Impact of Human Resource Information Systems on Human Resource Management Effectiveness in Selected Steel Manufacturing Company in Sri Lanka

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Impact of Human Resource Information System on Human Resource Management Effectiveness in Selected Steel Manufacturing Company in Sri Lanka

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1. Introduction

The human resource (HR) function of organizations is also changing rapidly, reacting to a changing social and organizational environment and rapidly evolving information technologies (Hendrickson 2003; McCrindle 2006). Human resource information system (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 (Harris & DeSimone 1994; Miller & Cardy 2000). This source of data may also be considered as a competitive information resource for four management functions: planning, organizing, leading and controlling (Hubbard, Forcht & Thomas 1998). The benefits of new technology, especially in reducing operational costs, have induced organizations to apply HRIS (Martinez 1999). Organizational members at all levels can get access to HRIS data while the management team can analyze this data to make decisions (Lippert & Swiercz 2005). At any time, employees can also access a web-based HRIS to modify their personal information (Sobkowiak & LeBleu 1996) with enterprise resource planning (ERP) system from reputable companies such as SAP, PeopleSoft, Oracle, Bann, and Lawnson, the HRIS is one of a number of integrated functions in ERP.

The role of HR in organizational success and sustained competitive advantage has been widely acknowledged, there is great degree of contention on how effective human resource management (HRM) function is in any organization (Yusoff 2001). HRM effectiveness is the value of what HR practitioners do for the organization and how HRM practices are linked to organizational outcomes (Ruel, Bondarouk & Velde 2007). According to Gibson (2006), HRM effectiveness obviously means the degree to which it is executing its various roles and the degree to which it is meeting the needs of its clients. As Pratheepan and Arulrajah (2012) state, the perceived quality of services provided by the integrated HR system plays a significant role in the perceived effectiveness of the HR system. Accordingly, this study aimed to find out the significance of the impact of Human Resource Information System on Human Resource Management effectiveness in the selected steel manufacturing company in Sri Lanka.

2. Problem of the Study

The internet and communication technology have come to the interface of HR practices in Sri Lankan organizations and a significant impact of HRIS and e-HRM on HR practices can be observed mostly in banking sector and manufacturing organizations in Sri Lanka. HR representatives spend less time on operational tasks as they are no longer responsible for simple routine tasks that can be handled by employees. According to Beadles, Lowery and Johns (2005), the use of HRIS allows HR professionals to play a more strategic role in an organization. Hence this research study examines the significance of the impact of Human Resource Information System on Human Resource Management Effectiveness in the selected steel manufacturing company in Sri Lanka.

3. Literature Review and Hypothesis Development

This research focuses on the impact of HRIS on HRM effectiveness in a steel manufacturing company in Sri Lanka. According to Hendrickson (2003), past research has suggested that web- based HRM modules like e-HRM, HRIS etc. can increase the efficiency and effectiveness of HR activities, improve HR service delivery and transform the role of the HR function into one that is more strategic. Ruël, Bondarouk and Looise (2004) stressed that according to the earlier studies companies progressively more implement HRIS but according to new observations, HRM professionals (and their companies) are not surprised anymore by the HRIS phenomenon; instead they have reached a "grown up" stage. The research framework of the study based on the above research findings depicts in Figure 01.

In this study, HRIS is the independent variable. This variable can be measured through information quality, service quality and ease of use the system and usefulness. Effectiveness of HRM identified as a dependent variable. It was hypothesized that there is a positive relationship between the independent variables and dependent variable. There appears to be a shift towards applications which are more strategic, probably because organizations realize that the HRIS can be used for more effective purposes rather than just administrative functions (Teo, Soon & Fedric 2007).

Therefore, the following hypotheses were developed for testing the impact of HRIS on HRM effectiveness in the selected steel manufacturing company in Sri Lanka.

H_1: Information Quality has a positive impact on HRM effectiveness.
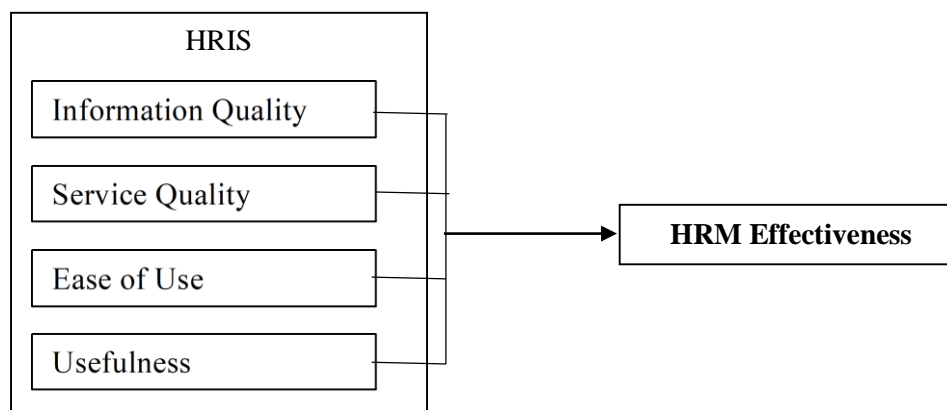
H_2: Service Quality has a positive impact on HRM effectiveness.

H_3: Ease of use has a positive impact on HRM effectiveness.

H_4: Usefulness has a positive impact on HRM effectiveness.

4. Conceptual Framework

Figure 1: Conceptual Framework

5. Method

The Survey was carried out among sample of 300 employees in the steel manufacturing company in Sri Lanka. The selection of sample of managers and other staff members were carried out on simple random sampling allowing representation from different strata of departments. To collect primary data required for the study a set of questionnaires was distributed among them. This questionnaire consists

of 30 question statements. Among the all question statements, 25 question statements were designed with 5-point Likert scale to measure the variables and dimensions of the research model. Data collected from primary source were analyzed using the computer based statistical data analyses package, SPSS for validity, reliability and relationship testing. The data analysis included the univariate and bivariate analyses. The frequency distribution analysis was done for all variables as the descriptive analysis. Research conclusions were made based on the result there of.

Measures

A questionnaire was selected as the source of data collection and the researchers gathered firsthand data by distributing the questionnaire. This study used questions which were adapted from already developed standard questionnaires (Mugo 2017). All questions were presented as statements and data was gathered through five-point Likert scales which were posited as "Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree".

Reliability and Validity

The inter-item consistency reliability was examined with Cronbach's Alpha test (Dayarathna 2015; Kottawatta 2014). The results of Cronbach's Alpha test are given in Table 1 which suggests that the internal reliability of each instrument was satisfactory. The content validity of the instrument was made sure by the conceptualization of the variable on the literature and indirect by the high internal consistency reliability denoted Alpha and the construct validity of the variables of the study was made sure by the fact that the correlation and regression analysis support the hypotheses formulated linking the relationship between the independent and dependent variables (Kottawatta 2014).

Table 1: Reliability of the Instrument

	Cronbach's Alpha	N of Items
Information Quality	.752	05
Service Quality	.720	05
Ease of Use	.726	05
Usefulness	.922	05
HRM effectiveness	.897	05

6. Data Analysis

The researchers did the pilot survey for test the reliability in gathered data set. After that all gathered data were analyzed using univariate analysis and bivariate analysis- correlation and regression analysis with the SPSS.

Results

Based on the respondents' data, following descriptive statistics can be presented for each variable of the study. The mean value, median, standard deviation, minimum and maximum values are presented in Table 2.

Table 2: Statistics of the distribution of the independent variable

		Mean IQ	Mean SQ	Mean EU	Mean US	Mean HRM
N	Valid	300	300	300	300	300
	Missing	0	0	0	0	0
Mean		3.4473	4.3947	4.3207	3.8960	3.9167
Median		3.6000	4.6000	4.4000	4.4000	4.2000
Mode		3.80	4.60	4.40	4.40	4.20
Std. Deviation		.50789	.60231	.56329	.92233	.73288
Variance		.258	.363	.317	.851	.537
Minimum		2.40	2.40	2.40	1.80	2.40
Maximum		4.20	5.00	5.00	5.00	5.00

As indicated by Table 2, mean value of information quality is 3.4473 and this value indicated which respondents neutrally agreed with the organization's provided information's quality. Mean value of Service Quality is 4. 3947. Mean values of Usefulness and HRM effectiveness are 3.8960 and 3.9167 respectively. The mean values of both criteria reflect that there was an agreed respondent received from the respondents.

The bivariate analysis, Pearson's Correlation between the HRIS and HRM effectiveness of managers, supervisors and other staff respondents in the company are illustrated in Table 3.

Table 3: Correlation between the HRIS and HRM Effectiveness

		Mean IQ	Mean SQ	Mean EU	Mean US	Mean HRM
Mean IQ	Pearson Correlation	1				
	Sig. (2-tailed)					
Mean SQ	Pearson Correlation	.474**	1			
	Sig. (2-tailed)	.000				
Mean EU	Pearson Correlation	.523**	.845**	1		
	Sig. (2-tailed)	.000	.000			
Mean US	Pearson Correlation	.686**	.559**	.572**	1	
	Sig. (2-tailed)	.000	.000	.000		
Mean HRM	Pearson Correlation	.623**	.565**	.511**	.908**	1
	Sig. (2-tailed)	.000	.000	.000	.000	

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

b. Listwise N=300

According to the results of the Pearson's correlation shown in Table 3, there is a positive significance between the Impact of Information quality and HRM effectiveness. Pearson correlation between above mentioned two variables is 0.623, which is strong positive. Pearson correlation between the two

variables regarding Service Quality and HRM Effectiveness is 0.565, which is positive. Yet Pearson correlation between the two variables regarding the Ease of Use and HRM Effectiveness is 0.511, which is also strong positive significantly. Ease of Use correlation between Usefulness and HRM Effectiveness is 0. 908. It also a strong positive significance. Thus, there are statistical evidences to claim that the impact of HRIS on HRM Effectiveness is strong positively in the company.

The results of simple regression analysis of the independent variable (HRIS) against the dependent variable (HRM Effectiveness) are given in Table 4.

Table 4: Results of Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.916[a]	.840	.838	.29527

   a. Predictors: (Constant), Mean US, Mean SQ, Mean IQ, Mean EU

Above table elaborates the summarization details of whole research details. As per that table, they interpret that HRIS highly impact on the Effectiveness of HRM because its R square value is 0.840.

Table 5: Anova Test

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	134.878	4	33.719	386.769	.000[b]
Residual	25.719	295	.087		
Total	160.597	299			

   a. Dependent Variable: Mean HRM

Table 6: Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.993	.152		6.539	.000
Mean IQ	.014	.047	.010	.300	.765
Mean SQ	.278	.054	.229	5.171	.000
Mean EU	-.251	.059	-.193	-4.265	.000
Mean US	.703	.027	.884	25.594	.000

   a. Dependent Variable: Mean HRM

As per above Table 5, Significance value is 0.000. Above table showed that coefficient values relate into each variable. Analyzing the value, we realized that there was Sig. 0.000 value between the Service Quality and HRM Effectiveness. Not only that but also there was Sig, 0.000 value between the Ease of use, Usefulness and HRM Effectiveness. Between the Information Quality and HRM Effectiveness has 0.765 Sig value. According to the results, we can assume that there was a problem

with Information Quality because it was not positively impact to the HRM Effectiveness. Other criteria have strong positive impact on the HRM Effectiveness.

7. Discussion

This Research hypotheses state that the independent variables of HRIS has positive impact to the dependent variable of Effectiveness of HRM. Information Quality refers to the HRIS generating output that is relevant, consistent, useable and accurate in a timely manner (Petter, DeLone & McLean 2008). Information quality is measured by the information accuracy, ability of information provides on time, sufficient information in clearly presented and usefulness. According to Shibly (2011), the purpose of HRIS is to provide quality, relevant and updated information to support decision making. Information presented format should increase user satisfaction. According to the result of the study, they interpret that there is a problem with HRIS, and it does not provide sufficient information clearly. The study of Shiri (2012) states that the system is sometimes complicated and difficult to work, but it has helped to align the HR practices with the organizational strategy, identify improvement areas, and keep abreast with the current practices. Based on the research findings, information clearness and sufficient may affect to the information relevant and its expectation meet ability. That is why their responses of the relevant and meet expectation statement got the neutral marks.

At some time HRIS provides complex information like generates complex barcode for interpret the data. Not only that they stated HRIS unable to provide sufficient data. As an example, assumed that employee need to know about their overtime, through system HR department cannot say this is your OT amount which considered to the payment. Further, standard deviation states that consensus of variance between the variables. Based on research data we realized, there is no significance variance between information accuracy and HRIS team provided solutions and usefulness of the information. Other statement shows that there is significance variance between the independent and dependent variables. Bondarouk and Ruel (2009) and Ruel, Bondarouk, and Velde (2007) conclude that the content and the structure of a web based HRIS application in particular have a positive influence on perceived HRM Effectiveness. However, Pearson's correlation analysis shows, there is significance positive correlation between the impact of HRIS and HRM Effectiveness in the company.

8. Conclusion and Recommendations

Finally, we can conclude that the HRIS has positively impact on the Effectiveness of HRM in the company. The system generates quality information but further needs to improve the sufficient and clearness of the information. Other provided facility and usefulness of the HRIS is at the satisfaction level.

Based on the study the researchers make the following recommendations. The findings of the research do not show any negative situation relating to the HRIS impact on Effectiveness of the HRM in the company. However, the company can improve further by concentrating and taking actions to improve the information quality in the process. During the interviews with the senior managers, researchers recognized that the company uses HRIS to handle the administrative tasks and traditional HR activities like attendances management, recruitment, and payroll etc. As researchers, we suggest that they can use this HRIS to improve the HRM functions of health and safety, performance evaluation, and labor relations etc. This integration will increase the HRM Effectiveness in the company.

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