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## Online Privacy and Security Concerns of Senior Citizens: An Empirical Study

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### Abstract

Consumers from all strata of society are increasingly participating in online interactions as a means for communicating and conducting transactions. Internet privacy and security is emerging as a major concern for consumers with the rise in identity thefts, money scams, e-mail phishing scams and key-logging. Phishing refers to a relatively new technique where criminals send emails pretending to be from a well-known source (for example, a bank) and ask the recipient to provide their personal information for verification purposes. In 2006 alone, there was 150% increase in computer intrusion related suspicious activities from previous year [2]. Spam accounts for 60-85% of all email [1]. In 2006, online fraud cost \$200 million to Americans, and cybercrime cost businesses above \$67 billion, not counting the indirect costs such as higher retail prices and banking fees and lowered tax revenues [1]. This study aims to conduct a comprehensive study of senior citizen consumers to understand their concerns, intentions, and behavior towards information privacy and security in the context of online interactions.

Internet is being used by population for a variety of daily activities. In 2006, eighty percent (80%) of American internet users, about 113 million adults, used online health or medical information<sup>1</sup>. Among older US citizens, in 2007, 15% of those in age 65 and older group, and 40% of those in ages of 50 and 64 had home broadband high-speed connections<sup>2</sup>. Another recent report found that about 15% of Americans in their mid-60s do not have a cell phone or internet access<sup>3</sup>. Older adults also face a number of hardships online:

- Lack of bigger fonts
- Difficulty with input devices requiring fine motor control such as mouse control, small keyboards
- Sites with large number of navigation links can be taxing on spatial memory while browsing and searching

As Internet use among senior citizens continues to increase, so does their vulnerability to Internet-related fraud. Older people in age 64 or older are generally less careful in their offline security such as regularly checking their financial statements. As a newly emerging issue, statistics and research on the topic are limited. What we do know is that seniors fear fraud more than health crises and terrorism<sup>4</sup> and that the number of seniors 65+ who are online continues to increase and is now about 34% of the senior population.<sup>5</sup> A recent Internet Crime Complaint Center (IC3) report<sup>6</sup> on Internet Crimes stated that:

- California ranked first among all states with the highest number of individuals reporting Internet-related crimes.
- In California, nearly 10% of crimes were reported by individuals in the age group of 60+.
- Electronic mail and web pages were the two primary mechanisms of fraudulent contacts.
- The most commonly reported Internet-related scam among senior consumers (60+) involved phishing (21%).

Since online information privacy and security concerns are inextricably linked, well-grounded research to understand consumers' privacy and security risk beliefs is an important precursor to developing appropriate policies to help consumers during online interactions. Information security and privacy are often used synonymously, but are two distinct concepts. Privacy refers to the right of a person to control his or her own personal information [5] whereas security refers to the ability of the owner of the information to keep it secure by protecting it from unauthorized access. Thus, "information is secure if the owner of information can control that information. Information is private if the subject of information can control that information." [3, p. 150].

<sup>1</sup> [http://www.pewinternet.org/pdfs/PIP\\_Online\\_Health\\_2006.pdf](http://www.pewinternet.org/pdfs/PIP_Online_Health_2006.pdf)

<sup>2</sup> [http://www.pewinternet.org/press\\_release.asp?r=141](http://www.pewinternet.org/press_release.asp?r=141)

<sup>3</sup> [http://www.pewinternet.org/pdfs/PIP\\_ICT\\_Typology.pdf](http://www.pewinternet.org/pdfs/PIP_ICT_Typology.pdf)

<sup>4</sup> [http://aging.senate.gov/public/index.cfm?FuseAction=DataPipes.ViewFile&FileStore\\_id=7b40a45d-68f3-4c8f-b406-5d94daedb5bb](http://aging.senate.gov/public/index.cfm?FuseAction=DataPipes.ViewFile&FileStore_id=7b40a45d-68f3-4c8f-b406-5d94daedb5bb).

<sup>5</sup> [http://www.pewinternet.org/pdfs/PIP\\_Wired\\_Senior\\_2006\\_Memo.pdf](http://www.pewinternet.org/pdfs/PIP_Wired_Senior_2006_Memo.pdf)

<sup>6</sup> [http://www.ic3.gov/media/annualreport/2005\\_IC3Report.pdf](http://www.ic3.gov/media/annualreport/2005_IC3Report.pdf)

## Research Methodology

Based on extensive literature review, we note that there is a crucial gap in the available body of research in this area. This study is based on the social sciences framework utilizing the Theory of Reasoned Action [4] and provides the foundation for this study to examine our research questions in the context of senior consumers' online privacy and security concerns.

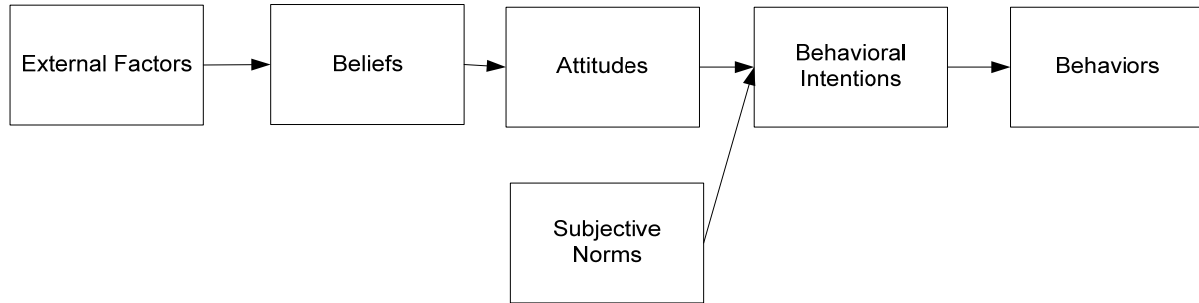


Figure 1: Theory of Reasoned Action

This widely accepted theory identifies external factors affecting belief formation. Beliefs influence an individual's overall attitudes, which then guide their intention to do something in a specific context. Another factor affecting intention is subjective norm. Subjective norm is the influence of social pressure that as perceived by the individual. An individual will intend to perform a certain behavior when he/she perceives that someone important to them thinks he/she should perform or not perform a certain behavior. For example, a consumer might be favorable to sharing their personal information online; however, their intention might be affected if someone important to them thinks that he/she should not share their personal information. Finally, intentions affect actual behaviors.

Survey based on research model in Figure 1 collects data on senior citizens' online risk beliefs and intentions towards sharing information online and their actual online behavior. Results of this study would yield the following:

- Understanding of how senior citizens are utilizing the Internet
- Robust understanding of online vulnerabilities of the seniors
- Identification of factors that might influence a change in their online behavior to better protect themselves against Internet fraud.

This study serves as the basis for developing:

- Collaboration with community agencies on educating senior consumers to be more aware and protective of their information while conducting online transactions, and
- Strategies for businesses to formulate policies that will enhance senior consumer's trust.

**Keywords:** Online Privacy, Online Security, Theory of Reasoned Action, Senior Citizens

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