Online shopping drivers and barriers for older adults: Age and gender differences

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ABSTRACT

The use of the Internet by older adults is growing at a substantial rate. They are becoming an increasingly important potential market for electronic commerce. However, previous researchers and practitioners have focused mainly on the youth market and paid less attention to issues related to the online behaviors of older consumers. To bridge the gap, the purpose of this study is to increase a better understanding of the drivers and barriers affecting older consumers' intention to shop online. To this end, this study is developed by integrating the Unified Theory of Acceptance and Use of Technology (UTAUT) and innovation resistance theory. By comparing younger consumers with their older counterparts, in terms of gender the findings indicate that the major factors driving older adults toward online shopping are performance expectation and social influence which is the same with younger. On the other hand, the major barriers include value, risk, and tradition which is different from younger. Consequently, it is notable that older adults show no gender differences in regards to the drivers and barriers.

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1. Introduction

The digital divide report conducted by the Taiwanese government's Research, Development and Evaluation Commission indicated that the number of older adults online has grown dramatically since 2010 and the growth rate is strongest among those between the ages of 51 and 60 (Research, Development and Evaluation Commission, Executive Yuan, Taiwan, 2012). Not surprisingly, other countries besides Taiwan have reported a similar situation (Zickuhr & Coordinator, 2010). The "Pew Internet & American Life Project 2010" report published by the Pew Research Center (Zickuhr & Coordinator, 2010), noted that although the young are more active online than their older counterparts, the online skills of older adults are becoming more and more sophisticated like those of the young. In other words, older adults tend to be increasingly active online in the future. Online activities are also showing more similarity between the different age groups. A comparison of data published in 2008 and 2010 indicated that the age group showing the highest increase in the use of online social communities (from 4% to 16%) was adults over age 74 (Zickuhr & Coordinator, 2010).

These aforementioned reports show that as society ages, older adults are becoming an important potential market for future online shopping services. This phenomenon apparently requires more attention to be paid by academics and practitioners. In fact, an increasing number of today's industries are recognizing the importance of older consumers as a potential market and thus, designing/developing products and services specifically for older adults, including specialized mobile phones, store departments, transportation, and nutrition. In the area of Electronic Commerce (EC), however, fewer online shopping websites have been designed with older adults in mind and have great potential for future research (Wagner, Hassanein, & Head, 2010). Therefore, it is reasonable to say that most of the EC industry has not yet realized the opportunities and the importance of this growing potential market and requirements (Becker, 2004a, 2004b).

n academy, most extant academic literature assumes that young people are the major market for Information and Communications Technology (ICT) use (Selwyn, 2004). These studies are mainly focused on young people and take their research samples from the student population. In other words, the results of current studies may be insufficient as references for academics and practitioners to conduct future study in this subject area (Wagner et al., 2010). Additionally, Iglesias-Pradas et al. (2013) indicated that understanding the barriers and drivers for Business-to-Consumer (B2C) users is critical for the development of e-commerce. In practice, most online shopping operations also consider the young

to be their target market and ignore the potential of the older adult market while focusing on the high pressure competition for younger online customers. Finally, Chen and Chan (2011) indicated that although Technology Acceptance Model (TAM) is useful to understand technology acceptance by older adults but it is insufficient, additional variables are required to understand this issue better. Therefore, innovation resistance related variables are employed in present study. Based on the foregoing reasons, the purpose of this study is to increase a better understanding of the drivers and barriers affecting older consumers' intention to shop online in order to fill up the research gap.

2. Literature review

2.1. Factors driving older adults to use e-commerce

Studies about the online behaviors of older adults are rare. Related studies such as Reisenwitz et al. (2007) found that the elderly in America (over age 65) who have a higher tendency toward nostalgia will less frequently use the Internet or shop online, and they get less enjoyment out of it. The study also indicated that personal innovativeness will affect online behaviors such as use frequency, online shopping adoption, and use for pleasure. Older adults' experiences on the Internet will affect their evaluation of the risks involved with using the Internet. Kwon and Noh (2010) studied online clothes-shopping behavior among older American consumers (those born before 1964) and found that consumers' perceptions of product benefits, price discount, and financial risk will affect their intention to shop for clothing online. They also found that the older consumers' perceptions of risk and benefits will be affected by their previous online shopping experiences. However, it was noted that age and online experience did not strongly affect online shopping intentions.

Integrating the TAM and the concept of trust, McCloskey (2006) studied older Americans' attitudes toward participating in e-commerce activities and found that website usefulness and user trust (regarding the website) positively affects user behavior. In addition, ease of use also affects users' perceptions of usefulness. Finally, trust affects users' perceptions of usefulness and ease of use. This study found that the TAM model is still useful for understanding the online shopping usage, but the relationships between the variables are different for older adults. Ryu, Kim, and Lee (2009) also based their study on the TAM and integrated variables pertinent to older adults in order to understand the critical factors affecting the willingness of adults over 50 to participate in the Video User-Created Content (Video UCC). They found that perceived benefits, ease of participation, and enjoyment directly affect participants' behaviors. Variables specific to older adults which also act as critical factors include health condition self-assessments, life course events, available resources, previous related experiences, and computer anxiety.

Pfeil, Arjan, and Zaphiris (2009) compared online social community behaviors between younger (13–19 years old) and older (over 60) users and discovered a social capital divide between these two groups. Compared with the older group, younger users have more friends online and most of whom are peers (within two years of the user's age, plus or minus). On the other hand, though older adults have fewer online friends, the age distribution of those friends is wider. They also indicated that younger users like to use a wider variety of media, express themselves more, and use more negative words than their older counterparts (Pfeil et al., 2009). Above literatures are summarized in Table 1. From Table 1, we can find that although many studies have engaged in understanding computer and the Internet use by older adults (Wagner et al., 2010), but fewer studies related to EC activities are conducted.

Table 1
Factors driving older adults to use E-commerce.

Author(s)/ year	Online activities	Driver
McCloskey (2006)	Participating in e-commerce activities	Website usefulness, user trust, ease of use
Reisenwitz et al. (2007)	Use the Internet and shop online	Higher tendency toward nostalgia, personal innovativeness, experiences on the Internet
Ryu et al. (2009)	Participate in the Video User-Created Content (Video UCC)	Perceived benefits, ease of participation, and enjoyment
Pfeil et al. (2009)	Online social community	Social capital divide
Kwon and Noh (2010)	Online clothes-shopping behavior	Consumers' perceptions of product benefits, price discount, and financial risk

2.2. Barriers preventing older adults from using e-commerce

Previous studies regarding the behavior and intentions of older adults' regarding electronic commerce and online shopping are from a "drivers" perspective. Research from the "barriers" perspective is rare (Kwon & Noh, 2010; Laukkanen, Sinkkonen, & Laukkanen, 2008; Laukkanen et al., 2007; Molesworth & Suortti, 2002). Related studies are summarized below.

Based on innovation resistance theory, Molesworth and Suortti (2002) found the following barriers such as usability, risk, tradition and image preventing users between the ages of 20 and 57 from buying high-involvement and high-cost products online. Based on the same theory, Laukkanen et al. (2007) compared the perceptions of different user age groups regarding mobile banking. They found that users who are younger than 55 years old regard usage and value to be the barriers against mobile banking. On the other hand, users older than 55 years of age deem usage, value, risk, tradition, and image as barriers. In 2008, Laukkanen et al. (2008) studied subjects aged 18–65 and divided "non-adopters" of an innovation (Internet banking) into three groups and they are "postponers," opponents, and rejecters. They found that postponers have no significant barriers causing them to resist innovations. Opponents on the other hand find risk, tradition, and image to be barriers to the adoption of Internet banking. Finally, rejecters have higher barriers than do the two groups discussed above, with risk and tradition being the most critical. Finally, Kwon and Noh (2010) also indicated that financial risk has a significant effect onto older consumers' perceptions regarding online shopping.

3. Theoretical background

3.1. Unified Theory of Acceptance and Use of Technology (UTAUT)

The understanding of user intentions and behaviors regarding the acceptance and usage of new technology has been a long-standing, critical research topic in the field of information management (Legris, Ingham, & Collerette, 2003). Commonly used theoretical models include the TAM, the Theory of Reasoned Action (TRA), the Theory of Planned Behavior (TPB), Diffusion of Innovation Theory, and DeLone and McLean's IS success model. In 2003, Venkatesh et al. (2003) summarized previous literature pertaining to IT acceptance and user behavior and proposed the Unified Theory of Acceptance and Use of Technology (UTAUT) (Fig. 1). This theory employed ten critical variables to explain user behavior regarding information technology (IT). A longitudinal study was employed to test and verify this model. The explanatory power of their study was 70%. Among the variables were four antecedent variables including performance expectation, effort expectation,