Mobility - Unveiling Essence and Value of Mobile Technology

This paper aims to map distinctive mobile technology values. In doing so this paper uses empirical data given by users who engage with mobile technology on both personal and professional levels. Evolved grounded theory and value-focused thinking approach are applied to analyse twenty-eight in-depth interviews with SME managers representing the UK creative sector. This study provides insights into experiences of mobile technology use by outlining conditions that drive and slow down mobile technology adoption, motives in using mobile technology and set of functional, social epistemic, emotional values that distinguish mobile technology use from using stationary and fixed network information technologies.

Keywords: mobile technology; mobility; value-focused thinking; evolved grounded theory; creative industry

Track: New technologies and E-commerce

1. Background to the Study

Ubiquitous computing and communication, next step in the evolution of information and communication technologies, brings the possibility to transmit information irrespective of time and location (Balasubramanian, Peterson., and Jarvenpaa, 2002). As a matter of fact mobile technology (MT) penetrated all the aspects of social and business existence.

Scholars distinguish two contrasting perspectives on defining MT. First (Wiredu, 2007; Mohelska, 2010) considers mobile devices as "an alternative way to interact with a traditional Web site, albeit in a different format or on a more limited or constrained basis" (Tarasewich, Nickerson, and Warkentin, 2002, p. 43). Herein mobility is a restraining feature (portability of mobile devices and, therefore, small size restricts MT users to perform certain tasks that can be only completed on stationary fixed network personal computers) that functionally places MT as sub-category of information technologies (IT).

On the other hand, second opposing group of scholars (Jarvenpaa and Lang, 2005; Sheng, Nah and Siau, 2005; De Reuver, Bouwman, and De Koning, 2008) believe that MT is novel, unique and fundamentally different concept. In fact, Jarvenpaa and Lang (2005) refer to MT as a combination of communication and computing capabilities, not restricted contextually. Xiaojun, Junichi, and Sho (2004, p. 205) emphasise techical essense of MT defining and categorising MT as a borad range of mobile and wireless networks, the mobile Internet and mobile devices that "allow one to communicate, interact and exchange data with an individual or system anywhere and anytime". Herein mobility is a distinctive feature that differentiates MT from stationary and fixed network IT because true ubiquity implies consumption of information and services anytime and anywhere regardless of connection to wireless network. Listening music on MP3 (portable music player) does not require connectivity to any network, wireless or fixed.

Growing number of studies looks at use of MT to understand uniqueness such technological platforms have in comparison to stationary and fixed network IT (Nah and Siau, 2005; Jarvenpaa and Lang, 2005). Vast majority of research about the use of MT explores the B2C context with a particular interest to adoption of mobile marketing (Barwise and Strong, 2002) and few papers about mobile commerce (Barnes, 2002). On the contrary Rochford (2001), Hammed (2003), Sheng, Nah and Siau (2005), and Donnelly (2009) highlight organizational benefits of using MT, which are flexible communication, mobility of employees, cost reduction, and positive financial performance.

In particular Sheng, Nah and Siau (2005) adopt value-focused thinking (Keeney and McDaniels, 1992) in attempt to reveal values associated with organisational adoption of MT. Ending with outline of three organisational areas that MT advances such as (1) operations, (2) communication and knowledge sharing, and (3) marketing effectiveness Sheng, Nah and Siau (2005) fail to recognise distinctive values that MT use creates. In 2005 Jarvenpaa and Lang publish results of their research that attempts to explore experience of using MT through process perspective. However, Jarvenpaa and Lang ends up outlining a list of paradoxes that envision strengths but at the same time challenging issues related to MT usage. For instance, MT is found to be a highly engaging platform allowing people to interact anytime anywhere but disengaging at the same time because it limits the nature communication and depth of conversation that occur in face-to-face scenario.

Furthermore number of conceptual in nature studies (Balasubramanian, Peterson., and Jarvenpaa, 2002; De Reuver, Bouwman, and De Koning, 2008) highlights few distinctive features that distinguish MT from other stationary and fixed network IT. These features are mobility (principal feature shared by all MT irrespective of any underlying platform); time and location independence that facilitate accessibility to information and reachability for these to be communicated with. Nevertheless, no empirical data underpins these suggestions.

This paper treats MT as a distinct category of technologies because application of MT provides distinctive and unique experiences compared to business opportunities given by use of stationary and fixed network IT. The entirely new dimension of mobility drives new strategic and operational opportunities for companies (De Reuver, Bouwman, and De Koning, 2008). Drawing on the above-mentioned concerns this paper aims to address gaps in academic literature. In particular, established body of knowledge on MT calls for a holistic view, map of values that are unique to MT. There is still a need to understand why mobile technology is truly different to stationary and fixed network IT. Hence, the purpose of this paper is to map distinctive MT values. In doing so this paper uses empirical data given by MT users who engage with MT on both personal and professional levels.

In marketing literature concept of value remains an abstract phenomenon (Zeithaml, 1988; Lai, 1995; Woodruff, 1997). Having said that, intrinsically value implies an analytical processes that customer or consumer goes through in understanding products and services he or she consume (Zeithaml, 1988). Jensen (1996, p. 60) stresses that knowing "antecedents and consequences of consumer value can probably be considered as the most fundamental prerequisite for sustainable competitive advantage''. Ultimately by mapping distinctive to MT values this study endeavours to drive new ways in exploiting ubiquitous technology.

2. Research Method

To address research purpose evolved grounded theory (GT) approach (Corbin and Strauss, 1990) is applied to collect and analyse in-depth interviews with SME managers. Evolved grounded theory differs from classical GT approach (Glaser and Strauss, 1973) in that existing theoretical knowledge grounds and directs profound exploratory process; whereas classical approach regards theoretical presumptions as a substantial force in interpretation of results and theory development.

Contextually this study focuses on creative sector, which represents pioneers and advanced adopters of digital technologies (TSB, 2009), allowing in-depth exploration on MT usage from both personal (individual) and professional (organisational) perspectives. Data includes twenty-eight semi-structured in-depth face-to-face and web-based interviews with key decision-makers in firms that employ MT. All twenty-eight firms represent the UK advertising and marketing industry (UK standard industrial classification 2007, 73110). Most interviewees own and manage their businesses. However, few are responsible for particular area within a firm devoted to understanding technological advancements, a creative director in one of the firms, an account manager, two new media / digital directors, and five strategic directors. Each interview lasts from forty minutes to one and a half hour.

Following value-focused thinking approach (Keeney and McDaniels, 1992), interviewees share their accounts on attitudes towards MT and overall experiences in using MT for personal and professional purposes. Value-focused thinking is a systematic methodology that focuses on particular phenomenon, which research participant identifies as critical. In principal this value-focused thinking approach builds conceptualisation around values that describe and evaluate a critical phenomenon.

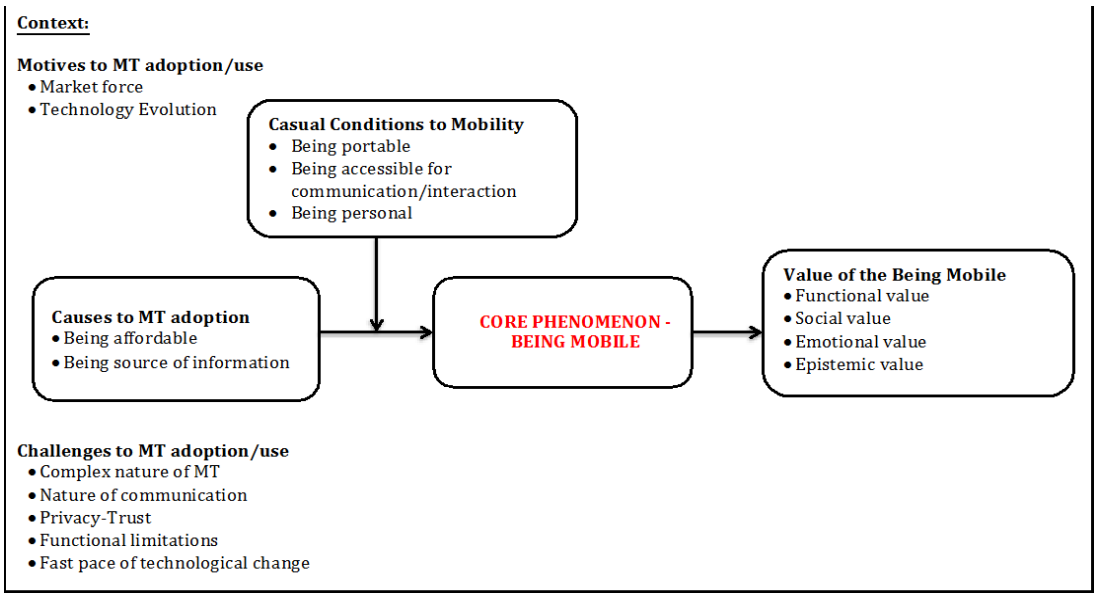
Employing GT procedures (Corbin and Strauss, 1990) simultaneous data collection and analysis maintains constant comparison approach that builds a rigorous theoretical conceptualisation of categories and concepts. Analysis is based on three-stage coding process. First, open coding identifies key categories to characterise MT and its use. Second, axial coding builds coding matrix to understand phenomenon under question through identification of casual conditions (variables that lead to occurrence or development of the phenomenon), contextual factors, intervening conditions, strategies (the purposeful, goal-oriented activities that agents perform in response to the phenomenon and intervening conditions) and outcomes (the consequences of the strategies). Value-focused thinking approach underpins axial coding

stage. Final stage of an analytical process, selective coding, determines core concept and develops a storyline to present results. NVivo 10, qualitative data analysis software, is used to arrange, scan, systematically display and interpret data.

3. Findings and Discussion

Figure 1 illustrates a holistic overview of primary results. As it is highlighted in red and in line with existing research (Balasubramanian, Peterson., and Jarvenpaa, 2002; De Reuver, Bouwman, and De Koning, 2008), mobility or being mobile is seen as a core distinctive feature that differentiates MT from stationary and fixed network IT. Interviewee 12 states, "Mobile technology brings an opportunity to integrate a variety of values as long as there is more value in being mobile". Interviewee 14 adds: "Experiences that you have online on desktop can be very immersive. But different with mobile is the fact that, firstly, it is personal to you; and secondly, you move around with it." In fact being mobile means both location and time independence. Interviewee 31 says that "being mobile like travelling, doing all the things when you are anywhere and not sat at your desk… being anywhere is what different to being sat at your desk and using personal computer". Interviewee 8 reinforces previous statement by adding that "I no longer think about my working day as 8 to 5... mobile technology means that I don't have to be at the office." Balasubramanian, Peterson., and Jarvenpaa (2002, p. 353) also conclude that all MT "can relax both the independent and mutual constraints of space and time for many activities". In organizational context, mobility of MT facilitates real-time services that in convergence with location tracking competencies lead to proactive and reactive responsiveness to the market demand (Tarasewich, Nickerson, and Warkentin, 2002).

Figure 1. Conceptual mapping of mobile technology' distinctive nature



From broader perspective individuals and organisations are 'pushed' to adopting MT. Particularly individuals representing creative sector believe that "it's important for us, as a business, to be at the forefront of any new technology" [Interviewee 24]. Hence nature of business requires "staying in tune with technology evolution" as Interviewee 7 concludes. According to report by UK Trade and Investment (2009) diversity of digital platforms and devices has a specific influence on the internal organisation of the creative sector. For instance, due to high rate in IT and MT adoption large proportion of small entrepreneurial businesses operates in creative industries and new players such as online and mobile content developers emerge. Having said that, technology evolution is driven by market and end users. Interviewee 9 states, "In any case clients would be in anyhow aware of technological changes

and I as person who provide service such as these need to go and figure out how to bring it into reality." And Interviewee 22 sums up, "we have to evolve with the industry, or with the demands of the consumer."

Nevertheless, benefits of using MT do not come without challenges. Some like Jarvenpaa and Lang (2005) state represent paradoxes. For instance, technology evolution that drives MT use is also indicated to be one of the barriers to use MT because individuals and businesses cannot cope with a fast of technological transformations. In particular Interviewee 8 fears that "we are going to not be able to keep up with technology… that is going to create in us its own set of stress and its own disease, technology-related disease." Moreover, nature of communication is seen to be a paradoxical aspect where MT advances communication opportunities given increased reachability and accessibility of MT user to interact and communicate with others due to technology being mobile (see Figure 1., casual condition to mobility). This is something what differentiates MT from stationary and fixed network IT as Interviewee 17 emphasises with MT "accessibility is easier; anyone can contact you". However, paradox is in that accessibility becomes a challenge, a pressure for users in being responsive continuously. Interviewee 17 states, "we always expect so much, we expect things to happen really quickly. And often because of technology we don't allow the time to think on how to do it. We are just concentrating on doing because it is possible and because we can." As a matter of fact, this paper results correspond with Jarvenpaa and Lang (2005) findings.

Despite the fact there is a number of challenges to MT use, interviewees claim that MT become more affordable (MT is "a lot more affordable now" [Interviewee 6]) and most of devices on a market allow access to information using mobile Internet and transmitting data via text, emails and other content. These are the reasons in more and more individuals and organisations using MT.

Interviewed practitioners extensively use MT for personal (individual level) purposes and professional (organisational levels) purposes to perform utilitarian tasks such as communication via voice and texting; searching for information. But most importantly MT is seen as personal device that intertwines personal and work life. Interviewee 6 stresses that in the latest five years MT became "integrated with everybody's day-to-day life and it is great because it is all in one place". In fact MT being a personal device is seen as moderating factor to why mobile devices are mostly used on the go.

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Portability is one of key conditions highlighted by existing research (Jarvenpaa and Lang, 2005) to differentiate MT from stationary and fixed network IT. Our results are consistent in thinking that being portable drives MT usage. Interviewee 24 says, "before you know it, you're carrying a bag full of stuff, and now you don't need to do that, that can be carried on either a small mobile device or a small mobile phone device". Jarvenpaa and Lang (2005) explore further and suggest that having mobile phone in your pocket implies that mobile devices are intertwined with their users and, therefore, there is a close relationship with a deeper level of connection between technological device and its user. Jarvenpaa and Lang (2005, p. 7) names MT as a "personal expression" of user'a identity. Our findings agree that MT is seen as personal tool whose use can be identified through patterns of activities and tasks completed using mobile device but disagree in that personal nature of MT is not a consequence of portable parameters mobile devices usually possess. In fact both portability

and personal nature of MT underpins mobility feature but not directly leads to MT usage. Hence, MT being portable, being personal and lastly, allowing MT user being accessible for communication are all casual conditions that moderate relationships between reasons for adopting and using Table 1 lists four types of values that MT creates. Values of MT use imply goad-based satisfaction with tasks and purposes MT user has (Woodruff, 1997). Functional value comprises possibilities that MT creates due to technical competencies such as transmission and exchange of data in different formats, ease of use of technical functions, multi-tasking when voice conversation can happen simultaneously with texting and browsing Internet. Social value covers purposes of communication where immediacy in response and, therefore, relevance of timely engagement are consequences of MT being mobile. All interviewees claim that mobility enables creativity because creative processes are not constrained by time and specific locations, hence, allowing freedom in thinking. Final set of values, emotional, really differentiate MT from stationary and fixed network IT where teleworking is possible but then in case with stationary IT is still location bound. MT, on the other hand, balances work and personal life allowing flexibility in managing workload. This,
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5. Implications

Mobility is a distinctive feature of MT and underlines values that MT use creates. This study provides insights into experiences of MT use on both individual and organisation levels by holistic portrayal of contextual conditions that drive and slow down MT adoption by creative industry practitioners; motives in using MT that directly underpin mobility and moderates users' decisions to use MT for both personal and organisational purposes; and last but not least set of four main values that distinguishes MT use from using stationary and fixed network IT.

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