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Factors Affecting the Extent of Adoption of Human Resource Information System (HRIS) in Banking Sector in Sri Lanka

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Abstract

Most of the organizations have used technology in the form of Human Resource Information System (HRIS). As significant determinants of HRIS, this study is to discuss the factors affecting the extent of adoption of HRIS in banking sector in Sri Lanka. Empirical knowledge gap on factors affecting the extent of adoption of HRIS and how identified factors influencing the extent of HRIS adoption in banking sector in Sri Lanka are discussed in this study. The data were collected from a sample of 25 HR mangers in licensed commercial banks in Sri Lanka by administrating a structured questionnaire, which consisted of 28 questions/ statements. The data analyses included the univariate, bivariate, and multivariate analyses. According to the findings, it is substantiated that there is an impact on extent of adoption with independent variables. But according to the results of multivariate analysis beside size of the organization other factors (relative advantage, complexity, top management support, competition) are not significant on extent of adoption of HRIS in banking sector in Sri Lanka. It is concluded that among five affecting factors which are affecting the extent of adoption should be considered to enhance the extent of adoption of HRIS. However, there may be other variables which need inclusion to better explain extent of adoption of HRIS.

Keywords: Human Resource Information System, Technological Factors, Organizational Factors, Environmental Factors

Introduction

A good human resource decision is more likely to practice from a good HRIS. Such a system should therefore be provided to both human resource and line managers to facilitate decision making. HRIS is directed towards the HR department itself (Ruel et al. 2004, cited in Bal et al. 2012), but the use of HRIS can provide a number of benefits not only to the HR function, but also to line managers, and the wider organization (Parry 2009, cited in Bal et al. 2012). To increase the effectiveness of HRM, organizations are becoming increasingly reliant on HRIS (Ball 2001; Lippert and Swiercz 2005, cited in Troshani et al. 2011).

To get the maximum output from the HRIS successful adoption is required. According to the Ashbaugh and Miranda (2002) adoption HRIS can be challenging as it can be costly and it can take a long time before espoused pre adoption benefits become available after HRIS are fully adopted.

Modern organizations are attempting to benefit from the positive attributes of HRIS by applying it in their human resource departments. Hendrickon (2003) mentioned in his study that human resources information systems are the backbone technology of contemporary human resources. It attempts to increase the effectiveness of managing human assets and provide guidance to management organizations which are becoming increasingly reliant on HRIS. In fact the number of organizations adopting the HRIS has increased dramatically.

Problem Background and Problem of the Study

Banks play a major role in all the economic and financial activities in modern society. They are playing a key role in activities of financing the industries. The banking sector in Sri Lanka is a demand driven industry which plays an important part of the overall services industry. Moreover the banking sector at present is one of the most dynamic and vibrant sectors of the economy in Sri Lanka and it has expanded rapidly, both in terms of the volume of activity and the variety of services provided to the public.

In recent times, the financial as well as non-financial processes of banks have undergone significant transformation. The manual system adopted by the banks was the cause of procedural delays, outdated as well as inaccurate information, improper documentation, higher expense of storing files and their safety. HRIS has transformed banks financial as well as non-financial processes from manual to automatic computerized systems.

According to the Central Bank Annual Report (2014) the banking sector consisted of 34 licensed banks by the end of 2014. The total banking network includes 25 licensed commercial banks, of which 13 were domestic banks, 12 were branches of foreign banks and 9 licensed specialized banks. Banking sector continued to support economic activities by enhancing accessibility and expanding the branch network throughout the island. Because of the development of the banking sector significant amount of employees are employed in those branches and because of the high job security turnover is very low. Therefore managing human resources effectively and efficiently is essential in the banking sector in Sri Lanka. For the effective utilization of human resources HRIS provides high contribution to the banking sector. Even though HRIS is very important for the organizations only a few researches can be found relating to HRIS within Sri Lankan context.

Based on the pervious researches and the theories relating to the adoption HRIS researcher has investigated most common factors that have been identified as factors affecting the adoption of HRIS. Among those researchers many have identified Technological, organizational and environmental factors are most commonly affected the adoption of HRIS. Therefore the research problem addressed under this study is to investigate; how identified factors are affected to the extent of adoption of HRIS in banking sector in Sri Lanka?

Research Framework

Many researchers have identified factors that are affecting the adoption of HRIS and several theories have been developed relating to the adoption of information system. Conceptual framework was developed based on the theory of classical innovation diffusion (Rogers,

1995) and TEO framework (Tornatzky and Klein 1982; Depietro et al. 1990, cited in Thoshani et al. 2011). Hypotheses were developed according to the conceptual framework of the study. Based on the literature review researcher has identified five main factors that affect the adoption of HRIS. They are relative advantage, complexity, top management support, size of the organization and competition. Based on this assumed causal relationship given in the conceptual model the following hypotheses are developed for testing.

H_1: There is a significant impact from relative advantage to extent of adoption of HRIS in banking sector in Sri Lanka.

H_2: There is a significant impact from complexity to extent of adoption of HRIS in banking sector in Sri Lanka.

H_3: There is a significant impact from top management support to extent of adoption of HRIS in banking sector in Sri Lanka.

H_4: There is a significant impact from size of the organization to extent of adoption of HRIS in banking sector in Sri Lanka.

H_5: There is a significant impact from competition to extent of adoption of HRIS in banking sector in Sri Lanka.

Relevant schematic diagram is shown in Figure 1. Extent of adoption is labeled as dependent variable. Technological factors, organizational factors and environmental factors are labeled as independent variables.

Figure: 1 Schematic Diagram of the Research Framework
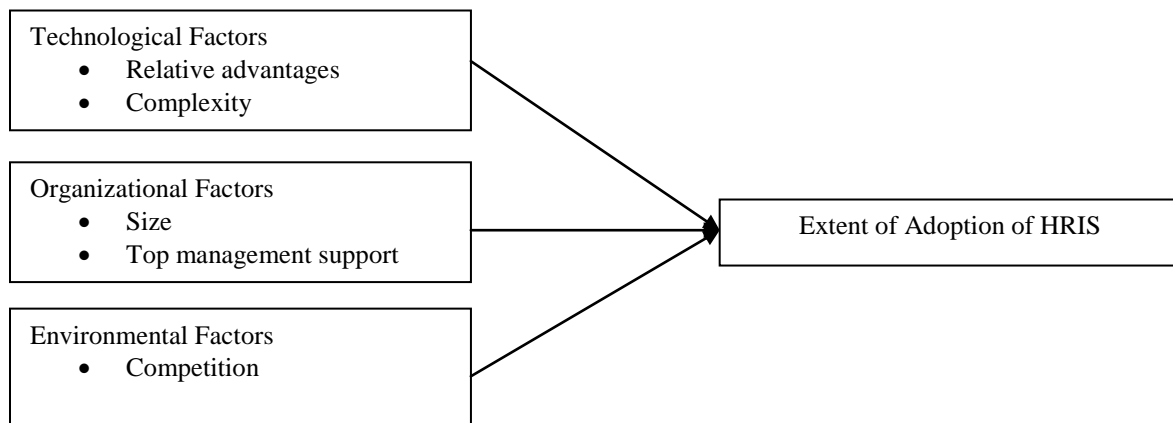
Method

Study Design

The objective is to establish the relationship between technological, organizational and environmental characteristics, and the adoption of HRIS and extent of adoption. Therefore, the type of investigation of this study was correlational rather than casual study. This study was analytical in nature, because according to Sekaran (2009), studies that engage in hypotheses testing usually explain the nature of certain relationships, or establish the deference among groups or the independence of two or more factors in situation. This was a field study because it examined the factors affecting to adoption of HRIS in natural banking environment where events normally occur. No any artificial or contrived setting was created for the study. Cross sectional or one shot data gathering was used to gather data for the

research. The survey method characterized by a mail and e-mail questionnaire was selected as the method of data collection in this study. This study was purely based on primary data. The non-contrived field-setting environment was used to collect these primary data.

The survey was carried among the sample of 25 human resource managers in banking sector in Sri Lanka. The category of banks in Sri Lanka consists of 34 commercial banks. The sample method of the survey was the cluster sampling.

Measures

The variable in the research model: extent of adoption, technological factors, organizational factors, and environmental factors were measured through questionnaire which was completed by the respondents themselves approximately as they have experienced.

The independent variable identified in the research model was measured using multi-item indicators. All the variables, except size of the organization, were measured using the five point Likert scale ranging from "strongly agree" to "strongly disagree".

Technological factors focus on the manner where technology characteristics can influence adoption (Yang et al. 2007, cited in Chakraborty and Mansor 2013). It was measured under two dimensions which include relative advantage and complexity. Relative advantage contained seven indicators developed by Premakumar and Roberts (1999) (cited in Teo et al. 2007) and complexity contained four indicators developed by Premakumar and Roberts (1999) (cited in Teo et al. 2007) to measure the technological factors.

Organizational factors are those that represent organizational characteristics which influence of adoption of HRIS (Chakraborty and Mansor 2013). It was measured under two dimensions which include top management support and size of the organization. Top management support was measured using four indicators which were also developed by Premakumar and Roberts (1999) (cited in Teo et al. 2007). Size of the organization was measured categorically using annual revenue and number of employees (Palvia, Means and Jackson 1994, cited in Teo et al. 2007).

Environmental factors describe the area where organizations conduct their business, and include industry characteristics, government regulation, and supporting infrastructure (Oliveira & Martins 2010; Troshani et al. 2011, cited in Chakraborty and Mansor 2013). It was measured using dimension of competition. This was measured using three indicators which were developed by Premakumar and Roberts (1999) cited in Teo et al. (2007).

Extent of adoption was operationalized by the number of computers dedicated for HRM functions and the total number of HRIS applications currently used in the organization.

Validity and Reliability

A pilot test was carried out using 10 HR managers in licensed commercial banks in Sri Lanka. The external reliability of the instruments used to collect data was examined by test-

retest method. The internal item consistency reliability was examined with Cronbach's Alpha test. The results of test – retest coefficient and Cronbach's Alpha test are given in Table 1, which suggests that the external and internal reliability of each instrument was satisfactory.

Table 1: Results of Test – Reset

	Instruments	Cronbach's Alpha
1	Extent of adoption	0.743
2	Technological factors	0.704
3	Organizational factors	0.843
4	Environmental factors	0.930

Techniques of Data Analysis

Data collected from the survey were analyzed using the Computer Based Statistical Data Analysis Package, SPSS (Version 16.0) for the validity, reliability and relationship testing. The data analyzed included univariate, bivariate and multivariate analyses.

Results

To investigate the responses for independent and dependent variable of the study univariate analysis was used. The results of the univariate analysis are given in Table 2.

Table 2: Univariate Analysis

	Extent of adoption	Relative advantage	Complexity	Top mgt support	Size	Competition
Mean	3.1316	4.4737	2.8947	4.2368	2.0526	4.0877
Median	3.0000	4.4286	3.0000	4.2500	2.0000	4.0000
Mode	3.00	4.29	2.75ᵃ	4.00	1.00	3.67
Std. Deviation	.57354	.24306	.60275	.31704	1.07877	.42806
Variance	.329	.059	.363	.101	1.164	.183
Skewness	-.084	.127	-.374	.657	.479	.329
Std. Error of Skewness	.524	.524	.524	.524	.524	.524
Kurtosis	-.650	-.036	1.521	-.781	-1.131	-.298
Std. Error of Kurtosis	1.014	1.014	1.014	1.014	1.014	1.014
Minimum	2.00	4.00	1.50	3.75	1.00	3.33
Maximum	4.00	5.00	4.00	4.75	4.00	5.00

According to Table 2, level of perceived relative advantages, complexity, top management support, size of the organization and the completion are normally distributed.

The Bivariate analysis includes the simple regression analysis, which were used to investigate any relationship between each of independent variables (relative advantage, complexity, top management support, size of the organization and competition) and the dependent variable (extent of adoption).

As a multivariate analysis, the multiple regression analysis was done in order to investigate the simultaneous impacts of all the independent variables on the dependent variable. The results of regression the five variables (relative advantage, complexity, top management support, size of the organization and top management support) against the dependent variable (extent of HRIS adoption) are shown in the following table (Table 3).

As shown in Table 3, size of the organization is the only factor that has significant effect on the extent of HRIS adoption in banking sector in Sri Lanka beside other factors (relative advantage, top management support, size of the organization and competition).

Table 3: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.120	2.450		.049	.962
	reladvmean	.020	.484	.009	.042	.967
	complxmean	-.153	.248	-.161	-.618	.547
	topmgtmean	.309	.356	.171	.867	.402
	competmean	.354	.311	.265	1.141	.275
	sizemean	.296	.132	.556	2.235	.044

Discussion and Conclusion

This study mainly focused on impact of factors which researcher was identified as influential factors on the extent of adoption in banking sector in Sri Lanka. Therefore, it is important to identify and demonstrate the impact of each factor on extent of HRIS adoption. It was found that there is an impact of each factor on the extent of HRIS adoption in banking sector in Sri Lanka.

The results presented by simple regression analysis, there were impact of each factor on the extent of HRIS adoption. Because, every factors' "b" value were above the significant level (S=0.000).

It was found that there is an impact of relative advantage on extent of HRIS adoption of banking sector in Sri Lanka. By considering the mean value 4.47 and standard deviation 0.243 of the relative advantage, managers agree with the statements. According to the results of simple regression analysis, relative advantage was found to have a positive impact on extent of HRIS adoption with the strength of b value of 0.566. But the multiple regression analysis revealed that relative advantage did not have any impact with extent of adoption. This finding mostly matches with the results of the Teo et al. (2007).

It was found that there is an impact of complexity on extent of HRIS adoption of banking sector in Sri Lanka. Considering the result of simple regression analysis, complexity was found to have negative impact on extent of HRIS adoption with the strength of b value of -0.323. The multiple regression analysis reveals that complexity is not an influential factor on extent of adoption. According to the finding of Teo et al. (2007) complexity was not a significant factor on extent of adoption.

According to the finding there is an impact of top management support on extent of adoption. Because, top management support had a positive impact on extent of adoption of HRIS with the strength of b value of 0.433. The multiple regression analysis discloses that top management support is not an affecting factor on extent of adoption of HRIS. According to

the finding of Teo et al. (2007) top management support was significant with only total number of HRIS applications. But, in here it was found that there was no any significant impact of top management support with extent of HRIS adoption.

It was found that there is an impact of size of the organization on extent of adoption of HRIS with the strength of b value of 0.352. The multiple analyses reveal that organization size is only the significant factor with the extent of adoption of HRIS in banking sector in Sri Lanka. But with the number of computers dedicated for HRIS applications and with the number of applications, size of the organization was only significant on number of computers dedicated for HRM activities. But, according to the finding of Teo et al. (2007), size of the organization was the only factor that was significant in both regressions (number of computers and number of HRIS applications.

It was found that there is a significant impact of competition on extent of adoption of HRIS with the strength of b value 0.388. The multiple analyses disclose that competition is not an influential factor on extent of adoption of HRIS in banking sector in Sri Lanka. Further analysis also reveals that there is no isolated impact with number of computers and number of HRIS applications with competition. Hence, when deciding the extent of adoption of HRIS in banking sector competition is not a significant factor.

The problem of this study was that to identify the impact of the relative advantage, complexity, top management support, size of the organization and competition on the extent of adoption of HRIS in banking sector in Sri Lanka. Based on the theoretical information, conceptual framework is developed to test the impact of independent variables such as relative advantage, complexity, and top management support, size of the organization and competition with extent of HRIS adoption. According to the findings, it is substantiated that there is an impact on extent of adoption with independent variables.

But according to the results of multivariate analysis beside size of the organization others factors (relative advantage, complexity, top management support, competition) are not significant on extent of adoption of HRIS in banking sector in Sri Lanka.

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