



Online Social Networking and Older Internet Users: A UK Perspective

Amit Vyas and Jyoti Choudrie

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The University of Hertfordshire is the UK's leading business-facing university and an exemplar in the sector. It is one of the region's largest employers with over 2,300 staff and a turnover of £231million. In the 2008 UK Research Assessment Exercise it was given the highest rank for research quality among the post-1992 universities. It has a student community of over 27,000 including more than 2,900 international students. The University of Hertfordshire was awarded 'Entrepreneurial University of the Year 2010' by the Times Higher Education (THE) and ranks in the top 4% of all universities in the world according to the latest THE World University Rankings.

Online Social Networking and Older Internet Users: A UK Perspective

Amit Vyas and J. Choudrie

The Business School, University of Hertfordshire

Abstract

Globally, broadband and internet availability within households has made ICT an essential part of everyday life. Consequently, this has led to novel social computing practices and collaboration tools such as Web 2.0 Online Social Networks (OSNs). However, this growth of OSNs is far less prevalent amongst older internet users. Therefore, the aim of this research-in-progress paper is to develop a conceptual framework based on leading Information Systems (IS) theories to identify and explain older individuals' adoption and usage patterns and behavior toward OSNs. Future directions, limitations and conclusions are also provided within this paper. Contributions to academia are viewed to be a framework that allows an understanding of OSN adoption, use and diffusion patterns. As OSN use impacts all internet users, industry will benefit from a theoretically formed framework that can be used to assist online collaboration providers to include older internet users in the existing widespread OSN phenomenon.

Keywords:

Online Social Networks, Usage, Diffusion, Adoption, Older Individuals, Households, UK.

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1. Introduction

As novel technologies such as Broadband have emerged and become part of daily life, Internet usage has grown and affected the global behavior of Internet users (Cho et al, 2003).

The internet is now being used for numerous everyday activities such as, seeking information, shopping and paying domestic utilities, all of which can now be done effectively and often more cheaply on the Web (Zajicek, 2007). These developments have also led to the formation of online user communities that can contribute significantly to the success of an on-line platform (Stanoevska-Slabeva, 2002). This success, has paved the way for a second generation of ‘open-source, interactive and user controlled online applications’, known as Web 2.0 (Constantinides & Fountain, 2008). Popular examples of Web 2.0 include Twitter, Facebook, MySpace and LinkedIn. Such applications enable sophisticated user interaction, client-side processing, asynchronous communications, and multimedia. (Fraternali et al, 2010). These applications are also popularly known as Online Social Networks (OSNs), which is what we mostly also utilize in this paper.

For this research, Facebook has been used as an example of OSN. This is attributed to Facebook experiencing profound adoption and usage rates, with around 8% of the world’s population adopting this OSN within 6 years of launch (Facebook, 2010). Currently Facebook has 800 million active users, crossing 75 languages across the world (Facebook Press, 2011); thereby illustrating the Web 2.0 social computing adoption phenomenon. Globally, every country has witnessed growth in the number of users employing this network. In Europe, UK has witnessed the largest numbers of adopters and users (Gadsby, 2010), which was the motivating factor for the context of this research to be UK.

Although the previous details reveal Facebook growing at a rapid global scale, this is not the case when examining the demographics of Facebook users. When analyzing the age split of UK OSNs users statistics reveal that 16 – 35 years hold the majority of users (57%) while older Internet users (50+) remain the minority adopters (less than 10%) of leading social networks, such as Facebook, MySpace and Flickr (Lyons, 2010). For the purposes of this research ‘older internet users’ are defined as internet consumers 50 years old or above. Despite the low Web 2.0 adoption and usage patterns being experienced by older Internet users, current IS research on Web 2.0 social networks emphasizes the behaviors, adoption and use patterns of younger individuals (e.g. Boyd, 2008; Ellison et al., 2006), which has led to research into older Internet users and Web 2.0 usage patterns and behavior being rare. For these reasons the aim to this research is detailed in the following research question:

How do leading IS theories assist in the exploration of older internet users adoption, diffusion and usage of OSNs?

Having provided the aim and introduction to this research, the following section explains the theoretical background to this research. This is followed by a description of the proposed OSN model. The proposed methodology is then presented preceded by the conclusions to this research in progress paper.

2. Theoretical Background

2.1 Web 2.0 (OSNs)

From a theoretical review it was found that to date, existing Web 2.0 research specific to the adoption and usage is rare. However, theoretical research examining facets of OSNs can be found. For instance Casteleyn et al (2009) explored methods of utilizing the OSN Facebook as a marketing tool, resulting in the suggestion that OSNs display intentions of consumers; therefore techniques to target users for marketing purposes should be developed or should be used to retrieve value from OSN usage. Pfeil et al (2009) investigated age differences and similarities in the use of the social networking website MySpace and found that age divides in terms of friends and networks exist within the younger users (± 2 years), whilst older individuals tended to have a more diverse age distribution. Weiss (2009) identified the risks of data misuse associated with OSNs and proposed the 'privacy threat model' as a framework for increasing information privacy on OSNs.

2.2 Older Internet Users

Existing examples of literature emphasizing older internet users include Adams et al (2005) who found the existence of a social capital divide described as MySpace teenagers having larger OSN friends compared to the older users. Choudrie et al (2008) illustrated that non-technical adoption factors were fundamental when encouraging silvers surfers and their interaction behaviors (Choudrie et al, 2008). Ogozalek (1991) assessed social impacts of computing amongst the elderly in supportive environments and established that learning to use a computer increased older individuals' self-confidence, ability to learn, and memory retention.

This literature review of Web 2.0, OSN and older Internet users further confirmed that there is minimal available research examining older users' adoption and usage patterns of OSNs within the household¹. Using the aforementioned research gaps, a conceptual framework termed the 'Model of Older Online Social Networking (MOSN) Adoption and Use in the Household' was developed.

3. Development of Older-Users Social Networking (MOSN) Model

MOSN is developed based on the Theory of Planned Behavior (TPB), Decomposed Theory of Planned Behavior (DTPB), Model of Adoption of Technology in Households (MATH), Model of Adopting Broadband in the Household (MAB) and Open Source Software (OSS) framework.

¹ The household is being used for this research due to modern technologies offering facilities such as, tele-working, working from home practices, and offers a base that older individuals can work from.

3.1 TPB & DTPB

Theory of Planned Behavior (TPB) (Ajzen, 1991) is an extension of the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). TPB assumes that rational considerations govern the choices and behaviors of individuals (Ajzen, 1985) such as technology adoption and usage. TPB was further adapted to form Decomposed Theory of Planned Behavior (DTPB) (Taylor & Todd, 1995a) by including innovation characteristic constructs from the Diffusions of Innovation Theory (DIT) (Rogers, 2003).

3.2 Model of Adoption of Technology in Households (MATH)

Guided by Decomposed Theory of Planned Behavior (DTPB) Venkatesh and Brown (2001) identified adopters and non-adopters factors determining household adoption of personal computers (PCs). Due MATH also focusing on the household MATH was selected as the primary guiding theory for this research; therefore a number of constructs from MATH have been integrated within the proposed MOSN framework explained in section 4.

3.3 Open Source Software (OSS) adoption framework

Acknowledging that OSNs are open source online applications, technology specific adoption research was also sought. Macredie and Majinyawa (2011) explored factors explaining the adoption of OSS guided by DTPB. Factors pertaining to the facilitating conditions required to successfully use a technology have been applied to the proposed MOSN framework including, Technology and Resource Facilitating conditions (F.C).

4. Proposed OSN Research Model

OSN usage in the household often occurs using PCs that further supported the application of MATH within this research. Further, as broadband is the infrastructure providing households with internet access the Model of Broadband adoption (MAB) (Choudrie & Dwivedi, 2004) was also used to guide the selection of the following MOSN factors.

The first construct is ‘utilitarian outcomes’, defined as; *“The degree to which using a PC enhances the effectiveness of household activities”* (Venkatesh & Brown, 2001, p.74). This construct was selected to understand whether 50+ Internet users adopting OSNs are using OSNs for the purposes of paid or unpaid work. The second construct is primary influence, which is influence in the form of friends and family and defined as *“The extent to which members of a social network influence one another’s behavior”* (Venkatesh & Brown, 2001, p. 82). OSN provide a medium for socially orientated media and communication exchange between its users; hence, social exchange occurs between and across friends and family. Therefore, it is likely that Internet consumers’ friends or family will use and encourage the use of OSN resulting in increased adoption of OSNs. The third construct is ‘secondary source influence’, defined as *‘the extent to which information from TV, newspaper, and other secondary sources influences behavior.* (Venkatesh and Brown, 2001). In recent years OSNs such as Facebook and Twitter have been at the forefront of media coverage; however much of this media coverage reports on the negative impacts that OSNs have on society. Consequently, to determine if negative media coverage is impeding the adoption of OSNs by 50+ Internet consumers this factor is applied within this research. The fourth construct is ‘requisite knowledge’ that is defined as *‘The*

individual belief that he/she has the knowledge necessary to use a technology' (Venkatesh & Brown, 2001). In order to use or adopt OSN knowledge such as, signing up, using or learning how to use OSN concepts such as blogging, friend requesting and digital media uploading may be required. Therefore, to identify and understand whether requisite knowledge is required to use OSNs this factor has been applied.

Our framework also integrated the factor 'Relative Advantage' (RA) from Diffusion of Innovations Theory (DOI) (Rogers, 2003) and OSS's FCs, technology and resource (Macredie & Mijinyawa, 2011). RA will assist in understanding whether older users prefer OSNs to existing communication channels in the form of face-face socializing, the telephone, e-mail, and classic handwriting letters. The FCs will assist in understanding whether users require improved technology resources in their household or real world personal assistance and use as adoption of OSN occurs. Appendix 1 details the model for reader's perusal.

5. Proposed Research Methodology

To determine an appropriate research approach for this research, OSN and technology adoption research approaches were reviewed (Gefen & Straub, 1994; Ono & Zavodny, 2005; Thanaporn et al, 2009). From this review, time availability, abilities to gather an understanding from larger sample numbers and accessibility led us to consider a quantitative survey questionnaire being suitable for this research. To obtain an in-depth understanding of user perspectives residents from a specific region of UK, Hertfordshire will be used. For the survey, an online survey will be hosted on the data collection tool 'Survey monkey'. The questionnaire will consist of three sections: demographics, internet usage and OSN usage. To validate the survey items, a pre-construct validity test in the form of Lawshe (1975) content validity methods will be applied. Data collection is anticipated to last for about 3 months and analyzed using SPSS V.18.

6. Conclusions

A conceptual framework based on leading IS theories of MATH, MAB, DOI and OSS have assisted in addressing the research aim of this study. To validate this framework we have also proposed and briefly detailed a quantitative research approach.

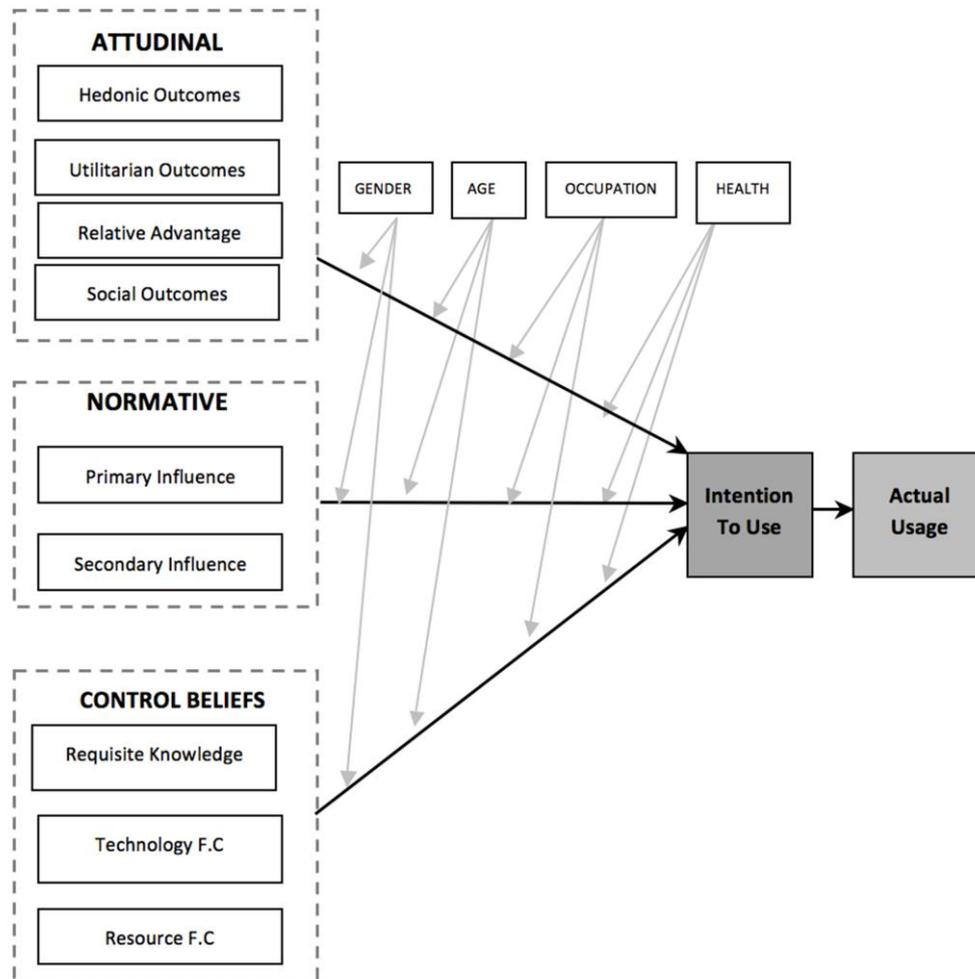
Contributions of this research include a conceptual framework designed specifically for older OSN users specifically in a household. Industry will benefit from a theoretically formed framework that can be used to understand older OSN users' adoption and use patterns.

The limitations of this research are emphasizing an age range of 50 years or above and the sample population residing in an affluent region of England. To overcome the limitations future directions for this research include selecting a diverse age range and larger sample from the whole country.

References

- Adams.N, Stubbs.D & Woods.V (2005) Psychological barriers to internet usage among adults in the UK
Medical informatics and the internet in medicine Vol 30 pp 3-17
- Ajzen, I. (1985) From Intentions to Actions: A Theory of Planned Behavior," in Action Control: From Cognition to Behavior, J. Kuhland J. Beckmann (eds.), SpringerVerlag, New York,1985, pp. 11- 39.
- Ajzen, I., & Fishbein, M. (1980) Understanding Attitudes and Predicting Social Behavior, Prentice- Hall, Englewood Cliffs, NJ,
- Ajzen,I. (1991). "The theory of planned behavior" *Organizational Behavior and Human Decision Processes*, 50, pp 179-211.
- Boyd.D. (2008). "Why youth (heart) social network sites: The role of networked publics in teenage social life". In D. Buckingham (Ed.), Youth, identity, and digital media. Cambridge, MA: The MIT Press.
- Casteleyn.J , Mottart.A and Rutten.K (2009) "How to use Facebook in your market research" *International Journal of Market Research* Vol. 51 Issue 4 pp 439 – 447
- Cho.S, Jae-Ho.B and Sung.M. (2003) "Impact of the high-speed Internet on user behaviours: case study in Korea", *Internet Research*, Vol. 13 Issue 1, pp.49 – 60
- Choudrie, Jyoti; Grey, Susan; and Tsitsianis, Nick, "Evaluating the Digital Divide: The Silver Surfer's Perspective" (2008). *GlobDev 2008*. Paper 1.
- Choudrie.J & Dwivedi.Y.K (2004) Analysing the factors of broadband adoption in the household. ECIS 2004: pp372-383
- Constantinides.E and Fountain.S (2008),, "Web 2.0: Conceptual Foundations and Marketing Issues" *Journal of Direct, Data and Digital Marketing Practice* Web 2.0 definition vol. 9, issue 3 pp 232
- Ellison.N, Steinfeld.C, and Lampe.C (2006). "Spatially bounded online social networks and social capital: the role of Facebook". In *Proceedings of the Annual Conference of the International Communication Association*.
- FacebookPress Room : (2010) "Company Timeline" Available at: <http://www.facebook.com/press/info.php?statistics#!/press/info.php?timeline>
- Fishbein, M. & Ajzen, I. (1975) Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research, Addison-Wesley, Reading, MA,
- Fraterneli.P , Rossi.G and Sanchez- Figueroa.F (2010) "Rich Internet Applications (RIA)" *IEEE Internet Computing* Vol. 14 no. 3 pp 9-12
- Gadsby.S (2010) "Facebook, Industry News, Social Network Marketing : Active users in Europe" Available at: <http://www.clickymedia.co.uk/2010/04/uk-facebook-user-statistics-april-2010/>
- Gefen.D and Straub.D (1997) "Gender Differences in the Perception and Use of E- mail: An Extension to the Technology Acceptance Model" *MIS Quarterly* pp 389–400
- Lawshe.C (1975) "A quantitative approach to content validity" *Personnel Psychology*, 28, pp 563–575
- Lyons.G (2010) "Social Media Demographics , Facebooks for girls" Available at : http://connect.icrossing.co.uk/social-media-demographics-facebooks-girls_1562
- Macredie.R.D & Mijinyawa.K (2011) A theory-grounded framework of Open Source Software adoption in SMEs *European Journal of Information Systems* (2011) 20, pp 237–250
- Ogozalek.V, (1991) "The social impacts of computing: Computer technology and the graying of America". *Social Science Computer Review*, Vol 9 (4), pp 655–666.
- Ono.H and Zavodny.M (2005) "Gender differences in ICT usage a - US Japan comparison" *Sociological Perspectives* , Vol. 48, Issue 1, pp. 105–133
- Pfeil.U , Arjan.R and Zaphiris.P (2009) "Age differences in online social networking – A study of user profiles and the social capital divide among teenagers and older users in MySpace" *Computers in human behavior* Vol 25 pp 643 – 65
- Rogers.E.M, (2003) Diffusion of Innovations. Free Press, New York.
- Stanoevska-Slabeva.K (2002) "Toward a Community-Oriented Design of Internet Platforms" *International Journal of Electronic Commerce* Vol. 6, No. 3, pp. 71–95.
- Taylor, S & Todd, P (1995a) Decomposition and crossover effects in the theory of planned behaviour: A study of consumer adoption intentions. *International Journal of Research in Marketing*,12(2) pp 137-155.
- Thanaporn.S , Jiesi.C and Dinesh.M (2009) "Use of Blogs for Collaboration in Organizations" *17th European Conference on Information Systems*
- Venkatesh.V & Brown.S (2001) A longitudinal investigation of PC in homes: adoption determinants and emerging challenges. *MIS Quarterly* Vol 25 No1 pp 71- 102
- Weiss (2009) Privacy threat modal for data portability in social network applications *International journal of information management* Vol 29 pp 249 – 254
- Zajicek.M (2007) Web 2.0: hype or happiness? *ACM International Conference Proceeding Series*; Vol. 225 pp 35 – 39

Appendix 1: Proposed OSN Research Model



‘Model of Older Online Social Networking Adoption and Use in the Household’
(MOSN Framework)