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Antecedents of Task Innovation: The role of Management Information Systems

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Abstract

In the current economic crisis, organizations' information processing capabilities are challenged by additional and diverse demands. In this context, banks attempt to develop and apply more sophisticated and comprehensive Management Information Systems (MISs), in order to exploit their innovation competences and build a sustainable competitive advantage. This paper explores the antecedents of task innovation, reflected on (MIS) effectiveness, which was operationalised by the Competing Value Model (CVM). CVM synthesizes four different schools of management in order to measure IS effectiveness: open system (OS), human relations (HR), internal process (IP) and rational model (RM). Drawing from a sample of 186 bank employees in Greece, a structural model has been built and estimated using Partial Least Squares. Findings reveal that the HR component characterized by interpersonal communication, group decision making, team collaboration and personalization is the most important predictor of task innovation (TI). The RM dimension of MIS effectiveness based on optimizing, goal setting and forecasting has an indirect effect on HR via the OS and IP elements. The rest MIS effectiveness components (OS, IP) are indirectly associated with task innovation, through HR dimension.

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1. Introduction

Productivity, innovation, quality and flexibility of services improvement at the individual and organizational levels have emerged as key advantages for organizations to survive and excel in this global financial crisis [1,2] and have been extensively researched in numerous studies with the aid of computational methods [3 – 17]. Under

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the pressure of cost reductions, firms' information processing capabilities are challenged by additional and diverse demands, in an attempt to develop and apply more effective MISs [18, 19]. Even though the impact of MIS on performance is widely acknowledged, previous researchers exploring their direct and indirect association concluded to rather mixed and confusing results [20, 21].

Among the various benefits of MIS is their capability to provide a broad range of information about multiple dimensions of the firm's operations [3,5], thus supporting decision-making and performance achievement [1, 22, 23] and facilitating the work of end users. Focusing on the banking sector, organizations suffer from achieving different levels of MIS effectiveness, leading to different levels of work outcomes, such as task innovation.

This paper aims to investigate the impact of different MIS effectiveness dimensions on task innovation by utilizing the Competing Value Model (CVM).

After this introductory section MIS effectiveness built on the CVM is being reviewed. This is followed by a presentation of the research methodology, including the questionnaire design and sampling. Statistical analyses and results are following and at the end, conclusions and managerial implications are discussed.

2. Management Information Systems Effectiveness

The management of information technology plays a crucial role, especially in service sectors such as banking, which build their competitive advantage on credibility and information. Despite the absence of consensus on a standard definition of MIS in information systems literature, Davis and Olsen [24] have suggested a commonly cited definition, according to which MIS is "an integrated, user machine system providing the necessary information to support core functions of the firm such as operations, management, and decision making".

Despite the fact that MIS efficiency is relatively easy to define and measure, it is considered more difficult to operationalize MIS effectiveness sufficiently. Moreover, the lack of a relevant theory and the discord on a definition of MIS effectiveness exacerbate confusion and vagueness [25].

This leads to an examination of the organizational effectiveness literature in order to define MIS effectiveness. Unfortunately, there is no consensus on a universally accepted organizational effectiveness theory, because of the inherently high-level abstraction of this concept.

The competing values model (CVM) initially developed to measure organizational effectiveness by Quinn and Rohrbaugh [26] has been selected in this study because it was qualified as the most suitable basis to develop the MIS effectiveness construct. CVM shares wider acceptance among academics as it has been validated by an increasing number of researchers not only as a model of organizational effectiveness, but also as a measurement instrument for other organizational phenomena. CVM has also been utilized as a device for mapping organizations' profiles and conducting comparative analysis [27]. Furthermore, CVM provides a set of tools and techniques to practitioners in order to develop and sustain more desirable profiles of effectiveness.

CVM emphasizes the competing tensions and conflicts across two primary axes, which form a four quadrant model. The first axis extends from flexibility and change to control and order. The second reflects the conflict between the internal focus and external focus. Thus, the intersection of these two dimensions defines the following four models or archetypes: open system (OS), human relations (HR), internal process (IP) and rational model (RM).

Exploring the inertial impact of organizational culture on IT implementation, Cooper [28] developed an instrument based on CVM, for the measurement of MIS effectiveness. This construct is founded on distinctive criteria in relation to the varying capabilities of different MIS types, as interpreted by an in-depth examination provided by academics and MIS experts. A multidimensional scaling technique was applied to derive the MIS experts' perceptions mapping and to confirm the clustering of MIS attributes on the following four quadrants proposed by CVM:

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