Enterprise Systems Projects Evaluation Based on a Qualitative Risks Model

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ABSTRACT

Currently, enterprise systems play an increasingly strategic role in the business performance of the majority of companies. Nevertheless, like many new technologies, these applications have originated too many cases of unsuccessful adoption. In fact, excessive enterprise systems projects finish in failure. To avoid it, project managers should effectively manage risks existing in their projects. To support this labour, this research presents a qualitative model for evaluating risks in enterprise systems projects. This gathers together the factors impacting on the projects performance. It also identifies groups of risks existing in enterprise systems projects. The results suggest which groups of risks could be more dangerous in them. The model thus states what groups should be preferably managed by practitioners.

Keywords: Enterprise Systems, Information Technology, Qualitative Model, Risk Factors, Software Projects

1. INTRODUCTION

Worldwide companies make great efforts to incorporate up-to-the-minute technologies and completely new systems in their infrastructure. These elements have incorporated by means of enterprise systems (ES) projects.

These projects have certain features that make them different from the rest of engineering projects. In particular, in many cases, executives and final users perceive it as a non-productive and expensive process (Imtihan et al., 2008; Nikolopoulos et al., 2003). Moreover, ES projects require a great use of immature or limited technology than other projects (McFarlan, 1981). Other studies state other differences in the same line (Cormican & O’Sullivan, 2004; Rodriguez-Repiso et al., 2007). In fact, as indicated in Kwak and Stoddard (2004), the nature of software projects creates many risks that must be managed diligently.

A study carried out by Standish Group International consultancy (2010) shows that only 32% of the Information Technology (IT) projects can be considered successful. This means that they finished on time, within budget and the final result satisfied the needed requirements (Barki et al., 2001). To avoid unexpected results, practitioners have to proactively manage...
the risks in their ES projects (Charette et al., 1997). This means they have to identify, evaluate and plan the actions to be undertaken, and continuously monitor the risks of their projects (Dorofee et al., 1996). In fact, during the last few years, the IT projects successful ratio has been improved (Emam & Koru, 2008), but this continue being low.

Studies about IT projects risks are not scarce in the literature. In order to support project managers’ activity, academics have provided a great variety of frameworks, tools and methods for assessing risks in this kind of projects (Bannerman, 2008). Previous studies have even defined strategies for rationally managing risks in IT projects (Abdul-Rahman et al., 2012; Lopez & Salmeron, 2012). However, frequently, practitioners have difficulties to understand and use scientific advances. In order to avoid this, it will be relevant to create a further risks model much easier to understand. This should support practitioners in the development of their ES projects.

However, the author has not identified any research which providing it. For this reason, the present research seeks to build a qualitative risks model for evaluating ES project. This specifically will categorize the factors identified according to the activities on which each one impact (IEEE, 2006), and their dimensions presented in (Wallace et al., 2004a). The results will indicate which groups of risks are more critical in this kind of projects. Thus, before their projects begin, practitioners will be aware of what groups of risks have to be preferably managed. This is the direction of the author proposal.

The rest of the paper is arranged as follows. Section 2 presents a literature review about software projects risks. Section 3 describes the methodology followed in the research. Section 4 shows the findings reached. This specifically states the groups of risks identified and prioritized. Finally, Section 5 outlines the conclusions of the present study.

2. RELATED WORK

ES are tools that support the business activities. These help adopter companies to develop new products, services, projects and strategic programs, improving their efficiency and operational flexibility, and obtaining a better internal and external integration. ES can even support them to gain or maintain competitive advantages over competitors (Zhang & Lado, 2001).

To that end, these applications have to be effective (Faraj & Sambamurthy, 2006). That is, ES, business strategy and infrastructure have to be completely aligned (Salmeron & Lopez, 2010). If this fails, they will have more damaging consequences. To avoid this, organizations continuously perform ES projects addressed at software maintenance, software upgrade, software development, new systems implementation, and/or adoption of innovative technology.

ES projects can be considered like large-scale, unstructured and highly complex undertaking (Mookerjee, 2005; Teltumbde, 2000). In some cases, it even requires the use of unfamiliar technologies and tools. Hence many controllable and uncontrollable risks can affect its outcome (McFarlan, 1981).

A risk is an event characterized by uncertainty because it may or may not occur (Salmeron & Lopez, 2012). If this risk turns into a real problem, it may cause dangerous failures in ES projects. In some cases, business process of the firms could even be hindered. However, ES projects failures can be prevented if the team manages risks projects properly.

A proper risks management helps to practitioners to be aware of the real situation of their projects, their problematic aspects and potential causes existing of failures (Iversen et al., 2004). They will thus be able to develop their projects in more effective way. Otherwise, improper risks management lead the carrying out of evitable error and the appearance of potential problems, which make the achievement of ES project success difficult (Bannerman, 2008; Wallace et
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