

SEEKING LEGITIMATION FOR AN INFORMATION SYSTEM: A PRELIMINARY PROCESS MODEL

Flynn, Donal, UMIST, Sackville Street, Manchester, M60 1QD, donal.flynn@umist.ac.uk

Hussain, Zahid, Bradford University, Emm Lane, Bradford BD9 4JL,
z.i.hussain@bradford.ac.uk

Abstract

This research throws light on to the role of social issues in developing a successful information system. In a case study of a community health organization, we describe how IT management carried out an integrated set of actions over a two-year period to obtain legitimation for an Intranet system from its eventual stakeholders. We suggest that, in general, a failure to obtain such legitimation may be a factor in systems failure. We use Structuration Theory and Activity Theory to develop a Legitimation Activity Model, which we present as a generalised set of activities that may be applied to other settings when legitimation is sought for an information system.

Keywords: legitimation, information systems development, IS failure, activity

1 INTRODUCTION

Social issues in information systems development (ISD) are important and a lack of appropriate attention to these can result in information systems (IS) failure (Flowers, 1996; Chae, 2003). When a new IS is introduced into an organisation, a well-known problem that can occur is user resistance (Samiotis and Poulymenakou, 2003), and a traditional approach to this has been to focus on technical ISD aspects by, for example, attempting to get the requirements right (Vessey and Conger, 1994). However, in this research, we describe how the IT management of a community health organisation, planning an Intranet system and aiming to overcome such resistance, spent a great deal of time and trouble carrying out actions to convince stakeholders that the system would bring them benefits; we show how, with this focus on social issues, they successfully sought stakeholder legitimisation.

We employ an interpretive, case study approach to investigate the organisation, using Structuration Theory (Giddens 1984) and Activity Theory (Engeström 1999) as theoretical frameworks. This results in a generalized model of the actions carried out when seeking legitimisation. Paper structure is to discuss theory, describe our research method, present the Legitimation Activity Model, apply the Model to the case study and draw our conclusions.

2 STRUCTURATION THEORY AND LEGITIMATION

Structuration Theory (ST) (Giddens 1984) provides a framework for understanding social situations by establishing a relationship between social structure and human interaction. It is concerned with (1) the influence on human interaction of institutional (structural) aspects of social life such as rules, communication and power structures; (2) the production and reproduction of these structural aspects through human interaction. The term ‘duality of structure’ represents the central element of the theory, expressing the notion that structure not only influences interaction but is also produced by, and cannot be conceived without, interaction. *Structure* within ST consists of memory traces, which are continuously re/produced by individuals’ actions. *Legitimation structures* are one of three types of structure, and consist of, for example rules that set out acceptable social practice. *Interaction* consists of behaviour that is constituted by individual values, motives and desires. An example of structural shaping is where individuals *sanction* (justify) their behaviour with reference to legitimisation structures such as organisational rules. *Modality* is a bridge between interaction and structure, and individuals draw on a variety of modalities, such as personal norms, in order to produce structure.

One of the main uses of ST by IS researchers has been for sense-making of the various forms of technological and social shaping of human behaviour that occur in the IS context, particularly focusing on the requirements, design and use stages (Walsham and Han 1990). Authors have studied such shaping involving structures perceived as being located within the organisation or within an IT system. Macintosh and Scapens (1990) describe how structures of power and legitimisation built into organisational IT accounting systems both shape, and are shaped by individuals. Scheepers and Damsgaard (2001) investigate the fit, or its absence between structures inscribed into systems and organisational structures.

Emphasising legitimisation, Orlikowski (2001) describes how IT systems act as sources of legitimisation, and Brooks (1997) uses structures of legitimisation for explaining how work-related tasks are sanctioned by adhering to the norms of the designing/draughting profession, inscribed into a CAD system as rules. Outside of ST, Banville (1991) provides a historical introduction from several disciplines, and, with Brown (1995), emphasises the importance of obtaining legitimacy for a project to succeed, suggesting the inclusion of legitimacy-determining methods within ISD. Brown (1998) discusses how organisational power groups can use legitimisation to achieve employee enthusiasm and commitment. The importance of legitimacy as a stabilising organisational force is discussed in Chakravarthy and Gargiulo (1998), and Silva and Backhouse (1997) discuss its importance in the

institutionalization of an information system. Suchman (1995) reviews legitimacy literature and identifies pragmatic, moral and cognitive legitimacy types based on the reasons for granting legitimation. Unlike our research these researchers consider legitimacy and legitimation in less detail in their research. The emphasis in our research is not on shaping by structures or isolated actions aimed at achieving legitimation, but to cover a gap in the IS literature by describing the micro-political process over a long time period of producing a legitimation structure that sanctions an Intranet system, and we develop a generalised model of the process that outlines human interaction.

3 RESEARCH METHOD

The study context was the development of an organisation-wide Intranet system in a community health organisation. This project was led by IT management and a wide set of stakeholders were involved in setting requirements and providing computer system specifications for potential software vendors. This phase of the project took about a year. After the software system had been delivered, stakeholders were involved in adoption and integration. We met 21 stakeholders and made 35 visits involving 89 meetings between June 1998 and December 2001.

We adopted a qualitative, interpretive case study design (Walsham 1995), informed by Banville's (1991) research design for legitimation studies. Access was gained by personal contact and maintained by establishing trust, promising confidentiality of data and respondent validation. Hammersley's (1990) validity and relevance criteria were used for our research design. For data generation, we used interviews with semi-structured questionnaires, focusing on requirements and adoption/integration topic areas, informed by ST structure and interaction types; we also used observation in meetings, seminars, events and informal discussions. Longitudinal studies allowed us to study and (dis)confirm behaviour by repeated observation over a long period, rather than a snapshot view. One researcher (ZIH) carried out data generation, assuming the role of participant/observer; data analysis was undertaken by both authors. We had approached this research in a very inductive manner, and we were interested when data analysis began to reveal that the legitimation dimension of ST was providing insights concerning stakeholder behaviour. It also revealed that a small group of individuals performed many different, but coordinated types of activities, which were shaped by organizational history, such as memory of IT success or failure, as well as by current conditions, such as the characteristics of stakeholders from whom legitimation was being sought. We iterated between data analysis and generation until we had explored all relevant data to make sense of our findings.

4 LEGITIMATION ACTIVITY MODEL

We enrolled Activity Theory (Engestrom 1999) to help us generalize the coordinated activities arising from data analysis, as it takes a holistic perspective, viewing activity as situated in Activity Systems and as culturally and historically located in communities. We found its perspective concerning the occurrence of change and development - seen as the result of the overcoming of contradictions - to be very relevant to our findings. Within an Activity System, the unit of analysis is a work Activity, consisting of: (1) the purpose or motive to which community members direct their activity; (2) the individual workers involved and their collaborators; (3) the conceptual models, tools and equipment used; (4) the rules, culture and context that govern how they work. Building on activity theory we introduce our Legitimation Activity Model (LAM). A legitimation activity, which has for its *motive* the gaining of the desired legitimation, consists of *actions*, each of which has a *goal*. Using these concepts we conceptualised the process of a legitimation seeker seeking legitimation from a legitimation provider as an Activity, with the motive of building a legitimation structure, and we developed a generalized Legitimation Activity Model (LAM), shown in figure 1.

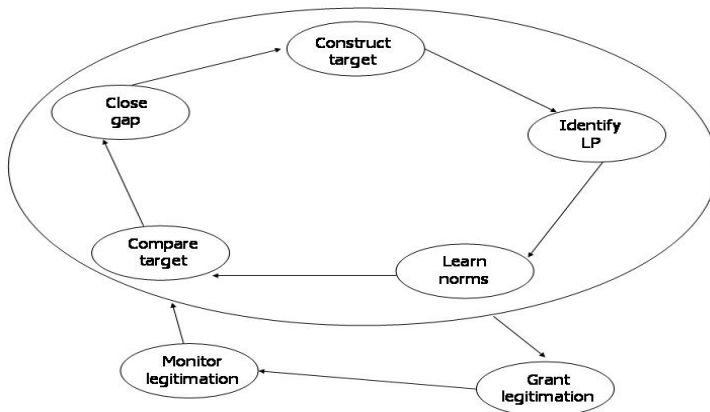


Figure 1: Legitimation Activity Model

A legitimation structure sets out what is or is not acceptable social practice, and we conceptualise it as by referring to: an *object* (the artefact, belief or activity which is legitimated or not); the *reasons* for granting/withholding legitimation; underlying *values* of the reasons; the granting or withholding of legitimation for the object. As in Figure 1 the process of legitimation involves a number of stages: (1) the legitimation seeker, defines the legitimation target eventually required. (2) Having established the target legitimation the legitimation seeker then attempts to identify the legitimation provider. (3) The legitimation seeker then learns about the norms of the legitimation provider in order to judge how to approach the provider. (4) Once this learning has taken place, the legitimation seeker compares their target legitimation to the norms of legitimation provider to assess the degree of correspondence. This comparison is important to evaluate the gap between the target of legitimation seeker and the norms of legitimation provider. (5) Based on the type and size of gap between the target of the legitimation seeker and the norms of the legitimation provider, the former then plans the necessary activities or tasks to close the gap. (6) The process ends with the achievement of the target of the legitimation seeker after gaining the legitimation from the provider. (7) The next stage involves monitoring the activities by the legitimation seeker to see if they have had the anticipated impact.

5 CASE STUDY - APPLYING THE LEGITIMATION ACTIVITY MODEL

5.1 Background

Community Health Organizations in the UK National Health Service are geographically dispersed and consist of different professional specialisms, loosely gathered under an umbrella of a centrally located administration, sharing services such as human resources, procurement and IT. The organization we studied, MedService (a pseudonym), operated from ninety nine sites with over 3,500 workers, and its main specialisms were midwifery, heart rehabilitation, mental health, chiropody, child dental health, school nurses, home visits (typically for geriatric care), geriatric rehabilitation and disability equipment. Specialisms delivered patient services in a variety of ways; for example, chiropody took place in day clinics, geriatric rehabilitation in residential care homes and nurses visited schools.

We discuss below how legitimation was sought and obtained for an Intranet Project, and we begin the story mainly from the perspective of the IT Manager, who conceived the project and was the key individual driving force behind its development. He had been recruited recently by senior management (the Trust Board) on the basis of his business experience, and was expected to make innovative use of IT within MedService. Due to new government ventures and drive towards the adoption of IT MedService management and workers were highly cautious and aware of political implications of their behaviour. The IT manager perceived his job as particularly difficult since senior management

were sceptical, workers were largely IT-illiterate and MedService culture was not IT-receptive. We describe how he gained acceptance from health workers for the Intranet Project where the legitimation-seeking process took fully two years, and can be said to have begun only as an idea in the IT Manager's mind that organizational communication needed to be improved. One of the very first activities that he undertook soon after he joined MedService was to conduct an information needs survey among health workers. This was presented to workers as an exercise to obtain their information needs, but it also served three other purposes: (1) to understand individuals' norms and their positive or negative views with respect to information and IT; (2) to provide knowledge concerning their information needs that could be useful in seeking legitimation; (3) to provide a reason for later meetings with individuals to probe more deeply into their norms concerning information and IT.

5.2 Actions of the Legitimation Activity Model (LAM)

We applied the LAM (shown in figure 1) to our research context for investigating IS development.

Construct desired legitimation structure (target). Initially, a desired legitimation structure was not formulated explicitly. The IT manager wanted to learn fully about existing norms, so as to propose a system that he thought would be acceptable to most legitimation providers as well as embodying his own views on the nature of the change the organization required. A few months into the Project the discussions were taking place concerning about the best way to satisfy information needs was pointing towards the acceptability of an Intranet solution, did the desired legitimation structure become visible in our conversations with IT management. This concerned a new Intranet system, and its characteristics were that it would improve internal and external communication, chiefly by focusing on the diffusion of descriptions of professional work practices and by providing email. Underlying this public legitimation structure were their private norms that worker's IT literacy needed to be improved and that change to the organizational culture to become more IT-receptive was required. The IT manager said: *"I was looking for something like this [the Intranet] anyway for us here"*.

Identify legitimation provider (LP). A central plank in the strategy to identify key legitimation providers was the recruitment by the IT Manager of a communications manager early on in the Project. This individual was a woman who had worked in the organization for nine years in a variety of roles, and who knew and had worked with many line managers of the different specialisms. As she said to us: *"Believe me I've been there I know what they're really like"*. She and the IT Manager formed a close-knit team and planned a strategy, based on her knowledge, identifying which individuals were problematic concerning IT-related change, which were key potential legitimation providers, and, based on these, what were the key specialisms; they then evolved a detailed timetable of project stages, specialisms, individuals, meetings to guide the legitimation-seeking process. Workers such as community and ward nurses could explicitly reject the use of the Intranet, as they could argue that they were there only to care for patients. Line management possessed a degree of formal power to reject the Intranet. Medical workers such as doctors and dentists possessed a lot of expert power and had the necessary backing of their professional bodies to reject the Intranet.

The communications manager carried out this strategy by having informal discussions with identified individuals. Initially, these were based on her organizational knowledge, as well as the results from the information needs survey, but they were modified as she and the IT Manager learnt more about individuals, their influence over others and their IT-related views. She said that: *"Change has been difficult due to the resistance of both clinical staff and general IT ignorance of line management. There were small 'pockets' of enlightenment from the younger end of the age spectrum"*.

She had a partially-written agenda for most meetings she conducted and, certainly in the initial stages of the Project, the possibility of an Intranet was never made explicit. Instead, as a member of the IT Department, she was able to arrange meetings to discuss matters such as the usefulness of existing computers and software packages and the level of IT training and skills, and only later expand the discussion to matters such as responses to the information needs survey and possible solutions to any problems identified. She negotiated with line managers to identify projects that would directly address

the information needs of their workers; she would then discuss with them the way in which technologies such as the Intranet could contribute to these needs.

In parallel with this 'covert' exercise, a more overt programme of discussion groups, concerned with how information was currently used and its importance, was arranged with representatives of key specialisms, the IT manager, and the organizational Human Resources Director. This Director was chosen by the IT Manager as an ally as he had worked for the organization for a long time, was trusted by health workers but was sympathetic to IT-related change. Such groups were also useful for observing workers within a specialism and noting those able to influence their colleagues.

Learn norms/legitimation structures of LP. To learn the norms of potential legitimation providers, the communications and IT managers were particularly interested in those individuals who were strongly positive or negative concerning the introduction of IT and possible changes to work practices. In regular meetings they reviewed the reasons these individuals gave for their views, discussed the norms underpinning these views and, where appropriate, devised arguments and strategies for turning them in a 'positive' direction. One strategy was to find a friend of an individual with strong negative views and to use their knowledge to understand the individual's reasons more clearly.

Norms were learnt chiefly through the personal visits and group discussions at the same time as the key legitimation providers were being identified. Additional ways in which IT management learnt worker norms were: (1) feedback from meetings between IT department workers and health workers; (2) enrolment of the Contracts Director, who had been with the organization for 25 years in various positions, and was widely trusted, to give seminars emphasising the benefits an Intranet would bring; such meetings provided feedback on individuals' norms.

Compare target to norms/legitimation structures of LP. How far the legitimation seekers had to go in achieving approval for the Intranet was determined by looking at the nature of the 'gap' between IT management's target (the desired legitimation structure) and the health workers' norms. Possibly the strongest of the health workers' norms were to: (1) resist change to existing work practice; (2) view IT as an unnecessary burden. IT management judged that the gap between the health workers' norm that IT was a burden, and their own norm that organizational culture needed to become more IT-receptive, was surmountable, as long as change to patient care was not proposed.

On other issues there was not such a gap. For example, the information needs survey had expressed health workers' need for better information and communication between each other. Using this as a basis, and integrating it with the norm concerning issues and initiatives that directly influenced and helped workers in their job, IT management formulated what they hoped to be an achievable target - emphasizing improved communication to be brought about by the Intranet system. They privately hoped that workers would have a positive reaction to the system which would correspondingly increase their IT awareness and change organizational culture in terms of perception and beliefs about IT. A further, yet more private aim, was to raise interest and ultimately demand for the IT services.

Carry out tasks to close gap. Success would depend on changing the views, norms and values of health workers and their line management in a pro-IT direction. A number of activities were performed by IT management to close the gap:

- Communicating the results of the information needs survey to health workers, explaining how new technology such as the Intranet could meet their information needs. This was communicated by an organised programme of PowerPoint-based seminars in different specialisms.
- Holding Intranet awareness workshops and demonstrations to health workers to make them aware of the benefits of Intranet and its potential uses. Members of IT Management visited different specialisms to talk to line management and workers about the Intranet. The IT Manager said: "We set up discussion throughout the organisation".
- Holding preliminary training sessions on the use of the Intranet.
- Enrolling the HR Director to set up departmental discussion groups for planning the best use of the Intranet so that its use could be optimised.

- Towards the end of the Project the IT Department informally appointed departmental Intranet Representatives, who would help to create homepages and help workers to use the system
- A feature of the Intranet was that health workers could have email addresses. Line managers from the key specialisms were targeted first, and given new laptops, email accounts and training in email use. The managers found these to be useful and soon everyone wanted an email account.

We asked the communications manager a few months after the implementation of the Project: *“What did you do to encourage the workers to accept the system?”* She replied: *“A lot of talking, showing by example. It takes a lot of time and patience. Having e-mail was a status symbol. Having a laptop with remote access was the ultimate”*.

Grant legitimization. Initially, line management had seen the Intranet as a burden. As a line manager at the cardiac rehabilitation clinic said: *“She’s [the communications manager] been a few times to give us talks. I didn’t know that it would be useful in that way ... oh well ... I’ll give it a try if they [the IT Department] do actually give us the computer and it works”*. Soon after activities to close the gap had started, health workers began to show signs of approval. For example, in an interview held during the middle of the project a worker commented: *“The system will enable medical and nursing staff to access and use relevant information for education and updating”*. The possibility of workers having access to organisational and external information, having an email address and not requiring much technological training was seen by them as a positive factor. The Intranet was going to be a new concept for organisational workers and was going to change their way of thinking and their norms. For example, a manager said: *“You have to use it to gain expertise and see it as a legitimate part of the job. Managers like myself need to become fully conversant with IT systems as they develop”*.

The workers were more convinced that the Intranet would help to achieve more horizontal and vertical communication through: (1) use of email to send messages; (2) use of homepages to publish or broadcast information related to the department or speciality; (3) sharing of computer applications to carry out a task, such as inputting patient records, work scheduling and diary. As a line manager said: *“It could allow a shared use of organisational IT applications, such as the data about mental health patients”*. (4) Collaboration between different departments and workers when enhancing Intranet use, in tasks such as creating data entry forms or checking patient records. Such dialogue would take place between workers in different departments of similar status and also between senior and junior staff. The IT Management, finally, gained legitimization essentially by changing health workers’ norms about the usefulness of IT in their organisation.

Monitor legitimization for compliance. Due to a worker norm of ‘passive resistance’ to IT, IT Management monitored Intranet use in various ways: (1) direct visits by the IT workers to each department; (2) monitoring demand for Intranet use and applications; (3) receiving feedback from Intranet Representatives. The latter had extra training from the IT department and assisted their departmental colleagues, solving problems encountered. Any problems they were not able to resolve they would report to the IT Department. The IT Manager said that: *“Representatives serve as an important link with departments”*. They gave regular feedback to the IT Department in meetings and through telephone conversations. In their departments they were given a great deal of importance and, although most of them had been relatively junior workers, they came to hold a great deal of influence, as they had technical knowledge that was highly regarded and could talk directly to the IT department.

5.3 Success of the legitimization process

A few months after system implementation, the researcher asked a line manager what the major reasons for system implementation were. She replied: *“to help us to become more aware of things and to communicate with one another”*. This was a typical view. In an interview conducted a few months after implementation we asked the communications manager about the changes that had resulted from Intranet implementation as far as health worker norms were concerned. She replied: *“One of the changes is that they can see the power of technology. It can bring the world to your desk. The idea of*

being able to communicate with each other changed people's work and ways of working! They're beginning to set the pace, where in the past we've done it. Which is what I'd like it to be". She further commented that: *"More recently, some want to move further than the technology"*.

In the end after two years of legitimation seeking prior to the Intranet Project and during the Intranet Project the IT Management managed to change the norms and beliefs of the ordinary workers. In fact this Project was used as an example of success in the city. The Intranet Project succeeded as the workers used it to communicate, learn about new clinical techniques for their specialist academic courses, make shared use of IT applications, and access internal and external information, for example patient records were available over the Intranet.

6 DISCUSSION AND CONCLUSIONS

Our main contribution in this paper concerns our findings regarding the importance of seeking legitimation to achieve stakeholder acceptance for an information system. Using ST and Activity Theory we conceptualised the legitimation activity in a generalized Legitimation Activity Model, which fills a research gap in this area. Implications for practitioners are that the Legitimation Activity Model can serve as a useful device for IS developers to plan, approach and gain support of appropriate legitimation in order to develop an information system that will be accepted by stakeholders. From a more critical perspective, it can be useful for workers to become familiar with management strategies for gaining worker legitimation. The effort expended in legitimation by our organization suggests that legitimation is regarded as important to achieve successful development of IS, and that management did not only rely only on their domination structures.

Implications for researchers are that the Legitimation Activity Model presents a process analysis of the legitimation activity that is sufficiently general to be investigated in other organizations. In similar case studies we have carried out, it is apparent that there are differences between organizations concerning the manner in which legitimation is planned and implemented. This appeared to be due to factors such as the size of the project, the nature of changes involved and the nature of the system. Further research is required to investigate these types of differences to refine the Model, perhaps into a more contingency-based form, and for Model results to be replicated in different settings.

In our case study, we felt that IT management had been successful in obtaining acceptance for the Intranet system, chiefly by carrying out a legitimation process aimed at changing the norms and legitimation structures of stakeholders. To obtain further evidence of whether legitimation and information system success are related, future research should attempt to establish any link between, on the one hand, perceptions of system success from different stakeholders and, on the other, the extent to which their legitimation has been obtained.

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