

Study on Implementation of Enterprise Resource Planning System in a Change Management Context: Evidence from Diversified Multinational Companies Listed in Colombo Stock Exchange

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Introduction

Change has turned into an unending event in businesses while Enterprise Resource Planning (ERP) software system integrates key business and management processes within and beyond a firm's boundary. An ERP system is defined as configurable information system packages that integrate information and information based processes within and across functional areas in an organization (Kumar *et al.*, 2000). ERP was the major success story of the 1990's (Beekhuyzen *et al.*, 2002), and Davenport (2000) suggested that enterprise systems represent one of the most important information technology categories to emerge in the last decade whereas implementing an ERP system was challenging task for both developing and developed countries. Implementing ERP for many organizations is the largest project they have ever undertaken entailing the largest potential benefits and possibly the largest potential risks (Chang *et al.*, 2002, Gable *et al.*, 1998). As a consequence of that, the importance of ERP system has enhanced dramatically and it has been able to grab the management attention significantly.

Thus, the primary objective of this research study is to identify the relationship between Change Management and ERP implementation and as the secondary objective to determine the success factors which help the successful ERP implementation.

Methodology

The sample of this study comprised with all the Multinational Companies (MNCs) listed under the category of diversified sector of Colombo Stock Exchange (CSE). Data gathering was done by using a mix of questionnaire and interview methods. The independent variable, change management was measured in terms of communication, commitment, culture, training and education and vendor support. Further, ERP implementation was measured in terms of Organizational perspective, business perspective and technological perspective.

Results and discussion

The Correlation coefficient between change management and ERP implementation is 0.964 ($P < 0.05$) implying that there is a high positive correlation between change management and ERP implementation. The aforesaid findings were further investigated using simple linear regression analysis and findings were summarized in the Table 1. Accordingly, adjusted R^2 is 0.911 which demonstrates that 91% of the variation of ERP implementation can be explained by the independent variable, Change Management.

Table 1. Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.964 ^a	0.929	0.911	0.11219

Source: SPSS output based on Field survey (2010) data

As indicated in Table 3, the correlation between change management and ERP implementation is statistically significant at the level $P < 0.05$ (Table 2) and the fitted regression model can be expressed as follows.

$$\text{ERP Implementation} = 0.147 + 1.109\text{CMGT} + k$$

Table 2. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	0.147	0.566		0.260	0.807
Change Management	1.109	0.154	0.964	7.224	0.002

Source: SPSS output based on Field survey (2010) data

Table 3. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.657	1	0.657	52.183	.002 ^a
Residual	0.050	4	0.013		
Total	0.707	5			

Source: SPSS output based on Field survey (2010) data

The results confirm that there is a statistically significant relationship between Change Management and ERP Implementation.

Considering the conversion approaches followed by the companies, most of the companies had used Parallel approach (89.3%) and rest of the companies had used Phased approach. 89.19% of the companies had not changed their ERP vendor throughout the project and it stresses the trustworthiness towards vendors' ability to successfully implement the process.

The most interesting point related to vendor selection of these companies is that they are more concerned about product features and functionality of the system and such a behavior among the surveyed companies accounted for a total of 25.56%. The second popular factor they were considering was product architecture (21.11%) and 14.44% of the companies concerned vendor's ability to provide a complete solution. Most of the MNC's had not gone for the external consultation and the main reason behind that was the need of developing internal expertise based on company's requirement.

The success factors of ERP implementation give a great advantage for the companies who are willing to implement a new system or willing to modify their legacy system. According to the research findings, top management commitment, functionalities and scalability of the ERP system, strong implementation team, satisfaction on after sales services in the vendors' side, technically and functionally skilled workforce, identifying business requirement correctly, strong project management team, provision of adequate training programmes to employees, effective leadership, two way communication including cross functional teams, identification and analysis of the requirements for an ERP system, selection of the most suitable product and the vendor, and involvement of operational people at implementation were identified as the success factors of ERP implementation.

Conclusions

In case of major system implementations, the role of change management becomes a key aspect as it prepares an organization for changes in doing business. It is important to evaluate and learn from the successes and failures. Managers must be skilled in developing business models that can be fully utilized the capabilities of an ERP. For an ERP system to be successfully implemented, a strong leadership should be provided by project management, there should be a clear and understood implementation plan, and there should be a close supervision of the budget. As ERP architecture decisions become due to the impacts of going beyond systems, technology, people, organizational policy, and business processes, management should choose most appropriate architecture for their organization in terms of people, business process, organizational policy and culture. As far as vendor selection is concerned, there should be sufficient time allocation for the evaluation of the system, observation of a complete and comprehensive demonstration and communication.

References

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