Framing ERP Success from an Information Systems Failure Perspective: A Measurement Endeavor

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ABSTRACT

To the best of our knowledge, extant definitions of Enterprise Resource Planning (ERP) success are not comprehensive, and they do not address all of the most relevant dimensions of this complex issue. Consequently, current ERP success models may lead to deceptive evaluations. Through a rigorous logical shift starting from IS failure, and diverging from classical project management approaches, this paper attempts to define ERP success by means of four factors: Process, Correspondence, Interaction, and Expectation. Results formally integrates the literature gaps and enable the future definition of appropriate measurement items that could steer management practices towards a sounder approach to ERP success.

KEYWORDS


INTRODUCTION

To our best knowledge, empirical and theoretical ERP literature lacks a formal, shared, and comprehensive definition of success. In order to cope with this shortage, ERP success has often been defined and measured by means of proxies like User Satisfaction (i.e. Law & Ngai, 2007; Wu & Wang, 2006). In other cases (i.e. Bento & Costa, 2013; Ifinedo, 2006; Zhang, Lee, Huang, Zhang, & Huang, 2005), ERP success models do not consider all the typical dimensions (technological, organizational, project) as a whole, different points in time (i.e. Häkkinen & Hilmola, 2008), and / or pertinent stakeholders. Empirically, ERP success has often been measured through the achievement of some benefits (i.e. Panorama Consulting Solutions 2014). Nevertheless, such an approach is misleading because it focuses on the outcomes of an ERP implementation and not upstream, on what ERP success is. Kronbichler, Ostermann, and Staudinger (2010) found that some of the most important measurement models of ERP success “might be limited in scope and do not suit for every practical case”. In fact, ERP success models have often been borrowed, partially or totally, from the context of Information Systems (ISs) without an adequate contextualization. Such a contextualization...
is mandatory due to several ERP systems peculiarities, detailed and classified by Markus and Tanis (2000). A direct merger of existing approaches to ERP success could fill up some of the single gaps above, but it would result in an ineffective and too much broad solution.

From a theoretical perspective, we aim to provide a sound, comprehensive, and compact definition of ERP success that could overcome these gaps. We want to handle this definition to steer the construction of an ERP success framework. From a practitioners’ perspective, the ERP success framework could increase the control of on-going and future implementations by enhancing management capabilities in driving them to success. Then, the multidimensionality of success must be addressed through controllable and integrated measures. The ERP success framework could explain what variables define success and what mechanisms perform its achievement. In addition, the integration of the framework with determinants and impacts of ERP success may delimit better what could be an input for success and what success could likely imply.

In this paper, we develop a definition of ERP success and the corresponding construct within an ERP systems success architecture. The structure of this work is: theoretical background and justification for the work; objectives and methodology; literature review; definition and modeling of the ERP success within the broader ERP success architecture; discussion of the resulting ERP success construct; conclusions and future implications.

THEORETICAL BACKGROUND

In this section, we provide an overview about ERP systems and their implementation project. Then, we review and discuss the concept of ERP success, eliciting the justification for this work.

ERP Systems

Enterprise Resource Planning (ERP) systems, also called Enterprise Systems (ESs), are ISs with a modular integrated architecture that supports business processes, by a seamless integration, drawing from a shared database. ERP systems perform and support business processes according to best practices that are implemented within each module. Then, even though small customizations can be selected among some default configurations, some firms deem such systems to be too rigid. On the other hand, the most widespread reasons companies state for implementing an ERP are to rationalize and to standardize their systems or to replace their legacy system, independently of the dimension of the firm (Mabert, Soni, & Venkataramanan, 2003). In fact, information and communication technologies (ICTs), like ERP, are a known enabling factor of Business Process Reengineering (BPR) (i.e. Attaran, 2004; Lee, Chu, & Tseng, 2011).

Typically, an IS implementation involves technological, organizational, and strategic elements but, in the ERP environment, traditional project management challenges are amplified: the implementation is more difficult, expensive, and failure prone (Markus, Tanis, & van Fenema, 2000). The increased complexity is due to some peculiarities of the ERP systems, deepened and gathered by Markus and Tanis (2000) in five categories:

- **Financial Costs and Risks:** ERP implementations require high costs to perform the necessary technological and business changes. On average, the failure rate is so high that “nonacademic studies have questioned the financial and business payoffs from enterprise system projects”;
- **Technical Issues:** Enterprise modeling; software configuration tools and techniques; reference models; integration strategies; system and software architectures; data migration; management of legacy systems;
- **Managerial Issues:** Business process management; additional project management efforts; change management; human resources management; implications on business model; transversal impact on the organization; management of different involved parties;
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