A customer value, satisfaction, and loyalty perspective of mobile application recommendations

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ABSTRACT

Although both anecdotal and academic sources have suggested that interpersonal recommendation is an important means to promote mobile applications (apps), little to no research has investigated this topic. To fill the void, we develop a research model based on the Customer Value, Satisfaction, and Loyalty Framework (VSL). While prior VSL studies treated customer value as a black box and examined its effects as a whole, this research breaks down customer value to utilitarian benefits (consisting of app utility and app quality), hedonic benefits (consisting of app aesthetics and enjoyment), monetary sacrifices and non-monetary sacrifices (consisting of technicality, knowledge of alternative quality and privacy risk). This research extends VSL to the mobile app context and discerns factors that influence app recommendation. Based on the data analysis of 347 app users, we found that intention to recommend is a strong predictor of app recommendation behavior. Satisfaction with apps, users’ app continuance intention, and hedonic benefits obtained from using apps are the direct antecedents of intention to recommend. Moreover, non-monetary sacrifices and utilitarian benefits have indirect effects on intention to recommend through satisfaction and app continuance intention. Contrary to our hypotheses, we did not find the significant effects of monetary sacrifices in the refined VSL. We also provide a detailed discussion about these findings, and the theoretical and practical implications of the research.

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1. Introduction

The past decade has witnessed a phenomenal growth of smartphones, as well as its killer application—mobile applications (apps). Buoyed by an enormous user-base, mobile apps have captured the attention of business [38]. In order for organizations to reap the benefits of information technology (IT), they must understand user behaviors. Presumably, the foregoing argument also applies to mobile apps, an emerging IT artifact. Organizations’ initiatives in apps cannot succeed without a deep understanding of individuals’ app usage behaviors. To date, only a handful of information systems (IS) research directly address the topic of mobile app usage [7,79]. Among them, the main focus is on examining users’ intention regarding the initial acceptance and the continuance of apps. Given that IT usage exists in multiple forms beyond simple adoption [10], we believe that the current literature provides a limited explanation of app users’ behaviors. Thus, the first objective of this research is to examine users’ recommendation of mobile apps, a type of user behavior in the post-adoptive stage of IT that is not well addressed in prior research.

The importance of recommendation is well-established in communication, social psychology, consumer, and IS literature. According to the Diffusion of Innovation Theory [62], most people rely on recommendation as a reliable, credible information source for assurance to adopt an innovation. In the social psychological discipline, numerous studies showed that interpersonal influence plays an important role in various contexts, such as consumption [37]. Consumer research has confirmed that recommendation impacts customer purchase decisions [87] and that recommendation is a critical success factor in the contexts where the information giver and receiver are powerful customers [20]. With the rise of the Internet, customers continue to use recommendation from others to make purchase decisions in the online environment [9]. In the IS field, the Theory of Reasoned Action, the Theory of Planned Behaviors, the Model of PC Utilization, the Unified Theory of Acceptance and Use of Technology (UTAUT) and UTAUT2 [e.g., 77,78] indicate that individuals’ IT adoption decisions are largely dependent on social influence, the degree to which an individual perceives that others believe s/he should use the new technology. In the context of mobile apps, recommendation is of particular importance. Apps are a form of “experiential computing” technology [85], and people are more likely to rely on recommendation when products/services are intangible and experiential [57].

On the other hand, voices from the practical world also consolidate the importance of recommendation in the mobile app context. Mobile
business consultants have viewed referral and recommendation as the most effective way of promoting mobile apps [6,22,42]. Industrial reports have provided further support for this proposition, revealing that recommendation plays an important role in mobile app downloads: personal recommendation is the most important factor for 43% of the surveyed people to make download decisions [56].

Thus, motivated by the gap between a dearth of research on mobile app recommendation and the aforementioned theoretical and practical justification regarding its importance, we believe it necessary, relevant and timely to examine factors that influence app users’ recommendation behaviors as a topic to organizations’ benefits. To this end, we draw upon the Customer Value, Satisfaction and Loyalty Framework (VSL) [45,84]. According to VSL, customers who perceive they obtain greater value from using a product/service tend to be more satisfied with the product/service in question; both customer value and satisfaction are significant antecedents of customer loyalty. Considering that recommendation is an important facet of customer loyalty [45,84,86], we believe that VSL is an appropriate theoretical lens to examine why users make recommendation of apps.

Furthermore, we refine the original VSL using auxiliary theories and empirical studies from prior IT adoption research. Specifically, this work: 1) acknowledges the predominant conceptualization that customer value is the customers’ overall assessment of what is received (benefit) versus what is given (sacrifice), 2) breaks down the “black box” view of customer value used in prior VSL studies, and 3) explores specific benefits and sacrifices associated with using mobile apps. Therefore, the second and third objectives of this research are to adapt VSL to the mobile app context and to investigate how the decomposed value components influence satisfaction and recommendation.

By accomplishing the foregoing three research objectives, this research makes several theoretical contributions. First, it fills the gap created by the importance of mobile app recommendation and a scarcity of research on this topic. Second, given that recommendation (or more broadly speaking, word-of-mouth (WOM)) is essentially a type of information exchange where messages flow from senders to receivers through channels, by focusing on app users who will potentially initiate recommendation, this research fills the gap that a handful of IS studies investigated the “sender” elements in the WOM process. Third, given that recommendation resides along the positive end of the WOM valence continuum, this research fills an IS research gap identified by de Matos and Rossi [20] and Harrison-Walker [34] that only a few WOM studies examined WOM valence and this dimension of WOM was only measured indirectly. Fourth, it echoes several research calls. By examining the recommendation topic, this research responds to Chin and Marcolin’s [10] call that IS research shift its attention to complex “deep usage” of IT. By examining the mobile app context, this research responds to Yoo’s [85] call that it is time for IS researchers to focus on experiential computing. Fifth, the refined VSL we developed to examine recommendation in the mobile app context also bears valuable theoretical implications. Identifying the specific benefits/sacrifices that shape customer value and testing their effects within VSL, this research enhances VSL by decomposing the value construct that was unanimously treated as a “black box” by past works. In addition, by considering sacrifices factors such as knowledge of alternative quality and privacy risks, the refined VSL framework here offers insights into why satisfied users are not loyal (e.g., not recommending apps), an increasingly critical issue in the marketing and IS domains.

The remainder of the research is organized as follows. The literature review section details VSL and integrates it with prior IT adoption research to propose a model of the app recommendation. The hypothesis development section develops the hypotheses within the refined VSL model. The methodology section describes the research method used to empirically test the research model. The data analysis and results section presents the results of data analysis. The discussion and implications section discusses the theoretical and practical implications of the results in greater detail, lists the limitations of this study, and suggests directions for future research.

2. Literature review

In this section, we first present an overview of VSL and explain the key constructs (i.e., value and satisfaction). Then, we introduce the use of VSL in the IS field and summarize three major issues underlying prior research that employed VSL. Next, we discuss the key constructs in our research model, which expands and builds upon the original VSL.

2.1. The customer value, satisfaction and loyalty framework

Originating in the marketing discipline, VSL has been developed and validated by a plethora of literature in the strategic marketing, service management, and consumer behavior areas that examined the interrelationships among customer value, satisfaction and customer loyalty in both business-to-business and business-to-consumer contexts [e.g., 45]. VSL holds that customer value and satisfaction are two primary antecedents of customer loyalty while customer value positively influences satisfaction.

Customer value is defined as “consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given” [89]. Therefore, the formation of customer value involves a trade-off process where customers evaluate the benefits received and the sacrifices given from using a product/service. Early marketing studies focused on product quality as the primary “get” component and product price as the main “give” component [e.g., 72]. Later, Sinha and DeSarbo [64] pointed out that customer value is a complex and multi-dimensional construct and called for exploring other factors that shape customer value. That is to say, there are various benefits/sacrifices beyond product quality/price from using a product, for example, shopping experiences and product risks [8]. Another important characteristic of customer value is that its benefit/sacrifice components vary with new consumption contexts [8]. Therefore, prior IS literature that took the value perspective to examine IT adoption was busy with identifying new compositions of customer value and exploring their effects in different IT contexts.

Another important factor in VSL is satisfaction—the key to cultivate and retain loyal customers [2]. Satisfaction has taken a central, predominating position in marketing theory and practice because, as a major outcome of marketing activities, it transforms the initial consumption and purchase to post-purchase phenomena such as attitude change, re-patronage and brand loyalty [15]. The American Customer Satisfaction Index is an important customer-based measurement system that assesses performance of firms, industries and national economies [15].

2.2. The customer value, satisfaction and loyalty framework in the information systems field

IS researchers have drawn upon VSL to examine user behavior in the post-adoption stage of a variety of IT contexts such as SNS services [52], China’s telecommunication market [80], organizational IT services [38], mobile value-added services [43], and mobile-commerce [48]. This research supplements this stream of research by addressing three issues related to employing VSL.

First, despite its multi-dimensionality, VSL research treated perceived value mainly as a black box: little to no IS research identifies specific benefits/sacrifices that shape customer value and tests the influences on satisfaction and customer loyalty. This is surprising because IS researchers commonly decompose customer value in using this construct, leading to a series of value-based technology adoption models, for example, the Value-based Adoption Model of Technology [e.g., 40]. Customer value is context-based, so a new environment, like mobile apps, may change what constitutes the value construct. Therefore, this
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