Academic agility in digital innovation research: The case of mobile ICT publications within information systems 2000–2014

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ABSTRACT

The Information Systems (IS) field has never been more relevant as digital innovations are emerging at a rapid pace fuelled by recombinant innovations based on digital infrastructures, advanced middle-ware layers, and mobile and ubiquitous technologies. This paper argues, based on a bibliometric study of the representation of a mobile ICT discourse within the AIS Senior Scholars' 'basket' of eight IS journals over the past 15 years, that the field needs to become much more academically agile. The study showed that a mere 3.2% of all papers published during this period had any relationship to one of the key technological phenomena in the late 20th and early 21st centuries. The paper formulates the hypothesis that the relative shift in impact between European- and US-based journals within the 'basket of 8' could have been influenced by editorial strategising to further encourage academic agility exploring new horizons rather than emphasis on further exploitation of existing ground. The paper, further argues that the IS field seems to more readily engage in a debate of phenomena involving centralised and organisationally-bound technological innovations whereas distributed, decentralised and infrastructural discourses find it much more difficult to gain a foothold. So, whilst the IS field may still be stuck in the mainframe age, it needs to move beyond in order to fully engage with the world we live in.

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Introduction

"In theory, there is no difference between theory and practice. In practice, there is." – Yogi Berra

The rapid digitisation of a variety or previously analogue aspects of the World, and the associated socio-technical processes of digitalisation poses both an opportunity and a challenge for the global Information Systems (IS) community – as argued by Yoo (2013), it can place the community at the centre of important discussions within and beyond academe. A complex set of inter-connected phenomena characterised in terms of digital innovation is bringing 'digitality' to the foreground, and with it the notion of recombination of digital capabilities (Yoo et al., 2010, 2012). This creates the expectation of a rapidly changing socio-technical environment where new combinations emerge and some of these become important whereas others wither away into obscurity.

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The important changes can result in significant technological developments and industry upheaval as can be briefly illustrated from the context of mobile ICT. Whilst initial slow growth from the first mobile phone call in 1973, mobile telephony grew radically from the 1980s onwards. There are currently over 7.5 billion GSM connections, including machine-to-machine connections, and over 3.7 billion unique mobile subscribers globally.[1] The advent of internet-enabled mobile ICT through feature- and smartphones represent the most significant growth in access the past years.[2] One of the most popular Internet services is Facebook, and of the 1.44 billion monthly active Facebook users, 1.25 billion accesses are through mobile technology, and of the 936 million daily users, 798 million (85%) are mobile users.[3] Smartphones and tables invade private and working lives whilst resulting in industrial reconfiguration as old industrial giants are facing new ones. In 2008, Nokia became the World's largest camera manufacturer leaving traditional camera brands struggling with Kodak filing for bankruptcy protection in 2012 (Lucas and Goh, 2009). Microsoft then bought the handset manufacturing part of the Finnish company and both united in struggling against Apple, Samsung, Google, Xiaomei and others on the global mobile phone market. In July 2015, Microsoft wrote off the entire Nokia purchase. Apple, which in 1997 was struggling, and bolstered by a $150 million Microsoft investment was, in February 2015, deemed to be the first ever $700 billion company – mostly down to its success with various mobile ICT.[4]

These are just a very small selection of recent dramatic changes directly related to mobile ICT, and it should be fairly obvious that such dramatic changes related to a particular kind of information technology should be a particularly valuable subject of study for the Information Systems (IS) community. The phenomenon has global reach – every single country in the world has seen significant mobile telephony adoption and its implications spans individuals, teams, organisations, and entire industries.

This paper explores the important challenge for the IS field when engaging in the research of digital innovation to scan emerging developments where technologies and human practices are innovated and, through the academic process of open debate, decide upon the relative significance of these phenomena. We have chosen mobile ICT as a prototypical example of such an important challenge. Within the IS field, this debate is mainly conducted through journal publications, although books and conference papers also play an important role (Galliers and Whitley, 2007; Stein et al., 2014). Based on the notion of business agility as the ability to quickly and resourcefully adapt to environmental changes (Mathiassen and Pries-Heje, 2006), we define academic agility as *the ability of an academic field to quickly, rigorously, and resourcefully explore environmental changes within its mainstream academic debate*. This paper therefore considers the academic agility of the IS field in terms of how the field, through papers published in academic journals, engages in a debate of the relative importance of emerging sociotechnical phenomena. Past research has studied the IS field's lack of treatment of a number of issues, for example, health information systems (Chiasson and Davidson, 2004), digital convergence (Herzhoff, 2009), and digital infrastructures (Tilson et al., 2010). This paper considers a similar lack in relation to mobile technologies by investigating the result of Lyytinen and Yoo's (2002b) call to action.

Thus, this paper proposes that the configuration and dynamics of the phenomena at the centre of digital innovation imposes the central strategic challenge for the IS field to become more academically agile, should it decide to be at the centre of the study of digital innovation. The main assumption is that, irrespective of what possible impact and influence the IS field may have on such emerging phenomena, it is an essential part of the field's justification for existence to provide academically grounded treatments of the most significant socio-technical phenomena. Given the force and pace of contemporary ICT development, we assume an increasing need for the IS field to display academic agility in the way it considers emerging phenomena and either rejects or adopts them as significant for the field.

As a way of exploring the ability for the IS field to meet the strategic challenge imposed by the rapidly changing digital innovation environment, this paper explores how the IS field has reacted to the rise of mobile ICT by conducting a bibliometric study of the extent to which this phenomenon has been subjected to rigorous academic discussion within the so-called AIS Senior Scholars' 'Basket of Eight' journals during the period 2000–2014. The mobile revolution is one of the best examples of digital innovation over the past 20 years and is therefore a very good example of a challenge to the academic agility of the IS field. This paper has, therefore, chosen to explicitly follow up on Lyytinen and Yoo's (2002b) call to action, identifying a lack of IS research within mobile ICT. It explores how the IS field has responded to this call and the general technological phenomenon of mobile ICT. It is an exploration into the agility of the IS field—the speed and strength of the feedback loop from the rapidly evolving global scene of digital innovation to the main outlets of IS research findings.

There are good examples of research relating significantly to the global diffusion of mobile communications, such as the extensive body of work within the social study of mobile communication (see, for example, Katz and Aakhus, 2002; Licoppe, 2004; Ling, 2008). However, whilst these theoretical explorations will be relevant for the study of mobile ICT within the IS field, they will be based on different premises, historical contexts, theoretical aims, and therefore offer other types of outcome. As examples, these studies are, for the most part, not concerned with the materiality (Cecez-Kecmanovic et al., 2014) of mobile communications and tend to take this aspect for granted whilst emphasising the social aspects (Sørensen, 2011).

A bibliometric study retrieved 102 journal articles relating to mobile ICT from the 3180 papers published in the 'basket of eight' IS journals between 2000 and 2014, representing 3.2% of the total number of articles published in these journals during

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[1] https://gsmaintelligence.com (retrieved 13/7/2015).
[2] http://www.internetlivestats.com/internet-users/ (retrieved 13/7/2015).
[3] http://newsroom.fb.com/company-info/ (retrieved 13/7/2015).
[4] http://fortune.com/2015/02/10/apple-the-first-700-billion-company/ (retrieved 13/7/2015).