

Chapter 18

Utilizing the Technology–Organization–Environment Framework to Examine the Adoption Decision in a Healthcare Context

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ABSTRACT

For several decades the information systems field has studied the individual-level information technology (IT) adoption decision. With the mounting pressure to invest in updated technologies and governmental pressure to implement electronic medical records (EMR), the healthcare industry has searched for factors which influence the adoption decision. However, the adoption rate of EMR has been low due to resistance. In this study, the authors examine why traditional models of adoption which focus on the perceptions of the individual towards the innovation (or a micro-level of analysis) have been inadequate to explain EMR adoption issues. Thus, they examine the broader context within which the adoption/non-adoption decision takes place (or a macro-level of analysis), which incorporates the environmental pressures playing a role in the adoption decision. In this study, the authors adopt the technology-organization-environment framework to examine the context of a physician's decision about whether or not to adopt electronic medical record (or EMR) technology.

INTRODUCTION

For some time now, the information systems field has studied the individual-level decision to adopt Information Technology (IT) with the chief aim of making it easier for organizations to derive value out of IT by increasing their effective and efficient use of the deployed IT (Venkatesh et al. 2012). In fact, extant research into the adoption of IT has focused greatly on the enhanced features that users engage with when using these innovations and the resulting benefits of these enhancements (Perez et al. 2017). This exploration has resulted in a broad set of theories such as the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al. 2003; Venkatesh et al. 2012), the Task-Technology Fit (TTF) (Goodhue & Thompson 1995), the Perceived Characteristics of Innovations (PCI) (Moore & Benbasat 1991), and others (Schwarz et al 2014). However, since these adoption theories sought to explain how and why users adopt technology, little is known about the behavior of non-adoption.

Although the topic of non-adoption has been discussed within the literature (Bhattacharjee & Hikmet 2007; Lapointe & Rivard 2005; Schwarz et al. 2012), previous work has utilized a micro-level analysis focusing primarily upon the perceptions of the individual towards the innovation while neglecting the broader context within which the adoption/non-adoption decision takes place (or a macro-level of analysis). The micro-level focus on individual-level adoption (as exemplified by UTAUT) concentrates attention on how an individual perceives an innovation and the role of this perception on the decision regarding whether or not to adopt the innovation. In many technology adoption contexts this view will adequately address the key factors influencing adoption; however, conceivably there could be situations in which institutional pressure influences an adoption decision. We suggest that institutional pressure external to an organization may alter the directionality and outcome of the decision. Specifically, in situations in which there is strong institutional pressure, we propose that macro-level factors (organizational and environmental considerations) will be significantly stronger than micro-level factors (innovation-level perceptions) in the adoption decision.

In this study, we adopt the Technology-Organization-Environment (TOE) framework to examine the context of a physician's decision concerning adoption of Electronic Medical Record (EMR) technology. Despite the demonstrated efficiencies of EMR technology, most physicians still express great concern regarding its adoption and implementation (Gregg 2013). Based on these concerns and given the pressure from the United States government for physicians to adopt health record technology, we will examine the impact of this institutional pressure upon the adoption decision, theorizing that this pressure has shifted the salient factors away from the innovation (or micro) level to the organizational and environmental (or macro) level. This study will demonstrate the influence of the institutional impact of government mandated dogma and industry standards on adoption of the EMR technology. Thus, we address a gap in the literature, specifically, a lack of understanding of the relationship between the environmental considerations, the organizational structure, and the individual level attitudes and decisions regarding the adoption/non-adoption decision of the individual.

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