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A Model of Factors Explaining the Adoption and Use of Electronic Performance Support Systems in Portuguese Organizations

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ABSTRACT

This article describes how the huge investments in Information and Communication Technology (ICT) and the increasing impact of Information Systems (IS) on the functioning and competitive capacities of organizations justify and stress the need to identify factors influencing the adoption and use of EPSS (Electronic Performance Support System). Following the models and theories of IT adoption by the available theories of Acceptance as well as studies conducted in the field of EPSS, which indicate the existence of several factors influencing the use and success, a study was conducted to assess possible changes in these factors considering the idea of some authors assume that there are differences by type of IT. In this sense, it was felt that it would be advisable to know the circumstances that arise from the adoption and use of three types of EPSS - extrinsic, intrinsic, and external, arguing that such knowledge can be obtained by identifying a set of enabling factors to characterize those circumstances. The performance of three-case studies and reflection made that it derived a set of factors that influence the strategy of adopting and using EPSS, which were grouped and organized in a model of adoption of EPSS. This model brings together all the key factors considered and classifies them, according to their origin in four different categories, designated by the organizational environment, individual performance characteristics of the tool and task requirements.

KEYWORDS

Adoption and Use of IT, IS, Electronic Performance Support System, Information Systems, Information Technology, Theories of Acceptance

1. INTRODUCTION

Organizations, in order to become competitive in a global market, should be able to respond quickly to the needs of this market. Products and services must be adapted quickly in order to track changes in consumer preferences. The rapid spread of innovations is an asset in an environment where work

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and organizational processes are constantly being modified in the sense of quality. This re-engineering work process requires large amounts of changing information (Stevens and Stevens, 1996; Clark, 1995), forcing organizations to reconsider their procedures for training and learning (Martocchio and Baldwin, 1997).

In this organizational context, it has become impractical to memorize and retrace all the information necessary to perform the job tasks and there is less time to train workers by the traditional method because the time required for traditional classroom training corresponds to the time that the worker is not productive. In this sense, the purpose of training in an organizational setting has moved to facilitate the understanding of the content and context of the organizational task-specific situation and provide an increased ability to use the information to solve problems in the workplace (Martocchio and Baldwin, 1997; Duffy and Jonassen, 1992).

The electronic performance support (EPSS - Electronic Performance Support Systems) have been proposed as a computing solution to accommodate the need for information, procedures, and learning aids required at the time they are requested by employees (Kasvi, 2003; Finley, 2001; Stevens and Stevens, 1996; Raybould, 1995; Galagan, 1994; Raybould, 1990; Gery, 1991). An EPSS is defined as a combination of different types of technology and information systems including databases, CBT (Computer-Based Technology) and decision support tools integrated and adapted to support the performance of work or specific task on the job at the time of needed (Stevens and Stevens, 1996; Gery, 1991).

Understand the conditions under which information technologies are or are not accepted and used in organizations remains an important topic of research. The decision to adopt IT is not always a rational endeavor, methodical and objective in that it involves many conflicts generated by a multiplicity of objectives, values, priorities, and focus of attention. Nor can we ignore that the discussion on the adoption of IT cannot be understood without a careful attention on people, organizations, technologies and environmental context in which they operate (Carter et al., 2001; Habelow, 2000).

In this sense, and because we believe that 'think before you do' attitude is a rational, advisable if you want to achieve the best result with the performance of the particular job, 'think before you proceed with the adoption of IT / IS', seems to be an attitude recommended to be adopted by responsible organizations.

The work shown and described herein is a contribution to the study of adoption and use of IT / IS, guided especially by the idea of some researchers assume that there are differences in key factors of adoption of IT / IS IT by type and consequent need to understand the factors influencing the adoption and use in the context of EPSS in order to determine the most appropriate strategy to adopt.

The next section presents the reasons for conducting this study and its aims and objectives. Subsequently, we describe the working methodology adopted, followed by a presentation and description of the main results. Finally, we present the main conclusions of the study.

2. MOTIVATION AND OBJECTIVES

The motivation for this project relates to the enormous importance of the EPSS can assume on the survival and success of organizations within previous section and supported by many researchers (Battles, 2004; Gray, 2004; Hemphill, 2004; Palo Alto, 2004; Stone and Villachica, 2004; Blankinship, 2003; Carroll and Ken, 2003; Ferguson and DiMatteo, 2003; Gross, Hanes, and Thomas, 2003; Habiger, 2003; Hanes, 2003; Kasvi, 2003; LaPlante and Van Mantgem, 2003; Altalib, 2002; Palo Alto, 2002; Sevcik and Turner, 2002; Barker, 2001; Finley, 2001; Arnold and Brandt, 2000; Gery, 1995; Davis, Bagozzi and Warshaw, 1992; Roseboro, 1992; Bikson and Eveland, 1991) justifying, in a sense, the important role that this tool has gained over the past year. In fact, since the 90's that those responsible for the management of information systems have shown an increasing interest around this type of tools (Raybould, 2000; Banerji, 1995; Gery, 1995; Raybould, 1995; Brancheau and Wetherbe,

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