Comparative Study of the Influence of Requirements Analysis and User Participation on the Success of Two Software: An Empirical Study

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ABSTRACT

The requirements analysis is identified as the first step of a software project, a reality that is being neglected within Cameroonian companies. This study was carried out in the Centre Pasteur of Yaounde, Cameroon. It aims to compare the influence of both user participation (NPU) and requirements analysis (NABE) on the success of two software applications (custom one–core business vs. generic one–support activity). A survey using a structured questionnaire was administered to 73 users. The findings enabled us to identify NPU and NABE as salient factors for the use of the system. Indeed, NPU has a direct, positive impact on Use for core business software and an indirect impact for support software. Moreover, users are willing to use the system when involved. Further broad-based research would give a generalization of our findings in various contexts. Managers should rely on the importance of user involvement and the need for a well-conducted requirements analysis, for projects’ success.

KEYWORDS
IS Project, IS Success, Requirements Analysis, Software Integration, User Participation

INTRODUCTION

An information technology (IT) project is a once-off operation with a beginning and an end whose goal is to integrate and improve business processes within an organization. It requires human and material resources. Thus, project management covers all the tasks needed to manage the project to its end. In fact, information technology (IT) has become a key development element for the society in general and businesses in particular. Its influence on business is well established as it directly affects the quality of outputs, communications, customer service, and even healthcare at work (Wamba & Chatfield, 2009). To achieve competitive advantage within a global environment, every Cameroonian company should integrate ITs into its management, which requires quality, methods and strategic use of information system (IS) (Roberts & Wood, 2002). Otherwise, companies run the risk of losing resources (mainly financial resources) or of going bankrupt. Unfortunately, the outcomes of
information system projects in the world tend to discourage companies from adopting ITs. Indeed, according to a survey conducted by the Standish Group in 2014 (USA) on 8380 applications, only 16.2% of projects are delivered on-time in respect of the budget, while 31.1% are cancelled before delivery and 52.7% cost 189% more than their original estimate (Standish group, 2014).

In general, authors agree that the quality of management has a direct effect on the success or failure of information system projects (Glowalla & Sunyaev, 2015). The relevant, extant literature provides several contributions to the evaluation of critical factors affecting the success or failure of projects in basic research and empirical studies (Taherdoost & Keshavarzsaleh, 2015). In fact, the IS success model emphasizes three dimensions in measuring the success of IT projects: system quality, information quality and user satisfaction. Additionally, Khatib and Srivastava (2013) conclude that the main reasons for the success or failure of a project depend on the approach used by organizations. Similarly, various reasons can explain the failure of projects: users’ extreme expectations (Taherdoost & Keshavarzsaleh, 2015) and the lack of alignment with corporate strategy (Hoffman, 2003). Finally, for empirical studies, the Standish Group report (2014) states that the success of a project is measured by four basic parameters: project on-time, budget, scope and objectives of the project. However, they do not highlight the changes that occur in the business.

While projects consume huge resources (mainly financial resources), organizations expect a return on investment and an added-value. However, the extent of added-value depends mainly on internal and external factors, including additional resources of the organization, its business partners, and the competitive environment (Melville, Kraemer, & Gurbaxani, 2004). In the enterprise, this added-value is based largely on the users’ acceptance of the system (Davis, Bagozzi, & Warshaw, 1989) and on their satisfaction. Considering a good level of system quality and information quality, user satisfaction can be considered a key success factor. Thus, it should be monitored efficiently at the beginning of the project.

The initialization of any project is related to the identification of a need and the selection of the appropriate solution, such as infrastructure projects, software projects, upgrading systems (Feldman, Shah, Chapman, & Amini, 2016) or training, with particular interest in software projects. These projects mobilize the various elements of the system while materializing the interface between end users and the information system. Managers are then faced with the difference between specific development and integration, core business and support activities software, proprietary and open-source software. ‘Open-source’ solutions seem generally more flexible, less expensive and seemingly leave the company a margin on adaptation. However, edited solutions have several advantages, particularly in terms of quality and deployment (Carlier, 2011). It is both the strength and weakness for proprietary solutions, to the extent that the project’s team can easily neglect requirements analysis and choose a fast implementation which will be unable to support business processes (Sutton, 2006). According to the Standish Group (Standish group, 2014), the rapid deployment of solutions is one of the causes of project failure. However, this approach is still common since a gap exists between the objectives of customer and the editors.

Concerning software integration, many research studies have reported how the inattention of the requirements analysis and the impact of the changes that occur during implementation can be the cause of project failure (Sammon & Adam, 2005). The authors therefore question the factors that significantly influence the use of core business and support software. How can the requirements analysis help achieve this goal?

The article is structured in 5 sections. Following the introduction, Section 2 presents the information system of the Centre Pasteur of Yaoundé, our study context. Section 3 summarizes the theoretical background and the research model, while section 4 emphasizes on the research methodology based on a case study. Section 5 presents and analyzes the results of our study and section 6 concludes with the discussion of findings, the practical and managerial implications within the Centre Pasteur of Yaounde, the limits of our work and the recommendations for future studies.
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