EDMS Use in Local E-Government: An Analysis of the Path from Extent of Use to Overall Performance

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ABSTRACT

This study analyzes the effects of several post-adoption behaviors (extent of use, routinization and infusion) on overall performance in using an Electronic Document Management System (EDMS). Furthermore, the authors test whether the routinization and infusion variables mediate the influence of the extent of use on overall performance. This research collects data from a survey answered by 2,175 employees (EDMS users) of Portuguese municipalities. The Partial Least Squares technique is applied to test the model. The results showed that routinization is directly predicted by the extent of use, whereas infusion is directly affected by the extent of use and also by routinization. Consequently, such post-adoptive behaviors are interrelated not only in a sequential process, but also in parallel, meaning that the infusion state of EDMS use is achieved from the evolutionary process of EDMS use and also directly from each of the prior stages of EDMS use. In addition, overall performance is directly influenced by routinization and infusion, signifying that the more employees use the EDMS to its fullest extent, the more likely it is for the overall performance to improve. Finally, an indirect effects analysis shows that routinization and infusion mediate the relationship between extent of use and overall performance.

Keywords: E-Government, Electronic Document Management System (EDMS), Overall Performance, Partial Least Squares, Post-Adoption Behaviors

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1. INTRODUCTION

Electronic Document Management Systems (EDMS) are organizational information systems and technology (IST), which emerged from the 90s to manage digital documents for organizational needs (Sprague, 1995). EDMS allow organizations to carry out documental records management, to improve management processes, the organizational communication of concepts and ideas, to manage knowledge, and to enhance the efficiency of activities, and they have an important role in organizational memory (Borglund & Sundqvist, 2007; Hjelt & Björk, 2007; Sprague, 1995). Furthermore, EDMS enable governmental organizations and municipal councils to secure document transfers and to comply with legislative requirements (Wilkins et al., 2009; Sprehe, 2005). These legal requirements between 2000 and 2010 gave the EDMS greater importance. They became a legal requirement at the public and private sector level in countries such as the US, the UK, Australia, Sweden and the European Union, due to laws related to providing, when necessary, organizational and business information (Nguyen et al., 2007). Despite all the potential benefits resulting from implementing EDMS in organizations, its success depends on the use that the great majority of employees make of the system (Johnston & Bowen, 2005; Gunnlaugsdottir, 2008). Therefore, a low use of this IST produces a low level of productivity (Venkatesh & Davis, 2000) and a high level of use potentially leads to better performances (Sundaram et al., 2007). In this way, to obtain benefits with a better performance, the use of EDMS (extent of use) is a necessary but not sufficient condition. The use of EDMS by employees must be active and thorough. Though the research stream related to the benefits resulting from EDMS use is important, it has been scantily expressed (e.g., Borglund & Sundqvist, 2007; Cho, 2007; Bhattacherjee et al., 2008; Gunnlaugsdottir, 2008; vom Brocke et al., 2011). This is why it is appropriate to develop more research to address more insights about the link between EDMS uses and their results.

Furthermore, beyond the narrow focus of EDMS, we position our work within the broader stream of IT adoption. Despite the prevalence of previous studies within IT adoption, our review of the literature discovered a lack of attention concerning outcomes of use beyond the extent of use (with the notable exception of Sundaram et al., 2007). And, given the need to advise our colleagues-in-practice on the role of usage in driving enhancements in productivity, we seek to investigate how to increase gains in productivity from the integration of IT into work routines and using IT to its full potential.

Therefore, we intend in our work to study various types of use of EDMS, beyond the traditional measure of usage based on the frequency and amount of use (extent of use). These different types of post-adoption behaviors are a use integrated into the work routine (routinization) and a use that enhances individuals’ work productivity (infusion) (Sundaram et al., 2007). We also want to study how these various types of use relate to each other and how they affect the results of the use of an EDMS by a user. Furthermore, an analysis of the indirect relations is performed with the aim of assessing whether the routinization and infusion variables mediate in the relationship between extent of use and overall performance.

In order to accomplish the research objectives proposed, this paper is organized as follows. At the beginning, we present a literature review related to overall performance and the three types of post-adoption behaviors that we intend to explore and also connect to the various relationships between them. As a result of this literature review, some hypotheses are proposed. Next, the research method is shown, followed by the results. A discussion of these results is addressed, based on an analysis of the data collected from a survey answered by 2,175 employees. The last section includes the conclusion, with the practical implications of the results for the work for managers and professionals. The limitations identified in this study are also offered.
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