Enterprise Resource Planning Systems and Operational Performance

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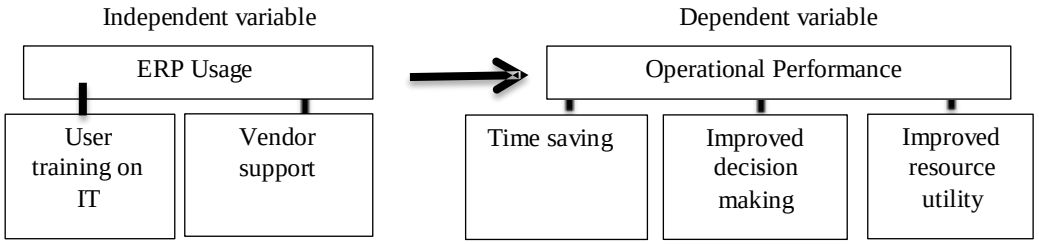
Introduction

The Enterprise Resource Planning (ERP) systems are gaining popularity in the current turbulent business environment as a mechanism of integrating the cross functional business units. An ERP system is a software that helps organizations to integrate their business functions through a common database and enable planning and utilization of organization wide resources (Silva et al., 2008). Operational performance is firm's performance measured against standard or prescribed indicators of effectiveness, efficiency, and environmental responsibility such as, cycle time, productivity, waste reduction, and regulatory compliance. As an operational system, the possibility to exploit the potential of ERP system can be achieved by having proper training as well as vendor support (Silva et al., 2008). The ERP system implementation is a huge investment and it affects not only the organizations but also the entire country in long run in indirect manner. Considering the Sri Lankan manufacturing sector as one of the pivotal sectors in the economy of the country, identifying whether such investments add value to the organization is a vital need. Since the available knowledge on the said matter is limited, through this study, the researcher examined whether ERP has made any positive impact on operational performance of the manufacturing sector in Sri Lanka. Hence, the study objectives were to determine the relationship between user training on IT and three operational factors which are gaining operational performance, to examine the relationship between vendor support and three operational factors which are gaining operational performance and to determine the impact of ERP system on operational performance (Figure 1).



Source: Researcher's construction
Figure 1.Conceptual framework.

Methodology

Only 25 companies in the manufacturing sector are using ERP system, which is the population of this study. The data were collected from 21 companies covering approximately 84% of the population. This sample was selected randomly. Data collection was done basically through a questionnaire which contained both five point Likert type questions and open ended questions. Further, the data collection was supported by direct interviews. The responses gathered via interviews and questionnaires were analyzed using descriptive statistics, correlation coefficient and regression analysis.

Results and discussion

Mean values of user training on IT and process and vendor support are 4.1878 and 3.7937 , respectively. Based on this descriptive statistics, it was identified that both the user training on IT and process and the vendor support strongly impact on ERP usage while user training on IT

and process shows higher impact than the vendor support. Operational performance is the dependent variable of this study which measures through three dimensions namely time saving, improved decision making and improved resource utility. The respective mean values are 4.1005, 4.1701 and 3.5111. All mean values be in the range of 3.5 - $X \leq 5$, which mean that all dimensions strongly impact on operational performance.

Table 1. Correlation between user training and vendor support.

Dependent variable	Correlation–user training	Correlation-vendor support
Time saving	0.145	0.585
Improved decision Making	0.603	0.546
Improved resource utility	0.575	0.308

There are strong positive relationship between user training and improved decision making and user training and improved resource utility while there is a moderate positive relationship between user training and time savings (Table1). Further, the results of the study shows that there are strong positive correlation between vendor support and time sassing and the vendor support and improved decision making while there is moderate positive relationship between vendor support and improved resource utility. Finally this study revealed that there is a strong positive impact of ERP usage on operational performance of manufacturing companies in Sri Lanka which is shown by the following equation.

$$\text{Operational performance} = 0.504 + 0.878 \text{ ERP usage}$$

According to the findings, there was a strong positive relationship between ERP usage and operational performance. It further explained when ERP usage increases by one unit operational performance will be increased by 0.878.

Conclusions

The usage of Enterprise Resource Planning System positively impacts on the operational performance of listed manufacturing companies in Sri Lanka. The possibility to exploit the potential of ERP system can be achieved by having proper training and vendor support.

References

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