Developing Instruments for Enterprise Resources Planning (ERP) Post-Implementation Failure Model

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ABSTRACT

Implementing Enterprise Resource Planning (ERP) projects in many organizations are faced with failure concept in recent years. Researchers focused to implement ERP projects successfully by proposing the success model. However, through these attentions to get ERP benefits, the ERP failure measurement model is required. Therefore, the aim of this study is to develop the instruments for ERP post-implementation failure measurement model. To achieve this outcome, the study firstly evaluates the suitability of Technology-Organization-Environment framework for the proposed conceptual model. Constructs were used for this model included two formative and six reflective constructs. A questionnaire was developed to test the validity and reliability of instrument items. A survey was conducted among Iranian industries to collect data and data analyzed by Smart PLS software. The results indicated that all instruments items included 37 critical risk factors (CRFs) as measurement were acceptable for the ERP post-implementation failure model.

Keywords: Critical Risk Factors (CRFs), ERP Failure Dimensions, ERP Post-Implementation, ERP Projects, ERP System Failure Measurement Model

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1. INTRODUCTION

Enterprise resource planning (ERP) can be defined as a software system to integrate processes for all major business functions across an organization such as production, distribution, sales, finance, and human resources management (Sumner, 2000). It has been proved that ERP systems provide significant benefits, efficiency, productivity and service quality and reduction in service costs (Ngai, 2008). However, reports have indicated that majority of ERP systems after implementation are failed or cancelled (Amin Amid et al., 2012; Jiwat Ram, 2013). Current literature on ERP research has focused on software selection, implementing processes and critical success factors (CSFs) of implementation rather than the success of ERP post-implementation. Whereas, the actual benefits and performance improvements are gained at post-implementation (Jiwat Ram, 2013; Young et al., 2013).

Organizations need to define ERP post-implementation review (PIR) to measure success of system (Musaji, 2005). Such evaluation can offer improvements to overcome the risks, but in large organization is not easy. There are several success models proposed by researchers for evaluating the ERP system’s success (Ifinedo, 2007; Princeley Ifinedo, 2010). By reviewing the recent research, we found that there is lack of ERP post-implementation failure measurement model. It means that apart from concentrating on the success model, proposing effective failure model is essential. Because, by attention to failure model, the current risks are identified and risk management as a popular approach can help managers to control risks. Therefore, risks could be evaluated and monitored properly. These efforts generate an effective strategy toward to success. Thereby, proposing ERP system failure measurement model is the research gap.

This study theoretically develops a comprehensive conceptual model that determines risk dimensions on ERP post-implementation failure. The proposed conceptual model was made based on Technological, Organizational and Environmental theory. An extensive systematic review and semi-structured interviews were conducted at the early stage of the research to determine the measuring instruments. With the result of this stage, the taxonomy of critical risks was determined through the review of the literature. We conducted a field survey among manufacturing sectors in Iranian industries to empirically test the validity of instruments. To achieve this outcome, internal consistency reliability was used via the partial least-square (PLS) method for validating the measuring instruments.

This paper is structured as follows: Section two describes the theoretical background. This review serves the basis for ERP failure model based on theoretical background and measurements items. Section three discusses instruments development. Section four indicates the research methodology. Subsequently, the measurements items were examined at section five. Section six is conclusions.

2. THEORETICAL BACKGROUND

2.1. ERP Post-Implementation Failure Issues

Several ERP failure reasons have been reported. ERP failure has been attributed these reasons: inadequate implementation of ERP (Edith Galy, 2014), manager reluctant to use the system (Nunes, 2009), lack of vendor’s support (El Sayed, 2013), user resistance (Garg et al., 2013; Haider, 2013), replacement of users after training (Amin Amid et al., 2012), lack of employee morale and motivation (Edith Galy, 2014). Particularly, all failure definitions are referred to user’s unwillingness to work with ERP system. Most studies have noted that the user’s performance to work with the system is strongly related to success/failure of ERP system. Moreover, Salermon
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