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The Joint Effect of HRIS, HRM Practices and Differentiation Strategy on Competitive Advantage Is Greater Than the Effect of HRIS on Competitive Advantage

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Abstract:

Sustainable competitive advantage has become a key topic of interest in Human Resource Management (HRM). Most of the companies are practicing the use of human resource information systems to gain competence, efficacy and competitive advantage. The population of the study constituted 62 firms quoted at the Nairobi Securities Exchange. The cross-sectional research design has been adopted here. The questionnaire was used for collection of primary data. The study's respondents were the managers from HR department across the different companies. A response rate of 63% was achieved. Multiple regression analysis was used to analyse the data. The findings indicated that the joint effect of HRIS, HRM on competitive advantage. This study's results contribute to knowledge by combining and testing the joint effect of HRIS, HRM practices and differentiation strategy on competitive advantage. Policy should be advanced in the areas of HRIS, HRM practices, differentiation strategies and competitive advantage. The results of the study should also be of importance to firms listed on NSE since it will outline the association between HRIS, HRM Practices, differentiation strategy and competitive advantage. Managers could use the findings of this study to identify competitive drivers in their respective organizations.

Keywords: *Human resource information system, human resource management practices, differentiation strategy, competitive advantage, Nairobi securities exchange*

1. Background of the Study

Sustainable competitive advantage and realization of extra profits has become a topic of interest in Human Resource Management (HRM). To maintain competitive advantage, organizations need to balance the resources available to them. This enables the organization to make extra profits and survive in the market. Porter (1990) classifies resources owned by the organizations into three categories: physical, human and organizational. To Human Resource (HR) has been rated at the most crucial resource the three in driving the firm towards sustaining competitive advantage. Many leading management experts argue that it is not the technology but rather the practice of HRM that challenges executives in the 21st century (Drucker, Handy, Dyson, Saffo&Senge, 1997). Most of the companies are using information systems in order to achieve efficiency, proficiency quality and gain competitive advantage (Kumar, 2012). HRIS has many modules including HR administration, skill inventory, salary administration, leave and absence recording, HR planning, training and development, performance appraisal, career planning, recruitment and others HR activities (Mureithi, Gachunga&Burugu, 2014). HRIS needs to add value to the objectives and strategic decisions (Lengnick-Hall & Moritz, 2003) and enable organizations to become smoother (Kumar, 2012).

According to strategic focus approach, by its very nature HRM is strategic and have strategic linkages (Beer, Spector, Lawrence, Mills &Walton, 1984; Mathis& Jackson, 1985). Huselid and Berker (1997) noted that organizations whose HRM practices are viable have been able to improve their operational performance and yield outcomes that are aligned business strategy and subsequently better financial returns than those who did not. According to Delery and Doty (1996), configurational approach is focused on aligning HRM practices to strengthen horizontal fit, and then linking HRM practices to the business strategy to maximize vertical fit. HR practices should be strategically linked and aligned to business strategy to ensure the promotion of these objectives (Wright and McMahan, 1992). Schuler and Jackson (1987) postulate the types of the HRM practices needed to be aligned to organization strategy. HR practices entirely follow different patterns for different organization strategies. In the case of differentiation strategy used in this study, impetus is given for free thinking and generation of new ideas. Performance appraisal has a long-term focus and focuses on long-term results.

Human resource management practices if designed correctly would be enhanced through differentiation strategy for sustainable competitive advantage (Bidgoli, 2011). Porter (1996) argued that HRMpractices have powerful effect on competitive advantage through differentiation strategy. HRM practices help the firm to differentiate itself through differentiation strategy that would lead to competitive advantage (Bloch, Pigneur, &Segev, 1996).

This study is anchored on three theories namely: Configurational, HR Flow and Universalistic Theory. Configurational theorists propose that to achieve competitive advantage, the organization should advance HR systems that achieve horizontal and vertical fit (Wright & McMahan, 1992). Drawing insight from configuration theory, the study proposed that configuration is important to ensure that HRM practices is well aligned with other HRM practices and with differentiation strategy to ensure vertical and horizontal fit. Thus, the study proposes that joint effect of HRIS, HRM practices and differentiation strategy on competitive has a greater influence than the individual influence of each predictor variables

The HR flow theory (McLeod & DeSanctis, 1995) of HRIS highlights the need for accurate and timely information on current and potential employees in the labor market since there is efficient flow of HRIS. Wickramaratna (2011) advocates of the universalistic approach to strategic human resource management call for the adoption of high performance HRM practices which constitute an exceptional way to increase the value of human capital value and subsequently the organizations efficiency (Wright, MacMahan, Virick, Snell & Dean, 1992).

Employee productivity in developing countries is low compared to the developed countries (Bloom, Mahajan, Mackenzie & Robert, 2010). This could be as a result of inefficiency which leads to low quality product of firms in developing countries. In addition, there could be factors affecting the cost of production and the quality of products. Firms quoted on the NSE in Kenya, such as Mumias Sugar Company, have not been competitive for a long period of time This could be as a result of inefficiency of factors such as the nature of the HRIS, HRM practices and differentiation strategy in place, which in the long run affects their competitive advantage. There has not been a systematic study on how these factors affect competitive advantage.

1.1. Research Objectives

The general objective was to establish whether the joint effect of human resource information system, human resource management practices, differentiation strategy on competitive advantage is greater the effect of human resource information systems on competitive advantage.

2. Research Methodology

The positivistic philosophy approach was adopted by the study. This is because the study sought to test the hypothesis that had been formulated as predictions of the observed phenomenon. The study also verified propositions through empirical tests. The positivism relies on taking large sample hence the investigator studied the entire population to generalize the results.

A descriptive cross-sectional survey was appropriate to for data collection across different companies and test this association. The descriptive research design enabled the investigator to describe the study's variables and develop predictive regressions models for forecasting changes in dependent variables. Data was collected at a snapshot across the 62 companies and therefore the cross-sectional survey was deemed more suitable. This means that each respondent only filled one questionnaire for the study.

The study's target population constituted all the companies quoted at the NSE were 62 as at 2013 (NSE Handbook, 2013). The survey selected HR managers as the respondents. The census technique which involves obtaining information about member of the population was used. This number was considered to be large enough and therefore all of them were studied.

Primary data was obtained through questionnaires developed from a wide literature review. A closed ended questionnaire was used to collect primary data. The questionnaire was split into six parts. Part A: the personal and organizational detail; Part B: statement measuring HRIS on a scale of 1-5 (adapted from Wickramaratna, 2011); Part C the respondents were required to rate the rate the degree to which the firms used HRM practices which emanated from (Kidombo, 2007; Pfeffer, 1998; Delery & Doty, 1996); Part D evaluated the differentiation strategy retrieved from literature; Part E sought opinions on the sources of competitive advantage where firm profitability emanated (Busienei, 2013).

The self-administered questionnaire was preferred because the respondents were expected to be highly literate. The data was collected from human resource manager or those handling function of the Nairobi Securities Exchange quoted firms because they were expected to be more knowledgeable in the implementation of HRM issues at their operational level.

2.1.1. Operationalization of the Variable of the Study

Operationalization is a process of generating indicators of abstract concepts or variables using real life situation indicators. Concepts in this research were human resource information system, differentiation strategy, human resource management practices and competitive advantage. HRIS are operationalized using dimensions namely: Strategic integration as defined by Troshani et al. (2011) and forecasting and planning, human resources analysis, communication and integration as defined by Mayfield et al. (2003).

HR practices was operationalized in terms of internal career planning, reward strategy, training and development, performance appraisal and employee relations as defined by Armstrong (2008). Training and development were measured using indicators developed by Beulen (2009). Differentiation strategy was operationalized as product innovation, responsiveness to customers, marketing and image management as defined by Utterback and Abernathy, (1975), Daugherty, Sabath, and Rogers, (1992) and Park, Jaworski and MacInnis, (1986), respectively. Competitive advantage was operationalized in terms of market share, profitability and the public image (Barney, 2001)

2.1.2. Reliability of the Study Variable

The study tested the reliability of every variable studied. This was achieved using Cronbach Alpha coefficient to measure the internal consistency of the Likert scales utilized by the study. Reliability indicates the degree to which a group of items are internally consistent and this can be considered as the measurement of a single latent variable. Results of reliability are presented in Table 1.

Variable	Number of Items	Alpha Coefficients	Remarks
HRIS	5	0.815	Reliable
HRM practices	7	0.865	Reliable
Differentiation Strategy	3	0.896	Reliable
Competitive advantage	3	0.828	Reliable

Table 1: Summary of Cronbach's Alpha Reliability Coefficients for Major Variables of the Study
Source: Primary data

Studies by Nunnally (1967, 1978) are the most cited either in support or criticism of the coefficient obtained. Nunnally (1967) proposed that the minimum acceptable reliability should range between 0.5 and 0.6. In 1978 he proposed a new range of between 0.6 and 0.7 as the most accurate. Murphy and Davidshfer (1988) assert that Cronbach alpha below 0.6 is invalid. The study adapted the 0.7 limit. The reliability coefficients were; 0.896, 0.865, 0.828 and 0.815 for differentiation strategy, HRM practices competitive advantage and HRIS respectively. The Cronbach alphas of the constructs in the study were found to be suitable to indicate an acceptable level of reliability. The research data was subjected to reliability, since the data did not violate any of the tests of reliability inferences about the population were made and therefore the hypotheses were tested using regression analysis.

3. Data Analysis, Results and Discussion

A regression based quantitative technique has been adopted to check the joint impact of HRIS, HRM practices on the competitive advantage.

3.1. The Joint Effect of HRIS, HRM Practices and Differentiation Strategy on Competitive Advantage is Greater than the Effect of HRIS on Competitive Advantage

- H_{a1} : The combined effect of HRIS, HRM practices and differentiation strategy on competitive advantage is greater than the effect of HRIS on competitive advantage.

Hypothesis (H_{a1}) was tested using multiple regression analysis for the joint effect. The regressions weight for the HRIS predictor and the beta coefficients and t values for the joint variables were examined for significance. The results are presented in Table 2

Model 1	Effect of HRIS on Competitive Advantage				
	Unstandardized Coefficients		Standardized Coefficient	T	Sig.
	B	S.E	B		
Constant	.427	.634		.673	.507
HRIS	.845	.220	.588	3.843*	0.001
	$R^2=.345$ Adjusted $R^2=0.322$ $F=14.770^* (.001)$				
Model 2	The Joint Effect of HRIS, HRMP and Differentiation Strategy on Competitive Advantage				
Constant	-.467	.839		-.559	.583
HRIS	.571	.275	.397	2.079*	.048
HRMP	.451	.274	.321	1.643	.112
Differentiation strategy	.190	.172	.171	1.104	.280
	$R^2=.417$ Adjusted $R^2=.350$ $F=6.210^* (.003)$				

Table 2: Multiple Regression Results for the Joint Effect of HRIS, HRM Practices, Differentiation Strategy and Competitive Advantage

a. Dependent Variable: Competitive Advantage

b. Predictors: (Constant), HRIS, HRM Practices, Differentiation Strategy

c. * $P < 0.05$

d. Key: HRIS- Human Resource Information System

e. HRMP-Human Resource Management Practices

The regressions results presented in Table 2 above show that in model 1, the influence of HRIS on competitive advantage was significant (R square=.345, F= F=14.770, p<0.05. The beta coefficient also shows that HRIS had a significant relationship with competitive advantage ($\beta = .845$, $t=3.843$, $P<.05$).

The regressions results presented in Table 2 show that in model 2, the joint influence of HRIS, HRM practices, differentiation strategy and firm competitive advantage was significant at (R square=0.417, F=6.210, p<0.05). The F ratio shows that the regressions of HRIS, HRM practices, differentiation strategy on firm competitive advantage is statistically significant at p<0.05 and the β was significant. The joint effect was greater on competitive advantage and significant at p<0.05 compared to the effect of HRIS on competitive advantage.

These results in Table 2 imply that the joint effect of HRIS, HRM practices, and differentiation strategy when regressed on competitive advantage was greater than the effects of HRIS on competitive advantage. The hypothesis that the joint effect of HRIS, HRM practices, differentiation strategy and competitive strategy on competitive advantage is greater than the effect of HRIS on competitive advantage was supported

4. Discussion of the Findings

The Objective of the study sought to establish whether the joint effect of HRIS, HRM practices, differentiation strategy on competitive advantage was greater than the effect of HRIS on competitive advantage. HRIS explained 34.5 percent on the change of competitive advantage which is significant. The joint predictor's variables: HRIS, HRM practices, differentiation strategy explain 45.9 percent of the change in competitive advantage which was significant.

The results of this study suggest that the joint effect of HRIS, HRM practices, differentiation strategy on competitive advantage is greater than the effect of HRIS on competitive advantage. The study's findings are in agreement with configurational theory by Delery and Doty (1996) which emphasizes the importance of horizontal and vertical fit for sustainable competitive advantage. The study's results support the hypothesis that the joint effect of HRIS, HRM practices, differentiation strategy on competitive advantage is greater than the effect of HRIS on competitive advantage. The results of this research are consistent with configurational theory (Doty, 1996). It also in agreement with Wright and Machaman (1992) who suggested that configurational theory was an appropriate approach for SHRM and that in order to be effective, a firm must develop an HR system that steers it towards both horizontal and vertical fit. Similarly, Miles and Snow (1984) and Arthur (1992) advanced different combinations of effective HR practices and proposed that firms adopt varying sets based on their strategies.

The resource flow, universalistic and configuration theories are supported by the current study because statistically the joint effect of HRIS, the joint effect of HRIS, HRM practices, differentiation strategy on competitive advantage is greater than the effect of HRIS on competitive advantage in firms listed on NSE.

This is reinforced by Chow, Liu and Huang (2008) that studied Strategic HRM in China configurations and competitive advantage. The study adopted a configuration approach to identify specific patterns of HR practices and business strategy.

4.1. Contributions of the Study

The current study contributes to knowledge by combining and testing the joint effect of HRIS, HRM practices, differentiation strategy on competitive advantage. This combination of variables has put to test the interrelationships among the four variables. The combination of variables has not been used in any other study known to the researcher. The greater contribution to knowledge in this study is the conclusion that the joint effect of HRIS, HRM practices, differentiation strategy on competitive advantage is greater than the effect of HRIS on competitive advantage. Policy makers will benefit by understanding how the association between HRIS, HRM practices, differentiation strategy in the Kenyan context impact competitive advantage. They therefore need to be guided in the formulations of policies in various political, social and economic institutions. Kenya has undergone the major changes such as change of the government in 2003, a referendum on the proposed constitution in 2005, violent general elections in 2007, promulgation of the Kenya constitution in 2010, terrorism threats in 2013 and commencement of devolution of government, performance contracting and corruption. Kenya has tried to respond to the changes in the environment through the initiation of the Kenya Vision 2030 strategy. The strategy is meant to introduce reforms through the three pillars which include social, political and economic, to make Kenya a middle-income country.

This study focused on companies listed on Nairobi Securities Exchange. The firms quoted at the NSE are both locally and foreign incorporated and they represent the key sectors of the Kenyan economy. Firms listed cover agricultural, commercial and services, telecommunication and technology, automobiles and accessories, insurance, banking, investment, manufacturing, construction, energy and petroleum. The listings of the firms from different sectors provide a suitable representation of the Kenyan economy. The performance of the firms listed on the Nairobi Securities Exchange, in Kenya, determines the Kenyan economic development and Gross National Product (GNP). Listed companies on the NSE are very competitive and their HR managers should be at forefront to ensure that HRIS, HRM practices, differentiation strategy and competitive advantage are adopted and used optimally in their organizations to help the government of Kenya to achieve its vision 2030. the joint effect of HRIS, HRM practices, differentiation strategy and competitive advantage.

4.2. Limitations of the Study

The data was gathered from only one respondent in each of the companies and only from 62 companies listed on the Nairobi Securities Exchange. The study used cross-sectional design whereby the study was carried out at a specific moment in time. Although this may save time (given the time constraint of the study) it may also limit deeper

investigations of many other possible causal relationships in the study. Therefore, a longitudinal study would probably provide more insightful findings of the study.

In measuring competitive advantage, the current study used only empirical data based on perceptions to profitability. Other studies have used profitability measures such as profits and sales using secondary data. Though perceptual measures have been used in past studies, and it has been argued that there are no difference objective profitability measures, future studies may consider using them in the Kenyan context.

4.3. Recommendations for Future Research

The researcher suggests that future research studies should be conducted using a different population and contexts. Future researchers could also consider introducing different variables other than HRIS, HRM practices, differentiation strategy and competitive advantage. Qualitative research can also be conducted.

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