Chapter 2
Web 2.0 and Health Information Technology: Theories and Applications

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ABSTRACT

This chapter describes the overview of Web 2.0 technologies; Web 2.0 applications in learning and education; Web 2.0 applications in academic libraries; Web 2.0 applications in Knowledge Management (KM); the perspectives of Health Information Technology (health IT); the multifaceted applications of health IT; IT and Technology Acceptance Model (TAM); and the significance of health IT in the health care industry. Web 2.0 is the platform of the network which spans all connected services so that users can utilize them more efficiently. Web 2.0 technologies have various benefits by enhancing the opportunities for business collaboration and by sharing knowledge through online communities of practice toward gaining improved organizational performance. Health IT includes utilizing technology to electronically store, protect, retrieve, and transfer the information in modern health care. Health IT has great potential to improve the quality, safety, and efficiency of health care services in the health care industry.

INTRODUCTION

The proliferation of information comes to the average person through the rapid developments of information technology (IT) and an abundance of information tools and sources (Yi, 2014). Web 2.0 technology refers to the web tools and services that encourage visitors to share, collaborate, and edit information, promoting a more distributed form of authority that blurs the boundaries between website creator and user (Oberhelman, 2007). Web 2.0 technology fosters active participation among audiences rather than distributing information to passive audiences (Kam & Katerattanakul, 2014).

With the emergence of Web 2.0, sharing personal content, communicating ideas, and interacting with other online users in Web 2.0 communities have become daily routines for online users (Huang, Fu, & Chen, 2010). Web 2.0 has been noted for being user-friendly, thus providing a collaborative platform

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without charge (or low charge) and without boundary of time and geography (Hao & Lee, 2015). Contemporary web platforms (e.g., Google and Facebook) can store, analyze, and sell the large amounts of personal data and user behavior data (Fuchs, 2011).

IT has become a significant part of providing consistent care quality (Hung, Tsai, & Chuang, 2014). IT has been linked to productivity growth in a wide variety of sectors, and health IT is a leading example of an innovation with the potential to transform the industry-wide productivity (Agha, 2014). Health IT is viewed as a fundamental aspect of patient care as it stimulates patient engagement and encourages personal health management (Hung et al., 2013). The flexibility and adaptability of health IT as an educational tool allow it to be tailored to the individual's needs based on unique characteristics, risks, and behaviors (Gauthier, 2014).

Health IT describes the hardware, software, users, implementation, adoption, inputs, data, and outputs of computerized systems in the health care delivery environment (Dowling, 2013). Health IT targeting patients includes personal health records, patient portals, and social media technology (Sequist, 2011). Stafinski et al. (2011) stated that all health care systems routinely make resource allocation decisions that trade off potential health gains to the different patient populations. Contemporary health care relies on electronic devices (Coeckelbergh, 2013). Many fundamental changes have taken place to the types of health IT in use within hospitals, primary care practices, community care, and a variety of other health care locations (Waterson, 2014).

This chapter aims to bridge the gap in the literature on the thorough literature consolidation of Web 2.0 and health IT. The extensive literature of Web 2.0 and health IT provides a contribution to practitioners and researchers by describing the theories and applications of Web 2.0 and health IT in order to maximize the technological impact of Web 2.0 technologies in the digital age.

Background

The term Web 2.0 was created in 2004 by Tim O'Reilly and Dale Dougherty from O'Reilly Media, an American publisher specialized in publications concerning the new technologies and networks (Pieri & Diamantini, 2014). In 2004, Web 2.0 application was introduced as an innovative web technology that enabled more interactive and personalized communication among people (Eccleston & Griseri, 2008). During that period, Web 2.0 obtained the attention of many businesses because of its capability to enhance the relationship between organizations and consumers (Andriole, 2010). In 2004, utilizing various Web 2.0 applications, people could more actively participate in the content creation process (Smith & Rogers, 2008) and share their ideas through websites. Web 2.0 was not only a development in technology, but also a great change in the method of online communication. Web 2.0 enabled people to effectively share knowledge (Gould, 2009). Web 2.0 also stimulated opening of discussions, finding solutions, and aiming at creating business value through websites (Cronin, 2009).

The studies about Web 2.0 have developed into several perspectives. The power of content created by Web 2.0 application users (i.e., user-generated content, UGC) has captured numerous researchers' attention (Chaves, Gomes, & Pedron, 2012). Chen et al. (2012) identified the factors influencing the continuous application of Web 2.0 and indicated that user satisfaction and electronic word of mouth have a significant influence on the application of Web 2.0 tools. Winter and Kramer (2012) discussed the content selection process of users in the Web 2.0 environment and identified the factors that influence users to select what to read when surrounded by a large amount of content. Practitioners and research-

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