

## Chapter 21

# Why Do People Resist Patient Portal Systems?

### An Application of the Dual Factor Model of IT Usage

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#### **ABSTRACT**

*The implementation of patient portal systems (PPS) has potential benefits to both healthcare providers and their patients. However, evidence shows that PPS are being resisted by patients. Little research in IS has addressed this phenomenon. To understand PPS resistance, this study uses the dual factor model of IT usage to develop an integration of the user resistance model (URM) with the universal theory of acceptance and use of technology (UTAUT). Survey data were used to test the integrative model. A total of 265 responses were gathered from patients at a large international hospital. The data were analyzed using structural equation modeling (EQM). The results revealed resistance to change as an inhibitor to intentions to use the PPS. This study demonstrated the importance of integrating resistance to change with the technology use research, especially in healthcare settings. Moreover, this study is considered to be among the few studies in IS to incorporate patients' perspectives regarding new healthcare technology.*

#### **1. INTRODUCTION**

Today's technology advancements not only offer strong infrastructure and enable the use of online applications to provide special services, but also create change in the way people perform their routine tasks. In healthcare, patients are being introduced to online patient portals. A Patient Portal is a secure online application that gives patients access to their personal health information from anywhere and at anytime. Using a secure username and password, patients can carry out a number of online activities, such as managing appointments, requesting medication refills, and communicating with healthcare providers about urgent health concerns and imaging and lab results. This is part of the new paradigm of global

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healthcare that aims to offer anytime and anywhere access to healthcare services (Anwar et al., 2015). However, despite the numerous potential benefits of patient portal systems (PPS), there is evidence of patients' resistance toward PPS (Samhan, 2015).

A better understanding of patients' resistance can help decision makers at healthcare organizations take appropriate measures to limit PPS resistance and any subsequent effects. Further, understanding patients' resistance toward PPS will help designers build new systems that function optimally and have better adoption rates. However, there are major gaps in our understanding of how patients adapt to change from the traditional way of retrieving data and communicating with healthcare providers to using the new PPS. Prior IS research has a dearth of work on patients' resistance toward healthcare technologies. Studies have mostly focused on resistant behaviors of healthcare providers but not patients (Bhattacharjee & Hikmet, 2007; Lapointe & Rivard, 2005; Samhan & Joshi, Forthcoming). Moreover, prior IS research mainly considered technology adoption, acceptance, and use means of realizing the value of new technology (Ajzen, 1985; Davis, 1989; Taylor & Todd, 1995; DeLone & McLean, 1992, 2003). Resistant behaviors cannot be determined by the mere opposition of adoption, but need to be conceptualized distinctively (Lapointe & Rivard, 2005). Non-usage may suggest that users are still evaluating the technology prior to adoption, while resistance suggests that the technology has been considered and rejected by users (Bhattacharjee & Hikmet, 2007). The presence of resistance affects technology usage, but the lack of resistance does not necessarily increase technology usage (Hsieh et al., 2014; Lapointe & Rivard, 2005). Thus, resistance to change is a typical inhibitor to technology usage (Cenfetelli, 2004). Furthermore, prior findings (Parthasarathy & Bhattacharjee, 1998; Venkatesh & Brown, 2001) confirm that technology usage and resistance have different antecedents and are motivated differently. Therefore, there is a need to investigate intentions of use and resistance to change as two separate constructs and aim to examine the relationship between these two distinctive constructs.

This study examines the following research questions:

**RQ1:** Why do patients resist patient portal systems?

**RQ2:** How does resistance influence patients' usage decisions?

To address these questions, this study integrates technology acceptance and resistance to change literature. The remainder of the paper is organized as follows. Section 2 describes the theoretical background of this work and how URM and UTAUT are integrated within the dual factor model of IT usage. Section 3 provides theoretical discussions about the study's hypotheses and illustrates these hypotheses in a research model. Section 4 describes the investigative context of this study and section 5 shows the methodological approach used for this study. Finally, results are reported in section 6, followed by discussion about the contribution, limitations and implications of this study.

## **2. THEORETICAL BACKGROUND**

To explain patients' resistance toward the new PPS, this study adopts the concepts of the dual factor model of IT usage (Cenfetelli, 2004) to bridge the User Resistance Model (URM) (Kim & Kankanhalli, 2009) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). The dual factor model of IT usage surmises that technology adoption can be predicted by enablers and

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