Adapting Structuration Theory to understand the role of reflexivity: Problematization, clinical audit and information systems

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ABSTRACT

This paper is an exploratory account of the further development and application of a hybrid framework, StructurANTion, that is based on Structuration Theory and Actor Network Theory (ANT). The use of social theories in general and their use in information systems (IS) research in particular is explored leading to the use of the framework to examine the concept of what are termed humanchine networks in the context of clinical audit, within a healthcare Primary Care Trust (PCT). A particular focus is on the manner in which information systems-based reflexivity contributes to both entrenching a networks' structured order as well as contributing to its emancipatory change. The case study compares clinic-centric and patient-centric audit and seeks to further extend the understanding of the role of information and information systems within structured humanchine activity systems. Conclusions indicate that the use of more socially informed IS methods and approaches can incorporate more emancipatory ideals and lead to greater adoption and usage of more relevant and useful clinical information systems and practices.

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1. Introduction

The past decade has seen a systematic shift within healthcare away from paper patient records stored locally, in hospitals or GP practices, to Electronic Patient Records (EPR) accessible anywhere across the English National Health Service. This has been facilitated by the National Project for Information Technology (NPfIT) now known as Connecting for Health (http://www.connectingforhealth.nhs.uk/about/governance/), a government organisation that has resulted in linking all healthcare provider organisations together, across the country, onto a single data spine.

The ready availability of the EPR has facilitated a rapidly growing emphasis on clinical audit, directed towards the continuous improvement of patient care across England and Wales. Information systems (IS) and technologies have facilitated this and are now critical to the current operational efficiency and future strategic development of the healthcare system. One major strategic aim is to improve the delivery of care by clinicians while continuing to enhance the effective management of resources within increasing

financial constraints. However a major factor to be addressed will be the empowerment of the patient with respect to them taking control of the health services provided to them (often described as providing 'patient choice').

A problem exists over decision making and choice however, in that the patient is not put actively at the centre of the auditing process; they are the object of clinical audit but it is the clinician who initiates the audit, undertakes it and uses its outcomes to further their clinical practices. In turn this adds to the maintenance of their status as being the most powerful class of actors within the medical health system. A complex duality occurs whereby the clinicians and other actors continually utilise and interact with information technologies and systems in order to use, maintain and further develop the audit process. This complex interaction between humans and technology is poorly understood by the actors involved in the clinical audit process including managers, policy makers, Information professionals and academic researchers alike.

The context for this paper is an exploration of the role of reflexivity as a process that is enhanced or inhibited by the duality of interaction that occurs between clinical professionals, information systems and technologies. This builds on a cumulative programme of work by the authors (Atkinson & Brooks, 2003; Atkinson & Brooks, 2005; Brooks & Atkinson, 2004; Brooks, 1997; Waring & Wainwright, 2002) to develop new approaches to information systems design, implementation, adoption and use that incorporate greater emancipatory ideals. The focus of the present study

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is the development of a framework based on Structuration Theory (ST) (Giddens, 1984, 1990, 1991) and Actor Network Theory (ANT) (Callon, 1986; Law & Hassard, 1999). This paper aims to further develop this framework, termed StructurANTion (Brooks & Atkinson, 2004) as a tool for information systems research and explore its potential impact on the process of reflexivity and emancipatory clinical practice. These aims respond both to the growing maturity of research studies utilising Structuration Theory and Actor Network approaches and the need for further empirical studies exploring more critical adaptations of the approach to better understand information systems—seen as constituted by the duality of interactions caused by human agency, technology and structure (Jones & Karsten, 2008). It is anticipated that the work will contribute to future design theories of information systems (Gregor & Jones, 2007) and will assist healthcare information systems and clinical professionals engaged in implementing audit and control systems.

The first section of the paper provides a brief outline of Structuration Theory based on the initial work of the social theorist Anthony Giddens including its current adaptation within IS research. Actor Network Theory is then discussed as a complementary theory to Structuration leading to the third section which provides a rationale and brief history of the development and emancipatory focus of the adapted framework, termed StructurANTion. In the fourth section, this is used as a theoretical framework to explore the role of reflexivity and emancipatory practices in a process of clinical audit within a Primary Care Trust (PCT) organisation healthcare context. The duality of interactions between agency, structure, humans and technologies (what we have called a 'humanchine' network) is then further discussed. The final section then concludes with an assessment of the developed theory for future IS research and its potential to enhance current audit processes and practices in healthcare systems.

2. Structuration Theory: an outline

Structuration Theory offers an ontology that accounts for how societies – and it is argued here organisations – both exist, persist and change across time and space. The social system, for Giddens (1979, 1984, 1991), is recursively (re)created as a result of its human actor's knowledgeable actions and interactions over time and space; drawing on social structures and so recursively (re)creating both those structures and society itself across a time and space of its own making. Anthony Giddens identifies social structures as being Signification, Legitimation, and Domination. Through their respective real world 'modalities', these social structures enable people to first 'Communicate' with each, secondly be socially 'Sanctioned' in their actions and interactions and, thirdly, have Power over other human agency and non-human resources, authorizing respectively a persons' agency and allocating recourses. Humans draw upon each structure's modalities in their acting and interacting with others. These modalities are respectively: for levels of meaning, Interpretive Schemes based on the persons' stocks of knowledge and a facility with language; Norms that provides the individual with social rights, while also imposing on them social obligations to act in certain ways under particular conditions; and finally a Facility for authorising other peoples' behaviours and the allocation of non-human material resources in achieving some form of agency through an exercise of power (see Fig. 1).

An individual person's actions and interactions with others are facilitated through a melding of these commonly shared structural modalities. These are drawn on from the persons' 'practical consciousness' which enables and informs them about how to act

under specific social circumstances. In doing this, through their motivated actions they recursively (re)create society as an emergent property of both their inner psychological and their external societal world of social interaction. By drawing on these structures and their modalities in order to act and interact they both replicate the existing structures and incrementally change them. Thus society emerges, persists and also changes, both as an outcome and condition of human agency. If required they could, from their 'practical consciousness, provide an account, a rationalization of why they had acted under the specific prevailing circumstances. What people do, all the time, also is reflexively monitor their own and others' actions. Through their practical discursive consciousness they are capable of offering an explanation as to their and others actions and motivations. People, also, reflexively audit what they, themselves, and others, are doing as means of adjusting their current and future behaviours and in their reactions to future circumstances. This form of human reflexivity is designated here as being "Replicative" in the sense that it facilitates, unconsciously, the creation and recreation of social systems. It is not an overt, standing back from the social system, but a reflexive one that acts to reproduce societal structures giving rise to 'familiar' patterns of human agency. This it does by enabling human beings to act and interact based on practical knowledge of how to act in the world which has been gained through reflexively monitoring how they and others act and interact appropriately under familiar social circumstances. It provides an individual with a sense of personal ontological security, a sense of being, within society. Each action and encounter, to use an oxymoron, is uniquely familiar. In so doing it both reproduces and reinforces the prevailing social structurated order.

2.1. Structuration Theory and information systems research

Jones and Karsten (2008:127) in a recent review of 331 Information Systems articles that have drawn on Gidden's work concluded that there are significant opportunities for IS researchers to pursue structurational research that "engages sympathetically, yet critically with Gidden's work". Their review reiterates Gidden's rejection of objectivism and naturalistic approaches leading to concerns over some of the dominant interpretations and adaptations of Structuration Theory in IS research such as Adaptive Structuration Theory (DeSanctis & Poole, 1994) and the duality of technology (Brooks, 1997; Orlikowski, 1992). They emphasise that this should not be proscriptive however and identify three broad strands of use; application of structurational concepts, development and application of IS-specific versions of Structuration Theory and thirdly, critical engagement with Structuration Theory. This last strand relates to attempts to develop hybrid approaches such as combining Structuration Theory with other theories such as critical realism, soft systems methodology (Rose & Lewis, 2001), Actor Network Theory (Brooks & Atkinson, 2004) and also science and technology studies (Jones & Karsten, 2008). These hybrid approaches attempt to address some of the theoretical limitations and lack of empirical applications of Gidden's work within the field of IS. Jones and Karsten (2008) view the integration of Structuration Theory and Actor Network Theory to incorporate a more distinct emancipatory component (Brooks & Atkinson, 2004) as somewhat tautological; they highlight a view that a deeper reflection of Gidden's theory would allow for emancipatory change in every instant of action—due to the degree of agency and choice that is inherent within all human actors. In response to these critiques our focus therefore centres on the complementary of Actor Network Theory to Structuration Theory and in particular the dimension of agency termed translation in ANT terms and the modality of problematization.