Identifying Bands in the Knowledge Exchange Spectrum in an Online Health Infomediary

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ABSTRACT

Online health infomediaries have the objective of knowledge exchange between participants. Visitor contribution is an important factor for the success of the infomediaries. Providers engaged with infomediaries need visitor identification for reputational incentives. However, identification or classification of visitors in online health infomediaries is sparse in literature. This study proposes two dimensions of participation, the intention and intensity levels of visitors, to conceptualize four user categories: community supporters, experience providers, knowledge questors, and expertise contributors. The authors validate these categories using a unique large data set collected from a health infomediary for cosmetic surgery, and consisting of 162,598 observed activities of 44,350 visitors, at different participation levels in the year 2012-13. They use cluster analysis to describe similarities and differences among the four user categories. Practice implications are discussed.

Keywords: Cluster Analysis, Expertise Contributors, Health Infomediaries, Knowledge Exchange, Knowledge Questors, Machine Learning, Participation Experience Providers

1. INTRODUCTION

Online health information is emerging as a source to effectively manage own health. It is estimated that 30% of Americans have used Internet resources to better understand a medical condition (Fox & Duggan, 2013), and 35% of adults in the United States have used the Internet for self-diagnosis. Prior research suggests that people turn to the Internet to access disease specific information (Dickerson et al., 2004; Koch-Weser, Bradshaw, Gualtieri, & Gallagher, 2010; Schwartz et al., 2006), information about symptoms (Ybarra & Suman, 2006), and for help in determining whether to seek medical attention (McMullan, 2006). The information seeking US adults are mostly younger, more educated, and more affluent than other health information seekers (Tian & Robinson, 2008). In addition, use of online social health networks, websites, and platforms is increasing with the understanding that online communication and support is highly

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effective to manage personal health (Giustini, 2006; Heidelberger, 2011; Thackeray, Neiger, Hanson, & McKenzie, 2008).

The term online health infomediaries is used for online social networks, platforms, websites, and discussion groups in a broad way. Health information is created, updated, and exchanged by people, and electronic communication networks distribute information in bits to provide easy access to visitors. In commercial contexts, infomediaries are defined as independent, third-party firms directing consumer traffic to downstream retailers in a distribution network in electronic markets (Kuruzovich, Viswanathan, Agarwal, Gosain, & Weitzman, 2008). The online health infomediaries provide conduits for health-related information and knowledge exchange, and thus, assist healthcare providers to increase clinical competence through continuous monitoring and support mechanisms (Green & Hope, 2010; McNab, 2009).

Irrespective of the value potential of the online health infomediaries, not many such efforts have been sustainable. Although many providers and other third parties are starting such infomediaries using internet platforms, but the success of an infomediary depends on the participation of a critical mass who can retain the activities and fulfill the objectives of the infomediary. Retention of the critical mass is important that needs a set of incentive mechanisms based on participant contributions. Thus, identification of the contributors, to the extent that what is their degree and extent of contribution in the infomediary, and providing incentives might work as a sustainable business model for the infomediaries. However, identification and categorization of the contributors is lacking both in research and practice alike; the gap in literature that this study tries to fulfill.

In this study, drawing from online communities and knowledge sharing networks, we propose a typology of visitor behaviors based on participation intention and participation intensity. We propose a four category classification of the health infomediary visitors: community supporters, experience providers, knowledge questors, and expertise contributors. To test the validity of this typology, we collected a unique data set from a health infomediary that facilitates discussions about cosmetic treatments and procedures. We use data mining approach to identify and classify the visitors into different groups. Further, we use the result of clustering analysis of patient’s activity data to characterize each patient type. The results confirm the four categories of visitor behaviors in health infomediaries, and validate our conceptualization of health infomediary user typology. We discuss the managerial implications of the findings.

2. PRIOR WORK AND THEORETICAL BACKGROUND

2.1. Online Infomediaries

Online infomediaries decouple information components of products and services from physical components, and deliver the information components to consumers using online medium such as internet (Kambil & Van Heck, 1998). In online retail contexts, infomediaries are independent, third-party firms directing consumer traffic to downstream retailers in a distribution network (Kuruzovich et al., 2008). Infomediaries help consumers easily obtain price and other product attributes across products and services, such as financial services, travel, and auto retailing, to name a few (Sawhney, Verona, & Prandelli, 2005). Several studies have empirically demonstrated the positive business value of infomediaries (Chevalier & Mayzlin, 2006; Ghose & Han, 2011; Ghose, Ipeirotis, & Li, 2012).

Some online infomediaries in other context have social objectives. These infomediaries need to rely on social communities and relevant dynamics to create an online community whereby consumers voluntarily provide reviews, comments, post questions, and answer others’ questions.
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