Chapter 20
Investigating Acceptance of Nursing Information Systems through UTAUT Lens

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ABSTRACT

It is widely known that nurses are pivotal in coordinating and communicating patient care information in the complex network of healthcare professionals and service delivery. Yet, despite their pivotal role, information communication technologies have historically rarely been designed around nurses' operational needs. This could explain the poor integration of technologies into nursing work processes and consequent rejection by nursing professionals. The complex nature of acute care delivery in hospitals and the frequently interrupted patterns of nursing work suggest that nurses require flexible intelligent systems that can support and adapt to their variable workflow patterns. This study is designed to explore nurses' initial reactions to a new integrated point of care solution for acute healthcare contexts. We report on the first stage of a longitudinal project to use an innovative approach involving nurses in the development and refinement of this solution. Unified Theory of Acceptance and Use of Technology was used to evaluate acceptability of the proposed system by nurses.

INTRODUCTION

It is widely known that nurses are the largest group of healthcare professionals in hospitals providing 24-hour care to patients. They are pivotal in coordinating and communicating patient care information in the complex network of healthcare professionals, services and other care processes. Yet, despite nurses'

central role in health care delivery, information communication technologies (ICTs) have historically rarely been designed around nurses' operational needs. This could explain the poor integration of technologies into nursing work processes and consequent rejection by nursing professionals. The complex nature of acute care delivery in hospitals and the frequently interrupted patterns of nursing work suggest that nurses require flexible intelligent systems that can support and adapt to their variable workflow patterns. This study is designed to explore nurses' initial reactions to a new integrated point of care solution for acute healthcare contexts. The following reports on the first stage of a longitudinal project to use an innovative approach involving nurses in the development and refinement of this solution. In this project, UTAUT (unified theory of acceptance and use of technology) was used to evaluate acceptance (Venkatesh et al., 2003).

BACKGROUND

The complexities associated with the coordination, communication and delivery of health care at the point of care, presents particular challenges for the design of IT systems. In an Australia-wide qualitative study that examined nurses' experiences of already established Computerized Patient Information Systems (CPIS), Darbyshire, (2004) found that nurses often considered that these established systems made no "clinical sense" and were perceived to waste time. Overriding of the system, duplication of documentation, and a reversion to familiar systems such as paper recording have all been reported as work-around strategies used to continue delivery of safe and reliable clinical communication and care in the face of technological solutions that do not meet clinicians' needs (Alaszewski, 2005; Dowding et al., 2009; Lau et al., 2010; Viitanen et al., 2011).

Creating an ongoing-collaborative process in which both nursing and information technology industries actively contribute to the development and sequential implementation of an intelligent tool for nursing work within healthcare settings is proposed as a feasible, viable and crucial solution. An intelligent system specifically designed for the discipline of nursing that can adequately and appropriately meet the requirements of nursing in terms of design and flexibility, hence, is challenging. Further, user adoption is a central theme in much of the IS literature from the theoretical development (Venkatesh et al., 2003; Venkatesh et al., 2012; Rogers, 2003; Bandura, 1986) as well as user acceptance examination (Yu et al., 2009; Wills et al., 2008; Kaushal et al., 2009; Mills et al., 2013). This is primarily due to the fact that user adoption is a proxy for trying to determine a priori if the system will be successful or not. Given the amount of time and financial resources invested into so many IS/IT projects and then the expected benefits, not to mention, impact these systems have on critical business functions, it is understandable that user acceptance is an important consideration.

USER ACCEPTANCE OF TECHNOLOGY

To date within the IS field several models have been developed to examine the critical issue of user acceptance, for example theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), technology acceptance model (TAM/UTAUT) (Davis, 1989; Venkatesh et al., 2003; Venkatesh et al., 2012), theory of planed behaviour (TPB) (Ajzen, 1991), social cognitive theory (SCT) (Bandura, 1986) and innovation and diffusion theory (IDT) (Rogers, 2003). As noted by Venkatash et al., (2003, pp. 467) due to a need "… to

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