
HRIS estimates future human resources requirement of the organization	30	2.00	5.00	3.87	0.73
HRIS connects employee to required position	30	2.00	5.00	3.73	0.74
HRIS identifies a logical progression path and steps required	30	2.00	5.00	3.70	0.84
HRIS ensures organization has right kind and numbers of employees	30	2.00	5.00	3.77	0.77
HRIS identifies human resources need to achieve organizational goals	30	3.00	5.00	4.10	0.55

The study sought to determine the extent to which respondents agreed or disagreed with the above statements relating to HR planning subsystem of an HRIS. The study established that majority of the respondents agreed that; HRIS manages internal information within the organization, HRIS minimizes costs associated with succession planning as shown by a mean of 4.13 in each case. HRIS identifies human resources need to achieve organizational goals as shown by a mean of 4.10, HRIS forecasts supply of human resources, HRIS constantly analyses and matches the demand for human resources as shown by a mean of 3.90 in each case, HRIS estimates future human resources requirement of the organization as shown by a mean of 3.87, HRIS makes better and faster decisions as shown by a mean of 3.80. HRIS ensures organization has right kind and numbers of employees as shown by a mean of 3.77, HRIS connects employee to required positions as shown by a mean of 3.73, HRIS identifies a logical progression path and steps required, HRIS identifies specific key positions and targets specific employees as shown by a mean of 3.70 in each case, HRIS manages external information outside the organization as shown by a mean 3.57. This is well tabulated in table 4.39.

The CedarCrestone survey of 2014 found that, top business performers invest in more HR technologies. This study is consistent with these earlier findings. Results showed that the employees has the skills for efficient strategy implementation (mean=4.036; [SD] = 0.935), leaders demonstrate high morale (mean=3.829; [SD] = 0.9136), management is supported to drive business strategies (mean=3.951; [SD] = 1.08756), the current leadership structure supports full implementation of strategy (mean=3.902; [SD] = 0.976), good leadership within the organization has played a pivotal role in mobilizing and gaining support of staff members (mean=3.911; [SD] = 1.090) and the management capability to plan, manage and implement strategic initiatives has been great (mean=3.914; [SD] = 0.918).

Regression Analysis-HR Planning subsystem

To establish the relationship between HR planning and firm`s performance, simple linear regression analysis model was computed as shown in Table 4.43. The coefficient of determination ($R^2$) shows that when HR Planning is studied on its own as a predictor of performance of firm`s performance, it will contribute 77.1 percent of the variation in the firm`s performance.

Table 4. 4: Model Summary-HR Planning Subsystem

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.878ᵃ	.771	.763	.71071
a. Predictors: (Constant), HR Planning				

Table 4.44 below displays unstandardized coefficients of the model which has a y-intercept of 1.664 and a gradient of 0.251, an indication that HR planning subsystem has a positive relationship on firm`s performance as shown by the linear regression below.

$$Y= 1.664 + 0.251X_1$$

Table 4. 5: Coefficientsᵃ-HR Planning Subsystem

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.664	.298		5.591	.000
	HR Planning	.251	.026	.878	9.720	.000
a. Dependent Variable: Firm Performance						

Testing of Hypothesis - HR Planning Subsystem

The study sought to test hypothesis on HR planning subsystem and the Firm Performance;

H4₁: HR Planning subsystem affects a firm`s performance.

To test the hypothesis a one way ANOVA was used. The condition for rejecting the null hypothesis was that F calculated should be greater than the F critical at 0.05 while the calculated significant level should be less than 0.05. As shown in Table 4.45 the calculated F was 94.484 and the significant level was 0.000. Using F distribution table at 0.05 significant level, $F_{(1, 28)}$ is 4.196. Thus the F calculated value was greater than the F critical value and significant level was less than 0.05. Given the result, the alternative hypothesis was accepted and the study concluded that concluded that HR Planning subsystem affects firm's performance.

The findings agree with those of Biswajeet (2010) who finds a positive relationship between HR planning and Firms performance. HR planning plays a crucial role in an organization placing the right person in the right job at the right time. It forecasts the organization's human resource requirement and develops a plan to fulfill the future workforce positions. HR planning aids to align the organizational objectives with its human resource concerns through short-term as well as long-term strategic HR plan by evaluating the feedback regularly. The use of technology in these tasks contributes to the enhanced performance of the firm.

ANOVA[a]- HR Planning Subsystem

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.724	1	47.724	94.484	.000[b]
	Residual	14.143	28	.505		
	Total	61.867	29			
a. Dependent Variable: Firm Performance						
b. Predictors: (Constant), HR Planning						

Firm Performance

The study used both secondary and primary data to compare the performance of firms before and after introduction of HRIS.

Comparison using Profit after tax

The findings showed that after the introduction of HRIS the profit margin increase as shown in the figure 4.16 below.
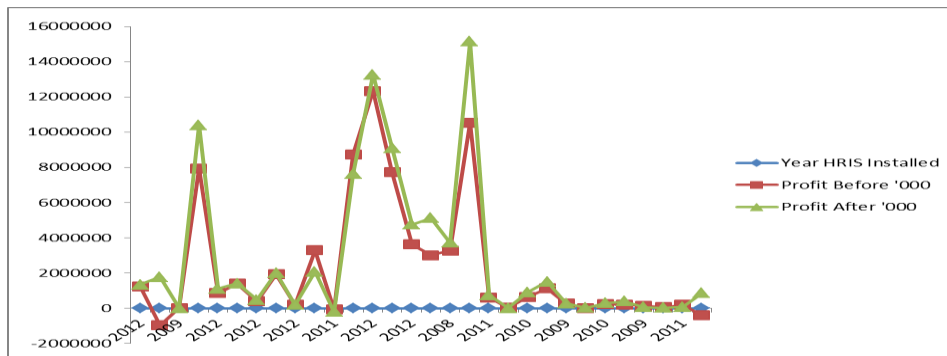

Figure 4. 16: Comparison using Profit after tax

Comparison Using Total Assets

The findings showed that after the introduction of HRIS the total asset increased as shown in the figure 4.17 below. The assets of the company are comprised of both debt and equity.
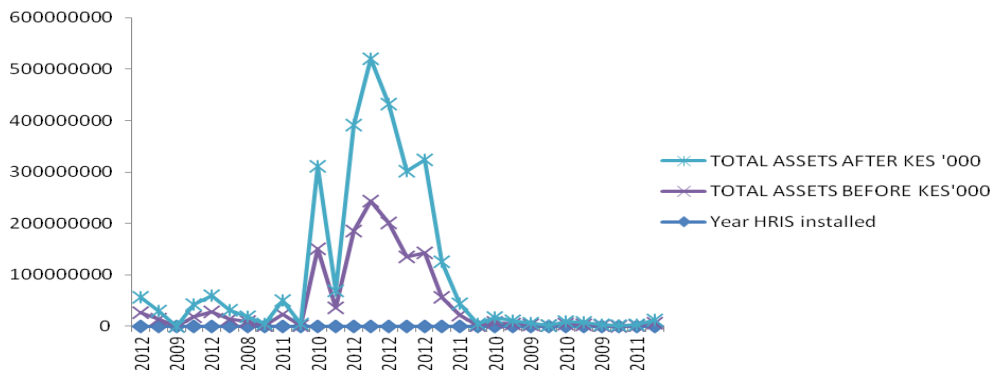
Figure 4.17: Comparison Using Total Assets

Comparison Using ROA Assets

Using ROA as a measure of performance the results shown that there was an increase in the ROA ration after installation of HRIS. An indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a company's annual earnings by its total assets, ROA is displayed as a percentage.

Anderson, Banker and Hu (2003), found that, notwithstanding the effects of competition, actual IT budget levels are positively related to both future ROA and ROS. Specifically, they find a statistically reliable association between IT budgets and future earnings, particularly where IT played an informate role (using IT to improve information flows throughout organizations). They also find a smaller but still significant association between IT budgets and future earnings where IT plays an automate role (using IT to facilitate automation of business processes). This offers evidence of a positive link between IT spending and financial performance. This study is consistent with these observations
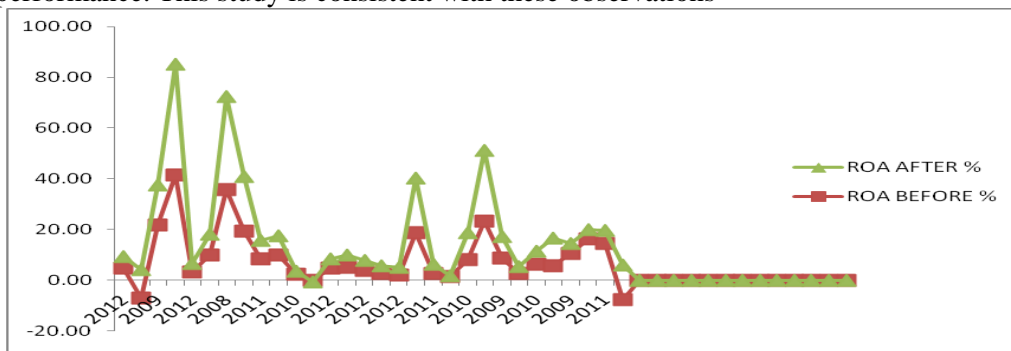

Figure 4.18: Comparison Using ROA Assets
Firm performance due to adoption of Human Resource Information Systems
The study sought to find out how business performance faired due to adoption of human resource information system. From means for the various indicators ranged highly from 4.41 to 4.55 as shown in table 4.55. These are high averages which translate to improved firm performance.
From the literature review the rationale for the implementation of HRIS varies between organizations. Some use it to reduce costs, others to facilitate better communication, and some use it to re-orient HR operations to increase the department's strategic contribution (Parry, Tyson, Selbie, & Leighton 2007). HRIS provides management with strategic data not only in recruitment and strategies, but also in merging HRIS data into large-scale corporate strategy. The data collected from HRIS provides management with

decision-making tool. An HRIS can have a wide range of usage from simple spread sheets to complex calculations performed easily (Parry 2009). Through proper HR management, firms are able to perform calculations that have effects on the business as a whole.

Table 4. 6: Firm Performance due to adoption of Human Resource Information systems

	Very low	Low	Moderate	High	Very high	Mean	Sdev
General product awareness level	0.0%	0.0%	0.0%	44.8%	55.2%	4.55	.5061
Market penetration level	0.0%	0.0%	0.0%	44.8%	55.2%	4.55	.5061
Cash flow	0.0%	0.0%	0.0%	58.6%	41.4%	4.41	.5012
Profits made	0.0%	0.0%	0.0%	55.2%	44.8%	4.45	.5061
Sales turnover	0.0%	0.0%	0.0%	58.6%	41.4%	4.41	.5012

4.8.5 Fairing of dimensions for business due to adoption of Human Resource Information systems

The study sought to find out how dimensions for business faired due to adoption of Human Resource Information system. Respondents indicated that Market share, Rankings in market compared to competitors and Ranking in market in terms of size of share capital faired highly as shown by a score of 4.37, 4.48 and 4.44 respectively. These are high averages which translate to improved firm performance.

Fairing of dimensions for business due to adoption of Human Resource Information system

	Low	Fair	Satisfactory	Good	Excellent	Mean	Sdev
Market share	0.0%	0.0%	0.0%	62.1%	37.9%	4.37	.4938
Rankings in market compared to competitors	0.0%	0.0%	0.0%	51.7%	48.3%	4.48	.5085
Ranking in market in terms of size of share capital	0.0%	0.0%	0.0%	55.2%	44.8%	4.44	.5061

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

Human Resource Planning Subsystem and Firm Performance

The study established that HR planning subsystem affects firm`s performance to a great extent. The study further revealed that HR planning subsystem minimizes costs associated with succession planning or applicant tracking. It ensured organization has right numbers of employees at right place at right time, HR planning subsystem identifies a logical progression path and the steps required for advancements. The subsystem connects employee to required position and keeps track of their movements. HR planning subsystem makes better and faster decisions about successor rankings. It forecasts supply of human resources, identifies human resources need to achieve organizational goals. It identifies specific key positions and targets specific employees as potential successors. HR planning subsystem constantly analyses and matches the demand for human resources and estimates future human resources requirement of the organization.

The role of human resource planning is to incorporate the planning and control of human resources into the corporate level plans. As a result all resources are used together in the best possible combination. HR planning plays a crucial role in an organization placing the right person in the right job at the right time. It forecasts the organization's human resource requirement and develops a plan to fulfill the future workforce positions. HR planning aids to align the organizational objectives with its human resource concerns through short-term as well as long-term strategic HR plan by evaluating the feedback regularly. The recent developments in HR technologies have made it possible to hire the right people at the right time. This goes a long way in contributing to improved firm performance as the findings clearly show.

Conclusion

The study further concludes that HR planning subsystem affects the performance of a firm. HR planning subsystem minimizes costs associated with succession planning or applicant tracking. It ensures organization has right numbers of employees at right place at right time, HR planning subsystem identifies a logical progression path and the steps required for advancements. It also connects employees to required position and keeps track of their movements and makes better and faster decisions about successor rankings. It forecasts supply of human resources, identifies human resources need to achieve organizational goals. It identifies specific key positions and targets specific employees as potential successors. HR planning subsystem constantly analyses and matches the demand for human resources and estimates future human resources requirement of the organization.

Finally, the study concludes that that performance management subsystem affects performance of listed companies at NSE to a great extent. Performance management subsystem enables quick decision to be

made on employee pay and job evaluation. It provides performance history which may be useful in the full range of personnel decisions, including compensation decision-making. It provides an opportunity for clearer articulation and definition of performance expectations; performance management subsystem reduces the costs associated with manual performance managements. It provides an opportunity to view one's performance in the context of broader organizational goals. Performance management subsystem makes performance appraisals more objective and reliable. It allows proper decisions to be made on career development, provides constructive feedback to employees in the organization, and helps to identify the gaps in desired and actual performance.

From the findings it can also be concluded that human resource information systems have tremendously revolutionalised the way human resource management practices have been handled previously. There is a total paradigm shift in the human resource departments. This study has added to the work of other scholars in using the resource based view as a basis for analysis of firm performance. More specifically, within the framework of the RBV, the study has provided an insight into the potential of HRIS to improve the value of the HR function and also to improve its capability to contribute to the competitive advantage of the firm through improved efficiency, effectiveness and ultimately return on assets.

Universalistic theory has been used previously to show how best practices enhance firm performance. Scholars propagated the theory through enhancing human resource management practices the best way possible to improve effectiveness and productivity. The use of human resource information systems as a best practice was used to show how it impacts on firm performance. This study concurs with the previous proponents of this theory.

Although the initial investment in information systems is high the benefits are evident. Human resource department costs are reduced through the use of information systems is corroborated by this study. The use of Human resource information systems allows this time to be used in carrying out more strategic roles in the organization. Modern HRISs are strategic, complex and value-adding. Only a handful of companies had made use of big data in HR decision making offered by the use of information systems. Companies can make HR decisions using metrics deduced from the data captured in the HRIS.

This study adds to the body of knowledge of using technologies in HR to increase firm performance. Universalistic and resource based view theories were used to reinforce the argument.

Recommendations

The study recommends implementation of HR planning subsystem. This comes with benefits which include costs minimization associated with succession planning or applicant tracking, Identification of a logical progression path and the steps required for advancements, connecting employee to required position and keeps track of their movements among others.

Finally, the study recommends that reward subsystem of an HRIS should be put well in place since it affects the performance of a firm Performance of companies listed at the NSE to a great extent. Reward may be in form of bonus, salary increases, promotions, stock awards, and perquisites. The ways in which people are valued and awarded can make a considerable impact on the effectiveness of the organization and is at the heart of the employment relationship.

Areas for Further Research

Despite the contributions of this study, several factors limit the generalizability and usefulness of the findings. Firstly**,** the small size of the population, there were 60 companies listed at the NSE by December, 2012. After four of them were eliminated only 56 were eligible for the study. The sample obtained was for 30 HR managers. Future research should consider bigger samples. Besides, the study was cross-sectional, and took into consideration data for 2013 only. It can be presumed that a better picture would have been obtained had the study been longitudinal.

Secondly, although there are advantages in studying listed companies, especially the availability of data, this target population does not have a good representation of all the industries, with banking sector having

the bulk of listed companies, followed by Commercial and Services and Manufacturing and Allied. Telecommunication and Technology sector has only two firms. A detailed analysis of performance of specific sectors is difficult using listed companies alone. Future research should consider studies of specific industries for more insightful analysis.

Thirdly, the study was carried out at the Nairobi Securities Exchange. Thus, the results may not be valid in other sectors e.g the public sector. Although it is unlikely that the best HR practices vary across industries, the current findings need to be validated in other sectors to rule out industry as an important contingency factor. Further research should be carried out in these sectors.

Fourthly, it is only the human resource managers who were considered in the study. Junior workers could be considered in future in case they have different opinions on the role of human resource information systems in firm performance.

Fifthly, it is only five human resource management practices which have been looked at in this study; recruitment and selection, training and development, performance management, HR planning and reward management. It would be interesting to investigate the use of human resource information systems in other practices e.g. occupational health and safety, labour relations and absence management.

Factors affecting successful implementation of information systems could also be a topic for future research. The privacy of employees when using HRISs should be investigated also in future research. The study also suggests research to be carried out on the challenges that hinder the improvisation of human resource information systems in the Kenyan companies. Lastly, the way modern trends in Information Technology like HR analytics and cloud computing affect human resource management practices could be investigated in future research.

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