

# Chapter 77

## Technological Change Perspective for ERP Implementation in Small and Medium Enterprises

**Jessy Nair**

*PES University, India*

**Aarthy Chellasamy**

*PES University, India*

### ABSTRACT

*Small and medium-sized enterprises (SMEs) trail large organizations in leveraging IT systems. SMEs are beginning to understand the significance of implementing IT systems like ERP for improving their preparedness in business processes. Hence the objective of this research article is to develop a framework to analyse SME's organizational preparedness for implementing the technology. This research applies a General Morphological Analysis (GMA) framework to explore suitable models and variables for IT change preparedness to realize the benefits of ERP implementation in SMEs. An SMEs drawback in implementing IT tools is specifically due to a lack of knowledge and an acute shortage of resources like investment and manpower. The review of literature in this article using general morphological analysis is novel for ERP implementation in the SME sector. Based on the review of articles, a morphology with a technology organization framework and environment (TOE) framework which evaluates technological, organizational and environment is most adequate to understand the IT readiness for ERP among SMEs.*

### INTRODUCTION

In recent times Information Technology (IT) has become a vital component for organizational preparedness in the business environment. The volatile pace technologies are growing at, it makes it essential to facilitate organizations in implementing strategic IT systems since they are determinants of organizational

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effectiveness and competitiveness (Singh, 1993). One such transformation that requires special mention is an Information Technology (IT) component, Enterprise Resource Planning (ERP) system. ERP, a software commodity, is an enabler of such a change from functional to process enterprises by way of seamless information flow to stakeholders across the organization. In the 1990s ERP systems became the “de-facto standard” (Parr & Shanks, 2000) for replacing legacy systems in large organizations (Ross, 1998; Robey, Ross & Boudreau, 2000). ERP systems are organized around the basic economic rationale of enterprise value chain. They are designed around a process view of the business. The major advantage of ERP over application software suites is that the enterprise wide applications promise seamless integration of information flowing through the company: accounting and financial information, human resource information, supply chain information and customer information. However, the most crucial factor in the whole system of ERP is the implementation aspect (Ahmad & Cuenca, 2013; Jha, Hoda & Saini, 2008). On the contrary, when the ERP implementation is a failure, there is no framework available to the organization to indicate what parameters cause failure and what the quantitative loss to the organization is. The consequence of organizational change due to ERP system implementation results in tangible and intangible benefits to the organizations. Because ERP promises such potential benefits, understanding the costs and how to avoid them should be a research priority (Gattiker & Goodhue, 2000). It becomes essential for organizations and decision makers to identify, measure, and increment these benefits of ERP implementation (Ross, 1998).

Large and small-scale organizations are implementing technologies to stay competitive while expanding globally. Small and Medium sized Enterprises (SMEs) trail large organizations in leveraging IT systems (Thong & Yap, 1995). Globally, SMEs are a major source of employment for a nation’s economy and play a very important role in the socio-economic development of the country (Sharma, Gray & Daniel, 2007). SMEs are beginning to understand the significance of implementing IT systems like Enterprise Resource Planning (ERP) (Sharma, Gray & Daniel, 2007) for improving their business processes. ERP is defined as an application system software that centralizes an organization’s database and brings about organizational change during its implementation to achieve organization goals (Nair, Reddy & Samuel, 2015). This necessitates the research question, the need for a research framework to analyse an SMEs organizational preparedness for implementing the technology and realizing its benefits from an organizational perspective. Love and Irani (2004) point that limited research attention has been given with regard to analysing the benefits of ERP implementation in SMEs (Saini, Nigam & Misra, 2010). Unlike large organizations, SMEs are often “cash poor”, lacking in resources and expertise in implementing IT (Dyerson, Harindranath, & Barnes, 2009). ERP intervention results in an organizational change as its implementation is not only a technical system imperative but has to synergize with the social system of the organization (Nair, Reddy & Samuel, 2015). While large organizations have reached an assimilation stage of ERP implementation, SMEs are still in an emergent state. Hence it is essential for SMEs to build readiness at the firm level for ERP implementation. ERP intervention in an SME results in an organizational change (Sharma, Gray, & Daniel, 2007; Cui & Liu, 2010) necessitating organizational readiness from SME owners to deliberate on the antecedents for an IT implementation such as ERP. Singh (1993) argues that the inclination of SMEs to use IT systems requires preparation due to the socio-technical parameters influencing the organization internally as well as externally and hence preparedness for the consequent change “is thought to be a critical precursor to successful organizational change (Weiner, Amick & Lee, 2008, p.380).” This chapter applies a General Morphological Analysis (GMA) framework to explore suitable models and variables for IT change preparedness to realize the benefits of ERP

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