Understanding and conceptualising the adoption, use and diffusion of mobile banking in older adults: A research agenda and conceptual framework

Jyoti Choudriea⁎, Chike-Obuekwe Juniora, Brad McKennab, Shahper Richterc

a Hertfordshire Business School, University of Hertfordshire, Hatfield AL10 9EU, United Kingdom
b Norwich Business School, University of East Anglia, Norwich NR4 7TJ, United Kingdom
c Computer and Mathematical Sciences, Auckland University of Technology, Auckland 1010, New Zealand

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ABSTRACT

Mobile banking has become increasingly important to society; however, not all members of society adopt and/or use it as much as others: older adults, the disabled and lower-income families remain behind in their use and adoption of this service. This finding helped us recognise a research gap and led us to form our primary aim: to understand and explain the factors that influence the adoption, use and diffusion of mobile banking among one of those groups in particular, older adults, in the UK. To form a theoretical understanding, this paper presents a comprehensive review of the surrounding literature in the area and proposes a conceptual framework that can be used for future research. The implications of this research for academia and businesses are also provided in this paper.

1. Introduction

Services enabled by information and communication technologies (ICTs) are becoming increasingly important to society (Barrett, Davidson, Prabhu, & Vargo, 2015; Mathiassen & Sørensen, 2008), with growth intensifying among the consumer markets (Tuunanen, Myers, & Cassab, 2010). Due to increasing penetration rates of broadband, mobile devices such as tablets, smartphones, online products, and services including online shopping, online banking and electronic government among society and organisations, ICT has become part of daily life (Choudrie & Vyas, 2014). Some attempts have been made to understand consumers’ use of such ICT services, although more research is required regarding their adoption and use (McKenna, Tuunanen, & Gardner, 2013). When considering the adoption and use issues, it is apparent that there also exists some resistance to innovation, and scepticism of new technologies by some groups of consumers (Jahanmir & Lages, 2015, 2016), which may cause new innovations to fail (Heidenreich & Spieth, 2013). Talke and Heidenreich (2014) argue that innovation resistance by consumers must be recognised to facilitate new product adoption.

In response to innovation resistance, Talke and Hultink (2010) argue for the influence of different stakeholder groups for new innovations. There is a steady stream of research into the use of ICT by younger generations (Vodanovich, Sundaram, & Myers, 2010); however, few studies have explored the motivations and reasons underlying older adults’ adoption, non-adoption and use of ICTs (Choudrie & Vyas, 2014). There is evidence of older generations’ using mobile technology for online shopping and entertainment (Kuoppamäki, Taipale, & Wilska, 2017), but there is still little research about older adults’ use of a broader range of mobile services, for example, mobile banking (Chawla & Joshi, 2017).

Given the scarcity of research on mobile banking and older adults, this research study was motivated to identify and understand the factors that would lead to the adoption, acceptance and widespread use of mobile banking among the older adult population. Taking this into consideration, alongside the importance of ICT in today’s society, the resistance that some consumer groups have towards adoption of new technologies and the recognition that older adults are less confident in using mobile banking, we were motivated to explore this research gap. We address this gap by proposing a research agenda based on the main themes of this research study and a conceptual framework to guide the study of mobile banking use by older adults. Shapira (2011) argues that conceptual frameworks provide a structure to organise observations while describing the structure in a precise way. They may also be used when the research phenomenon is at an early stage of enquiry, which our study is.

Prior to forming the conceptual framework, an aim for this research...
was formulated: to examine and identify the factors that influence the adoption, use and diffusion of mobile banking among older adults in the context of smartphones. For this purpose, initially, a literature review of mobile banking and the theories that are applied to research the area, as well as theories being used to examine the adoption, use and diffusion of novel ICT among older adults and mobile phones, namely smartphones, was undertaken. Further, to contextualise mobile banking, a review of studies associated with mobile banking, adoption, trust and risk was undertaken, which provided the theoretical background of this paper. To fulfil the aim, the following research question was formulated: Is mobile banking being accepted and used among the older adult population? By answering this question and determining the aim, the following contributions are envisaged. For academia, the main contribution of this research is a theoretically based review of mobile banking and research on older adults and smartphones. Research on this topic is developing, and we intend to provide a detailed examination of the leading theories in this research area. Thereafter, for businesses, our research provides factors to consider when seeking to promote and effect the adoption, use and diffusion of a mobile banking product or service. Thus, for an organization considering developing new apps or finding ways to cater to its older consumer market segment, such research is of immense importance.

To familiarise readers with this context, the following section provides the various concepts of this study and how they are all aligned to provide a theoretical foundation to the present work.

2. Theoretical background

As there are several keywords and themes surrounding this research, the literature review had to be divided into several sub-sections. The first examines the role of older adults in society, followed by research that examines the digital divide and studies emphasising older adults having access or no access to the internet.

2.1. Older adults and their role in society

Older adults have become larger and a more significant sector of society due to declining mortality rates resulting from enhanced advances in medicine and healthcare, quality of life and wellbeing, and to an extent, a phenomenon in which novel ICT applications and awareness have played a part (Taha, Sharit, & Czaja, 2009). This has led to older adults’ becoming more important members of organisations, societies and economies alike. For organisations, older adults offer lower absenteeism, reduced staff turnover, better retention levels and a wealth of skills and knowledge transferable to younger workers (Zaniboni, Truxillo, & Fraccaroli, 2013). As an example, in the United Kingdom (UK) older adults aged 65 and above have contributed around £45 billion in taxes and are expected, by 2030, to pay an estimated figure of £82 billion annually to the UK economy (Pride, 2013). Further, ‘an increase in the portion of adult life lived in old age will lead to an increase in saving rates’ (Mason & Kinugasa, 2005). As definitions vary according to research purposes, for this research, older adults are individuals aged 50 years and above who have the knowledge and ability of using ICT, with this group of older adults known as ‘silver surfers’ (Edwards, Duffy, & Kelly, 2015). Older adults’ categorisation begins from 50 years and above, as at this age adults’ health, cognitive skills and vision begin to decline, which, in turn, affects their daily activities and underlying performance (Choudrie & Vyas, 2014). In terms of the older adult population, the number of persons aged 60 or older is expected almost to triple, increasing from 737 million in 2009 to 2 billion by 2050 (United Nations, 2008).

In terms of ICT usage, older adults are different from young people in two essential ways (Newell, Dickinson, Smith, & Gregor, 2006). First, they have a relatively low familiarity with information and communication technology (ICT). Second, as individuals’ age, the declining physical, sensory and cognitive capabilities lead to significant barriers of ICT use. Moreover, their mobility, which is an essential part of offline social activities, is quite limited because of the effect of ageing. As such, research in this area should be considered. To inform such calls, the next section considers research of the digital divide and older adults.

2.2. The digital divide and older adults research

The differences existing in the ways that individuals use and accept innovative technologies including ICT are associated with characterizations that are widely referred to as the ‘digital divide’ (Tsatsou, 2011).

The digital divide is defined as the divide between “those who have access to a particular technology and those who do not” (Curwen & Whalley, 2016, p. 210). It is also posited that “the digital divide (or the global digital divide) is generally referred to as the ‘uneven diffusion’ or ‘gap’ or ‘disparities’ between different socio-economic levels or across countries or between developed and developing nations in terms of ‘access’ and ‘use (usage)’ in ICTs” (Hwang, 2006, p. 19). The digital divide is also often referred to as the “information gap” or “information inequality” and has promoted immense debates that have resulted in the digital divide being considered in a variety of contexts, including socio-economic status, gender, age, race, region or geography (Tsatsou, 2011).

One significant component of the digital divide is age (Selwyn, 2004). For many years older adults have avoided, or not intended to use, the internet and associated products and services as they tended to perceive the internet as a ‘non-essential’. Additionally, age-related problems such as declining vision and cognition, as well as chronic diseases such as arthritis, pose major challenges to overcome. This has resulted in a significant age-based divide between young and old, with internet use declining in every advancing age group (Greenard, 2009). Large numbers of studies of older and younger adults have been undertaken, where emphasis has been placed upon the social capital divide that exists between the older and younger population’s internet and computer use and electronic commerce (Passyn, Diriker, & Settle, 2011; Wagner, Hassanain, & Head, 2010). As an example, comparing different age and gender groups showed that different age groups (under 35 vs. 35–50 vs. over 50) have diverse perceptions towards online shopping (Dennis, Alamanos, Papagiannidis, & Bourlakis, 2016; Lian & Yen, 2014). Understanding the older adult population is also pertinent for businesses as they can then cater to the needs and requirements of this demographic group, an issue highly emphasised in the United States of America (USA), particularly given that governments and organisations, including marketing businesses, are gaining immensely due to internet-based strategies (Porter & Donthu, 2006).

Given the important role of older adults in society, the last decade has witnessed research studies on older adults’ applications of and the benefits of novel technologies that have led to several diverse aspects. For example, it was found that older adults face difficulties when adopting novel technologies (Lee, Chen, & Hewitt, 2011). When considering the use of the internet in the 55-years-old-and-above population of Finland, it was found that around one-third of the respondents did not use the internet (Vuori & Holmlund-Rytökönen, 2005). In Australia, silver surfing individuals were found to use the internet five times less than the under-30 age group (Willis & Tranter, 2006). From such studies, it has been confirmed that a digital divide exists and is recognised by many global researchers. Several research studies have attempted to study this issue and to identify the factors leading to the age-related digital divide. These factors have been found to include perceived lack of benefits (Mann, Belchior, Tomita, & Kemp, 2005), lack of interest or motivation (Carpenter & Buday, 2007; Selwyn, 2004), lack of knowledge and lack of access (Peacock & Künemund, 2007), cost (Carpenter & Buday, 2007; Mann et al., 2005) and physical limitation (Carpenter & Buday, 2007). It is clear that these gaps still exist today, as evidenced in the following sections.

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