Chapter 4
Big Data and mHealth:
Increasing the Usability of Healthcare Through the Customization of Pinterest – Literary Perspective

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ABSTRACT

Technology has greatly improved healthcare. Research has shown that improved user experience can vastly increase the volume and quality of knowledge gained from the accessible resources. Electronic medical records have been mandated by the U.S. government transitioning the medical field to computer based applications with the goal of efficiency and meaningful use. From this vast data, the end user could potentially increase their healthcare understanding through a centralized mobile-platform that brings the expertise from medical professionals, smart health and well-being best practices, alternative medicine and social media such as crowd-sourcing materials. In this chapter, we present a mHealth solution incorporating the features of Pinterest in order to provide a single portal for the dissemination of healthcare information.

INTRODUCTION

Although technology in healthcare has increased greatly over the past decade, the user experience of the combined available resources can unquestionably be improved (Blumenthal, 2009). Many Healthcare functions have been transferred to computer-based applications such as the institution of electronic health records (Jha et al., 2009). However, the end user could conceivably increase their healthcare knowledge through a platform that brings the knowledge from medical experts, smart health and wellbeing proven practices, alternative medicine and social media and crowdsourcing material (Alyass et al., 2015). In the past decade technology has also improved rapidly as cloud computing and big data have broadened the

scope of technical offerings increasing the ultimate experience for the end users. However, this technology has not been maximized, especially for health care uses (Bizer et al., 2012). The use of enhanced visualization could increase the user experiences for healthcare best practices and implementation. Employing a new frame work that could be quickly accessed via mobile devices could offer the patient an improved user experience with their medical information queries as they fight against diseases and sustain healthy living. Building on the discovery principal that Pinterest has established through their superior search capability and enriched user interface, customization can occur to offer a single source for patients to research, medical diagnosis, smart health and wellbeing, alternative medicine and social media solutions. A carefully designed empirical study could determine if customizing Pinterest would improve the use of Healthcare Big Data by expanding the patients' knowledge concerning their health issues via a mHealth solution. The specific contributions of this chapter are an identified solutions gap in the eHealth literature that can be addressed by using our proposed solution of customizing the Pinterest application.

The healthcare community is confronting an almost insurmountable amount of health and healthcare-related content generated from numerous patient care points of contact, highly technical medical instruments, and web-based health communities (Arunasalam, 2013). The contemporary healthcare big data areas that are taking shape are genomics-driven big data covering genotyping, gene expression, sequencing data and payer–provider big data including electronic health records, insurance records, pharmacy prescription, patient feedback and responses (Raghupathi & Raghupathi, 2014). Over the past decade, electronic health records (EHR) have been extensively implemented in hospitals and medical facilities giving way to significant clinical knowledge and a deeper understanding of patient disease patterns from such computer based collections. Using this vast healthcare data, doctors and patients alike may be more readily able to diagnosis the issues and determine treatments to remedy their health problems. Utilizing lessons learned from the immense healthcare data, the end user could increase their healthcare knowledge. Expanding on a unified mobile accessible platform, the healthcare big data could offer patients a wealth of awareness via a mHealth application. Medical professionals have been publishing their expertise in journals that can be tapped to expand the patient health understanding. In addition, there are many websites that offer smart health and wellbeing proven practices. Physical ailments can also be addressed through alternative medicine. Social media offers many remedies to health issues as those seeking wellness write blogs and effectively crowdsource to seek healthy solutions. These offerings along with many others could be bundled together to offer a superior distinct healthcare tool.

After decades of implementing computer-based applications in almost every field of study, a by-product taking shape is immense data which is now known as big data (Peters et al., 2014). This vast amount of data now collected and accessible via mobile devices via cloud computing technology allows for humans to move more deeply into the exploration of the information age. Not harnessed to its fullest, the big data technology now being researched will give way to superior growth of understanding for decision making and everyday life especially in healthcare (Jee & Kim, 2013) . Challenges are apparent in this new technology of big data on cloud computing. Although they cover all ranges, the main few areas are data capture, data storage, data analysis, and data visualization (Chen, 2014). Traditional data was mapped and placed in organized relational databases to be searched and presented in software applications for the various end users to perform their daily tasks. Unlike traditional data, big data is readily available on the internet, from sensors, and even disjointed databases with none of it organized for customary relational database viewing methods (Ma et al., 2015). The user friendly platform for searching and analyzing this great amount of big data sources is still in the beginning stages.

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