Chapter II

Predicting Internet Use: Applying the Extended Technology Acceptance Model to the Healthcare Environment

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Abstract

The technology acceptance model (TAM; Davis, 1989) has been widely used by information technology researchers to gain a better understanding of information technology (IT) adoption and its use in organizations. While TAM has been applied and tested in academic and corporate settings, involving students, business managers, and clerical and administrative types as participants, few studies have evaluated TAM in the healthcare environment. This chapter examines the applicability of the extended technology acceptance model (TAM2; Venkatesh & Davis, 2000) in the context of physicians’ intention to adopt Internet-based health applications. Data was collected in a survey of pediatricians to see how well the extended model fits in the medical sector. This chapter
discusses the implications, limitations, and possible explanations for the inconsistent results found within the model when applied to such professional users as physicians.

**Introduction**

In an executive order issued on April 27, 2004, United States President George W. Bush called for widespread deployment of health information technology within 10 years. This progressive action by the federal government to advocate and support the use of health information technologies may be the result of reports similar to the Institute of Medicine’s (IOM), *To Err is Human: Building a Safer Health System* (IOM, 1990), that medical errors kill between 44,000 and 98,000 people in U.S. hospitals each year. According to the National Vital Statistics Report, more people die in a given year from medical errors than from motor vehicle accidents (43,548), breast cancer (42,297) or AIDS (16,516). Also, more than 8.8 million adverse drug events occur in ambulatory care each year (Center for Information Technology Leadership, 2004). To err is human; however, medical errors may be decreased and prevented by integrating clinical processes with information technology (Bates, Leape, & Cullen, 1998).

According to a statement issued by the IOM of the National Academies, “To significantly reduce the tens of thousands of deaths and injuries caused by medical errors every year, healthcare organizations must adopt information technology systems that are capable of collecting and sharing essential health information on patients and their care” (IOM). Such systems should be national and integrative in nature and conform to a national health data standard in order to improve the quality and reduce the cost of health care for Americans (IOM, 2003).

The Medical Records Institute suggests that the Internet and Internet-based health applications (IHA), for example, electronic health records, e-prescribing, and mobile health, are the goals of most healthcare organizations. Others contend that the use of the Internet for electronic medical records, e-billing, and patient scheduling can enable the healthcare industry to reduce its inefficiencies and errors in the care-delivery processes (HIMSS/IBM Leadership Survey, 2000). While the use of IT in healthcare
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