Chapter 6

MIS AND THE DYNAMICS OF LEGITIMACY IN HEALTH CARE

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Abstract: Combining actor-network and neo-institutional theory, this paper reconstructs the MIS development and use in a Norwegian local public health care organization. Rooted in research of governmental IT and the corresponding implementation at the municipality level, the paper focuses on how the MIS project must be recognized both as an expression of institutionally infused change and as an actor-shaped change effort. More specifically, through a historical reconstruction of 1987-2000, we spell out how the MIS project legitimizes – and is legitimized by – the different types of logic at play: administrative, professional and democratic.

Key words: Management information system, Health Care, Neo-institutional theory, Actor Network theory, legitimacy

1. INTRODUCTION

It has been thoroughly demonstrated, analytically as well as empirically, how management information system (MIS) development gets caught up in a host of organizational issues. It is, indeed, becoming somewhat of a cliché, spawning efforts to advance the argument further by analyzing more specific aspects such as: development of theoretical notions (structuration theory, actor-network theory, activity theory), alignment with strategy formation, collaborative aspects, or user participation (see Currie and Galliers, 1999). Orlikowski and Barley (2001 p.154) states “to include insight from

institutional theory, IT researchers might develop a more structural and systematic understanding for how technologies are embedded in complex interdependent social, economic and political networks, and consequently how they are shaped by such broader institutional influences". In line with this our longitudinal case study similarly analyzes one aspect of this socio-technical interplay; namely, the way the MIS develops, adopts and diffuses through processes of negotiation and in competition with institutionalized practices, interests and norms. This implies analyzing how the MIS is legitimized, or is being legitimized by, ongoing, largely independent, local and national reorganization efforts. Thus, the MIS development is delegated a role and becomes an actor in the process. Essentially, our analysis aims to point out the fragile, contingent and highly improvised manner in which the changing alliances among the actors are forged. We are particularly concerned with how this unfolds in a local public health care organization, as this provides a vivid illustration of how the rhetorical thrust of public reforms meshes with local practices and priorities. Moreover, we will illustrate how the MIS, as a type of innovation in its different phases of adoption and diffusion, is influenced by the dynamics of legitimacy; i.e., we analyze how the problem of legitimacy is managed and how this influences the direction of the development process.

We begin the remainder of this paper by outlining our theoretical framework, arguing that neo-institutional theory needs to be supplemented with perspectives that are more sensitive to the fine-grained dynamics around the institutional embedding of a MIS in a public sector reform in general, and in processes of legitimization in particular. Actor-network theory (Latour 1987) is, in our view, a good candidate for that. Next, the research design is presented, followed by background on reforms and discourses on the restructuring of local and national public health care in Norway. The next two sections comprise the empirical core of our paper, a historical reconstruction (1987 – 2000) of the MIS development in the municipality of Trondheim. The final two sections consist of our discussion, interpretation of the implications of the process, and concluding remarks.

2. THEORETICAL FRAMEWORK

According to actor-network theory, humans and non-humans are linked together into actor-networks (Hanseth and Monteiro p. 331). Actor-network theory also assumes that (a section of) society is inhabited by actors pursuing interests and that an actor's interest can be translated into technical or social arrangements, for instance, an IS routine. A basic question it attempts to

answer is how a diverse group of actors reach agreement at all; that is, how a social order establishes a certain degree of stability or exhibits structural properties. According to actor-network theory, stability is the result of the social process aligning an initially diverse collection of interests “into” one accepted “truth” or stability. Truth or stability is therefore the result of reaching a certain degree of alignment of interests. Accordingly, the focus of such investigation is on those processes through which socio-technical networks are (or fail to be) created, sustained and dismantled.

Hanseth and Monteiro (1996) argue that actor-network theory offers a more specific and concrete approach to research the development of MIS than Giddens theory of structuration. Walsham (1997) discusses the possibility of a combination of these two, stating that “a combination of [Giddens structuration theory] and the methodology and concepts of actor-network theory would offer more than either one”. Yet, we argue for a need to complement Giddens structuration theory and actor-network theory with perspectives that deal with the institutional context more explicitly than provided by Walsham (1997). At the same time, we intend to be critical of some aspects of institutional theory. We follow Orlikowski and Barley (2001) who argue that information technology research can benefit from incorporating institutional analysis, while organizational studies can benefit by following the lead of information technology research in taking the material properties of technology into account.

Within a neo-institutional perspective, formal organizational means such as MIS are considered rationalized myths. Rationalized myths are impersonal (collectively defined), taken-for-granted notions about what kinds of means are “rational” relative to given (institutionalized) ends. They are embedded in institutional environments and tend to persist over time because they are deeply rooted in professions, programs and technology (Meyer and Rowan 1991; 41). In organizational fields that undergo change and reform efforts, there will be conflicting and competitive rationalities and complex and conflicting environments. Accordingly, the problem of legitimacy will be pervasive when a field undergoes change. Within neo-institutional theory, organizational structures are argued to have importance apart from (and regardless of) their impact on participant behaviour. The structures are viewed as signifying purposefulness and rationality internally, and viewed as demonstrating the organization’s connection to and congruence with wider belief and rule systems externally (Scott 1994). Accordingly, technological artifacts can be treated not only as rational instruments, but as also having an institutionalized value.

Recent studies of legitimacy seem to be divided into two distinct groups – the strategic and the institutional – which often operate at cross-purposes (Suchman 1995 p.572). The first group adopts a management perspective and emphasizes the way in which organizations instrumentally manipulate and deploy evocative symbols in order to garner societal support. The second group adopts a more detached stance and emphasizes the way in which sector-wide structuration dynamics generate cultural pressure that transcend any single organization's purposive control. In our view, such a division is entirely arbitrarily. We assert that this dichotomy is a problem within neo-institutional theory. It is precisely the relationship between the actors' strategic actions, values, norms and interests that is of importance.

Suchman (ibid p. 574) proposes the following definition of legitimacy: "Legitimacy is a generalized perception or assumption that the action of an *entity* is desirable, proper, and appropriate within some socially constructed system of norms, values, beliefs, and definitions". We have two comments about this definition. First, the concept "entity" should be interpreted broadly. It might be an IT artefact, an organizational unit or a written document. This is due to the ANT notion about an actant. It is not only humans who act. A MIS is also an active element in the actor-network in which it is being aligned. Second, legitimacy is something that is (re)produced continuously through action. Each generalized logic enters and transforms through contingent action. No organizational field of action is a passive reflection of socially constructed values, norms, beliefs and definitions (Friedberg 1997).

Heterogeneous functions, tasks, professions, client groups, and organizational cultures are key features of public healthcare services at the local governmental level in Norway. The heterogeneity is reflected in different organizational principles that are in simultaneous action. This combination makes it possible to strike a fragile balance between differing interests and values, but at the same time it creates dilemmas and contradictions between democratic, administrative and professional rationalities. Institutional values, such as the right to participate in critical decision-making (a democratic logic), must compete with the necessity to manage and control the organization (an administrative logic) and the professionals' claim for autonomy within their domain (a professional logic). The key to holding this together is the clients. On a general level, they represent a shared legitimizing base for all actors in the field, but this does not mean that there is agreement about how to deliver care to the client. When the actors express their opinion more concretely, they reflect the values and interests that prevail in their own domain. Accordingly, human judgment is an important element. This judgment gives rise to difficult

discussions and negotiation about how to prioritize and what criteria to use. It is a complex mixture between professional, administrative and political judgments. In such a context, the introduction of a MIS has a problem of legitimacy. As an innovation it must go through a transformation from a *stranger* to a *friend*.

3. RESEARCH METHOD – COLLECTION OF DATA

Four sets of qualitative data form the empirical basis of this paper. These include participative observations, interviews, informal discussions and electronic- and paper-based documents. The participative observations are due to the fact that one of the authors worked as an organizational consultant and planner in the organization from 1989 to 1994. Twelve interviews were carried out from 1997-2000 with key actors. In addition, three group interviews were conducted. The objective of these interviews was to reconstruct the story by tracing important events that had an impact on the development of the MIS. In addition, informal conversations took place during the process of reconstructing the story. Finally, various documents were reviewed and included in the background research. The documents include project schemes, project plans, internal memos, and project evaluations, political plans for the health care system, and documents on national policy reforms.

4. THE FIELD STUDY

The location of this study is the city of Trondheim with 150,000 inhabitants. Within a Norwegian context, it is a large municipality. The local government as a whole has about 10,000 employees, of which 3,200 are employed within the Health Care Department. The main client groups are the elderly, the developmentally disabled, and people with mental illnesses. During the period from 1987 to 2000, health policies were relentlessly reformed. The reforms ranged from sector-specific improvement within the municipality and local administrative reforms on the local governmental level to national sector-specific reforms. These reforms were firmly in line with theoretical concepts of modern public management.

The main strategic issue driving these changes in the health-care field was the increase in the percentage of elderly within the population. Coping with this increased demand required developing new ways of service

production to find a balance between scarce resources and the maintenance of a good quality of service. In that respect, an important controversy was the allocation of resources between home-based services and services provided in nursing home settings. The trend has been to prioritize home-based services at the expense of institutions. The legitimizing basis for this is that such a strategy contributes to better quality of service for each client and is the most effective use of resources on the organizational level. But the challenge, seen from the point of view of the administration, is how to find the right balance between these two services. This strategic issue is a mix of politics and technological issues. The MIS should be an instrument that provides the administration with a knowledge base that documents the positive effects of such a strategy. It should make political decisions concerning the allocation of resources and the development of the service-structure more in accordance with empirical facts.

The main actors in service production units include administrative nurses, surgical nurses, home-help workers, nursing assistants, health managers, doctors, physiotherapists, ergonomics professionals, and psychiatric nurses. Both nursing homes and service production units in home care are geographically dispersed throughout the city. Thus, the organization of care services in municipalities holds many similarities to the imaginary organization (Hedberg 1994) with few face-to-face contacts among the process-dependent actors.

At the administrative level were the following actors: 1) The Manager of Nursing Care (this actor was the driving innovative force and the entrepreneur behind the MIS); 2) The health care manager (a new leadership position due to the reorganization in 1992, yet the same actor as the person who was the Manager of Nursing Care); 3) Project leader (a nurse manager that was assigned to the project of developing the MIS); 4) Administrative staff (Economic, organizational, personnel) and 5) IT consultants. In addition, middle managers, system developers (IBM, Telenor) and IT-engineers from SINTEF (an applied research center) complete the complement of players.

5. THE EXPLORATIVE PHASE (1987-1992)

The MIS was introduced during a period of comprehensive effort to modernize care services in the municipality of Trondheim. One actor, the Manager of Nursing Care, was the main change agent. Being a former researcher within geriatrics, he entered the scene having relatively clear and

ambitious notions about “how to do it”. He initiated several change efforts partly rooted in sector-specific ideas and partly in theories of modern public management. These ranged from new organizational structures focusing on a goal-oriented delivery of services, to the introduction of new management practices and the implementation of nationally initiated health care reforms. In a certain sense, he was a politician and entrepreneur, trying to influence both the actors at the grass-roots level and those elected by vote. In doing this, he was both a “stranger” and a “friend”. He was firmly in line with current trends within the field, both within health care and modern public management. But this mixture also made him a stranger with regard to the institutional values at work on the grass-roots level. He might be characterized as a translator of general ideas embedded in the on-going reform efforts, trying to make them materialize in practice. To accomplish this goal, he was dependent on the other actors in the field. They represented obligatory passage points through which the change initiatives needed to pass (Latour 1987). On the grass-roots level he managed to restructure the care services in such a way that he became the central point in the evolving actor-network. However, there were problems. The nurses felt that their dominant position as leaders of the care services was threatened. Other professionals, such as the physiotherapists, expressed “fear” of losing their professional autonomy. To strengthen his role, he initiated rather intensive interactions between himself, his staff, and the nurse managers in the districts.

The MIS materialized within a management project based on ideas from Management by Objectives (1987-1989). The project included active and wide participation by the actors at the grass-roots level and focused on two complementary issues. The first issue was a discussion of the substantial value embedded in Nursing-Care services. This was a comprehensive effort to involve more and less every employee. There were structured goals for both clients and employees. Employees were considered to be inherently valuable, not only valuable as instruments in the hands of the organization. Such an institutionalized value then is at stake in the process of developing a new management practice. Some kind of negotiation was necessary to give the project a legitimizing base. What we observed here was a kind of change of direction in which the theory of MBO is translated to fit the values and interests at work in the field. Theoretically, MBO focuses rather one-sidedly on the goal of the “organization”. In this case, the goal-structure turned into two autonomous values in which each of them had an independent and legitimate status. The dynamic of legitimacy was evidently at work.

The second issue was the need for more quantifiable and valid information about what was actually going on in the organization. The view

put forward by the Manager of Nursing Care was that there was an almost complete lack of valid data about the production of services. When requests for resources from different part of the organization were discussed, he felt it was difficult to understand the actual need for resources in concrete terms. There was also a more generalized argument. Managing according to the principles of MBO was considered to be impossible without valid information about the use of resources, as this was a prerequisite for evaluating goal achievement. This was the main legitimizing base for the MIS. Accordingly, the construction of a MIS became a concrete and autonomous element within the project. It was a statistical program that could classify the clients' situation according to certain variables such as level of functionality, living conditions, services received, and so on.

Within neo-institutional theory, Meyer and Scott (1983) introduced the distinction between technical and institutional environments. *Technical environments* are those in which organizations produce a product or a service that is exchanged in a market such that they are rewarded for effective and efficient performance. These are environments that foster the development of rationalized structures that efficiently coordinate technical work. In the purest sense, such environments are identical to the competitive markets. By contrast, *institutional environments* are characterized by the elaboration of rules and requirements to which individual organizations must conform in order to receive legitimacy and support. In institutional environments, organizations are rewarded for using correct structures and processes, not for the quantity and quality of their outputs. The health care sector is obviously operating within an institutional environment. However, the legitimizing base for the MIS implicitly stemmed from a desire to construct a system that was able to compute the cost structure of service production and to use it as input into a calculation of demand. This was perfectly in line with modern public management practices, a reform trend with a strong base in micro-economics.

The rhetoric surrounding the project was rooted in the usefulness of a "planning rationality". The project leader, an external consultant, argued that at the grass-roots level the actors were much too embedded in an individualistic "care-rationality" with too narrow of a focus on means; e.g., what kind of services were given to each client and not concerned about goal achievement in a broader sense. Therefore, the argument went, the individualistic "care rationality" must be complemented with a "planning rationality" (Forseth 1989). We see here how different values and interests operate in the field and how the Manager of Nursing Care used the external consultant as a spokesperson to try to legitimate a planning rationality at the grass-roots level.

The information system was designed as a classification card. It was called the "Main Card". An engineer at an applied research institute built the software program. By using the Main Card, the employee could classify the clients' level of functionality, what kind of service he/she should receive, possible improvements, the gap between the services ordered and the services actually delivered, and so on. A software program and a database were created which could statistically handle the data at an aggregated level. The aggregated data would be used as an input in decision-making processes for the allocation of resources. In the future it could also make it possible to assess goal attainment by measuring results.

Although the information system was both theoretically and technically well grounded in the methods of social science, the implementation failed. It became rather obvious that the actors at the grass-roots level, both leaders and employees, did not show much interest in using the system. This happened despite the attempt to give the MIS a legitimizing base through extensive participation in the MBO-project. It became a "stranger". During the years to come, several ad hoc initiatives by the Manager of Nursing Care were undertaken to make the MIS work. There was some progress but still with limited results. The Manager of Nursing Care stated, "The system survived, thanks to some key actors who believed in it". But it turned out to be a very poor management instrument compared to initial expectations. Even so, it did not die; it became a type of on-going failure. In spite of this, the Main Card became an important input in a national project concerned with the development of a computer-based statistical program. This program was renamed GERIX and was to be general standard for all the health care units at the local governmental level in Norway.

In 1988, a public reform was implemented in Norway which changed the jurisdiction of nursing home care from the county level to the local governmental level. Fourteen institutions of various sizes became a part of the Office of Nursing Care, which meant it grew considerably in size. To handle this reform, a decentralized strategy was chosen. The aim was close cooperation between nursing homes and home-based services in each district. Short-term stays in the nursing homes became a strategy. This approach was to enable clients to live longer in their homes and making the passage less dramatic if they needed to move to a nursing home permanently. This intensified interaction between these two types of services increased the need for valid aggregated information about service production. Politically, the strategy of giving priority to home-based services was controversial. Nursing homes offered security to clients; this was indisputable. However, capacity limits in nursing homes received a lot of political and mass media attention. The discussion was to a great extent

based on problems of individual clients. They could not live in their homes, but due to capacity limits in the nursing homes, they could not move there either. Such crisis incidents, which got a lot of attention in the media, increasingly put stress on top management to empirically document resource allocation. But reliable data was not readily at hand. It had to be produced in an ad hoc manner.

In spite of the slow progress in using the Main Card, the Manager of Nursing Care decided to implement the MIS in the nursing homes. A Nurse Manager was given the job to provide the necessary education to the personnel. She soon realized that the actors in these institutions did not give priority to learning the MIS. After she had worked with the project for some time, she realized that if the personnel were to use the program, they had to feel that it was useful to them for accomplishing their own work. In the summer 1990, an evaluation group was set up with the mandate to consider how the MIS could be improved. After considering different alternatives, the conclusion was to develop a new program based on the existing one and complement it with another one that had been developed in another city in Norway. This program, Stella, was constructed as a tool for managing day-to-day work at the grass-roots level. It included software programs for personnel planning and coordination of work, writing reports, and so on. A project group was established, and a contract was signed with the IT-company that had developed Stella. The "NIT PRO" project was born. It formally began in February, 1991.

6. THE TIGHT SPOT PHASE (1992-1997)

Toward the end of the eighties and particularly during the early nineties, the local government began to experience financial trouble. Initiatives were taken to remedy the situation resulting in a comprehensive reorganization, both politically and administratively. The Health Care Department was established. Roughly, the structure became as follows: Leading the department was the Health Care Manager. His staff dealt with planning, economic, and personnel issues. The level below consisted of six districts. These districts were constructed as relatively autonomous and integrated units (divisions) equipped with the necessary administrative resources to manage delivery of services in their respective geographical areas. The idea behind this structure was firmly embedded within the language of management by objectives. This local reform focused on formal organizational means to reach financial control. More or less, this new model implied the need for restructuring administrative processes. More

formalized procedures for planning and evaluating results needed to be developed. Accordingly, the reform changed the legitimizing base within which the MIS developed. In the wake of the reorganization, investments in new information technology were made. A network technology was introduced. A contract was made with an IT-firm (Teleport) to provide the organization with hardware and specified sets of software. This altered the opportunity for developing the NIT PRO project.

The Manager of Nursing Care became the Manager of the Health Care Department and thus his environment changed. This environment offered additional opportunities. He hired new staff members with competencies both within the field of statistics and IT. This time the MIS became an element in legitimizing ideas about strategic planning, evaluating results, and the need for developing new competence. At the same time, this represented a further legitimizing force for the development of NIT PRO.

To develop the NIT PRO, two persons were employed full time. One of them was the same nurse that previously had tried to implement the MIS in nursing homes. She was appointed project leader. The other person was equipped with technical competence. Together they were to develop the program in cooperation with the IT-firm. In addition, they were to plan and implement a pilot project to test the system in one of the districts. This included an educational program for those actors who were to participate and a hardware installation plan. At the outset, a cost/benefit analysis was drawn up. The following objectives were formulated: improvement of quality, better services to clients, improved and faster management of data, more goal-oriented use of the nursing expertise, and a rationalization of administrative work. The document was framed optimistically. It stipulated a potential cost reduction of 56 full-time positions per year. This optimistic prediction did not materialize.

As it played out, the project leader held a key role in the development process. She became a type of intermediary; negotiating the interests between actors at the administrative level and professionals/employees at the grassroots level. The same can be said about the cost-benefit report. By focusing both on efficiency and quality, a symbolic "negotiation" was made. Moreover this cost/benefit report was to be considered a strategic document and used as a legitimizing base for the MIS.

The pilot project turned out to be problematic. When interviewed, the project leader said that the leaders did not have sufficient knowledge about the program's objectives. Another problem that quickly materialized was the lack of existing organizational routines for updating information about the clients' situation. Accordingly, this problem had to be dealt with at the same

time as the system was tested. In evaluating the project, the participants complained about the domination of technical issues at the expense of professional issues. A rather straightforward conclusion was made that the project required many more resources than expected and that the time schedule was unrealistic.

The project leader quit her job after she had tried to implement the system with the same "methodology" in one of the other units in the same district. This was the end of December, 1993. The reason she gave was that she felt that she encountered the same problems as in the first unit, despite the improvement of the system. Her conclusion was, as she stated it: "A project like this has to be developed within the existing line of authority". Therefore, what started out as an implementation based on an adaptive strategy did not succeed to any degree (Berman 1978)! This resulted in a "new way" to approach the development process based on a programmed strategy of implementation.

Although the pilot project can be characterized as a failure, the NIT PRO project was not. The outcome of the process was a new program with a form and substance that, to a certain extent, was in accordance with the interests of the managers in the service production units. It consists of several modules covering different functions. First, at the core of the system is information about clients. This module is a further development of the Main Card. The Main Card rose to the national level and returned with the name GERIX. It had turned into a national classification system, strengthening its legitimizing base. In NIT PRO it is used as a knowledge base. The system generates a weekly plan concerning the services given to each client. In addition, the information forms the basis for the documentation of performed services, invoicing of payments and the creation of statistics. Second, there is a module called Personnel Planning. In this module, information about employees is recorded and connected to the work plan, which is built into the system. This makes it possible to generate work lists by connecting information about the work plan for the employee and the service plan for the clients. Third, there is a module labelled Professional Planning. As the name indicates, it is constructed to help professionals diagnose, design and evaluate services for the clients. This module is partially based on management by objectives. Goal setting related to management by objectives is built into the system and is used in professional planning. The program for analyzing statistical data was also improved. Technically speaking, it is reasonable to say that the MIS reached a closure at the end of 1993.

In the wake of the collapse of the pilot project and the technical closure of the MIS, a top-down strategy was chosen. This change in strategy led to conflict, which paradoxically, strengthened the legitimacy of the system. Top administration used the dispute as an opportunity to get support for the system from political figures. This was accomplished by going back to the initial idea; i.e., stressing the importance of statistical data to be used in decision-making processes. The politician strongly supported this and the problematic situation was resolved. The politician urged administrative management to involve the employees. Accordingly, it became legitimate to invest in a comprehensive educational program so the employees could learn to use the system. However through technical training the employees were to learn to use the constructed system, a system that was biased toward administrative logic, interests and values.

7. THE CONSOLIDATION PHASE

After technical closure, a new structure for coping with the implementation and maintenance of the MIS was put in place. It consisted of appointed coordinators (later called instructors) in each district. A centralized coordinating group at the top administrative level was also established. An IT-based feedback system was established to link these two levels. This made it possible to both inform the coordinating group about problems in the system and make adjustments. An operative unit was established consisting of two persons. This unit became a permanent part of the health care staff and played an important role in adjusting and improving the MIS. It was also central in organizing the educational program. The MIS that started out as a statistical program to be used for administrative purposes now became a legitimate generator of a relatively large amount of resources. The period for step-by-step implementation of the MIS in the districts lasted from the beginning of 1994 to the end of 1996. More than 500 one-day educational courses were organized. From 1997 to the year 2000, 226 courses were held, with the number of participants reaching approximately 2000.

During the period of 1997 to 2000, the MIS to a certain degree turned into an obligatory passage point in the delivery of services to the clients. About 200 workstations are connected to the server simultaneously. By producing statistics, it was also an element in a wider actor-network. It “settled down” in centers of calculation (Latour 1999) both on the local governmental level and through GERIX on the national level. However, there is only partial use of the system. The statistical data produced is used

in a highly improvised manner and on an ad hoc basis. In spite of this, it is reasonable to say the system was implemented on a large scale. Although still contested, it has become a necessity in the day-to-day activity of the service production unit.

Concluding the story, we state that NIT PRO represents a compromise. This compromise resulted from the power play that occurred during the development process. The actors at the grassroots level, when using the system for their own sake, now do the job of classification which is required for the production of statistics. The Main Card became GERIX, and its focus on the classification of the users and the production of statistical knowledge is now less prominent. It is integrated into the system of day-to-day coordination of service production and has a more invisible role. Actors at the grassroots level produce statistical data that are primarily to be used elsewhere. At the same time, they have an administrative system for their own use. The administrative elements of the MIS have been put to use, but the way they are used is far from the original intentions. The professional element is barely used. The reason is that the professional practice is to far the model of MBO inscribed into the software program. Moreover, that the surgery nurses do not use the system clearly demonstrates their freedom of action. It also demonstrates they have an autonomous legitimating base that is difficult to negotiate concretely with the administrative logic.

8. DISCUSSION: THE DYNAMICS OF LEGITIMACY

8.1 Ongoing Failure as an Acting Legitimate Force

In its first life cycle, the MIS was a failure, although it was not explicitly stated as such. It might be characterized as a failure in that the administrative management did not succeed in inscribing the system into the already existing actor-network. This was due to contradictory values and interests at work i.e. sources of legitimate power that is highly ambiguous. The formal authority of the administrative management has to compete with professional authority. From the premise that IT is the product of human action Orlikowski and Robey (1991 p. 153) states: “.....the content and form of an IT artifact tends to reflect the assumptions and objectives of its designers”. It is rather obvious in this case that the system in its first phase reflected an administrative and a scientific logic expressed with force by a charismatic leader. Moreover, the institutional values and interests that the administrative management tried to inscribe were too biased towards their

own logic; concerned with efficiency and effectiveness and relying too much on the formal authority given to them by the overall institutional system. The institutional values that prevail at the grassroots level, and accordingly their interests, obey a logic that is radically different from the logic that prevails at the administrative level. The care-logic can be characterized as: When people need help we are obliged to give it to them. When resources are scarce we have to give priority to how to coordinate the personnel in order to make the best out of it for the clients. In such a context, the MIS becomes a stranger. It was an ongoing failure, functioning as a proactive element in management processes implemented to improve organizational practice.

How can we interpret that the actors at the grass-roots level did not follow up on the intentions of administrative management? Although they did not “obey orders” they could not deny entry to this stranger. They had to cope with the Main Card as a legitimate problem in the sense that the decision to implement it was based on legitimate power; i.e., the formal authority of the administration. However, at the same time they had to prioritize in accordance with their strong legitimizing force; that of giving care to clients. Within a professional logic this is given more value than the “duty” to help the administration to produce statistical data. Accordingly, the actors at the grass-roots level were put into a dilemma in which they had to cope with prioritizing between different claims, each of which could not be completely ignored. To a certain extent they resolved this dilemma by using the Main Card in planning improvement, thereby communicating their prioritization of it as an object of development.

The moment the Main Card was installed in the service production units it started to act; i.e., the actors could not ignore it. It claimed attention positively or negatively. Viewing it as a failure, then, is based on a comparison between the intentions of the administrative management and the unfolding of events. In that respect the “implementation” turned out to be a failure. When we state that it was an on-going failure, we point to the fact that it had started to act, although fragile and primitive technically, as a legitimate actant that had to be taken into consideration by all of the actors. In that respect the Main Card did not act primarily as an instrument within a rational logic, but rather as a symbolic force signalling a shortcoming that should be handled. To have constructed and installed a system, albeit a non-working system is a stronger inscription than to simply utter verbally that there is a need for statistical information.

8.2 The Ambiguity of Participation

The dynamic of legitimacy can be found in the pilot project as well. Participatory design has a strong legitimizing base in this field. From the point of view of the administrative management it appeared to be a sensible strategy, although it demanded resources. Why did it turn out to be a failure and later become a top-down process of implementation? We propose the following interpretation: There is a difference here in the way participation is tacitly defined by the actors. Conflicting logics, interests and values are at work. The project leader wanted help to test out the NIT PRO technology. She took the system's legitimacy for granted and expected (without testing such an assumption) that she needed someone on which to test it. The participants, on the other hand, expected that they could influence the form and content of the system so it fit their interests. These interests are perfectly legitimate, but difficult to state explicitly. They did not enter into a discussion in which this was made explicit. Put in this way, we can see why the project broke down. Due to the contradictory values and interests between the structure of the MIS and the values and interest in the existing organizational practice we have a conflict of interest where a nearly-completed technological artefact was to be implemented without adjustments to make it fit with organizational practices. In a certain sense, we could say that the project manager's ability to make a compromise reached its limit between administrative interests and guiding values, and professional interests within service production units.

In the aftermath of the collapse, administrative management re-examined the development process. Administrative management chose a top-down strategy of implementation. However, in the wake of this change of implementation strategy, criticism of the system arose. The criticism was articulated both from the labour union and certain politicians. Because of this criticism, it was decided that the Control committee in the municipality should investigate the NIT PRO project. The conclusion was that the employees should participate more intensively in the project. What a paradox! Up to this time there had been very little public criticism of the system. Even the labour union had been rather silent. The criticism, so to speak, lived an informal life. We can interpret the forthcoming criticism as a result of the tensions created by the top-down strategy of implementation. Such a strategy rests heavily on the power embedded in the formal authority of the administrative management, combined with an instrumental means-end notion of implementation. We claim that participation in such a strategy is implicitly concerned with how the employees will contribute to the implementation of the system (the system considered as a neutral tool to be

implemented). The participants' possibility of influencing the process or the system itself is not an element in such a strategy. Due to the structure of domination, the employees are forced to participate in implementing a system that already has a certain structure—a structure that to a great extent is biased toward an administrative logic.

What happened next is a good illustration of the dynamic of legitimization. The above criticism became an opportunity for administrative management to further legitimize the MIS. They needed to respond to the criticism. The politicians expected an explanation. The request for such a response turned into an opportunity to get support for the goals of the project. A paper was presented which offered a historical perspective of the introduction of IT in health care. This paper underscored that the goal was to create statistical information to be used in the decision-making process. The political response was very supportive toward this goal, but they ordered the administration to be more sensitive towards employee participation. Accordingly, administration needed to show a response and the result was that the MIS started to garner resources. It became legitimate to establish an IT staff unit responsible for the maintenance of the system, technical training and a new structure concerning the maintenance of the NIT PRO in each of the service production units.

The dynamic between changes in the strategy of implementation from an adaptive and participatory design-oriented strategy to a programmed strategy (Berman 1980) (in which participation has a different meaning), and the crisis that arose resulted in a strengthening of the MIS as a technological artifact. What we see here is a transformation from a crisis into a strengthening of the MIS. The strengthening of its legitimizing base became so strong that it became legitimate for the leaders in service production units to decide that all paper-based information should be thrown away on a particular date in order to force employees to use the NIT PRO.

9. CONCLUDING REMARK

By focusing on legitimacy we have entered the symbolic dimensions of IT. This is an issue that is underdeveloped in the IT field. In line with Orlikowski and Barley (2001) we argue that neo-institutional theory with its focus on values, norms and moods of rationality can make a contribution. In this case study, there is an intricate balance between freedom of action for the actors at different levels and the symbolic games that bind them together to create the necessary minimum integration. Actors within different

domains of the organizational field operate within their own specific logic and values. A better understanding of the development of the MIS calls for an approach that goes beyond the relatively passive notion of “mediating change”. The heterogeneity of a field with contradictory values and interests and the resulting ambiguity surrounding the problems of efficiency and effectiveness must be an explicit element in the analysis. With that in mind, we underscore the highly symbolic character of the process of developing the MIS.

On the other hand, neo-institutional theory has its own challenges. We criticize the implicit tendency to classify something as either symbolic or material. Such a dichotomy is destructive if we want to explain the interaction between the technological and sociological. In this paper we have attempted to use ANT as the methodological vehicle to understand processes of legitimacy and their effects. The MIS project was delegated a proactive role. In the organizational upheaval, both at the local and national levels of health care, several actors attempted to enrol the MIS as an ally. We argue that the prevailing interests within the local health organization, employing strong images of new public administration in conjunction with the MIS, encapsulated the existing power structure thus reducing the opportunities for more radical IS-based management practices. Although there is a need for further exploration of how politics and knowledge interact during the development and use of a MIS, we suggest that reforms in the public sector need to take on the active, ultimately political, role played by MIS.

Given that legitimacy is an important aspect of the development and diffusion of MIS, more research is needed to gain a more thorough understanding of the way it operates. Although this case analysis demonstrates that conflict of interest and the use of power are important ingredients in MIS development and diffusion, we also observe a certain harmony. This is due to fact that when we add legitimacy to power; i.e., legitimate power, we are entering a world in which important issues to a great extent are not discussed because it is not legitimate to do so. Curiously, this does not mean that what is not discussed is illegitimate. Rather it is due to the fact that if it is discussed it threatens the structure of dominance. This is both the strength and weakness of legitimacy. There is someone who wins and someone who loses, but because everyone has a legitimate position no one completely loses or wins.

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