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Consumer Acceptance of Online Digital Music Store

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ABSTRACT

While the innovation of online digital music stores represents a revolution in the entertainment industry, there is little rigorous academic research that examines the IT aspects of the movement. In this study, we investigate the salient factors that will affect consumers' acceptance of online digital music stores. Based on the Personal Trait theory, Technology Acceptance Model, and Psychology Flow theory, we propose an integrated conceptual model to explain the emerging phenomena. A simulated lab experiment design and PLS as data analysis method are discussed. The main contribution of this work is theoretical that we identify the factors that may inhibit and promote consumer acceptance of online digital music stores. We demonstrate a way to integrate multiple theories to address the issue. This research extends our understanding of the adoption of online digital music stores. Moreover, the test of the model may assist online digital music stores in improving consumer acceptance.

Keywords

Online Digital Music Store, Consumer Acceptance

INTRODUCTION

Apple's iTunes Music Store has already sold more than 200 million downloaded songs since its launch in April 2003 (USA Today, 12/2004). The year 2004 saw a tenfold increase to more than 200 million downloaded music tracks purchased in the world. The global digital music market is projected to be worth \$330 million in 2004 and is expected to be doubled in 2005 (Jupiter, 2005). Therefore, online digital music store is changing the nature of the music industry.

However, Online Digital Music Store (ODMS) has yet to attract mass-market buyers (MacInnes, Kongsma and Heckman, 2002). Digital music online sale is estimated to account for only two percent of total music sales (MSNBC, 2005). Therefore, research on consumer behavior in adoption, use, satisfaction, and loyalty to ODMS will have immediate practical value in helping ODMS address consumers' concerns and improve consumer acceptance.

There are very few studies that discuss the consumer acceptance of ODMS. This paper intends to address this gap by presenting a conceptual model by identifying the salient factors that may inhibit or facilitate consumers' acceptance of ODMS. The contribution of this study is mainly theoretical that we present a way to integrate multiple theories to address the issue. Moreover, the practical implication of this research is to help online digital music stores to understand adoption inhibitors and facilitators.

Online Digital Music Store Acceptance Model

If we consider the online purchase of digital music as a new technology from the perspective of consumers, then the TAM (Davis, Bagozzi and Warshaw, 1989; Venkatesh, Morris, Davis and Davis, 2003) provides a general framework for studying the acceptance of this new technology. Koufaris (2002) shows online consumer's perceived usefulness belief significantly explains intention to return to the e-tailer. This result is consistent with the studies showing the utilitarian nature of the web consumer. However, Koufaris (2002) reports that online consumers not only consider shopping efficiency as utilitarian theory predicts, but also regard intrinsic shopping enjoyment as an important factor in determining whether they intend to return to the e-tailer.

Hence, we identify the following key factors that influence the intention of consumer's acceptance of ODMS: online consumer's cognitive response – belief of perceived usefulness of utilitarian view, and online consumer's intrinsic shopping enjoyment, an affective factor of emotional response and pleasure from environmental psychology. We augment TAM with Personal Trait theory and Psychology Flow theory in conceptualizing the Online Digital Music Store Acceptance Model.

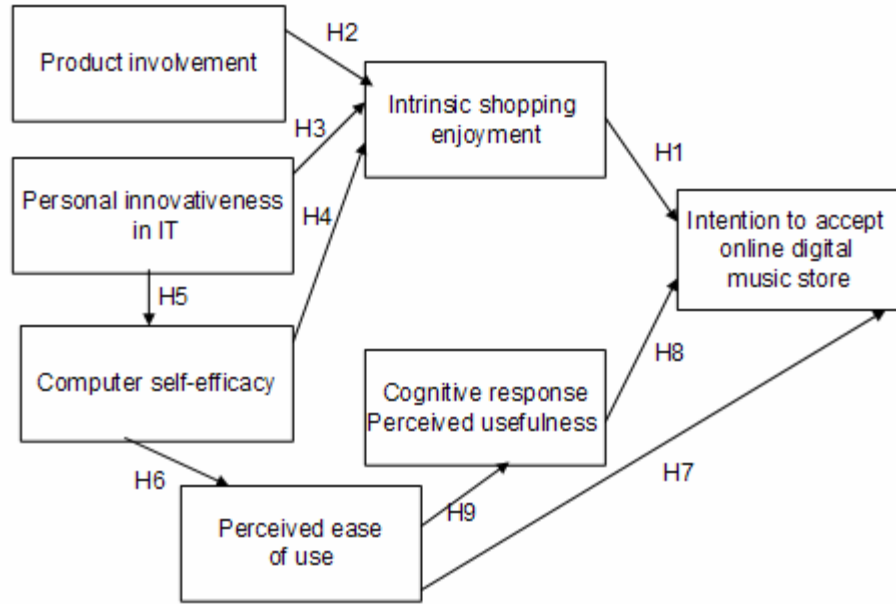


Figure 1. Online Digital Music Store Acceptance Model

Affective Response - Intrinsic Enjoyment Factors

The acceptance of online shopping depends to a large extent on an online consumer’s intrinsic shopping enjoyment (Koufaris, 2002). Shopping enjoyment is shown to affect attitude and intention towards online shopping. Shopping enjoyment is measured by whether an online shopper finds the online visit interesting, enjoyable, exciting and fun (Ghani, Supnick and Rooney, 1991). Online consumers who enjoy the shopping experience of buying and downloading music online may be more inclined to accept the ODMS. Thus, we hypothesize that:

***Hypothesis 1:** The higher the online music consumer’s shopping enjoyment, the higher the probability of consumer acceptance of online digital music store.*

Next we examine the antecedents of intrinsic shopping enjoyment. The salient consumer individual factors that influence shopping enjoyment in this context are: product involvement, computer self-efficacy, and personal innovativeness in IT.

Product involvement

Zaichkowsky (1985) was the first to observe the importance of product involvement. Product involvement generally refers to (1) a person’s motivational state (i.e., arousal, interest, drive) with respect to an object where (2) that motivational state is activated by the relevance or importance of the object in question (Mittal, 1989). Koufaris (2002) reported that product involvement plays a significant role in forming consumers’ attitude and emotion. Product involvement is relatively higher when the consumer views the product as having high entertainment, hobby, or professional values. In the context of ODMS, consumers with higher product involvement are music fans who love music and regard it important. The more love of music and the more importance attributed to music, the more likely one has enjoyable online shopping experience at music store. Thus, we hypothesize that:

***Hypothesis 2:** The higher the online music consumer’s product involvement, the higher the probability of online consumer’s intrinsic shopping enjoyment.*

Personal innovativeness in information technology (PIIT)

Personal innovativeness in Information Technology is defined as the willingness to experiment with new IT options (Thatcher and Perrew, 2002) and is considered a stable situation-specific trait (Koufaris, 2002). The ODMS is an innovative business and technology model. People with high PIIT will voluntarily explore this innovation and enjoy the shopping experience. Online consumers with a higher personal innovativeness would more likely be willing to experiment with new ways of downloading and purchasing digital music from online stores. Thus, we hypothesize that:

Hypothesis 3: *The higher the online music consumer's personal innovativeness in IT, the higher the probability of online consumer's intrinsic shopping enjoyment.*

Computer self-efficacy (CSE)

Computer self-efficacy refers to an individuals' judgment of their capabilities to use computers in diverse situations (Compeau and Higgins, 1995). Koufaris (2002) empirically confirmed the "double identity" of an online consumer as a shopper and a computer user. Consumers who have little skill in using a computer and the Web will not feel at ease in purchasing digital music online since they fear that they will be incapable of completing the transaction successfully by downloading the digital music and transferring it to a permanent storage (i.e., compact disk or portable music player). Therefore, computer self-efficacy and Web-use self efficacy both influence the online consumer's intrinsic shopping enjoyment. Consumers with a higher computer self-efficacy are likely to be more confident in conducting an online search, download, organizing and transferring of a digital music, thus enjoy the shopping experience more. Thus, we hypothesize that:

Hypothesis 4: *The higher the online music consumer's computer self-efficacy, the higher the probability of online consumer's intrinsic shopping enjoyment.*

Studies by Thatcher and Perrewe (2002) and Agarwal, Sambamurthy, and Stair (2000) show that personal innovativeness in IT positively and significantly influences computer self-efficacy. Personal innovativeness in IT is a stable and situation-specific trait which is an enduring disposition, while computer self-efficacy is a dynamic situation-specific individual difference. In the context of the ODMS, people with a higher stable trait of personal innovativeness in IT will show a greater willingness and confidence in their ability to use the ODMS. Thus, we hypothesize that:

Hypothesis 5: *The higher the online music consumer's personal innovation in IT, the higher the probability of online consumer's computer self-efficacy.*

Agarwal et al. (2000) demonstrate computer self-efficacy affects the belief of perceived ease of use in the context of software use. Therefore, if people have higher task-specific computer self-efficacy, they will feel that the IT task is more effort free. Thus, we hypothesize that:

Hypothesis 6: *The higher the online music consumer's computer self-efficacy, the higher the probability of online consumer's perceived ease of use.*

Cognitive Response - Utilitarian Factors

The technology acceptance model (Davis, 1989; Venkatesh et al., 2003) is widely used in IT adoption and diffusion. The theory suggests that perceived usefulness and perceived ease of use are two key belief factors influencing adoption intentions.

Perceived ease of use (PEOU)

Davis (1989) defines perceived ease of use as "the degree to which a person believes that using a particular system would be free of effort." Koufaris (2002) shows no significant relationship between perceived ease of use and intention to return to e-tailer. Gefen and Straub (2000) study TAM and E-commerce adoption, and they find PEOU is non-significant when the website is used for a purchased task. Gefen and Straub (2000) find that PEOU is significant when a web site is used for an inquiry task.

In a traditional B2C e-commerce study, the physically delivered tangible product is the ends and the web site and computer is not part of the product. But for an ODMS, computer and web site are very important. They are an integral part of the product experience. Online delivery of digital music could involve a complex process that may appear as a daunting task to some consumers. Therefore, consumers will be more willing to accept online purchase from digital music store that make the online purchase process easy. Thus, we hypothesize that:

Hypothesis 7: *The higher the online music consumer's perceptions of a Web site's ease of use for online delivery, the higher the probability of consumer acceptance of online digital music store.*

Perceived usefulness (PU)

Davis (1989) defines perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance," and is similar to the concept of outcome expectancy, which is external utility of IT. Various applications of TAM in e-commerce have shown that PU plays an important role in acceptance (Gefen and Straub,

2000; Koufaris, 2002). In this context, the online music store may offer financial incentives for online purchase, such as special price discounts, a larger variety of music choice, and more convenience. Furthermore, consumers' beliefs regarding the concerns over time delays and lost packages may lead them to view online purchase as a more desirable option. On the other hand, concerns over safety and piracy of communication channels may inhibit consumers from accepting online purchase. Thus, we hypothesize that:

Hypothesis 8: *The higher the online music consumer's perceptions of usefulness of online delivery from a website, the higher the probability of consumer acceptance of online digital music store.*

Davis (1989) study also shows that the PEOU influences behavioral intentions both directly and through PU. In another words, PU mediates part of PEOU's effect on behavior intention. Thus, we hypothesize that:

Hypothesis 9: *The higher the online music consumer's perceived ease of use, the higher the probability of online consumer's perceived usefulness.*

Methodology

The instruments are being developed based on published literature and modified according to the context of online digital music store. We will perform pre-test and pilot test of the instruments before it is administered to a large sample.

We plan to administrate a controlled lab experiment to test our conceptual model. We will recruit the experiment subjects from undergraduate students taking an information system class in a large Midwestern metropolitan university. The simulated lab experiment will use eight major online digital music stores (Apple's iTunes, Napster, Musicmatch, Wal-Mart's music downloads, Real's Rhapsody, Buy.com's BuyMusic, MSN music and Musicnow). The student subjects will be randomly assigned to one of these stores and conduct a simulated music download and purchase task. Then they will answer the questionnaire containing the instruments and basic demographic information.

Using student subjects may impose a limitation on the generalizability of this research to "real-world" context. However, we believe because the phenomenon of interest is consumer acceptance of online digital music store, where college students fit well with the targeted market segment.

Based on the nature of the proposed model, the partial least squares (PLS), a structural equation modeling method, is an appropriate data analysis tool. We will ensure construct reliability, validity by conducting confirmatory factor analysis. After the measurement model is satisfied, we will conduct a path analysis to test the structural model (Chin, 1998).

Conclusion

This paper makes the theoretical contribution to the emerging field of IT aspects of entertainment. It provides an approach to conceptualize the real business problem from a multiple theoretical perspective. We identify the salient antecedents for the acceptance of online digital music store and propose hypotheses. In the next phase of the research project, we will test the proposed model with a simulated lab experiment. The limitation of this study is that we do not consider a number of related issues, such as the legal, ethical, culture, social and piracy, in the context of online digital music store. They provide a fertile ground for extensions to this study.

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