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Analyzing the UK NHS Care Records Service (NCRS): a Stakeholder/Actor Network Theory Perspective

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ABSTRACT

Actor Network Theory (ANT) studies provide detailed accounts of how human and non-human actors gradually form stable actor-networks. Actor Network Theory has been deployed in various environments to achieve a better understanding of the roles of the humans as well as the artifacts that constitute actor networks. This paper examines the use of ANT, enhanced by stakeholder analysis as used in information systems research, to generate a rich picture of the complex implementation process of the NHS Care Records Service (NCRS) in the UK National Health Service (NHS). We propose the use of a case study, to demonstrate how stakeholder analysis can be deployed alongside ANT to identify and follow the formation of relevant actor-networks. The networks in this case are healthcare networks of services, organizations and information technologies. In this study we argue that the NCRS influences and is influenced by multiple stakeholders, who have different perceptions, try to form and mobilize different networks and operate in a highly complex and political empirical context. The application of stakeholder analysis combined with ANT in this case could offer evidence in favour of combining the two approaches in supporting decision making in health care information provision and the study of complex information systems settings more generally.

Keywords

Stakeholder analysis, Actor-Network Theory (ANT), IS implementation, NHS Care Records Service, Electronic Records

INTRODUCTION

This paper examines the use of ANT in concert with stakeholder analysis in order to generate a picture of the actors and their relationships, involved in the complex implementation process of the NHS Care Records Service (NCRS) in the UK National Health Service (NHS). The NCRS is intended to be a “broad, continuously expanding and maturing portfolio of information services covering the generation, movement and access to health records,” including electronic prescribing in hospitals and workflow capacities for the management of patients’ care pathways through the NHS (NHS, 2002). The whole initiative seeks to make individual patient information available to enhance the provision of care any where at any time at the point of need across the UK NHS; and beyond to Europe in the future. This will seek to be accomplished through a secure network, guaranteeing the confidentiality of information related to patients and healthcare professionals. NCRS is a multidimensional system involving a numerous and shifting set of participant actors, stakeholders and artefacts.

Managers and IS developers involved within the NCRS initiative often have to deal with multiple and often conflicting interests and expectations of relevant stakeholders across a spectrum of interests. We argue that it is important to consider the nature of the various relevant stakeholders, such as their power to influence the company, their legitimacy over it, and the urgency of their claims (Mitchell, Agle & Wood, 1997; Page, 2002). The extent to which a stakeholder can impose its will on a relationship is the exercise of power. Pouloudi (1998) suggests that each stakeholder can lead to the identification of further actor stakeholders. Some non-human stakeholders (e.g., the government health information policy) refer to other human or non-human stakeholders, thereby providing clues for identification of additional stakeholders. In line with that ANT is a theory that the potential to make the importance of politics explicitly transparent in the context of translating actors into an actor-network and mobilizing them to address a problematization. In the next section we attempt an analysis of the stakeholders and actors within the NCRS in order to illustrate how ANT and Stakeholder analysis can compliment each other.

The use of ANT and STAKEHOLDER ANALYSIS in the Case of NCRS

ANT and Stakeholder analysis can in combination provide a richer understanding of the complexities of the phenomenon under investigation. . In a prospective study, it could be used to identify the stakeholders and their interrelationships and how, using ANT terminology, they will be translated into a network to traverse one or a series of obligatory passage points and be mobilized to address a focal actors problematization. In an ongoing or retrospective analysis it could used to identify potential actor stakeholders, their relationships and how and why they have or have not been translated into a network. . The NCRS is required to realize a central health strategy aimed at addressing the Department of Health's problematization of the need for seamless patient care, which entails access to the patient record anywhere within the NHS at any time. The aim of this section is to present and discuss some initial findings of analyzing the NCRS to date using both ANT and Stakeholder approach, which given the stage of the project will be both retrospective and prospective.

To get the initial findings the interpretive case study methodology (Walsham, 1995) was used as a guide the collection and analysis of data. Data collection included obtaining documentary evidence such as documentation of the National Programme initiative, reports, and e-mail, and conducting a representative sample of interviews with organizational members at different levels and departments who had participated in (or had been affected by) the NCRS initiative to different extents. All interviews were fully taped and transcribed. Then, the next stage is to trace actor-network creation (Callon, 1986) in the context of NCRS.

In a clinical setting, the human actors include clinicians, nurses and support staff; among the non-human actors are artifacts such as protocols, medical instruments, drugs, electronic patient records and clinical support systems. These actors reflect the medical context. while the identification of actors becomes more specific when focusing on particular processes. For example, looking at the information management agenda within the NHS (i.e., following the links of a non-human stakeholder, such as the documents describing NHS health strategy, , patients, medical staff, managers (at different levels) and the government are obvious stakeholders. 'Following' these human actors, further non-human stakeholders can be identified; for example, the information systems that they use locally or nationally or the policies they publish. As this interplay of identifying human and non-human actors becomes an iterative process, the actual starting point in the identification process for the stakeholders of NCRS should not make a great difference on which actors will eventually emerge or presently involved.

In this paper, the focus on the NCRS results in changes in which stakeholders of the healthcare environment are relevant, because it sets a new management environment with new actors, both human and non-human, new process and thus new links across actors. Reflecting back upon the work carried out by Gandecha et al (2003) the NCRS operates across the NHS on behalf of the patient who is the main stakeholder within an episode of care. The NCRS has got to the stage where National strategies are being translated into implementation at a local level in the NHS primary care organization where infrastructure application providers are appointed. However there are far more stakeholders involved in the development, implementation and deployment of the NCRS within the NHS healthcare system. Others included at the delivery and management levels: NHS board managers, senior managers at Strategic Health Authority level, chief executives and Primary Care Organisation (PCO) CEO, the National IM/T director, IM/T managers, Chief Information Officers of PCO, health care professionals, including clinicians, doctors and nurses, social care professionals, technical staff, project managers, administrative staff, clerical Staff, the NHS Information Authority, social scientists, health economists, computer scientists, psychologists and the community at large. These are both human actors and organizational actor networks that our use of stakeholder analysis in the case of NCRS has revealed (so far, since the project is still at an initial stage).

Taking our analysis further to include non-human stakeholders, the proposed NCRS (a non-human actor in itself) moves away from the current model of multiple separate information systems, based primarily around organizational structures within the NHS, to one in which care professionals in many organizations are provided access to a single integrated patient-record service. In doing so the NCRS incorporates hospital and tertiary Electronic Patient Records, GP information systems, community services record systems, links to clinical audit and research systems and ultimately social care service systems. However, each of the current, fragmented information systems is an important non-human stakeholder within there own network. This is because these non-human systems, in use in their particular contexts (e.g., a given hospital, a health authority, and so on), have become important actors within local actor-networks, that inscribe interests and values of their local organizational actor-network stakeholders. A change in their role or existence will trigger a series of parallel technical and highly political organization and professional translations that aim at incorporating them in the NCRS implementation as an obligatory passage point for NHS health and social care improvement and integration in the future. These will impact not only on the information systems in local actor-network but on the organizations and the whole NHS. Whether these multiple actor stakeholder translations will be effectively achieved or not or fragmentation will persist, will only be revealed through

future NCRS implementation, performance and research. However the whole initiative will certainly test Latour's (1987) dictum: "The simplest means of transforming the juxtaposed set of allies into a whole that acts as one is to tie the assembled forces to one another, that is to build a *machine*. A machine as its name implies, is first of all, a machination, a stratagem, a kind of cunning, where borrowed forces keep one another in check so that none can fly apart from that group" ...of here human and non-human actor stakeholders translated around the NCRS. The notion of machinations of ICRS has been argued by Gandecha et al 2003 previously.

CONCLUSION

This research in progress paper has proposed and sought to demonstrate how, using the NCRS project as an example the powerful notion of translations in ANT, coupled with stakeholder analysis, can contribute to a richer understanding of complex phenomena.

Further research, in addition to studying the translations of NCRS as it evolves, could consider extensively the different interests and values that underpin this evolution. With reference to the case of the NHS Care Records Service(NCRS) in the NHS, the paper has demonstrated how this can take shape in practice. Following from this exercise, the importance of the focal actor chosen in the analysis was discussed, arguing that there are multiple perceptions of how a project evolves and is translated.

The challenge for the NCRS is to align diverse interests such as the following: advance social responsibility within the context of providing improved levels of healthcare; ethically implement an electronic record-keeping system; carry out an implementation approach that utilizes a systematic, well-thought-out national plan; improve healthcare delivery by using a system for data dissemination that is relevant, timely, and easily accessible whilst taking security and confidentiality issues into account. The findings will have implications for the way information management and strategy groups channel NCRS implementation or other ambitious projects in the NHS and may contribute to better implementation practices. Beyond the specific NCRS context, the study of interests and values can also lead to a discussion of better informed ways of managing ethical issues, an area of research that has ample scope for further development in both the stakeholder analysis and the ANT literature, while it remains critical for IS practice.

Our point is that both stakeholder and actor-network analyses have been influenced by the element of alternative interpretations of the network under study. Thus, stakeholder analysis enhances ANT methodologically, because it acknowledges explicitly the multiple stakeholder agendas, interests and values. This prompts the researcher to recognize that there are multiple versions (or stories) of translation in each actor-network, depending on the perspective adopted and the values and interests that characterize (or are inscribed in, in the case of non-humans) stakeholder views. Research is, it may be argued, itself a translational struggle between the researchers and their university network and the subject network(s) under review.

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