The Impact of Information Systems on Employees Performance in Department of Education, North Western Province, Sri Lanka

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ABSTRACT

An information system is a combination of software, hardware, and telecommunication networks to collect useful data, especially in an organisation. Many organizationa use information system to complete and manage their operations, interact with their customers, and stay ahead of their operations. Employees' performance, as it means, is the contribution of an employee to his/her organization. Most of the researches tried to identify the relationship between information system and employees performance in an organization. But, due to the significant cultural and organizational differences between Sri Lanka and developed countries in the West, the information theory proposed in the Western world may be not suitable in Sri Lanka. Therefore, this study tried to determine the Impact of Information Systems on Employees Performance in Department of Education, North Western Province, Sri Lanka. Sample of this study was employees who were working in the Department of Education, North Western Province, Sri Lanka. A convenience sampling method was adopted in this study. There were altogether 100 responses from the education department to do the research analyses. In this study, researcher used SPSS software to do analyses part. The finding of this study showed that information quality, system quality, and service quality had significant and positive effects on employees' performance in Department of Education, North Western Province, Sri Lanka.

Keywords: Information System (IS), System quality, Information Quality, Service Quality, and Employees Performance.

INTRODUCTION

With the development of modern information and communication technologies (ICT), the world has drastically changed its conventional manual ways of doing things in each and every industry, including the education sector. When we take a microscopic look at the education sector there are many key information systems that play different types of roles in the functions of the education sector ranging from a national education management information system, examination system, student information system, schools information system and etc. An information system is a combination of hardware, software, and telecommunication networks that people build and use to collect, create and distribute useful data, typically in an organizational setting (Beadles, Lowery & Johns, 2005). So, an information system can be highly beneficial for as to any organization for many reasons like easy functioning, better performance, cost and time effectiveness and etc. Information System (IS) has increasingly transformed and developed from a basic process to convert manual information keeping system into computerized system to IS that are used

today. Because of the development of proper information system, organization resources have been able to manage properly. Information system is expected to lead to valuable out comes for the organization such as decrease cost, improve communication and decrease time spent.

Employee performance is a fundamental element for the progress of the institution which has an impact on organizational success or failure. According to Murti & Srimulyani (2013), employee performance is how much employees' contribution to the organization including the quantity of output, the quality of output, the time period, workplace attendance and corporative attitudes. If an employee's performances are high that employee would be well motivated. Al-Dmour, (2020) explained that employee's personal performance is personnel contribution to the business goals. He further constituted, an employee with a high performance can be considered who has successfully discharged the duties and responsibilities, and his behaviors thereby contribute to the goals of the organization (Kaygusuz, 2016).

This study is to investigate whether there is an Impact of Information Systems on Employees Performance in Department of Education, North Western Province, Sri Lanka.

RESEARCH PROBLEM AND OBJECTIVES

Education sector play an essential and active role in a developing country. When a country's education sector operates in an efficient, effective, and disciplined manner, the country's diverse sectors see significant growth. As a result, education sectors are extremely important in the Sri Lankan system.

There is a huge competition among the organizations in any industry. To match with the competitive environment, employees who deliver the services should be a value creation work force. There should be a well-motivated taskforce whose performance is in high volume. When there is a pool of such employees only, organizations could serve an unmatched service in the industry. Therefore, the personal performance of employees is very important in organizational perspective. As mentioned earlier, employees are motivated when they know about their performance. Further, organizations have invested a significant amount of money in establishing various information systems, their acceptability and utilization by end-users in developing nations remain a significant issue (Ramayah, 2010).

There are studies conducted in IS related to employee's performance in world wide. But when it comes to the Sri Lankan context, the researcher could find a few studies. Most of the researches were conducted in Western Province of Sri Lanka especially in Colombo since it is the capital city of Sri Lanka while this study is carried out in North western Province. As well as most of researchers conducted in IS related to Executive level employee performance special reference to HR division but this research conducted in information system related to Non-Executive employees in Department of Education, North Western Province, Sri Lanka. So, in this study the main research question is;

'What is the Impact of Information Systems on Employees Performance in an Education Department, North Western Province, Sri Lanka?'

Further, Objective of this studies are;

1. To identify the level of Information Systems and Employees Performance in an Education Department, North Western Province, Sri Lanka?
2. To identify the relationship between Information Systems and Employees Performance in an Education Department, North Western Province, Sri Lanka?
3. To identify the Impact of Information Systems on Employees Performance in an Education Department, North Western Province, Sri Lanka?
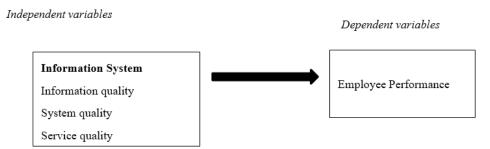
Conceptual Framework

Independent variables

Dendent variables

Figure 1. Conceptual framework of Information System and Employees' Performance

METHODOLOGY

The target population for this study is the employees who were working in Department of Education in Sri Lanka. Since the population has more than 1000 candidates across all Department of Education in Sri Lanka, it is not advised to collect data from the whole population. Accordingly, the employees who work at Department of Education, North Western Province, Sri Lanka has been selected as the study sample through the convenience sampling method. The sample of the research consists 100 employees (respondents) who have experienced in IS.

This study use questionnaires as the primary source for research purposes. In addition, secondary data will be referred to the information that is collected for the said research from sources that are produced originally for different purposes. This includes published research reports, Internet, and survey-based secondary data. Therefore, this study involves books, journal articles, and information available on the internet as secondary data.

RESULTS, ANALYSIS AND DISCUSSION

Analysis of Reliability and Validity of the Instruments

In this study, result of Cronbach's Alpha is 0.868 of information system and Cronbach's Alpha is 0.831 of employees performance. All items considered in this study are to be reliable. Whole questionnaire was considered reliable because reliability is responsibly acceptable since Cronbach's alpha coefficient is greater than 0.70.

Analyses of Demographic Variable

In this study, out of 100 respondents of employees in Department of Education, 58% respondents are Male and 42% represents female. Further, the results show that, the 20% employees are between age group of 18-30, 55% of the sample represents the employees between 31-40 years and 25% are from the age category of 41-50 years .

Analyses of First Objective

Univariate Analysis of Independent Variables

Table 1: Univariate Analyses

	N	Minimum	Maximum	Mean	Std. Deviation
System Quality	100	1.00	5.00	3.5775	.98971
Information Quality	100	1.00	5.00	3.7350	.91801

Service Quality	100	1.00	5.00	3.5075	.86418
Information System	100	1.00	5.00	3.6067	.86090
Employees Performance	100	1.00	5.00	3.4976	.78755

The Table 1 indicates the mean value and the standard deviation for the dimensions of the independent variable and dependent variable. The mean value of System Quality is 3.5775 and the standard deviation is 0.98971, the mean of Information Quality is 3.7350 and the standard deviation is 0.91801, mean of Service Quality is 3.5075 and the standard deviation is 0.86418, and the mean value of Information system is 3.6067 and 0.86090 is the standard deviation.

As per the decision criteria, it indicates that if the mean is $(1.0 \leq Xi \leq 2.5)$ it is considered a Low level if the mean is $(2.5 < Xi \leq 3.5)$ considered a Moderate Level, and if $(3.5 < Xi \leq 5.0)$ considered a High Level. Hence, it is clear that System Quality, Information Quality, Service Quality, and information system are at a High Level as all mean values of those 4 variables are between $(3.5 < Xi \leq 5.0)$.

As per the decision criteria, employees performance show a moderate level as their mean values are ranging within 2.5 & 3.5.

Analyses of Second Objective

Pearson Coefficient Correlation for Testing the Relationship among Variables

The Table 2 clearly shows the correlation analysis between information system and employees performance,

It Indicates that there is a linear positive correlation between IS and employees performance. The correlation coefficient (r) value between IS and employees performance is 0.836 at a 0.05 significant level (P<0.05). So the correlation coefficient (r) value falls on the first attribute (0.5 < r < 1=Strong Positive Relationship) of the decision rule. This provides a strong positive relationship between the IS and employees performance in Department of Education, North western province Sri Lanka.

Table 2: Correlation Analyses

		Student Engagement
System Quality	Pearson Correlation	**.776**[**]
	Sig. (2-tailed)	.000
	N	100
Information Quality	Pearson Correlation	**.781**[**]
	Sig. (2-tailed)	.000
	N	100
Service Quality	Pearson Correlation	**.778**[**]
	Sig. (2-tailed)	.000
	N	100
IS	Pearson Correlation	**.836**[**]
	Sig. (2-tailed)	.000
	N	100

Analyses of Third Objective

Multiple Linear Regression Analysis between System Quality, Information Quality, Service Quality, and Employees Performance

Table 3: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.837[a]	.701	.696	.43408

R indicates that the three independent variables and the dependent variable have a strong positive relationship. The "R Square" statistic indicates that the three independent variables in the regression model accounted for 70.1 percent of the total variation in employees' performance. In other words, 70.1% of the variation in employees' performance is explained by system quality, information quality, and service quality.

The "Adjusted R Square" 69.6% indicates that it is an adjustment of the R-squared that penalizes the addition of extraneous predictors to the model. The Adjusted R^2 statistic is typically smaller than the R^2 statistic because it downward adjusts the R^2 statistic when additional variables of limited significance are added to a model. It is a common practice to say that one regression model "fits" the data better than another regression model if its adjusted R^2 statistic is higher.

Table 4: Anova

ANOVA[a]					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	86.497	3	28.832	153.017	.000 b
Residual	36.931	196	.188		
Total	123.428	199			

The ANOVA findings also confirm the existing correlation between the independent and dependent variables. As it indicates that the P-value is 0.000 which is less than 0.05 it shows that the model is statistically significant in explaining the impact of Information System on employees performance.

Table 5: Coefficient Table

Coefficients[a]						
Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	.697	.137			5.094	.000
System Quality	.177	.063	.222		2.801	.006
Information Quality	.294	.061	.343		4.800	.000
Service Quality	.305	.064	.334		4.733	.000

The unstandardized constant statistic is 0.697 units. It shows that the model would predict that value if all of the three independent variables were zero.

The b coefficient for System Quality is 0.177. This means that on average if the System Quality scale goes up by 1 point, employees performance will increase by 0.177 units.

The b coefficient for Information Quality is 0.294. This means that on average if the Information Quality scale goes up by 1 point, employees performance will increase by 0.294 units.

The b coefficient for Service Quality is 0.305. This means that on average if the Service Quality scale goes up by 1 point, employees performance will increase by 0.305 units.

According to the p-values, Information Quality and Service Quality are significant at 0.000, and System quality is significant at 0.006. This means there will be a strong positive relationship between service quality, information quality, and service quality on employees performance in this study.

Based on the above Table, the equation for the regression line is:

$$Y = 0.697 + 0.177X_1 + 0.294X_2 + 0.305X_3$$

Where,

X_1 = System Quality

X_2 = Information Quality

X_3 = Service Quality

Y = Employees' performance

CONCLUSION AND RECOMMENDATIONS

The analyzed data revealed that the Information System is positively and significantly related to employees performance. So it can be revealed that there is a positive and significant impact of the information system on the employees performance in Department of Education, North Western Province, Sri Lanka. In future, this study can be extended to include more other sector in government sector, private sector or both. But those systems should be comparable. Also there can be extension of this study by examining the differences in the information System and organizational performance in different industries in Sri Lanka.

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Author Declaration

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