Chapter 3
Interoperability of ERP Software

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ABSTRACT

Even though most organizations are using enterprise resource planning applications, very few people understand the underlying interoperability nature within them. Interoperability is the ability of systems to provide services to and accept services from other systems, and to use the services exchanged so as to operate together in a more effective manner. The fact that interoperability can be improved means that the metrics for measuring interoperability can be defined. For the purpose of measuring the interoperability between systems, an interoperability assessment model is required. A comparative analysis among these models is provided to evaluate the similarities and differences in their philosophy and implementation. The analysis yields a set of recommendations for any party that is open to the idea of creating or improving an interoperability assessment model.

INTRODUCTION

The quest for sustainable competitive advantage has made firms around the globe to adopt Enterprise Resource Planning (ERP) systems so as optimally leverage on the enterprise - wide resources and be more responsive to customer demands. Globally organizations seeking to enhance their competitiveness have utilized ERP systems to enhance their operational efficiency (Verville, Palanisamy, Bernadas, & Halingten, 2007). This has been exacerbated by ERP internet extended functionalities, stakeholders demand to bridge speed with value.

ERPs are universally accepted by the industry as a practical solution to achieve integrated enterprise information systems (Davenport, 2000; Moon, 2007). These systems need to be continuously reviewed and enhanced to meet new user requirements (Peng & Nunes, 2009). Hence, these systems have evolved over time thanks to ERP developers, who have identified and developed new functionalities for them. In some cases, these changes have been made to include new business processes in the ERP, while in others; they have been driven to connect ERP functionalities with legacy systems in the organisation or other in systems beyond the organisation. Thus, proposals about the integration of new functionalities and new interoperability requirements produce new developments in ERP systems.

Interoperability is central to any form of collaboration between organizations, as it enables information and knowledge sharing by cooperating entities within and across organizational boundaries. Interoperability is particularly important in the public sector where collaboration between public agencies is necessary to realize the notions of seamless services and one-stop government (Sanchez et al., 2008).

According to Hadil and Dieter (2017), interoperability can be defined as the ability of computer systems to communicate with each other and how they make use of certain information. In most cases, these computers can either be connected via a network system or through some distributed or grid technology. However, though grid technology only offers a single resource to multiple sets of clients within the network architecture.

A significant development in computing within the Nineteen Nineties has been the move toward additional distributed computer systems through network communication facilities. David (2013) highlights that, rather than viewing computers as individual devices, users wish to integrate these connected resources into one procedure setting. Both hardware and software package vendors square measure developing means that support distributed computing at each system and program level.

Xihui and Hua (2010) reveals that, deeper understanding of interoperability schema requires a three to four tire process in order to be progressive; this includes the computer hardware, software, human user and/ or the internet. Although many

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