



# Moving beyond local practice: Reconfiguring the adoption of a breast cancer diagnostic technology



Gregory Maniatopoulos<sup>a,\*</sup>, Rob Procter<sup>b</sup>, Sue Llewellyn<sup>c</sup>, Gill Harvey<sup>c</sup>, Alan Boyd<sup>c</sup>

<sup>a</sup> Institute of Health and Society, Newcastle University, UK

<sup>b</sup> Department of Computer Science, University of Warwick, UK

<sup>c</sup> Herbert Simon Institute, University of Manchester, UK

## ARTICLE INFO

### Article history:

Available online 25 February 2015

### Keywords:

United Kingdom  
Technological innovation  
Reconfiguration  
Adoption  
Healthcare practice  
Diagnostic technology  
Breast cancer

## ABSTRACT

This paper explores the ways in which technological innovation becomes adopted and incorporated into healthcare practice. Drawing upon the notion of ‘field of practices’, we examine how adoption is subject to spatially and temporally distributed reconfigurations across a multi-level set of practices, ranging from the policy level to the micro-level setting of individual action. The empirical backdrop is provided by a case study of the adoption of Breast Lymph Node Assay (BLNA), a diagnostic technology innovation for the treatment of breast cancer patients. Our aim is to contribute to the development of a more comprehensive analysis of the processes surrounding the adoption and incorporation of complex healthcare technologies into routine practice.

© 2015 Published by Elsevier Ltd.

## 1. Introduction

In recent years, numerous studies have examined the characteristics of innovation in healthcare and its organizational context (Berwick, 2003; Ferlie et al., 2005; Fitzgerald et al., 2002; Greenhalgh et al., 2004, 2005; Robert et al., 2010; Salaman and Storey, 2002). Such studies have identified several factors influencing the adoption of innovations. One important theme to emerge in both organisational and healthcare related literature has been a consideration of how innovations become embedded into everyday practice (Colyvas and Johnson, 2011; May, 2013; May and Finch, 2009; May, 2006; Webster, 2002). Such concerns have led to the development of new theoretical ideas, which seek to better understand the adoption and embedding of new technologies (May, 2013). This paper contributes to this important theme in the context of technology adoption in healthcare practice.

In particular, we argue that adoption of technological innovations should be understood as an emergent and contingent process in that it is constantly defined, redefined and negotiated across multiple contexts in space and time. Adoption encompasses

a broad range of phenomena, including material objects, intra- and inter-organisational relations, knowledge practices, learning, power, politics, leadership, conflict resolution and competency development, and a successful outcome may depend upon complex reconfigurations of both technologies and practices, where technologies and their contexts of use become transformed over a period of time (Latour, 2005). In Science and Technology Studies literature, the notion of configuration has been previously employed to explore the mutual constitution of social and technological change and transition (Geels, 2002; Rip and Kemp, 1998). In the context of technology development and use, Fleck (1993, 1994) provided an analysis of technological systems as technological and non-technological components (re-) configured to meet local contingencies.

This study mobilises the concept of reconfiguration to explore the ways in which technological innovation becomes incorporated into everyday practice. We seek to combine the concept of reconfiguration with ideas from ‘practice-based’ studies that have gained currency amongst organizational and healthcare researchers (Gherardi, 2010). Drawing upon Schatzki’s (2001) notion of ‘field of practices’, we argue that viewing adoption as a process involving spatially and temporally distributed reconfigurations across technologies, professionals, patients, organizations and healthcare systems provides for a more holistic analysis.

The empirical backdrop to this discussion is provided by a case study exploring the adoption of Breast Lymph Node Assay (BLNA), a

\* Corresponding author. Institute of Health and Society, Baddiley-Clark Building, Richardson Road, Newcastle University, Newcastle upon Tyne NE2 4AX, UK.

E-mail addresses: [gregory.maniatopoulos@ncl.ac.uk](mailto:gregory.maniatopoulos@ncl.ac.uk) (G. Maniatopoulos), [rob.procter@warwick.ac.uk](mailto:rob.procter@warwick.ac.uk) (R. Procter), [sue.llewellyn@mbs.ac.uk](mailto:sue.llewellyn@mbs.ac.uk) (S. Llewellyn), [gill.harvey@mbs.ac.uk](mailto:gill.harvey@mbs.ac.uk) (G. Harvey), [alan.boyd@mbs.ac.uk](mailto:alan.boyd@mbs.ac.uk) (A. Boyd).

diagnostic innovation for the treatment of breast cancer patients. Our study reveals that BLNA adoption requires reconfigurations across multi-level fields of practice that are not always easy to implement or even identify *a priori*. In particular, we show how reconfigurations of clinical and related work practices, and of inter-organisational relations can become a major stumbling block. In so doing, we further explore the ways in which emergent practices shape the adoption of BLNA and are shaped by it.

This paper is organised as follows. The next section summarises the literature on the adoption of technological innovations in healthcare and, in particular, the ‘technology in practice’ perspective and Schatzki’s (2001) notion of ‘field of practices’. Subsequent sections describe the methodology and the context of the case study. The case study is then presented and the main findings are discussed. The paper concludes with a discussion of the contribution to the field of technological innovation in healthcare.

## 2. Reconfiguring technology adoption in practice

Social science studies have contributed towards the wider analysis of innovation processes, however, often implicitly and/or explicitly they assume a clear demarcation between functional forms of analysis, where the ‘structural properties’ of innovation are considered as key elements of success, and more critical or sociological approaches that emphasize the political nature and the social ramifications of innovation (Greenhalgh et al., 2004, 2005). Drawing upon distinctive theoretical and methodological foundations, each approach offers a different analytical lens and often contrasting explanations about the nature, role and influence of technological innovation (Timmermans and Berg, 2003). In so doing, they reduce explanation to particular disciplinary conditions (i.e. either structural properties or human agency is given analytical primacy).

More recent research on the co-adaptation of work practices and new technologies has identified alternative conceptual ways of analysing the nexus (and effects) of agents, objects and their context in situated practice (Gherardi, 2010; Leonardi, 2009; Timmermans and Berg, 2003). Drawing upon in-depth qualitative and ethnographic studies, ‘practice-based’ studies have focused on the way people actually make sense of, and work with, technology (e.g. Hartswood et al., 2002, 2003; Jirotko et al., 2005; Luff et al., 2000; Maniatopoulos et al., 2009; McLoughlin et al., 2009, 2012). In the context of technological innovation, practice-based orientations emphasize the inherently situated and/or enacted nature of adoption (i.e. technology is implemented in a specific, local context) (Berg, 1997; Gherardi, 2006, 2010; Greenhalgh and Swinglehurst, 2011; Lehoux et al., 1999, 2004; Nicolini, 2006; Pasveer, 1989). Nicolini (2006: 2755) suggests, for example, that analysing technology in practice means “shifting the attention from the supposed effects of technology to the relationships and actions that attach meaning to the new technology and that stabilize its use within the extant work and organizational practices.” Such a perspective provides a way of analysing technological innovation where technology itself is considered as a more emergent and contingent socio-technical entity (Timmermans and Berg, 2003). This reflects what has been identified as the ‘ensemble view’ of technological innovation, highlighting not only the technological artefacts, but also the social and organizational aspects surrounding those artefacts, i.e. the interaction between technologies and social structures around them (May, 2013).

A distinguishing feature of practice-based approaches is their emphasis on the appropriation of technology by user organizations through local reconfigurations. This involves both “practical efforts to make technology work” in a specific context and action to “create meanings” that enable a technology to become embedded in the

identity and culture of user communities (Williams et al., 2005: 55; 58). As such, new technology will be still further shaped during adoption and use in what has been called ‘innofusion’ (Fleck, 1988). Practice-based approaches highlight the highly contingent and malleable nature of technology use by identifying both *intentional* and *unintentional* changes resulting from local reconfiguration and situated innovation. In these processes, the boundary between technology, organization and use, far from being given and/or fixed, becomes both socially configured and reconfigurable, thus allowing alternative ways of constructing technologies’ potential meanings and uses.

## 3. Moving beyond the situated enactment of technology in local practice

Although practice-based orientations have undoubtedly shifted the focus from the effects of technology to its appropriation, it is suggested that most studies have been primarily concerned with the specifics of situated micro-level activities and local performances (Brand, 2010; Geels, 2010; Orlikowski, 2010; Schatzki, 2011; Shove et al., 2012; Watson, 2012). This focus is particularly problematic when one considers the large-scale and complex nature of national healthcare technology innovation and implementation programmes. While exploring the situated meaning of human action and experience is fundamental to any understanding of practice, it is argued that this micro-level focus of practice “while foundational, risks missing the radical implications and potential of the concept.” (Watson, 2012: 489) In particular, it is suggested that this fascination with the detailed understanding of local practice can produce empirical and theoretical “micro-isolationism”, whereby “a local empirical instance is interpreted wholly in terms of what is evidently present, cut off from the larger phenomena that make it possible.” (Seidl and Whittington, 2014: 1408) In so doing, there is a tendency to treat organizations and thus technologies as “the isolated containers of focal phenomena” (Seidl and Whittington, 2014: 1408).

In recent years, a renewed interest in the study of practice has introduced a new ‘practice theoretical approach’, which aims to provide a framework for a more integrative analysis of social, cultural and material aspects of ‘social practices’ (cf. Reckwitz, 2002; Schatzki, 2001). As one of the key drivers of this movement, Schatzki (2001) has sought to explore ways in which social practice may be better explained by reference to different ‘fields of practices’. Drawing upon a diverse strand of social theories (Bourdieu, Foucault, Giddens), Schatzki (2001) describes practice as a ‘distinct social ontology’, which sets it apart from both functional forms of analysis and more sociological approaches. He argues that from a practice orientation “the social is a field of embodied, materially interwoven practices, centrally organized around shared, practical understandings. This conception contrasts with accounts that privilege individuals, (inter)actions, language, signifying systems, the life world, institutions/roles, structures, or systems in defining the social. These phenomena, say practice theorists, can only be analysed via the field of practices.” (Schatzki, 2001: 3) From this perspective, ‘fields of practices’ can be understood as the total nexus of interconnected/interdependent human practices (practice-arrangement bundles) that unfold across multiple contexts in space and time. As Schatzki (2011: 13) puts it “the site of the social is a mass of linked practices and arrangements spread out across the globe and changing through time. All social phenomena are slices or aspects of this mass.” This definition of practice implies that an organization consists in interrelated practices distributed across interconnected social, cultural and material orders. In this view, a hospital department, for instance, consists in interrelated practices of caring, diagnosing, treating, commissioning, advising, decision

Download English Version:

<https://daneshyari.com/en/article/7333052>

Download Persian Version:

<https://daneshyari.com/article/7333052>

[Daneshyari.com](https://daneshyari.com)