The Impact of Human Resource Information Systems on Human Resource Management Effectiveness: A Study in Selected Large Apparel Firms in the Western Province of Sri Lanka

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Abstract

Human Resource Information Systems (HRIS) play a significant role in the contemporary business world where it assists in achieving Human Resource Management (HRM) effectiveness. As a result, this study aims to inspect the impact of HRIS on HRM effectiveness in selected large apparel firms in the Western Province in Sri Lanka. HRIS was measured in terms of five dimensions (top management, effective communication, training, information system and human resource department) and HRM effectiveness was measured in recruitment, performance management and human resource planning functions. 12 large apparel firms were selected as the sample for the study and a self-administered survey was conducted covering employees in the entire HR department using the five point Likert scale of 28 statements. The data was analyzed and evaluated using the statistical data analysis package, SPSS (version 23.0) with univariate and bivariate methods. The results of the survey revealed that 85% of the variance in the HRM effectiveness is explained by HRIS. Further, findings of this study indicated that the selected large apparel firms in the Western Province use the HRIS in human resource planning, recruitment and performance management areas. Since the study was based on only three HRM functions, the researchers recommend the need to apply more HRM functions in order to discover the impact of HRIS on human resource management effectiveness for further researchers.

Keywords: Human Resource Department, Human Resource Information System, Human Resource Management Effectiveness, Large Apparel Firms

Introduction

Human Resource Information System (HRIS) can be defined as "one which is used to acquire, store, manipulate, analyze, retrieve, and distribute information about an organization's human resource" (Tannenbaum, 1990). This HRIS database contains information on recruitment, applicant qualifications, job specifications, hiring procedures, organizational structures, professional development, training costs, performance evaluation, workforce diversity and employee attrition (Miller and Cardy, 2000). HRIS is an effective tool that can be used for streamlining the administrative functions of the human resource department (Dessler et al, 2004).

HRM is one of the departments that mostly use human resource information systems (Bal et al, 2012). An effective HRM gives employees the chance to contribute effectively and productively to the overall direction of the company and the accomplishment of the organization's goals and objectives (Burma, 2014). He further enunciates the fact that, in working life, the most important value is employees, and this is why Human Resources Management is the key factor for the success of an organization. Being a global world and being a part of global competitive markets processes force businesses to manage the human factor more truly for every level (Burma, 2014). Over the past few decades, organizations have been using HRIS more to manage their human talent (Ngai and Wat, 2006). Organizations began to electronically automate many of the processes by introducing specialized HRIS to reduce the routine transaction and traditional HR activities and to deal with the complex transformational ones. HRIS refers to the systems and processes at the intersection between human resource management and information technology; it's an integrated database shared by HR functions that provide a common language and the integration of HR services in order to increase the effectiveness of HRM. Organizations are becoming more dependent on HRIS (Lippers and Swiercz, 2005). At the functional level, HRIS can keep track of employees', applicants', and contingent workers' conditions, demographics, performance appraisal, professional development, payroll, recruitment, and retention (Troshani, et al, 2011). One of the basic changes has been the modern use of information system in support of HR process (Hagood and Friedmahn,2002). Thus, organizations today are becoming heavily dependent on HRIS to increase the effectiveness of human resource management (Obeidat, 2009).

Problem Background and Problem of the Study

There are many previous studies (Beadles et al, 2005; Nagendra and Deshpande, 2013) that provide evidence to the fact that HRIS has an effect on HRM effectiveness. Kavanaugh (1990) discussed the possible contribution of HRIS, HR involvement and competency-focused job analysis approaches to organizational performance. Woodman (2008) and Schermerhorn (2011) pointed out that the application of HRIS based employee decision-making process has more benefits for an organization. HRIS decision-making process results in increased innovation, morale, motivation and innovation and the willingness among the employees to get involved in the operations and plans of the organization (Benet , 2011).

HRIS based employee appraisal process as opposed to the traditional approach allows for greater information sharing, idea exchanges and cooling off during the difficult appraisal process. The ends result has been the high levels of motivation morale (Anderson, 2011). According to the findings of the study the use of HRIS based processes results in high commitments, better customer services provisions, increased profitability, productivity and production with low wastes in terms of time and resources, thus contributing to high organizational effectiveness (Danny, 2012).

HRIS is a very important system that is used currently in apparel firms in developed countries. Hence, the findings will help to enlighten the literature of HRIS and HRM effectiveness especially in the Sri Lankan context. Thus, findings of the study will address the existing literature gap to a certain extent. Therefore, the research problem addressed under this study is an attemptto investigate how human resource information system has an impact on human resource management effectiveness in selected large apparel firms in the Western Province in Sri Lanka.

Research Framework

The independent variable is human resource information system which consists of top management support, effective communication, training, information system and HR department. The dependent variable is human resource management effectiveness which consists of recruitment function, performance management function and human resource planning function.

Figure 1: Research Framework
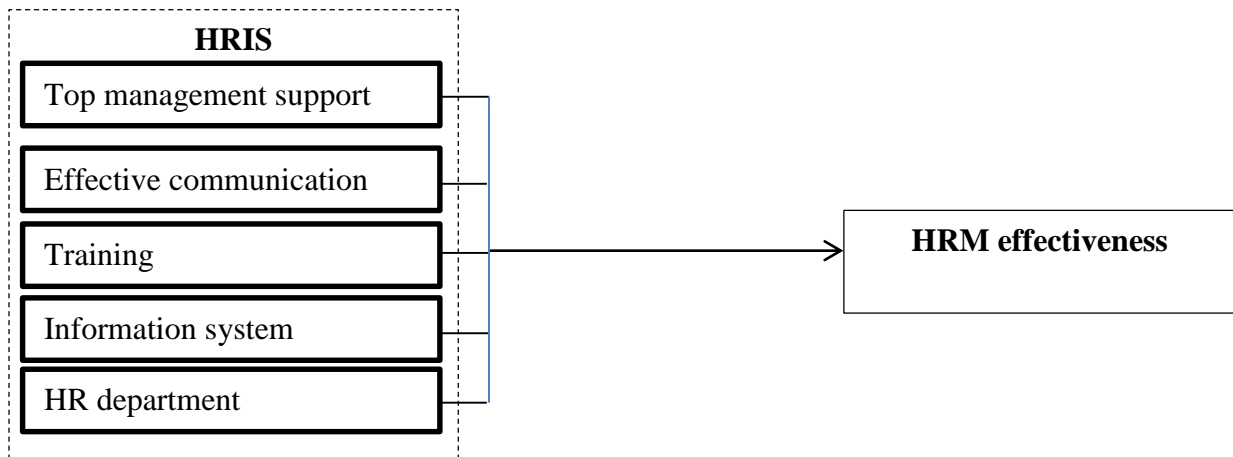
Considering Figure 1 and reviewing the existing literature, five hypotheses for this study are developed as follows:

According to Wong et al. (1994), for system acceptance the most needed support comes from top management. Top management must be committed with its own involvement and willingness to allocate valuable resources to the implementation effort (Holland et al.2002). Top management takes primary responsibility for providing sufficient financial support and adequate resources for building a successful HRIS. This involves providing the needed people for the implementation and giving appropriate amount of time and resources to get the job done (Ngai and Wat,2006). Therefore, the first hypothesis of the study is developing as follows:

H 1: Top management support has a positive impact on HRM effectiveness.

Management of communication, education and expectations are critical throughout the organization (Tansley and Watson, 2000). User input should be managed in acquiring their requirements, comments, reactions and approval (Lederer,1984). Communication between managers and employees within the organization is a vital way to get people motivated. Employees are more motivated by recognition and constructive feedback by their line manager (Schermerhorn, 2011). So, the second hypothesis is developing as follows:

H 2: Effective communication has a positive impact on HRM effectiveness.

Training has a key role to play in delivering successful implementations, as the way people are introduced to any new system and how they learn to use it may be the main contact they have with the programme. Kossek et al. (1994) also mentioned that user skill level may be strongly related to the variance in attitudes toward the value of HRIS. According to Tannenbaum (1990) described that one of the potential problems of HRIS management is a lack of employee technical training and experience in information management. Kavanagh et al. (1990) also commented that for a successful HRIS, appropriate training should go to all human resource staff, line managers, as well as other employees. As a result, the third hypothesis is as follows:

H 3: Training programmes have a positive impact on HRM effectiveness.

In the development of HRIS, department plays a major role in facilitating the computerization of human resource information (Kinnei and Arthurs, 1996). Cholak and Simmons (1991) also mentioned that HRIS still requires the participation of information technology department, particularly in the planning and developmental stages. Further, this study found that information technology department support positively impact of HRM effectiveness. Therefore, the fourth hypothesis is as follows:

H 4: Information technology department support has a positive impact on HRM effectiveness.

Lederer (1984) reported that more and more firms formally housed the human resource computer systems within the human resource department. He also commented that the personnel department is in the best position to obtain and keep an organization's management commitment to human resource information system. Thus, the fifth hypothesis is as follows:

H 5: Human resource department support has a positive impact on HRM effectiveness.

Method

Study Design

This study attempts to find out impact of HRIS on HRM effectiveness. It consists of HRIS as independent variable and HRM effectiveness as dependent variable. Therefore, this study needs

to establish the impact of the independent on dependent variables. Hence, the present study is analytical in nature. This survey was targeted at HR department employees to collect data for this survey. The population size is 100. The sample size is 90 employees from selected large apparel firms using convenience sampling method.

Measures

This study mainly focused on self-administered questionnaire as a primary data collection method. HRIS is measured with 12 statements developed by Mohamed, in 2013. HRME is measured by 16 statements developed by Wickramaratna, in 2009. The questionnaire was a five point Likert scale type which ranged from strongly disagree (1) to strongly agree (5). The questionnaire data were analyzed and evaluated by SPSS (version 23.0). The data analysis includes univariate and bivariate analysis.

Validity and Reliability

The external reliability of the instruments used to collect data was examined by the Test- retest method. This test was carried out using 15 responses (HR department employees) from within two weeks' time interval. As shown in Table 1, the coefficients of the test-retest of the instruments designated that each instrument has a high external reliability.

Table 1: Results of Test- Retest

	Instrument	Test- retest coefficient
1	Human resource information system	0.978
2	Human resource management effectiveness	0.987

The inter item consistency reliability was examined with Cronbach's Alpha test. The results of Cronbach's Alpha test are given in Table 2, which suggest that the internal reliability of each instrument is satisfactory.

Table 2: Cronbach's Alpha Coefficients

	Instrument	Cronbach's Alpha
1	Human resource information system	0.778
2	Human resource management effectiveness	0.750

The content validity instrument was ensured by the conceptualization and operationalization of the variables on literature and indirectly by the high internal consistency reliability of the instruments as denoted by the Alphas. The construct validity of the variables of the study was ensured by the fact that regression analysis support the hypotheses formulated linking the impact of the independent variable on the dependent variable.

Results

Univariate analysis was done to investigate the responses given by the HR department employees on HRIS on HRM effectiveness.

Table 3: Univariate Analysis of HRIS on the HRM Effectiveness

		HRIS	HRM Effectiveness
N	Valid	90	90
	Missing	0	0
Mean		3.6937	3.6342
Std. Error of Mean		.04196	.03498
Median		3.6000	3.6000
Mode		3.60	3.71
Std. Deviation		.37533	.31291
Variance		.141	.098
Skewness		.857	1.118
Std. Error of Skewness		.259	.259
Kurtosis		1.776	2.288
Std. Error of Kurtosis		.532	.532
Range		1.83	1.61
Minimum		2.80	3.03
Maximum		4.63	4.64
Sum		287.50	290.10

Mean value of HRM effectiveness is 3.6342, which indicates HRM effectiveness is high among HR department employees using HRIS.

The bivariate analysis includes the Simple Regression Analysis which uses to investigate the impact of HRIS on HRM effectiveness in selected large apparel firms in Sri Lanka. The results

of the simple regression analysis of the independent and dependent variables are given in Table 4.

Table 4: Simple Linear Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.920[a]	.856	.854	.12357

It indicates that about 85% of the variance (R Sguare) in the HRM effectiveness is explained by HRIS.

The hypotheses testing were carried out using the results of regression analysis (Table 5).

Table 5: Summary of Hypothesis Testing

No	Hypotheses	Value	Remark
H$_1$	Top management support positively impact on HRM effectiveness	B=0. 734 Sig=0.000	Accepted
H$_2$	Effective communication positively impact on HRM effectiveness	B=0.513 Sig=0.000	Accepted
H$_3$	Training programs positively impact on HRM effectiveness	B=0.723 Sig=0.000	Accepted
H$_4$	Information technology department Support positively impact on HRM effectiveness	B=0.803 Sig=0.000	Accepted
H$_5$	Human resource department Support positively impact on HRM effectiveness	B=0.564, Sig=0.000	Accepted
H$_6$	HRIS positively impact on HRM effectiveness	B=0.930 Sig=0.000	Accepted

Discussion and Conclusion

According to the results of regression analysis, it was found that HRIS has a positive impact on HRM effectiveness. The findings of regression analysis empirically confirmed the argument put forward by Bussler and Davis in 2001.

As the statistical evidence indicated, all the hypotheses were accepted. The first hypothesis was: top management support positively impacts HRM effectiveness. According to the analysis results, it was found that top management support positively impacts HRM effectiveness. This was also confirmed by Holland et al. (1999) and Wee (2000). The second hypothesis was:

effective communication has a positive impact on HRM effectiveness. The findings revealed that top management support positively impacts HRM effectiveness. Rosario (2000) provides sufficient statistical evidence which support this arguement. The third hypothesis was: training programs positively impact HRM effectiveness. The result shows that training programs positively impact HRM effectiveness. Roberts and Barrar (1992) suggest and confirm this positive impact. The fourth hypothesis was: information technology department support positively impacts HRM effectiveness. As the finding of the study confirmed, information technology department support has a positive impact on HRM effectiveness, and Kinnei and Arthurs (1993) confirmed this. The fifth hypothesis was: Human resource department support positively impacst HRM effectiveness. The research findings also show that there is such a positive impact. These findings were similar to the study findings of Lederer (1984). Thus this study concludes that HRIS is an excellent tool for HRM effectiveness.

Recommendations

The studies considered show that HRIS has an impact on HRM effectiveness in the Sri Lankan context. This study provides a platform for further work in this area. This study was limited to large apparel firms and data was collected from HR department employees. Further, in the future, researchers should attempt to conduct studies on other industries and the impact of other HR functions with HRIS on HRM effectiveness. All HR managers should play a proactive role to support HRIS in their organizations. They also need to assign their valuable time and budgets to train employees on how to use and influence the uses of HRIS and, on how to achieve competitive advantage through HRIS. The top management needs to be influenced by the values and the strategic benefits of HRIS in order to grant the necessary financial and non-financial support for HRIS implementation.

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