

## Chapter 5.7

# The Importance of Ease of Use, Usefulness, and Trust to Online Consumers: An Examination of the Technology Acceptance Model with Older Consumers

**Donna Weaver McCloskey**  
*Widener University, USA*

### ABSTRACT

This research examines electronic commerce participation and attitudes by older Americans. Questionnaires were distributed at a large retirement community and several senior centers located in Pennsylvania. The sample of 110 respondents ranged in age from 52 to 87. Fifty-nine percent reported purchasing an item online in the last 6 months. The Technology Acceptance Model (TAM) was used and modified to examine the impact attitudes concerning ease of use, usefulness and trust had on electronic commerce usage. Usefulness and trust were found to have a positive, direct affect on usage. Ease of use had significant impacts on usefulness and trust had a significant impact on both ease of use and usefulness. The article concludes with a discussion of these results, study limitations, and directions for future research.

### INTRODUCTION

Older adults comprise a large and growing segment of the population. According to the U.S. Census Bureau (2002), the global population aged 65 and over was estimated to be 420 million people as of midyear 2000, an increase of 9.5 million since midyear 1999. Growth in this segment of the population is expected to continue rapidly. In 2000 12.6% of the North American population was age 65 or above. By 2015 it is estimated that 14.9% of the North American population will be in this age bracket. By 2030, this segment of the population will nearly double, with over 20% of the entire population over the age of 65 (U.S. Census Bureau, 2002). The graying of America will have a dramatic impact on the workforce, retirement age, healthcare, and elderly support services. This segment of the population will also be a lucrative market with low debt, higher disposable incomes, and additional leisure time due to retirement and reduced family commit-

ments. The increased influence of seniors will require marketers to pay more attention to this segment of the population (Burnett, 1991; Moschis & Mathur, 1993; Schiffman & Sherman, 1991). What is not clear is whether older adults will be active participants in the online community.

Unlike prior generations, older Americans are extremely active and more likely to learn new skills. Perhaps contrary to the common perception, there has been a dramatic increase in the use of technology by seniors. A national survey done by the American Association of Retired People (AARP) found that 81% of the participating computer users used the Internet. The participants spent an average of five hours per week using e-mail and an additional nine hours using the Internet. Fifty one percent used the Internet to comparison shop and 39% had made purchases online (AARP, 2000). From January 2002 to 2003, AARP had a 70% increase in new and renewing memberships processed online (Kelleher, 2003). According to Nielson//NetRatings (2003), older Americans are the fastest growing segment using high-speed Internet access. The number of American aged 55-64 accessing the Internet via cable, DSL, ISDN, or other high-speed connections surged 78% from 2001 to 2002 (Nielson//NetRatings, 2003).

Researchers have explored some aspects of technology use by the elderly, including the psychological benefits of using the computer for communication and learning (Billipp, 2001; Ogozalek, 1991) and the effectiveness of computer training (Groves, 1990; Marquie, Jourdan-Boddaert, & Huet, 2002; Temple & Gavillet, 1990). There has also been a considerable amount written with regard to the elderly using technology to enable continued independent living (Finn, 1997). For example, robotics can be used to assist in routine household chores such as opening jars and artificial intelligence applications can include health monitoring (Raymond, 2002; Shellenbarger, 2002), and memory aids (Eisenberg, 2001). Research on the antecedents to online shopping participation

by older adults is limited. Given the growth of this demographic and the attention marketers are placing on them as consumers, exploration of the motivators and barriers to electronic commerce participation by older adults is a critical area of examination.

## MODEL

The acceptance of new technologies has long been an area of inquiry in the MIS literature. The acceptance of personal computer applications (Doll, Hendrickson, & Deng, 1998; Henry & Martinko, 1997; Igbaria, Guimaraes, & Davis, 1995), telemedicine (Hu, Chau, Sheng, & Tam, 1999), e-mail (Karahanna & Straub, 1999), broker workstations (Lucas & Spitler, 1999) and the WWW (Lederer, Maupin, Senca, & Zhuang, 2000; Lin & Lu, 2000; Moon & Kim, 2001) are a few examples of technologies that have been investigated. The model most widely used is the Technology Acceptance Model (TAM), developed by Davis (1989). TAM was specifically developed to measure the determinants of computer usage. The model states that perceived usefulness and perceived ease of use impact attitude towards use, which impacts behavioral intentions, which in turn impacts actual usage. As other researchers have done (Adams, Nelson, & Todd, 1992; Davis, 1989; Gefen, Karahanna, & Straub, 2003) this research drops the intermediate variable, attitudes towards use. This more parsimonious model hypothesizes that ease of use and usefulness will have a direct affect on usage. To adequately address electronic commerce participation by older consumers, three modifications were made to the traditional TAM. Electronic commerce participation is defined in four ways and age and trust have been added as both direct and indirect variables. The proposed model is depicted in Figure 1. The numbers in the figure correspond to the numbered hypotheses, which are detailed in the following section.

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