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The legitimation-seeking process in information systems development

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THE LEGITIMATION-SEEKING PROCESS IN INFORMATION SYSYEMS DEVELOPMENT

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Abstract

We investigate the importance of legitimation-seeking in IS development by describing two related projects in the Central Hospital, Bangkok. In the second project, begun immediately after the first, there were major improvements in legitimation-seeking activities and the implemented IS was a success, providing strong evidence that stakeholders perceived a direct link between legitimation failure and project failure. Our results provide insights into legitimation-seeking failure and the multiple legitimation strategies used to achieve pragmatic, moral and cognitive types of legitimacy. We generalize our results to an integrated framework of the legitimation process as well as a preliminary model of IS legitimation-seeking failure involving the mum and deaf effects. We suggest that this framework may be generalized to settings which share similar empirical circumstances.

Keywords: legitimation, legitimacy, information systems development, information systems failure, interpretive research, process model

1 INTRODUCTION

Information systems (IS) development projects are often difficult to manage because they require the deep collaboration of three parties: IS staff, end-users and management, and such collaboration is rare. Any lack of collaboration has been pointed out as an important factor contributing to project failure (Gallivan and Keil, 2003) because when one party approaches a project solely on its own assumptions, the outcome will typically not be supported or *legitimated* by others (Suchman, 1995).

Legitimation focuses on organizational objectives, artefacts, and activities (Elsbach and Sutton, 1992) concerning how these elements gain social approval from organizational constituents (Pfeffer and Salancik, 1978). It is important for an organization to receive such support and approval in order to ensure participation, acquiescence, enthusiasm, and commitment, which are necessary for managing organizational activities (Oliver, 1991; Pfeffer, 1981). Suchman (1995: 574) views legitimation as *"a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions"*.

Legitimation has been introduced in IS research by Klein and Hirschheim (1989), who point out its importance as it is directly related to IS success or failure. Their definition is: *"Legitimation is a social process by which institutions, practices and ideas gain social acceptance."* They discuss how IS projects in organizations are unlikely to succeed unless they have gained legitimation from their users. Only a few IS studies discussing legitimation have been carried out (Brown, 1995; Keable et al., 1998), and these have either only mentioned legitimation as a general concept (Banville, 1991) or have not systematically discussed legitimation strategies or types of legitimation (Brown, 1998; Kohli and Kettinger, 2004). Therefore, little is known about the process of legitimation-seeking in IS projects, and the strategies that can help achieve the required legitimation from users.

Our research objective was to study the process of legitimation-seeking in two related IS projects at a hospital in Thailand, characterized by a failure to obtain legitimation in the first project, followed by success in the second. We employed an interpretive, case study approach using the Suchman (1995) typology of legitimation and the Legitimation Activity Model (Flynn and Hussain 2004). Our paper structure is to discuss theory, describe our research method, apply the model and typology to the case study and draw our conclusions.

2 THEORETICAL FRAMEWORKS

2.1 Typology of Legitimacy

According to Suchman (1995), legitimation can be classified into three types: pragmatic, moral, and cognitive. Organizations can achieve ***pragmatic legitimacy*** by providing what their audiences need, for example, in terms of direct exchange (e.g. money) or larger interest (e.g. improved working conditions). They can promote ***moral legitimacy*** by responding to the principled ideals of their audiences, for example, for organizations to produce "meritorious outcomes" (Suchman, 1995: 588). Lastly, they can improve ***cognitive legitimacy*** by demonstrating that they had conformed to taken-for-granted or collective success models in their environments (DiMaggio and Powell, 1983), for example, applying technologies being adopted by successful companies. As summarised in Table 1, Suchman (1995) suggests several strategies that can be employed to acquire these three types of legitimacy.

Types of Legitimacy	**Strategies**	**Key Description**
Pragmatic	Respond to needs	Respond to requirements and expectation of constituents
	Co-opt constituents	Co-opt influential actors to be involved in decision-making
	Build reputation	Trade reputation of organizations or key personnel in related activities
	Locate friendly audiences	Identify and attract constituents who value the sorts of exchanges that the organization is equipped to provide
	Recruit friendly co-optees	Invite active constituents to take part in organizational activities
	Advertise product	Persuade particular partners to value particular offerings
	Advertise image	Use image to influence decision-making procedures.
Moral	Produce proper outcomes	Present that outputs of actions are respected and appropriate
	Embed in institutions	Embed new practices in other already legitimate institutions
	Offer symbolic displays	Employ symbolic displays to support activities e.g. using names of well-known actors to represent supporters of organizational actions
	Define goals	Espouse socially accepted goals
	Demonstrate success	Demonstrate accumulated technical success
	Proselytize	Apply pressure to improve existing negative beliefs
Cognitive	Mimic standards	Mimic the most prominent and secure entities
	Formalize operations	Bring previously marginal activities under official control
	Professionalize operations	Link organizational activities to external definitions of authority
	Seek certification	Acquire specific certifications as a means of adopting a conformist stance to available standards
	Persist	Persist with existing reproducible organizational actions
	Popularize new models	Promote comprehensibility by explicating new cultural formulations
	Standardize new models	Promote taken-for-grantedness by encouraging isomorphism

Table 1. Typology of Legitimacy (Suchman, 1995)

2.2 Legitimation Activity Model

Flynn and Hussain (2004) propose the Legitimation Activity Model (LAM) to describe the process of IS legitimation-seeking. From Figure 1, LAM is constructed as a cycle constituting seven stages and reflecting the interplay between two major actors in IS projects: Legitimation Seekers (LS) and Legitimation Providers (LP). LS are the project authorities (e.g. the project leader) who attempt to seek legitimation of a proposed IS by initially constructing a target consisting of the objectives and characteristics of the IS. LP are the project recipients (e.g. users), whose support and approval of the proposed IS are sought by LS. The legitimation process commences when LS begins to construct a legitimation target. Generally, the legitimation process should encompass the stages depending on how LS have carried out activities for legitimation seeking. LAM stages are summarised in Table 2.

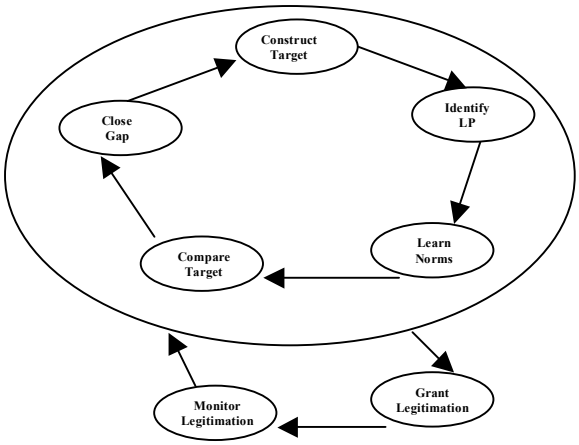

Figure 2. Legitimation Activity Model (Flynn and Hussain, 2004)

LAM stages	Examples for IS projects
Construct Target	Project authorities construct a required legitimation target, e.g. proposed IS, IS objectives, changes to work practice, introducing new technology
Identify LP	Project authorities identify the most sceptical stakeholders e.g. stakeholders who do not see the IS as important, or stakeholders who refuse to use the IS
Learn Norms	Project authorities learn values, beliefs, and definitions of target stakeholders
Compare Target	Project authorities identify the gap between the norms of target stakeholders and the legitimation target
Close Gap	Project authorities carry out several strategies to close the gap, e.g. using a co-optation strategy by hiring senior users into committees for decision making or modifying users' norms and shaping them into the target
Grant Legitimation	Project authorities check whether target users accept or decline the IS project
Monitor Legitimation	Project authorities monitor the status of legitimation

Table 2. Stages of LAM

3 RESEARCH METHODOLOGY

An interpretive case study approach (Walsham, 1993) was employed, as recommended by literature in this field (Brown, 1995, 1998; Flynn and Hussain, 2004) to investigate the HIS development project at CEN. The data collection was conducted by one of the authors (WP) who was familiar with the language, context, and culture of Thailand. The main data collection was semi-structured interviews with the project team and several users (see Table 3 for interviewees). The project team consisted of the Administration Director and the EDP team. Nineteen pre-arranged interviews were carried out and

each interview typically lasted 1 hour. Relevant documents such as an organization chart, medical record paper files, project reports and internal forms were gathered to triangulate the interviewed data. Data collection was performed between April and June 2004 after the project was completed.

Therefore, data presented in this research were mainly reconstructed from memories of the respondents. Interview topics were guided by LAM and Suchman's (1995) typology of legitimacy. The transcripts of the interviews were analyzed by four major approaches. Firstly, the transcripts were used to produce a sequence of project events, as suggested by Newman and Robey (1992). As seen in Figure 2, project events were presented by using the process model adapted from Newman and Robey's (1992) model. Each circle represents an event, named by its project order. Antecedent conditions refer to events that occur prior to the project. The response towards the outcome of each event is described by one of the three types: Acceptance (ACT), Equivocation (EQV) or Rejection (REJ). Acceptance means that the outcome of the event is legitimated; rejection means that the outcome is not legitimated while equivocation means that the outcome is undecided. Secondly, LAM was used to analyze the sequence of events in the project related to the emergence of the legitimation process. Thirdly, Suchman's (1995) typology was used to determine the legitimation strategies employed in each stage of the project. Lastly, grounded theory (Glaser and Strauss, 1967) was employed to analyze project events to derive the patterns of action in the legitimation process, especially concerning the success or failure of legitimation attempts.

Group of Interviewees	Interviewees
Management	Administration Director (Project Director)
EDP Team	Assistant Administration Director (Project Leader and acting EDP manager), System Engineer
Stakeholders	Reception Manager, Head of IPD Ward 12, Head of IPD Ward 9, Head of OPC 2N Nurse, Purchasing Manager, Pharmacy Manager, OPC 2S Nurse, OPC 2N nurse, Purchasing Officer, Pharmacist1, Pharmacist2, Pharmacist3, Receptionist

Table 3. Project Interviewees

4 MAIN PROJECT EVENTS

4.1 Antecedent Conditions

Central Hospital (CEN) is a large for-profit hospital located in Bangkok, Thailand, providing a variety of healthcare services, with 350 single-bed rooms serving approximately 1,000 daily outpatients. Since CEN considered technology as a necessary vehicle for hospital services, it produced an IT strategy for improving and changing hospital information systems (HIS) every 4-5 years. When their HIS was approaching three years of age, the EDP department began searching for an upgrade or replacement. The HIS project at CEN was initiated in 2000 when risks for maintaining Ray, the current system, had been discovered including the demise of Ray's software vendor and the discontinued production of their current main server and DBMS. For these reasons, CEN needed to take immediate action towards replacing Ray. CEN carried out a market survey of suitable software packages. However, due to the country's economic crisis, the project could not start even though CEN was in a hurry.

4.2 Project Events

Events 1-5: In July 2001, the project was announced and three systems emerged from the market survey: MDA, e-Treatment, and Meddex. MDA was a Thai package while the latter two came from Australia. A software selection process took place. The heads of departments were invited to participate in the process by attending software vendor presentations where they chose MDA. However, the EDP team preferred e-Treatment to MDA and proposed e-Treatment to the Administrative Director.

Events 6-7: The Administrative Director did not agree with the EDP team and chose Meddex instead. The EDP team were opposed and warned the director about the reliability of Meddex. The Administration Director however insisted on sticking to his decision.

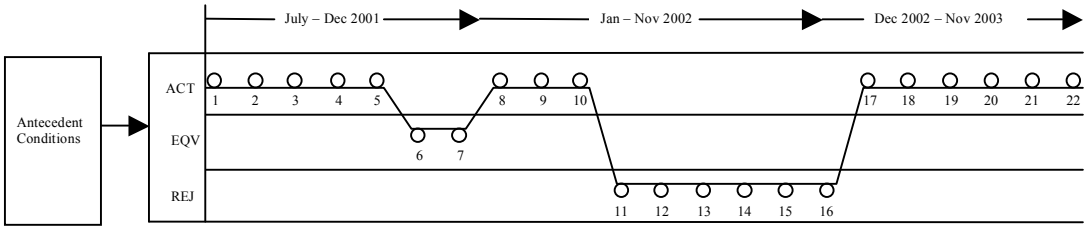

Figure 2. Events in the HIS development project at CEN

Events 8-10: In January 2002, customization of Meddex began. Key users were recruited by the EDP team to help the software setup process. However, they had to work for the Meddex team who were from the software vendor. Users were trained in Windows and Meddex by the Meddex team with a series of courses and exams. The Meddex team reported to the project team that the training was carried out successfully. The project team accepted this without observing how users felt about the new workflows and software that were introduced to users for the first time in the training.

Events 11-16: Meddex went live while Ray was cut off. Chaos began soon after the implementation as the patient admissions module failed and data was too complicated for users to understand. During the ten days of implementation, many problems remained unsolved while the Australian team flew in to evaluate the situation and CEN's top management got involved. The Australian team offered Meddex for free hoping to improve the situation. CEN rejected the Australian team's offer and terminated the project.

Events 17-19: In November 2002, one month later, the project team returned to previously rejected system options. The MDA vendor was invited to give another presentation to department heads and key users who were committee members for the selection process. MDA was chosen by their decision. The customization for the first module was completed within one month and users were trained for MDA. The first module went live.

Events 20-22: The project team employed modular implementation and parallel run strategies throughout the project. By April 2003, after 5 months of implementation, MDA had been successfully implemented with close attention from the project team.

5 DATA ANALYSIS

This section applies LAM and Suchman's (1995) typology of legitimacy to analyze how legitimation activities were carried out at CEN. Since LAM is constructed in the form of a cycle, this study considers that the legitimation activities at CEN have been carried out in two cycles: the Meddex project cycle and the MDA project cycle. Meddex and MDA are names of the software packages that were adopted in the two project cycles respectively.

5.1 The Meddex Project Cycle (From Antecedent Conditions until Event 16)

Construct Target (Antecedent Conditions-Event 1). A legitimation target was constructed by the EDP team that CEN would use new HIS software as a method for changing the traditional paper-based medical records to online medical records. This meant that medical staff (e.g. nurses) who used computers infrequently, would have to interact more with the new HIS. On top of that, the doctors who did not have to use Ray would need to deal with the new system. It was believed that this strategy would provide benefits such as reducing the risk of errors from conflicting prescriptions. The EDP team announced the HIS project in July 2001 by stressing the problems that could occur if Ray was not replaced. Most users understood these problems and agreed to participate in the project. Users

were requested to submit their requirements and expectations to the EDP team for acquiring the new HIS software.

Legitimation Strategies. In this period, two legitimation strategies are identified.

- *Espousing socially accepted goals of the need to improve the existing system*. This strategy is consistent with Suchman's "define goal" strategy (see Table 1) where the project team obtained moral legitimation from their attempt to define the project objectives that were accepted by users during the announcement of the project.
- *Conducting a requirement survey* helps promote pragmatic legitimacy because it "responds to needs" (Suchman, 1995) of users by improving users' self-assurance that their requirements would be used by the project team to develop the new system.

Identify LP and Learn Norms of LP (Events 2-7). The heads of departments (legitimation providers - LP) were invited to attend meetings and presentations concerning three potential HIS packages, namely MDA (Thai package), e-Treatment (Australian package), and Meddex (Australian package). After the heads of departments chose MDA as their preferred HIS package, the EDP team identified the LP's norms that (1) they lacked confidence in choosing foreign software because they were not competent in English; and (2) they chose MDA because it was similar to Ray and matched most of their existing work practices. Even though the EDP team learnt these norms, they did not see them as significant for the project management. Instead, they viewed the software technology as a more important matter. The EDP team preferred e-Treatment to MDA because they believed that it was better technology. The Assistant Administration Director stated "*the reason why we wanted to buy this software package [e-Treatment] was because partly, we wanted to obtain its [new] technology*". The EDP team proposed e-Treatment to the Administration Director without informing the heads of departments. However, the Administration Director did not agree with the EDP team, making a decision to buy the third system, Meddex, since he found that "there was another hospital that had successfully implemented it".

Legitimation Strategies. In this period, two legitimation strategies are identified.

- *Co-opting committees for software acquisition* was carried out by inviting the heads of departments or co-optees to participate in the software selection process. This strategy can be compared to Suchman's "co-opt constituents" strategy for pragmatic legitimacy. Although the strategy was applied, the project team failed to obtain legitimation from the co-optees because they did not offer any real decision making access to the co-optees.
- *Seeking support from users through software demonstrations* is in line with Suchman's strategy of "advertise product" that aims to seek pragmatic legitimacy. This strategy was carried out by providing software presentations to the heads of departments in order to persuade them to value the functionality offered by the three software packages.

Compare Target and Close Gap (Events 8-10). The project team believed that there was only a small gap between the target and the norms of LP because the heads did not resist the plan to change their current system, in fact, they looked forward to the new system that would work better. However, the heads' norms were based on an understanding that a new system would only replace the current, over-capacity system. It is possible that the team did not fully appreciate the potential problems of their desire to introduce online medical services throughout the hospital. The only gap that concerned the team was the users' lack of English competency and the unwillingness of doctors to use computers. The hospital also tried to persuade the heads of departments that Meddex was the right choice because it was a good software application that would bring in improved work procedures, approved by Australian hospitals. The Head of IPD Ward 9 mentioned "*The Administration Director told us that Meddex would benefit us in terms of data completion and standards because it was built on Australian practices and it had been used worldwide*".

The EDP team carried out tasks to close the gap based on three main principles. Firstly, recruiting key users to participate in the software customization. Representatives from each department were enrolled to participate in the project. However, the Meddex team (from the Meddex vendor) did not use their own people to prepare initial data for the system but assigned this task to key users. As a result, users complained about the heavy workload that was put on them as the Head of IPD Ward 12 mentioned "*Meddex [software team] exploited us a lot to collect and key in data for them*". Secondly, persuasion of doctors to use the system. Since the EDP team believed that persuading doctors to accept and use computers was not a simple task, they requested the hospital president to hold talks and persuade doctors to use computers. Unfortunately, this task was not carried out by the hospital president. Thirdly, user training. After training, the EDP team believed that the training (carried out by the Meddex team) had been successful. However, comments from users contradict the EDP team's belief of successful training. Many users complained about being introduced to the change in their workflows for the first time, and they did not agree to accept the change. The Head of OPC 2N Nurse mentioned "*we doubted whether it [Meddex] would be practicable when it was actually brought into use*".

***Legitimation Strategies*.** In this period, four legitimation strategies are identified.

- *Indicating that the new software is based on a 'Western' model and is therefore better*. This strategy mainly improves cognitive legitimacy by using the reason of mimicking the Australian system to persuade the heads of departments to accept the new system. This strategy embraces the concept of Suchman's "mimic standards" strategy.
- *Recruiting of departmental representatives to participate in software customization and implementation* is based on Suchman's strategy of "recruit friendly co-optees" for seeking pragmatic legitimacy. Although the representatives were invited to participate in the project, they were left to work with the Meddex team. The EDP team failed to realize that these representatives suffered from the work demanded by the Meddex team.
- *A symbolic enactment of the hospital's top management to enhance doctors' acceptance of the HIS system* can be compared to Suchman's strategy of "offer symbolic displays" aiming to acquire moral legitimacy. The hospital president was viewed as the only supporter who could motivate doctors to use the new HIS. Unfortunately, the hospital president did not help with this task.
- *Proposing new software to users through training programs* is a cognitive legitimation strategy in line with Suchman's strategy of "standardize new models". Training was carried out to encourage users to accept the new system and workflows. Nevertheless, the training backfired as it failed to gain user support.

Grant Legitimation and Monitor Legitimation (Events 11-16). It was not until Meddex went live that the EDP team realized that Meddex had not gained user support. Many problems occurred from the first day and the project was terminated after only ten days. Pharmacist 1 said: *"We didn't understand its concepts even after the training"*. From emergency user meetings, the team for the first time learnt users' norms. Firstly, most users had a bad impression from the beginning. The team had not been aware of users' negative frame of mind and the Administration Director stated "*once we realized that people had negative attitudes about it [Meddex], we could do nothing [because it was too late]*". Secondly, the team found that where there was change, there was resistance. The Administration Director admitted that the failure of the Meddex implementation was partly his fault because he initiated a major change of user workflows. Lastly, the team found that most doctors refused to use Meddex even though computers had already been installed in their offices. The Director commented "*regardless of doctors, other members were much easier to be persuaded*". The Administration Director believed that if the team had had a second chance to carry out the Meddex project, "*[…] we should have gone step by step, but at that time [of Meddex implementation] I just thought that we could get everything done in one go, so it caused a huge problem*".

***Legitimation Strategies*.** In this period, two legitimation strategies are identified.

- *Conducting user meetings for discussion and problem solving*. During the crisis period, meetings were held with various hospital members to identify problems and devise solutions for the troubled project, which attracted hospital members to share ideas about problems they were facing. This strategy captures Suchman's strategy of "locate friendly audiences" for promoting pragmatic legitimacy.
- *Decoupling software technical problems from the troubled software project*. The project team explained to users that the Meddex problems were a fault of the Meddex team, who failed to deliver a satisfactory solution, not a fault of the project team who chose Meddex. Consequently, the problems were separated from the project and the project team maintained its reputation among organizational members. We therefore propose the strategy of "decouple conditions" as an addition to Suchman's (1995) moral legitimacy.

5.2 The MDA Project Cycle (From Event 17 until Event 22)

Construct Target and Compare Target (Event 17). After the Meddex project failed, the EDP team rushed to formulate a plan for acquiring a new HIS. The target was re-examined as the team believed that users resisted Meddex because it caused significant change in their work practices, and it was not possible to convince doctors to use computers. For these reasons, the team constructed a new target such that: (1) the new system would not cause major change to user work practices; and (2) doctors would not be included as users.

Department heads were once again invited to take part in the software selection process along with key users. The MDA provider was invited to give a presentation of MDA to them. The heads and the users evaluated the software much more thoroughly than they had done for Meddex by asking specific questions and requesting that the vendor demonstrate the various functions of the system until they were satisfied. After the presentation, the decision for MDA selection came from the department heads and users, differing from Meddex where the selection was carried out by the project team.

Legitimation Strategies. In this period, two legitimation strategies are identified.

- *Co-opting committees for software acquisition* in this project was similar to the Meddex project. However, the key distinction was that the co-optees were much more active in sharing ideas and making decisions about the selection of the software compared to Meddex, and, in addition their opinions were listened to by the project team.

- *Seeking support from users through software demonstrations* was again similar to Meddex. However, instead of inviting only the heads of departments, this project also included key users in the software demonstrations.

Close Gap and Grant Legitimation (Events 18-22). After CEN acquired MDA, the project team began the customization and implementation process. Key users were recruited once again. The Assistant Administration Director mentioned that the experience they gained from the Meddex project had benefited the EDP team and key users while running the MDA project: "*we had worked with each other for a long time since Meddex. We did that until we knew things very well. Key users also knew what they had to do*". Several activities were carried out by the EDP team in this period in order to secure the required support from users. First of all, the team tried to conform to the norms of users, who had previously resisted changes to their work practice through the use of Meddex. The Administration Director insisted that the issue of unchanged workflows played an important role in the success of convincing users to accept the new HIS: "*In a later system, as we had learnt a good lesson, we didn't try to push forward any change*". Secondly, the team knew that the users' negative attitudes and resistance in the previous project had been driven by their bad impression towards the system. In order to reduce this, the team believed that more user involvement and training was required. In this regard, the Administration Director highlighted: "*The main thing that we tried to do was to provide*

training – more training and tried to bring users to participate more in a development of workflows and other activities, which could reduce resistance at some levels".

Finally, experience had taught the EDP team that it was dangerous to implement every module of the new system at the same time and there was a high risk of project failure if they cut off the old system before switching over to the new system. They implemented MDA module by module and ran it in parallel with the old system allowing users to acclimatise to a new system structure and environment. The implementation took 5 months to complete. The project team believed that users were largely satisfied with MDA and user comments supported the project team's belief of successful system implementation. For example, the Head of IPD Ward 12 mentioned: "*Happily, fewer problems and around 10 percent of the requirements are under development*".

Legitimation Strategies. In this period, four legitimation strategies may be identified.

- *Confirming that the new software will conform to the original practices* was the main legitimation strategy carried out in this period. The project team confirmed to users that the new system would not affect their current work practices. This strategy captures the key concept of Suchman's "persist" strategy for helping to improve cognitive legitimacy.
- *Recruiting of departmental representatives to participate in software customization and implementation*. Compared to the Meddex project where key users suffered from the heavy workload, key users in the MDA project felt more comfortable because the system set up was managed by the MDA software team. The representatives had only to discuss their requirements with the MDA team.
- *Conducting user meetings for discussion and problem solving* occurred very late in the Meddex project and only concerned project failure decisions. For MDA, they were held much earlier and users were encouraged to participate in discussions. MDA was implemented in modular fashion, running in parallel with the current system, allowing users to acclimatize, in contrast to the "big bang" Meddex implementation. Modular implementation allowed meetings with small groups of users at a time.
- *Using training programs* helps to obtain cognitive legitimacy because they convince users to accept new ways for carrying out work, consistent with the strategy of "standardize new models" (Suchman, 1995). Training was successful as it was carried out by the project team where, unlike Meddex, they were in close contact with users.

6 DISCUSSION

In this study, the Meddex project underwent a lengthy development period but was rejected after only ten days of live use. The second, MDA project implemented very soon after the failure of Meddex subsequently ran successfully in the hospital.

6.1 Legitimation failure

Although many legitimation strategies were carried out in the Meddex project, most were carried out half-heartedly or inappropriately, and failed to obtain the required legitimation from users, having a significant effect on the eventual project failure. The greater emphasis on legitimation-seeking that took place in the second, MDA, project provides strong evidence that organizational stakeholders perceived a direct link between legitimation failure and project failure. There were several Meddex strategies that failed, for example:

Co-opting committees for software acquisition. The project team did not establish whether the co-optees agreed when they decided to change the co-optees' selected choice of software package. The behavior of the project team that refuses to listen to their audiences is termed the "deaf effect" (Keil and Robey, 2001). While this effect has been found where project leaders turn a deaf ear to bad news from IS auditors or IS developers (Smith and Keil, 2003), this research suggests the deaf effect may also occur between project team and users.

Conducting user meetings for discussion and problem solving. There were features of the Meddex system which would have led to improvements, for example, checking for undesirable drug interactions. However, these benefits were not adequately emphasized to users in discussion sessions, which were all held too late, at the very end of the project when Meddex was obviously in trouble.

Proposing new software to users through training programs. This strategy had a key impact on the failure of the Meddex project and provides a good example of how the project team overlooked the importance of legitimation. Training was carried out by the Meddex team and was the only activity that introduced Meddex to users. However it resulted in failure to convince users to accept the new workflows. Although the Meddex team stated that users were successfully trained, the project team did not check this.

Recruiting of departmental representatives to participate in software customization and implementation. Key users were expected to work under supervision of the Meddex team and were given tasks that involved a heavy workload. They felt unhappy as they felt these should have been performed by the Meddex team. They gained a negative impression of Meddex and became an "unfriendly" rather than a "friendly" audience.

The legitimation failure of the above strategies may also be considered to be partly due to users who felt that there were problems with the project and who did not transmit appropriate messages to the project team. This behavior shows that users were reluctant to report bad news and to be the first to blow the whistle, generally known as the "mum effect" (Keil and Robey, 2001). Literature suggests that the mum effect may be influenced by national culture, for example where the pattern of Thai behavior embraces high power distance (Hofstede, 1991). This means that individuals tend to accept an unequal distribution of power so that lower-ranking workers are less likely to challenge the decisions made by higher ranks (Thanasankit, 2002). Such a culture may obstruct the legitimation-seeking process and will obscure the actual status of the project from the project team.

The preliminary model in Figure 3 proposes that legitimation seeking failure begins with an inappropriate choice of legitimation strategies. Then, the mum effect may exist, where users are reluctant to report problems to the project team, or the deaf effect, where the project team omits to check whether strategies are working. If the project team continues in this vein, legitimation will not be received from users, which may lead to project failure.

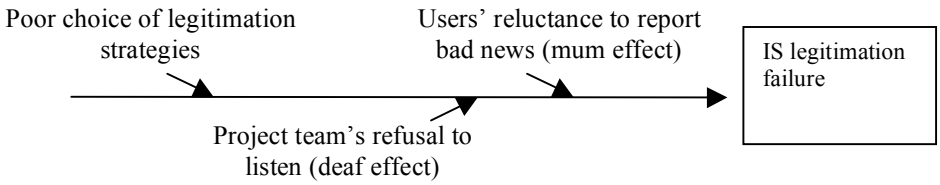

Figure 3. Preliminary Legitimation Seeking Failure Model

6.2 Legitimation success

During the first days of the crisis, the Meddex team from Australia flew in to evaluate the situation. Even though they tried to persuade CEN by offering Meddex free of charge, CEN refused to accept this and terminated the project to prevent further problems. The literature suggests that an organization that has zero tolerance for failure cannot tolerate poor reliability and provides no room for poor performance (Lee, 2001), therefore, any factors likely to contribute to failure will be rapidly altered in order to maintain its success story. This type of organization may thus focus on rapid learning after an episode of failure, and, indeed, the success of the MDA project was significantly influenced by an increasing focus of the project team on legitimation seeking.

For the MDA project, the project team was *confirming that the new software will conform to the original practices*, rather than, as in the Meddex project, seeking to change users' interests to accept major new working methods. This may have provided a state of psychological safety (Lewin, 1951) for users to accept other changes. The legitimation strategy: *co-opting committees for software acquisition* responded to user interests by allowing users to play a significant role in evaluating and choosing MDA. *Conducting training programs* was carried out by the project team themselves rather than, as for Meddex, leaving it to others. *Recruiting of departmental representatives to participate in software customization and implementation* was employed to provide suggestions for the new system. *Conducting user meetings* were employed right from the beginning of the MDA project. The project team displayed a new interest in listening to the views of users, who felt less constrained and were able to communicate problems they perceived. The mum and the deaf effects were thus diminished.

7 CONCLUSIONS

Our first contribution is to illustrate, in an empirical case, how failure to obtain legitimation for an IS project can lead to project failure. After the failure of the first, Meddex project, the greater emphasis on legitimation-seeking that took place for the MDA project suggests that organizational stakeholders perceived a direct link between legitimation failure and project failure. Although it appeared that many legitimation activities were being carried out in the Meddex project, the mum and deaf effects were key factors in preventing those activities from being effective, and we have proposed a preliminary legitimation failure model.

Our second contribution is to demonstrate that the LAM, together with Suchman's (1995) typology of legitimacy, provides an integrated framework for legitimation research. We have also added a new strategy *(decouple conditions)* emerging from the data to Suchman's category of moral legitimacy. Our third contribution concerns several new legitimation strategies not mentioned by prior IS legitimation research. These are: decoupling software technical problems from the troubled software project; indicating that the new software is based on a 'Western' model and is therefore better; confirming that the new software will conform to the original practices; a symbolic enactment of hospital top management to enhance doctors' acceptance of the HIS system. Discovering these strategies is valuable because they provide realistic practices of legitimation strategies new to the IS legitimation literature. We have also shown how cultural conditions such as the high power distance factor in Thai society may interact with the mum and deaf effects, causing problems for project teams to receive feedback from problem situations.

Our findings have several implications for research. We have developed an integrated framework that combines the LAM and our modifications to Suchman's (1995) typology of legitimacy to investigate the process of legitimation-seeking; this framework may usefully be generalized to explain such behavior in similar settings. From our analysis, a preliminary model of legitimation failure has emerged that demonstrates project conditions contributing to legitimation seeking failure. The model should be tested or extended again in similar settings. Although it might be argued that the cultural context of a Thai hospital makes the selection of similar settings difficult, we observe that the problems CEN faced concerning doctors' IS use are also found currently in Western cultures, for example in US hospitals (Kohli and Kettinger, 2004) and the £30bn Connecting for Health program for the National Health Service in the UK. Since we have identified the mum and deaf effects (Keil and Robey, 2001) as central to problems in legitimation-seeking, we suspect that these effects are not isolated incidents and there may be other organizations with similar influences.

Several insights in our research should be also valuable for practitioners. The case study provides useful lessons for project management teams when planning or carrying out an IS project. Project teams should recognize the importance of legitimation and focus on the prospects of acquiring user support. Rather than viewing legitimation as insignificant (Davis et al, 1992), legitimation should be considered as a resource that needs to be sought and controlled. Managers cannot rely only on their

domination structures to seek IS success. The preliminary legitimation failure model warns that failure to seek legitimation may lead to failure of the IS project, and suggests that failure may be avoided by selecting appropriate legitimation strategies and taking steps to ensure that the mum and deaf effects do not occur. To address the mum effect due to the power distance problem, project teams may focus on locating more friendly audiences in a more informal manner, which may allow users to express their attitudes and opinions without feeling that they are out of place, or without the fear that their careers will be harmed by the issues they have raised.

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