

Exploring Impacts on Older Adults' E-Services Usage

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ABSTRACT

By 2050, over one fifth of the U.S. population will be age 65 or older [17], suggesting increased pressure on our societies to ensure that the needs of older adults are met. Not only are our societies aging, but technology has become pervasive in many of the processes upon which older individuals depend.

An example of the impact that technology has had on older adults is the rise of governmental e-services. E-services have been defined as "interactive software-based information systems" that are accessed via the internet or through other forms of technology [7]. Examples of e-services that impact older individuals include the Help America Vote Act, which requires all states in the US to implement electronic voting by 2012 [8] and the digitalization of Medicare benefits [18]. However, research has demonstrated that older adults use Information and Communication Technologies (ICTs) less than younger adults suggesting that many older adults are not benefiting from these digitalized e-services [5, 11]. In the case of e-voting, are actually discouraged from voting when technology is used [14].

Several studies have examined e-services usage by the general population [6, 7], while other studies have examined the factors that influence older adult usage of ICTs [5, 11, 12]. Each of these studies implicates several different factors thought to affect usage, and it is unclear if these factors are related, or if some factors are antecedents of others. Additionally, in the e-services literature, there has been a concentration on exploring individual's intent to use e-services [6, 7], rather than their actual use. It is possible that for older adults, there are impacts that prevent those who intend to use a technology from doing so. This abstract proposes a study to understand the full array of factors affecting older adults usage of e-services, including how these factors are related.

1.1 Previous Research on Older Adults, ICTs, and E-Services

Research relevant to the study of factors influencing e-service usage by older adults includes previous research on older adults and ICT usage and more general research focusing on adults of all ages that examines e-services usage.

1.1.1 Previous Research: Impacts on Older Adults' ICT Usage

Studies on the impacts of older adults ICT usage have mainly focused on computer and the internet use. Confirmed impacts on older adults computer and internet usage have included computer anxiety, types of intelligence (crystallized and fluid) [3], attitudes towards technology [5, 11], and self efficacy regarding technology [12]. Other factors impacting older adult ICT usage have included external reasons (because they received the technology as a gift),

affective reasons (because the computer fulfilled needs for communication or social interaction), and activity reasons (to fulfill their desired for hobbies or activities) [9]. The relevance of the specific ICT to the older adult has also been demonstrated to impact usage [15, 16].

1.2 Previous Research: Impacts on E-Service's Usage

Previous research in the information systems literature has suggested several factors that impact a user's intention to use e-services. Based upon the theory of TAM, the Technology Acceptance Model, these studies have demonstrated the pervasiveness of the perceived ease of use and perceived usefulness on user's intentions to use e-services. Intention to use a technology is thought to directly relate to an individual's actual use [1, 4]. Specific studies have sought to better understand the antecedents of perceived ease of use and usefulness for e-services.

One potential antecedent to ease of use for e-services that has been examined is perceived risk. Perceived risk includes feelings of "uncertainty about possible negative consequences of using a product or service" [7]. The incorporation of perceived risk into the TAM model indicated that higher levels of perceived risk decreased individual's perceived ease of use of the e-service, and therefore decreased their intention to use e-services [6, 7]. Others have examined perceptions of trust in the e-service and sponsoring organization [2]. Other research has suggested that internet self-efficacy (an individual's beliefs about how capable a person is of completing a task using the internet) and e-service self-efficacy (an individual's belief about their competency of completing an e-commerce transaction) impact individuals intent to use e-services [10].

Most closely related to the study of older adults and e-services was the study of the antecedents of perceived usefulness and ease of use of an online e-government application (Central Provident Fund), allowing older individuals to withdraw their social security saving plan. Perceived usefulness was affected by older adults' self-actualization (motivation to stay up to date on technological skills) and resource saving (saving of time and money). Computer anxiety and computer support available from others anteceded the perceived ease of use of the e-service [13].

The studies previously discussed propose many factors thought to impact older adult ICT usage and e-service usage by the general public. These studies demonstrate a diversity of possible impacts on older adult's usage of e-services including: the ease of use and relevance of the technology, user self-efficacy and technological anxiety, perceived risk of the services, and user perceptions of resource saving. However, it is not clear from the literature how these factors are interrelated, or specific factors affecting older

adult usage. This abstract describes a mixed methods methodology to further explore the factors that affect older adults' e-services usage, and the relationships between these factors. Because of the aging of our societies and the increased development of e-services by government agencies, it will be important to understand why some older adults choose to use these services and others do not. Understanding these factors will be important to ensure equal access for all members of our societies.

This poster proposes a multi-phase developmental mixed methods design in order to understand why older adults use e-services less than younger adults. Using previous literature and a set of qualitative methods (semi-structured interviews and focus groups) the researcher will seek to understand the various factors that impact older adult e-service usage. Once these factors have been discovered, the researcher plans to use a survey methodology to understand which of these factors have the greatest impact on e-service usage and the relationship of these factors to one another for the general population of older adults.

Categories and Subject Descriptors

K.4.2 [Computers and Society]: Social Issues – *employment*

General Terms

Human Factors

Keywords

Older adults, elderly, seniors, ICTs, e-services, governmental e-services.

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