Incorporating customer empowerment in mobile health

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M.N. Almunawar[a], M. Anshari[b], Mustafa Z. Younis[c],*

[a]School of Business & Economics, Universiti Brunei Darussalam, Bandar Seri Begawan, Brunei
[b]CEC & Joint Appointment e-Government Innovation Centre, Universiti Brunei Darussalam, Bandar Seri Begawan, Brunei
[c]Department of Health Policy & Management, Jackson State University, Jackson, MS 39213, United States

Abstract

The adoption of mobile services in many business sectors offers various business opportunities. But at the same time poses a great challenge for service providers and business organizations to grab the opportunities. Accessing mobile services through mobile devices equipped with powerful operating systems and a myriad of applications (Apps) such as smart phones or tablet computers are very handy and convenient. As most people are dependent on their smart phones for various reasons, mobile services accessible through smart phones are demanded. The healthcare industry should grab this opportunity by offering mobile health (mHealth). mHealth should be designed to offer customers a greater role in the decision making processes related to their health. Thus, customers (patients) will not only enjoy healthcare services online such as making appointments, viewing health records and having consultations through their smart phones or other mobile devices, but they can also participate and contribute to the discussion in information and knowledge sharing forums. In other words, consumers will be empowered through mHealth. The aim of this paper is to present a model of mHealth that incorporates customer empowerment in three dimensions: personal dimension (mPersonal), social dimension (mSocial), and medical dimension (mMedical). In addition to literature review, a survey has been conducted to grab user perception as well as requirements for the model. The model can be used as a roadmap for healthcare organizations in embracing mHealth with customer empowerment embedded their services.

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Introduction

Managing a good relationship between a healthcare organization and its customers (patients) in healthcare management is important to create mutual understanding, trust,

*Corresponding author.

and customers' participation in healthcare related processes and decision-making. A good relationship is believed to improve patients' satisfaction, which in turn makes them loyal customers [37]. Therefore, serious attention must be given to values of pleasing customers, satisfying their needs, and building a long lasting relationship. Empowering customers through mobile health (mHealth) services can be an interesting application of Information and Communications Technology (ICT) in embracing customers' expectations and best practices in healthcare organizations ([3], 2012). The trend in healthcare services is the transformation from physical-based services, where a complete physical presence is necessary, to mobile services where some healthcare activities can be performed such as preventing disease, promoting health, and providing e-health services [20]. As the penetration of mobile technology into the market is high and keeps growing, the adoption of mHealth in healthcare service also grows, as it can help improve the quality of service of healthcare provision [4]. For instance, healthcare organizations may offer health promotion and services through social networks embedded in mobile applications (Apps).

Nowadays customers can easily access mobile services and activate them in social networks using their smart phones. They can share and discuss their healthcare issues through their smart phones. This implies that customers can actively participate and contribute in healthcare using their smart phones or other mobile devices. mHealth should be designed to let customers actively participate in healthcare processes and decision making. Accessing such an mHealth may encourage customers to take more responsibilities for their own health and help each other through information and knowledge-sharing. In addition, mHealth provides customers the ability to access and control information flow that fits their personalized needs.

mHealth can extend healthcare services through smart mobile devices in multiple types of interactions such as between healthcare staff and customers, between two or more customers, and customers' self-service [5,7]. At this point in time, not many discussions in the literature have proposed a model of mHealth that extends state-of-the-art healthcare services to customers. In addition, current discussions in literature have not included the comprehensive issues of customer empowerment in mHealth setting. This paper attempts to fill the knowledge gap of how healthcare organizations can develop mechanisms by encouraging patients' responsibility to take a greater role in the healthcare process. This can occur through empowerment, delivery arrangements that will meet the increasing demand, and expectation of patients equipped with mobile technology. The study proposes a model to enhance the existing theory of empowerment through mobile approach. The model is expected to contribute in expanding dimensions of the mHealth system employing the possible perspective of empowerment.

We start by analyzing various related issues through a literature study. We then propose a model and its e-components based the results of this analysis and a survey. Next we present methodology, implications of the proposed model and discussion. The paper ends with a conclusion.

Literature review

Healthcare services need to be transformed from the traditional view where patients are solely considered as recipients of care, to partners of care so that they can participate actively on healthcare processes and decision making. For instance, effective chronic disease care and education requires patients and health care staffs to collaborate in the development of self-management plans that integrate the clinical expertise of health care professionals with the concerns, priorities and resources of the patient [1,19]. The new view implies empowerment of patients (customers) since they are treated as partners, and not merely recipients.

Empowerment of patients has been discussed in the health literature over the past few decades. The process of empowerment has been acknowledged as an alternative to compliance with multi-ways interactions. Healthcare providers need to prepare new services that reflect the new view and to have a proper strategy on how to strengthen the relationship with their customers [9]. Table 1 shows the type of empowerment supported from literature based on the outcomes. Empowerment can be grouped either from the point of view of healthare provider-patient interaction [40,36,17,41,32,30], or from the point of view of the patient alone [2,33,15,16,21,23,29,14], or both [31,22,29]. Empowerment of personal, community, and combination will be discussed in the following section.

Medical empowerment

Empowerment may include healthcare provider-patient relationship, disease or illness self-management and its treatment, which leads to a boost in personal satisfaction due to the increase in responsibility of one's own well-being [11]. Some new systems were developed to help patients freely access their medical record for example, Personally Controlled Electronic Health Records (PCEHR) in Australia, which was released on 2012. PCEHR enables better access to important health information held in dispersed records across the country. PCEHR can be considered as medical empowerment where patients in Australia are able to view their important medical records and related information whenever and wherever they need. In addition, they can share their health records with trusted healthcare providers [35].

We propose medical empowerment electronically, where patients are allowed to view their medical records through mHealth system. Healthcare organizations still control medical records and they can decide which records to be shared. In addition patients are allowed to modify their personal data using their smart mobile devices.

Personal empowerment

McWilliam et al. [34] emphasizes that empowerment is a result of both interactive and personal processes, where the emergence of "power" (or potential) is facilitated by caring relationships. Empowerment as an interactive process suggests that power is "transferred" by one person to another, whereas empowerment as a personal process suggests that