Factors Affecting Acceptance, Adoption and Use of Online SNS by Seniors

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Abstract

The use of Online Social Networks is higher among the youth as compared to the use of the same by seniors in Kenya. Online social networking has the potential to enrich the lives of seniors by providing them with an easy way to stay in touch with friends and family. Software Engineers and designers are anxious to capture the needs of this demographic through this new channel. Yet very little is known about what influences seniors to use online social networks in relation to development and design of this online social networks.This study uses results from a pilot study conducted in some Universities in Kenya as well as theory and literature to identify and examine what key factors influence seniors to accept and use online social networks then map the factors to enhance an already existing model Unified Theory of Acceptance and Use of Technology (UTAUT) used to explain Acceptance and Use of technology. The enhanced model that emerged describes the key factors that influence acceptance and use. Specifically the model indicates that perceived privacy, security and trust, proclivity to give and get information, content of Online Social Networking Sites(SNS) are some of the key factors that influence seniors to use online social networks. The enhanced model is a first step of an ongoing research project that aims to provide software engineers and designers with the requirements of seniors in Online Social Networks.

Keywords: Online Social Networks, Elderly, UTAUT, SNS, Online Social Networking Use and Acceptance

1. INTRODUCTION

The Web and telecommunications have brought great changes to people's daily lives, learning and work, especially that of seniors. Information Technology (IT) targeted at seniors is incorporated into assistive devices, home security, access to health care, banking, communication and many other areas. It has the potential to greatly enhance the lives of seniors who are computer savvy.

Online social networking has the potential to enrich the lives of seniors by providing them with an easy way to stay in touch with friends and family. However, as many seniors have limited Web experience and find the Internet daunting, they do not stand to benefit fully from access to social networks. There is an increasing gap between the media used by young people and the media used by older people and seniors (Lenhart, 2009; Lenhart, Purcell, Smith, & Zickuhr, 2010; Madden, 2010).

With regards to specific channels of SNS(Social Networking Sites) and email, younger people are rapidly adopting the former while decreasing their use of the latter, even as seniors begin to use email more regularly (Lenhart, 2009; Madden, 2010). Though seniors have begun using SNS more frequently, their numbers, especially for seniors aged 40 and older, are far fewer than the 86% of people aged 18-29 who use SNS (Madden, 2010). The wide ranging consequences for these differences may include challenges for intergenerational communication. The relationship between young and old offers many possibilities for information sharing and learning (Harwood & Lin, 2000). Without mediated communication channels that both groups feel comfortable using, valuable connections may be lost (Harwood, 2000). Understanding the obstacles that stand in the way of older generations adopting new communication technologies offers a way to bridge the gap between young and old and ensure communication can occur between these two groups.

There is a need to understand what can influence seniors to accept and use online social networks especially from a developer's point of view. This research will carry out a pilot study among seniors working in Universities as well as theory and literature to build a conceptual model to examine what key factors predict online social networking patterns among seniors. Specifically the model will investigate the perceptions of privacy, security along with Web experience, design and usability issues and proclivity to give and get information as some of the key factors that influence online social networking patterns among seniors.

Finally using insights gained from the pilot study and previous work in this area, a questionnaire to empirically validate the enhanced Unified Theory of Acceptance and Use of Technology model is built. The model and the proposed questionnaire are a first step to the research project that also aims to provide software engineers

and designers with the actual requirements of seniors in Online Social Networking sites. This will help in boosting the numbers of seniors using Social Networking Sites since there needs will have been incorporated during design.

2. SENIORS ACCEPTANCE AND USE OF ONLINE SOCIAL NETWORKS

The number of seniors with Internet access has risen sharply, due to a number of factors, including the more affordable pricing of computers and easier high-speed access through cable and Internet services. The Media research giant, Nielsen, released a landmark report in December, 2009, showing that over the past five years the number of seniors using the Internet had increased by more than 55 percent, from 11.3 million active users in November 2004 to 17.5 million in November 2009. It is easy to believe that that number has grown even greater over the past year. Further, Nielsen has found that seniors are not just using the Internet, but are spending more time on it, over 58 hours per month in late 2009. Seniors are the fastest growing demographic in Internet use, as evidenced by the number of web designers and advertisers catering to this increasingly important segment. One example is how designers have developed methods to accommodate visual impairments that are expected to become more prolific as baby boomer and senior users age in coming years.

The use of social networking by seniors is also dramatically rising. According to the Pew Research Center's Internet & American Life Project (August, 2010) social networking among seniors nearly doubled from 22% in April 2009 to 42% in May 2010. In that time period, social networking use among Internet users age 5064 grew by a huge 88%. And those 65 and older grew a whopping 100% from 13% to 26%. It is interesting to note that the growth for the same period for the 18-29 population grew by only 13%. Young adults continue to be the heaviest users of social media, but their growth pales in comparison with recent gains made by older users", according to Mary Madden, Senior Research Specialist for the Pew Research Center's Internet & American Life Project. While e-mail continues to be the primary way seniors maintain contact with family and friends, Madden notes that "Many older users now rely on social network platforms to help manage their daily communications."

Nielsen also found a surprising increase in the number of older visitors to social networking and blog sites, going up by 53% from 2007 to 2009. In their study 8.2% of social network and blog traffic was attributed to seniors, just a scant 0.1 percentage points below the number of teenagers who visit these sites.

The Pew Research Center also learned that 20% of adults 50-64 report they use social networking sites on a typical day, doubled from one year before. Further, they found that 10% of the 64 and older crowd are using Twitter. Madden believes social networking and other social media tools can help older adults stay connected to friends, family and co-workers at a time in their lives when they are likely to be experiencing major changes and transitions - whether that's entering retirement, starting a second career or managing health issues.
Also interesting to note, comscore.com uses a digital measurement to determine the number of people engaging in social networking. The 2010 measurement was 27.4 million people over age 55 using social networking sites!

As might be expected, the faster the connection, the more likely anyone, including seniors, will engage with the Internet. As high-speed broadband connections become more commonplace there will be a greater tendency to use the Internet, especially those activities that are more greatly benefited by a fast connection, such as photo sharing, watching videos, etc.

In Kenya the number of Internet users per 100 people has risen over the years while that of fixed broadband subscribers has remained constant. A report by David j. McKenzie on Youth, ICTS and Development reveals that the new millennium saw extremely rapid increases in internet, mobile phone, and computer use in developing countries. Between 2000 and 2003, the developing world gained more than one-quarter of a billion internet users and almost half a billion mobile phones. According to Consumer Insight, 7-10 year olds used a computer mainly to play computer games (85%), 11-14 year olds mainly to play computer games (77%), 15-17 year olds to play games (42%) and to word process (38%) while 18-19 year olds use computers mainly to browse the Internet (51%).

According to TNS Research International and Kenya ICT Board, among 25 to 44 year olds, the most important need served by the internet is accessing reliable information and knowledge (57%) followed by communicating with others (39%) through E-mail, social networking, chatting, VOIP etc. Entertainment/media, leisure and commerce such as buying products and services (2%) as well as on-line banking are still underdeveloped in Kenya and are opportunity areas for growth and social networking is the most widely used for social activities on the internet. 37% of the respondents say that social networks enable people to keep in contact with people they would not normally contact, 25% say it was a cheaper way to keep in touch with many people while 22% said it was more interactive than using personal mail. 50% of the respondents have more than 100 contacts on their favorite site. 25% access social network sites more than 5 times a day, 19% 2-4 times a day and

33% once a day. Key drivers in social networking include keeping in contact, cost effectiveness, and the level of interaction allowed. Dating and games are not as widely used as other forms of interaction.

TNS Research International and Kenya ICT Board found out that, the internet in Kenya was mostly used for knowledge seeking and socializing. 100% of the internet users in Kenya send or receive E-mail. 95% use the search engine, 93% look up the news, 90% visited a specific website to get information and another 90% used the internet to read newspapers. 89% participated in messenger chats, 87% read something on Wikipedia, 85% visited a social networking site, 85% search for information on diseases and 81% looked for jobs. However globally, the internet is mostly used for transactions, marketing and media related activities. The most popular social network is facebook accessed by 96% of the respondents followed by Hi5 (38%), twitter (37%), LinkedIn (30%), You Tube (30%), Tagged (23%), Yahoo 360 (20%), My Space (20%) and others (10%).

3. RESEARCH METHODOLOGY

The research method for this paper involved the use of a pilot study that was conducted using a series of interviews and distributing questionnaires to members of staff in some of the Universities in Kenya.

The results from the pilot study were combined with literature and theory related to online social networking to identify the factors relating to design of Online Social Networks for the elderly.

After carrying out content analysis of the SNS that will be frequently used in my case study an analysis on the type of information shared in the SNS and design interaction techniques will be carried out. The results of the social network analysis and the design interaction techniques will be used to propose a set of factors for the development of the model to help provide a guideline to integrate seniors to SNSs. A model that will be used as a guide to developers on what to consider when developing social networks for seniors will then be built.

3.1 Sample

The selection of the sample was based on purposive sampling technique. The sample constituted seniors aged 40 years and above. A total of 30 respondents filled questionnaires and 5 interviews were conducted. In an attempt to capture representative detail, respondents were randomly picked from an institute of higher learning.
Questionnaires and interviews were used for data collection.

- a) Total questionnaires filled: - 30
  - Female = 18   60%
  - Male = 12   30%
  - Private Universities = 17 Questionnaires   57%
  - Public Universities: 13 Questionnaires 43%
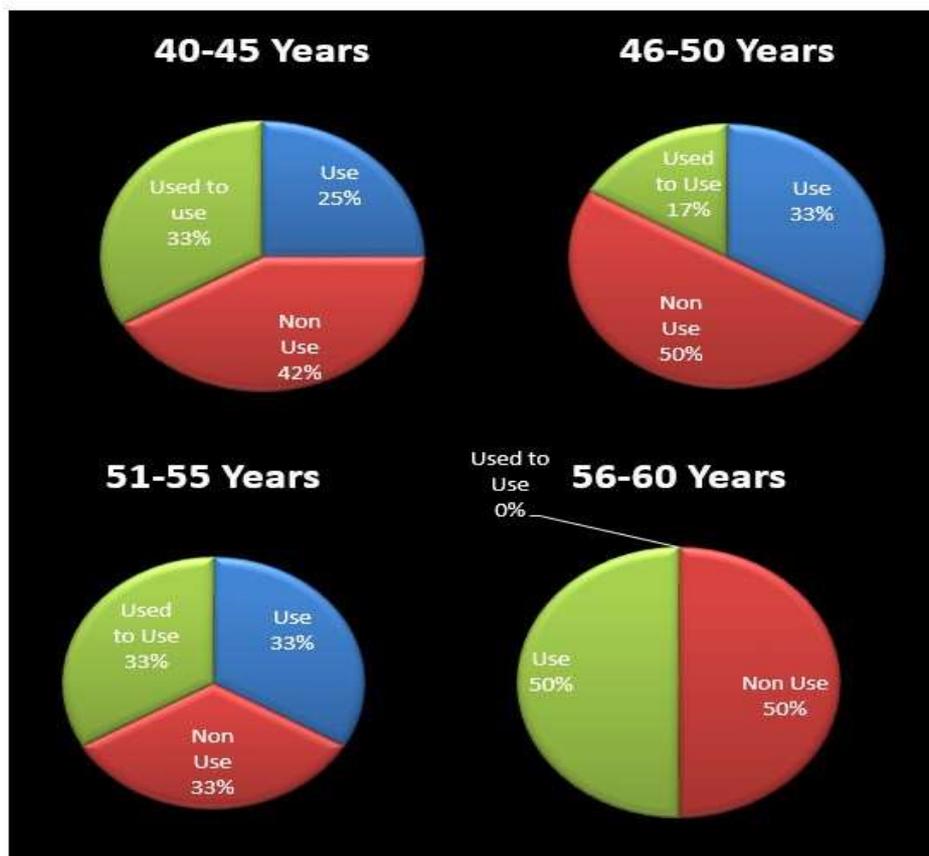- b) Interviews: 5 Interviews
  - Male = 2   Female = 3

Figure 1:- Age representation

AGE	Use	Non Use	Used to use
40-45 Years	33%	42%	33%
46-50 Years	17%	50%	17%
51-55 Years	33%	33%	33%
56-60 Years	0%	50%	50%
Above 60 Years	0	0	0

Table 1:- Age and use of OSN

4. FINDINGS AND DISCUSSION

The following factors were established as affecting the acceptance, adoption and continual use of online SNS:
Looking at the key motivators for OSNs use the following had the following entries:

- Influence from friends and relatives,
- To connect with friends and relatives,
- To access health care services
- To share information,
- To access pension details,

The main reasons for non use of Online SNS are:

- Privacy Concerns,
- Difficult to use,

- Not appealing,
- Trust Issues,
- Security Issues,
- Exposure,
- Culture,
- Esteem,
- Value of online and Physical-presence interaction,
- Appropriate for the young.

Among the respondents who used to use OSNs the following reasons came out strongly:

- Lack of privacy,
- Information is not correct,
- Language is stereotyped,
- Too much irrelevant information,
- Interface is inconsistent
- Language in OSNs is not clear.
- The content in OSNs in inaccurate and unreliable.

The respondents however confirmed that OSNs:

- Are known
- Have active online forums
- Are easy to navigate

After identifying the factors, categories linked to Unified Theory of Acceptance and Use of Technology (UTAUT) are developed. These categories were tied to the identified factors.
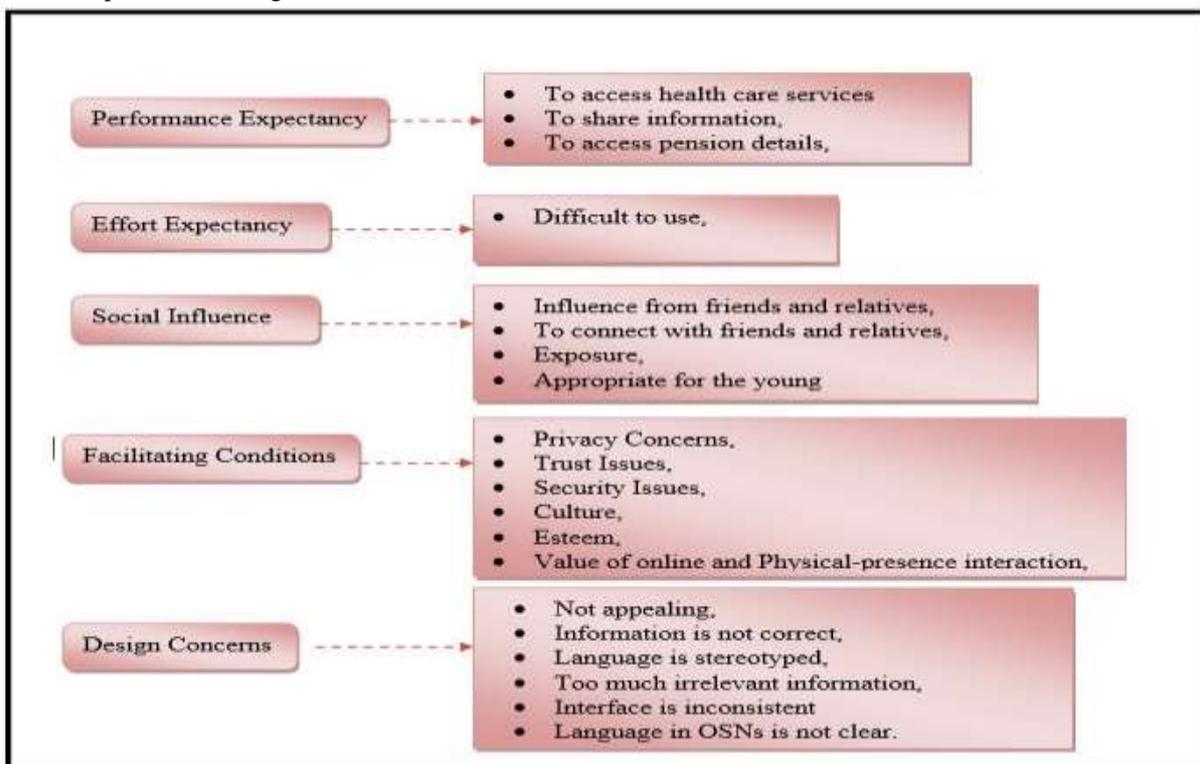

Figure 2:-Identified factors

Performance Expectancy (PE) *is the degree to which an individual believes that using the system will help him/her to attain gains in job performance.*

Considering the determinants of Performance Expectancy (PE) a moderator in the UTAUT model the following items came out strongly:

- Most respondents disagree to OSNs helping in quick communications,
- They also disagree to OSNs increasing the quality of output of tasks,
- Most respondents also disagree that OSNs help in increased effective use of time. However respondents appreciate the fact that OSNs are useful.

Effort Expectancy (EE) *is the degree of ease associated with the use of system.*

Most respondents disagree to ease to get things done on OSNs. Interviewee 5 for example shares his experience, "There was a time I wanted to upload some photographs on my Facebook account using my phone. I could hardly accomplish the task I ended up seeking assistance from my daughter."

Respondents also disagreed to the item on the ease to learn how to use OSNs. However respondents were neutral on how skillful they are at using OSNs and the interaction being clear and understandable.

Social Influence (SI) *is the degree to which an individual perceives that important others believe he/she should use the new system.*

Respondents are highly influenced by friends and colleagues on the use of OSNs. Most respondents also appreciate the assistance they get from fellow staff. However, most respondents disagreed to the determinant of institutions encouraging the use of OSNs. As indicated early this was a concern by one of the Interviewees that some of the institutions have OSNs blocked that is they are inaccessible within the University.

Facilitating Conditions (FC) *is the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.*

Interviewee 1: "I don't trust OSNs especially Facebook where I had an account created in my name which I was not aware."

Interviewee 2: "I find information on OSNs very unreliable and exposing. I love my issues private not aired all through the social media"

Interviewee 3: "OSNs are more suitable for the young. I don't see how helpful they are. Furthermore the content is not relevant in any way to the elderly."

Privacy, Trust and Security (PTS) came out strong as a concern of most of the respondents in regard to OSNs. Most of the respondents were not comfortable with OSN's privacy, they don't trust them and they feel they are insecure.

Design Concerns (DC) *is the degree to which an individual believes that the design of software affects the ease of use and perceived usefulness of a system.*

Specific to OSNs I also sought the opinion of respondents on the Technical Quality (TQ) of OSNs. The main concerns that were evident in this item are:

- Most respondents shared their concerns on the security of OSNs,
- Respondents didn't seem to find search facilities on OSNs,
- Most respondents also disagree that OSNs interfaces are consistent,
- Most respondents were for the opinion OSNs are more suitable for teenagers,
- Respondents appreciate that OSNs are easy to access and can be personalized, pages load quickly, they have valid links and that they have interactive features.

From the interviews Interviewee 4 had a strong opinion that OSNs are for teenagers and not the, "OSNs are not bad but the content is not of any importance to me, Facebook for example has become a place for the teenagers to show off and socialize. I don't think that's for me."

Interviewee 4 also brings out a point on what the elderly would want on the OSNs. "I would want to access information of importance like upcoming conferences, sharing information with colleagues and even health care services."

Most respondents were for the opinion that:

- Language in OSNs is not clear. Interviewee 3 points "Facebook has some features that can easily be misunderstood. For example the poke feature I don't understand what that means. You even find status updates with so many abbreviations that can easily be misinterpreted."
- The content in OSNs in inaccurate and unreliable. Interviewee 1 argues, "Starting from the names people use on OSNs most of the people in OSNs do not even use their real names. Some even lie of the places they are located."
- Other determinants had neutral opinions like the content not for the elderly, content not useful, content not up-to-date, content not well-presented and not worth the cost. The respondents had different opinions ranging from strongly agree to strongly disagree.

5. CONCLUSION

Indeed the elderly have adopted the OSNs but they have concerns meaning they are not fully contented with them. Therefore there is need to develop OSNs that will cater for their needs since SNS can potentially contribute towards acquisition and maintenance of social capital for people of different age groups. From the findings of the study there is need to introduce the newly identified moderators and determinants to the UTAUT as part of modeling and prediction of adoption of OSNs with the elderly/seniors in mind especially in academia.

The identified factors can be used by system designers as they build Online Social Networks especially for seniors. This will result in designing Online SNS that can be accepted, adopted and continued use by this category of users.

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