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EXPLORING THE LEGITIMATION SEEKING ACTIVITIES IN AN INFORMATION SYSTEM PROJECT

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Completed Research Paper

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Abstract

Introducing new Information Systems (IS) to organizations often brings changes to the status quo and IS managers need to gain acceptance and support from stakeholders. Legitimation is an abstraction of formal and informal approval of stakeholders toward organizational activities. Our research motivation is to demonstrate that a process-based understanding of legitimation-seeking activities is important for understanding how IS are legitimated in organizations, and to suggest that the area of legitimation presents a potentially valuable framework for IS research by drawing together previous studies concerning problems such as acceptance and resistance, user involvement and participation. We investigate the legitimation seeking process in an IS project at a large Chinese organization, employing a qualitative approach and a case study method. Findings from our case study show that achieving legitimation is important in successfully developing and implementing IS. This paper suggests that activities for gaining, maintaining and repairing legitimation should be considered and carried out in an integrated way, and a new Integrated Legitimation Activity Model (ILAM) is proposed. The paper also discusses the two different legitimation seeking approaches (conformity and manipulation) adopted by the project team, and analyses factors that influenced the project team's choice of these approaches. Limitations and directions for further research are discussed.

Keywords: Legitimation, legitimacy, information systems development, adoption, stakeholder acceptance, case study, qualitative, abductive, retroductive

Introduction

Organizational activities often bring unwelcome changes to the status quo (Oliver 1991). In particular, the development and implementation of information systems (IS) have significant impact on organizations and their members. One important concern of IS managers is to gain support and approval for IS projects, as user acceptance and buy-in of key stakeholders are vital to the success of IS adoption and diffusion (Avison and Young 2007; Reimer 2003, Zhang et al. 2002; Dong et al. 2009). Stakeholders could withhold their acceptance when the IS does not seem to fit into their work practices (task or business process misfit), values and beliefs (cultural misfit), or when they are not "better off" by adopting the IS (incentive misfit) (Markus 2004). A recent study conducted by the European Commission (2009) shows that a major success factor for eHealth system adoption is securing acceptance from stakeholders whose job roles and workflow would be affected.

Even when use of a new IS is mandated as a result of the exercise of power and domination (Jasperson et al. 2002), obtaining stakeholder acceptance is still challenging (Brown et al. 2002). Furthermore, contemporary IS are reaching individuals who may or may not choose to use the IS. For example, the success of Web 2.0 technologies largely depends on users' voluntary participation and contribution. The need for stakeholder acceptance and support is greater if the use of an IS is not mandated.

IS projects frequently take place in an atmosphere of near-crisis, and the Standish Group (2003) study indicates that 43% of software projects were over budget with 54% missing deadlines. It is often difficult to predict the exact effects, and hence user reactions, of new IS on organizations, and IS managers often find their relationships with user groups difficult and problematic (Gefen and Riding, 2003; Keable et al., 1998; Brown 1998), accompanied by an IS professional-user gap (Griffith, 1999), and achieving continued support from key organizational stakeholders is therefore necessary for IS projects to secure resources and support.

When stakeholders perceive the IS and the IS project as desirable, proper, appropriate and legitimate for their work and organization, they are likely to grant their support and acceptance. When this occurs, it is said that legitimation is conferred (Elsbach and Sutton 1992). Legitimation has been conceptualised as an abstraction of formal and informal approval of stakeholders toward organizational activities such as information system development (ISD), and in recent years there have been a number of research studies regarding legitimation as important in developing and introducing IS that will be accepted by stakeholders (Brown 1995, 1998; Flynn and Hussain 2004; Pawlowski et al. 2006; Flynn and Puarungroj 2006; Wang and Swanson 2007; Hussain and Cornelius 2009; Kaganer et al. 2010).

Seeking legitimation is often challenging. Generally speaking, to gain legitimation, IS managers can ensure that either what they aim to achieve conforms to stakeholders' values and meets expectations, or the intrinsic norms and behaviours of the stakeholders need to be influenced and changed (Avgerou 2001; Burke 2002). Integrating prior research on organizational legitimation, Suchman (1995) proposes a set of some thirty legitimation strategies, which are activities aimed at seeking legitimation. The management of legitimation seeking activities can be complicated when threats to legitimation emerge or stakeholders suddenly withdraw their support. IS managers should not treat legitimation-seeking as a "once-and-it's-done" task; legitimation should be maintained and repaired if necessary (Suchman, 1995). However, only a few IS studies discussing legitimation have been published so far, and these have not investigated legitimation maintaining or repairing activities. Moreover, little is known about any organizational or project factors that influence IS managers' choice of legitimation seeking strategies.

Our research objectives are firstly, to demonstrate that a process-based understanding of legitimation-seeking activities is important for understanding how IS are legitimated in organizations, and secondly, to indicate how the area of legitimation presents a potentially valuable framework for IS research by drawing together previous studies concerning problems such as acceptance and resistance, user involvement and participation. To fulfil these objectives, we discuss theory in IS research that is related to legitimation, and then describe the legitimation seeking activities that took place in an IS project at a Chinese organization, generating in-depth understanding of the meanings and perspectives behind the activities of the project team and other stakeholders. We adopt the Suchman (1995) framework that is the most structured categorization for legitimation activities in the literature to date, analysing how legitimation was sought and obtained in the project. Our paper structure is to discuss theory foundations, describe our research method, analyse the case study, discuss findings and draw our conclusions.

Literature Review

Legitimation is a relatively new topic in IS research, and the main forerunner of IS legitimation studies is the area of individual adoption of IS within the organization. There are two dominant streams in this area: technology acceptance and user satisfaction. The Technology Acceptance Model (TAM) (Davis 1989) suggests two determinants of usage intention: perceived usefulness and perceived ease of use. Descendants of TAM, such as TAM 2 (Venkatesh and Davis 2000) and the Unified Theory for the Acceptance and Use of Technology (UTAUT) (Venkatesh et al. 2003), include additional determinants (eg. social norm, voluntariness, and output quality). In these models, acceptance is conceptualised in terms of variables that measure perspectives formed by users in relation to accepting technology, that are used to explain variance in individual behavioural intention. For example, Goodhue and Thompson (1995) find that, for users, task-technology fit influences perceptions of IS performance. TAM-like models have been criticised on various issues (Jensen and Aanestad 2007), including their inability to address the intention-behaviour gap (Verheijden et al. 2008), but perhaps their most significant limitation is that they do not account for the source and construction of the perspectives that they use to explain variance.

The user satisfaction stream addresses this limitation, and typically emphasizes user evaluations of their overall experience with IS (Chin and Lee 2000). Scheepers et al. (2006) argue that for mandated use, user satisfaction is a more appropriate reflection of user acceptance than system usage. This stream takes a process approach and focuses on the meanings that individuals attribute to their attitudes and behaviour concerning IS technology and its features. Davidson (2006) explores the ways in which technological frames of reference (TFR) explain how organizational members make sense of technology, and how such sense making is critical in influencing their actions related to technology and technologically-enabled change. Kaarst-Brown and Robey (1999) take a metaphor approach, finding that organizational members conceptualize appropriate styles of IT management in terms of five archetypes.

The phenomenon of user resistance has received great attention in IS research. Orlikowski and Gash (1994) link resistance with frame incongruence between relevant social groups, while Bhattacherjee and Hikmet (2007) discuss how user resistance is an opposing force precluding potential IS acceptance which can be caused by users' lack of knowledge of the system (Kaplan 1997), especially the benefits of the system (Ash et al. 2000); reluctance to change working practices and decision-making (Jiang et al. 2000; Smith and McKeen 1992); or fear of loss of prestige, status, and power (Keen 1981; Lorenizi and Riley 1995; Worthley 2000; Smith and McKeen 1992). Such attitudes may generate insecurity among organizational members and contribute to doubts that the introduction of the IS would benefit them or the organization.

Increased user involvement or participation have been proposed as an approach to addressing or forestalling problems of user resistance. Barki and Hartwick (1994) found a lack of user involvement in the activities which take place between users and IS staff, and Keable et al. (1998) pointed out that the user-IS relationship can suffer from a legitimacy gap, where certain actions and decisions of IS professionals are viewed as not possessing legitimacy by users. To deal with these different perspectives, researchers recommend that user contributions and influence on IS projects can close the gap (Eason and Harker 1988). The user-IS professional gap (Robey, Farrow, and Franz 1989**) –** a specific instance of incongruent frames (Orlikowski and Gash, 1994) **-** can itself cause user resistance, as Markus (1983) states "resistance is the result of the distance between the designers and users". User resistance may, accordingly, be viewed as an expression of a user perspective that they do not intend to grant, or may withdraw, legitimation.

As noted by Klein and Hirschheim (1989:30), legitimation addresses questions such as "*what are the reasons for rejecting [the IS]?*" and "*why accept [the IS]?*" Therefore, an initial motivation of this research is that the concept of legitimation presents a potentially valuable framework for IS research by drawing together previous studies concerning problems and challenges in ISD such as acceptance and resistance, user involvement and participation, which are often investigated in an unrelated manner. For example, Bhattacherjee and Hikmet (2007) note "research on user resistance has been limited, fragmented and non-cumulative". We suggest that the multitude of problems and challenges may be lower-level symptoms of a higher-level failure in legitimation seeking.

Legitimation of someone or something implies a perception that it is desirable, proper or appropriate (Suchman 1995), a normative acceptance of its "rightness" (Habermas 1973; Brown 1998), and recognition that it is reasonable and just (Della Fave 1991). The terms legitimation and legitimacy tend to be used synonymously and a definition of legitimacy is: "Legitimacy is a generalised 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" (Suchman 1995: 574).

Organizational actors obtain legitimacy for themselves and their activities in order to acquire the participation, enthusiasm, and commitment from others that is necessary for managing their activities effectively (Oliver, 1991; Pfeffer 1981), to ensure sustainable support for organizational leadership (Chakravarthy 1997), to acquire resources for survival and growth (Zimmerman and Zeitz 2002), and to facilitate organizational changes (Chakravarthy and Gargiulo 1998). Achieving legitimacy for organizational change is particularly important because, as Nadan (1997) argues, all organizational stakeholders possess and are able to exercise some sort of power and influence to resist the change, irrespective of their status.

IS managers can apply many tactics to gain legitimation for a new IS and many of them fall into two categories: conformity and manipulation (Oliver 1991; Suchman 1995). Conformity means that when introducing a new IS, managers conform to the dictates of organizational stakeholders and if necessary, manipulate only characteristics of the IS to achieve such conformity (Suchman 1995). Conformist strategies generally tend to align the IS with existing stakeholder norms and values, and pose few challenges to established institutional logics, mindsets and practices (Meyer and Rowan 1991). In contrast, informed by a manipulation approach, managers take a more active way to influence organizational stakeholders and create new legitimating beliefs (Suchman 1995). For example, managers can actively promulgate new explanations of social reality (Aldrich and Fiol 1994; Ashforth and Gibbs 1990) such as a new IS and changes in work practices, and convince stakeholders to change their norms, values and mindset so that support and acceptance can be granted. Drawn from previous research on organizational legitimation, Suchman (1995: 600) proposes a set of legitimation strategies, which are activities aimed at seeking legitimation.

Suchman (1995) further categorises legitimation activities into three types: gaining, maintaining, and repairing. Gaining legitimation occurs when, for example, an IS department or project team is initiating a new IS. Once legitimation has been gained for the IS, it must be maintained, and IS managers need to forecast future changes and protect accomplishments, converting legitimation from episodic to continual forms. Legitimation repair is a reactive response to an unforeseen decline in support, such as resource interruption or a shift in stakeholder norms.

IS research began employing a legitimation lens for analyzing and explaining social and organizational issues when Klein and Hirschheim (1989) criticised "engineering" style approaches and discussed the importance of gaining legitimation as a critical factor for successful ISD. In recent years, there is a growing number of IS research studies that provide evidence that legitimation has a large influence on stakeholder acceptance of IS projects (Keable et al. 1998; Banville 1991; Brown 1995, 1998; Flynn and Hussain 2004; Pawlowski et al. 2006; Flynn and Puarungroj, 2006; Hussain and Cornelius, 2009).

Several case studies offer interesting insights into how legitimation can be achieved in IS projects. Brown (1995) described how the sponsors of a Hospital Information Support System gained legitimation by managing stakeholder perceptions towards the system. His case study showed that the project team managed to engineer others' understandings of the system through calculated arguments, control over the flow of information, and symbolic acts. Kohli and Kettinger (2004) described a case where management, facing strong resistance to a system that implied proposed changes in physician behaviour, modified stakeholder norms and values so that previously unpopular changes received legitimation. Flynn and Hussain (2004) conducted studies into an Intranet project in the UK NHS and found that legitimation was granted by stakeholders when they were convinced that the Intranet would bring them benefits, and when the Intranet system was configured to give every health worker access to email and online resources. They proposed a Legitimation Activity Model (LAM) which conceptualises the sequence of legitimation gaining activities that an IS project team carries out as a seven-stage process. Flynn and Puarungroj (2006) adopted LAM and provided in-depth insights into the legitimation process in an IS project in Thailand where users were given access to project decision-making, and user needs were fulfilled by for example, customizing the IS to conform to existing work practices.

Knowledge and understanding about legitimation should be useful for better management of IS projects. In past decades, social and organizational studies and management literature have advanced in revising and improving the concepts and frameworks of legitimation, such as Suchman's (1995) typology of legitimation, and have made the research of legitimation more operational. This research is strongly motivated by such advancements. Despite an increasing number of IS research studies investigating legitimation, there are no process-based studies investigating maintaining and repairing activities, and strategies such as these proposed by Suchman (1995). This paper aims to address this gap.

Research Method

We describe a case study of a smartcard system development project in a medium-size regional university in China. This research employs a qualitative case study approach, which allows the researchers to construct "thick descriptions", and to develop theory (Walsham 1993, 1995) concerning the legitimation process in IS projects. In general, the endpoint of IS research is to generate new theory, and/or to explore the applicability of a given theory to a different research context (Chiasson and Davidson 2004) and we chose a combination of retroductive and abductive research strategies (Blaikie 2000; Buchanan and Bryman 2009:438). In our retroductive strategy (Blaikie 2000:87), we selected an initial set of categories and topics that originate from existing theories before data collection began and used it as "sensitizing theory" (Walsham 1995) to guide the research. The sensitizing theory may be confirmed (within the particular case study context) or modified; new theory may also be generated. In this research, existing theories about organizational legitimation (Suchman (1995) typology of legitimacy; the legitimation process (LAM) in IS projects (Flynn and Hussain 2004)) were used as sensitizing theory to inform the research. Given that in data collection researchers are hardly "theory-free" (Silverman 1997), the retroductive strategy was adopted because the existing legitimation theories provided a set of general topics that appeared relevant to guiding the data collection tasks. In data analysis, evidence supporting the sensitizing theory was sought and analysed. The abductive strategy (Blaikie 2000:89), focusing on the meanings and interpretations, motives and intentions, of social actors, was used as it encourages detection of "surprising facts or qualitative anomalies", which cannot be explained by existing theories, that may generate better explanations and new theories (Patokorpi and Ahvenainen 2009). In data analysis, attention was paid to actors' concepts (in their own language) concerning legitimation-related issues, which were used as the basis for category and theory construction to further understand legitimation-seeking.

One of the researchers paid several field visits to the organization (visits lasting three to nine weeks) and data collection was carried out between October 2007 and May 2008. The main data collection method was semi-structured interviews with the project team and relevant stakeholders. A total of 39 interviews were carried out (see Table 1 for a list of interviewees), with average duration of 45 minutes. All interviews were audio recorded and transcribed. During the data collection, we also gathered relevant project documentation. Triangulation between different sources (documents, interviews) was employed to minimise biased accounts.

Table 1. List of Interviewees

Project Team	Director of Network Centre (acting project manager and deputy director of the office of presidents), Chief IT Technician, IT Engineer, Smartcard System Service Manager and Staff
User Departments	Vice President (IT), Director of Logistic Department, Director of Finance Department, Director of Security Department, Director of Student Management Department, Accountant and cashier, Finance officer 1 & 2 (Student Grants and Loans), Student Management Staff, Library's Chief IT Technician and IT Engineer, Library Staff 1, 2, & 3, Examination Officer of Academic Register Office, Staff of the Office of the Presidents, Security Guard, Residence Hall Manager, Canteen Manager 1, 2, & 3, Canteen Accountant , Shop Owner and Cashier
Students	Student A, B, & C, Student D, E (HongYu Residence Hall)

We employed a process-centred approach for data analysis (Keil 1995; Newman and Robey 1992). Firstly, we produced a sequence of main project events and legitimation activities. We then analysed the general nature and context of legitimation activities in more depth, informed by Suchman's (1995) legitimation activity types and strategies as well as the LAM (Flynn and Hussain 2004). To maximise theory-building, a broad grounded theory (Glaser and Strauss 1967) approach was then taken to analyse the data in parallel with the use of categories from the sensitizing theory. Being a highly iterative process, the data analysis involved moving back and forth between the data and the preliminary results (Elsbach and Sutton 1992). The appendix ("Examples of the Grounded Theory Approach for Data Analysis Coding") illustrates the coding process which led to the emergence of categories and new theoretical development.

Case Study: ABC University Smartcard System Project

ABC University is a medium-size regional university in Hunan province, China. The university network centre is responsible for implementing IT systems according to proposals put forward by other departments. In September 2004, the logistic department proposed to acquire a smartcard system to replace old canteen payment systems. The network centre built on this proposal to develop a multi-function student service system, featuring student identification, access to facilities and services (PC laboratory and library), electronic payments management of student information and campus security.

The key to the network centre's plan was to gain acceptance for the idea that administrative departments would provide services to students using the smartcard as a digital wallet and credentials to access services. The project team (from the network centre) initially invited departmental directors to field trips to other universities that had implemented similar smartcard systems. These working examples helped in setting realistic goals when knowledge about the system was limited. After these visits, directors expressed support for the plan.

> "We were indeed impressed by what other universities had achieved!" (Logistic department director)

After signing contracts with an external (financial) sponsor and a system vendor, in December 2004 the project team announced the commencement of the project. This publicity attracted attention and support from various stakeholders:

> "A comprehensive strategic plan for the system, including all aspects such as the canteens, shops, library, and so on. It's very considerate." (Finance department director)
>
> "From what we could see, we all felt it's a good thing coming and we really looked forward to its arrival." (Student A)

In March 2005, the project team completed payment subsystem implementation in canteens and shops, and proactively offered the security subsystem to the campus security guards. Despite the smooth progress so far, the team encountered resistance (Markus 1983) to the changes brought by the payment subsystem. Some canteen staff kept a written record of all transactions and compared it with system statements. Smartcard POS were installed in shops but shop owners were reluctant to use them because it took seven days to receive money from the finance department. The team produced a formal organizational policy which compelled all canteens and shops to use the smartcard and eliminate all cash transactions. This attempted coercion did not address users' perceived threat to the status quo which accounted for their resistance (Lapointe and Rivard 2005; Bhattacherjee and Hikmet 2007). Users largely ignored the policy, resulting in little effect, and intensifying the already difficult atmosphere.

It became clear at this time that the support granted by departmental directors was insufficient. User resistance drew the team's attention to emerging challenges, triggering legitimation-maintaining action to gain support from additional stakeholders such as canteen and shop staff. In addition, more time was allowed for these "on the ground" stakeholders to realize system benefits by letting canteen staff familiarize themselves with the system. The project leader said:

> "What we also did was to talk to [canteen staff] and provide information about how the system worked…they might want to criticize our system but we used evidence to convince them."

The team also decided not to enforce the organizational policy concerning compulsory use of the smartcard system as, due to technical constraints, they could not modify the system to meet shop owners' needs for a shorter fund processing cycle.

Since the security subsystem was put into service in March 2005, security guards had become gradually alienated by its surveillance features (during their shift, security guards were required to touch their smartcard on a number of sensors installed across the campus). They started damaging equipment to avoid using the system, and by November 2005, operation came to a standstill.

As the guards were employees of an external security company, the team's attempt to persuade them to use the system failed. The security department director, who supported the security subsystem earlier, refused to discipline the guards, a typical example of a self-reinforced legitimation crisis where long-standing allies may disassociate themselves from troubles to avoid guilt and criticism (Suchman 1995:597). The team realised that they had to promptly repair the lost legitimation. However, escalating effort might endanger the image and reputation of the rest

of the system. Thus, the team decided to abandon the subsystem completely and avoid mentioning this fact in future. Although it had been in operation for only a few months, this did not appear to harm the progress of other parts of the project.

Towards the end of 2005, other departments learnt more about the smartcard system features and capabilities and started proposing new requirements that were not included in the original project plan. The academic registry office suggested replacing the student examination card with the smartcard. The student management department proposed crediting student loans and grants to student smartcard accounts, instead of paying cash. The team "responded to their needs", stating that they would fulfil these new requirements, and staff of the two departments showed their appreciation, indicating they had granted legitimation. The exam officer commented:

> "A really good thing for us was that this largely eliminated the possibility of fake ID credentials."
>
> "[The system] has greatly reduced our workload. We are now working more efficiently than ever before" (Student management department director)

The finance department had been supportive at the start of the project, as they were promised a fee-collection function, which would enable the department to directly debit the tuition fee from student smartcard accounts. In April 2006, the system vendor eventually revealed that this function was technically infeasible. The finance department staff were very disappointed and the team immediately noticed a dramatic drop in their support and cooperation, indicating a legitimation crisis.

To repair damage and win back the finance department's support, the team developed a normalized account that they had inappropriately proposed the function based on their limited knowledge of system flexibility.

> "The concept of collecting fees through the system was not properly understood……it was more about symbolic meaning to obtain initial support, rather than a practical and feasible solution." (Project manager)

The team rewrote project documentation, redefining project scope and excluded the function from the initial plan. They justified the decision not to implement this function, as it had been disassociated from the plan. As a result, the finance department's reluctance dropped gradually and their support returned.

> "The management had decided not to go ahead with it, and so we know this is the system's limitation." (Finance department officer)

Another situation arose in September 2006 where the installation of the smartcard system at a new student residence hall was delayed due to shortage of funding. Students who moved into the hall became upset about the absence of the system, expressing negative comments about the project and the team. Encountering this challenge, the team explained that the external sponsor's delay in providing funding was the root of the problem. They also went to a lot of trouble to hold student meetings, stating that they intended to solve the problem as quickly as they could. Most students were pleased that their voices were listened to and appreciated the team's efforts in solving the problem. Student C stated:

> "We did understand that the network centre had tried hard, and it was really a matter of time to solve this problem."

Table 2 below summarises the legitimation process where legitimation of the system was gained, maintained and repaired over a 30-month period.

Table 2. A summary of the legitimation process in ABC University smartcard system project

Time Frame	*Project Event*	*Type of Legitimation Activity*	*Legitimation Strategy (Suchman 1995)*
September – October 2004	The team referred departmental directors to examples of other universities that had implemented smartcard systems	Gaining	Mimic standards

December 2004	The team publicly announced the commencement of the project	Gaining	Advertise product
March 2005	The team attempted to institutionalize the use of the system by issuing a formal organizational policy	Gaining	Standardize new model
May 2005	The team identified additional stakeholders to seek legitimation from	Maintaining	Consult doubters
May - June 2005	Canteen staff were allowed more time to gain familiarity with and realise the benefits of the system	Gaining	Persist
November 2005	The team abandoned the failing security subsystem to prevent the wider project from being harmed	Repairing	Disassociate
December 2005	The team fulfilled and implemented new business requirements proposed by other departments	Gaining	Respond to needs
April – May 2006	The team rewrote the project documentation to exclude the fee-collection function from the project objectives	Repairing	Reconfigure
September 2006 – March 2007	The team demonstrated their efforts in striving for a solution to appease student complaints	Maintaining	Stockpile esteem

Discussion

The Dynamic of Legitimation Seeking Activities

In the case study, the project team spent much time in carrying out a wide range of legitimation activities. This is consistent with previous research in that seeking legitimation is important in developing IS that will be accepted by stakeholders (Brown 1995; Hussain et al. 2004; Keable et al. 1998; Kohli and Kettinger 2004; Flynn and Puarungroj 2006). Findings about legitimation are also congruent with other IS research areas. Some legitimation actions, such as rewriting system objectives to remove all traces of the fee-collection function, emphasize the co-productive nature of the relationship between users and technology discussed by social appropriation theorists (Mackay 1995). In the light of this appropriation of technology, the IS can be redefined in a way that defies its original, designed and intended purpose (Mackay 1995; Mackay and Gillespie 1992). There is evidence in the case that such appropriation of technology and granting of legitimation took place at the same time. For example, the examination officer adopted the smartcard as a basis for student ID credentials, which was not an originally designed use of the system; the student services department director requested a new function after his department had a better understanding of system capability, redefining the usefulness and utility of the system from their perspective.

It is clear that legitimation actions aimed to change stakeholder perceptions towards the system. Stakeholder knowledge and expectations, as also outlined in the technological frames of TFR (Orlikowski and Gash 1994), that guided their interpretations and actions related to system perceptions, were changed as the project progressed. According to Davidson (2006), TFR can dynamically change over time through deliberate actions, and influence of power and organizational politics. In this case, such changes and shifts in stakeholder frames were the result of successful legitimation seeking activities. Considering the examples above of the examination officer and the student service department director, they initially found the system of little relevance, but later, when their requirements were implemented, they found the system useful for their everyday work.

As already discussed in the Literature Review, legitimation maintaining and repairing activities may occur in an IS project, in addition to legitimation gaining activities. In our case study, all three types of legitimation activities were clearly observed. Previous IS legitimation research studies (e.g. LAM) only consider legitimation gaining activities,

and a major finding of our research concerns the analysis of legitimation maintaining and repairing activities within the overall legitimation seeking process. Legitimation-maintaining activities are preventive actions where the project team detect and respond to threats to system acceptance. For example, in the smartcard system project, the project team sought support from students, canteen and shop staff who withheld their acceptance for the system (*Consult Doubters* from Table 2). Legitimation-repairing activities are reactive actions where the project team find that previous support from legitimation providers suddenly disappears. For example, abandoning the failing security subsystem (*Disassociate* from Table 2).

Based on the findings of three types of legitimation activities in the case study, we propose an Integrated Legitimation Activity Model (ILAM) as shown in Figure 1. ILAM illustrates the iteration of activities aimed at gaining, maintaining and repairing legitimation. An IS project team can shift between the three types of legitimation activities, mediated by a process *Evaluating and Monitoring Legitimation*. For example, when the project team encountered resistance after applying the legitimation gaining strategy *Standardize new model* (Table 2), they reacted and applied the legitimation maintaining strategy *Consult Doubters* (Table 2) before progressing further. The project team had enjoyed a stable supply of stakeholder support and acceptance after resolving the payment subsystem issue, but when the security subsystem problem rose, the team quickly applied the legitimation repairing strategy *Disassociate* (Table 2).

In contrast to LAM (Flynn and Puarungroj 2006), ILAM suggests that Evaluating and Monitoring Legitimation is a continuous process, linking the planned actions of legitimation-gaining and responsive actions for legitimation maintaining and repairing. If legitimation status is not satisfactory, then maintaining or repairing may be required. Significant incidents, eg, a stakeholder querying the usefulness of the system or actually withdrawing legitimation, or the arrival of a new project champion (Newman and Sabherwal 1996) may pause the legitimation-gaining activities at any time and trigger maintaining or repairing. For example, when the project team experienced student complaints about delayed system installation, they initiated the maintaining action demonstrating their efforts in striving for a solution to appease students' complaints. The withdrawal of legitimation by the finance department when they realised the fee collection function would not work triggered the project team's repairing action to rewrite the project documentation to exclude the fee-collection function from the project objectives.

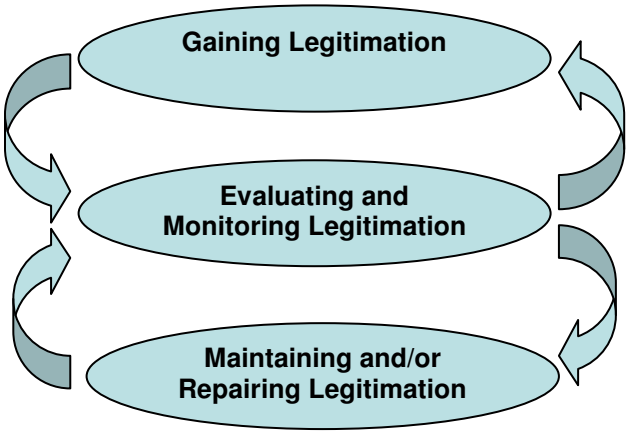

Figure 1. Integrated Legitimation Activity Model

In order to evaluate the extent to which legitimation has been granted by IS stakeholders, we have conceptualized four types of legitimation status (not addressed in LAM), constituting an advance on previous studies. Based on the data, legitimation status may be one of the following:

(1) **Actively sought**. Legitimation is in this state early in the project where legitimation seekers are carrying out legitimation-seeking strategies but where legitimation has not been granted.

(2) **Granted**. Legitimation is granted where legitimation seekers express the view that the project has received support from a legitimation provider, or a legitimation provider has expressed support for the project. For

example, stakeholders said *"…[the new function] has greatly reduced our workload. We are now working more efficiently than ever before…*", *"…we were impressed by what other universities had achieved using their smartcard system…*".

(3) **Weakened or damaged**. Previously granted legitimation is weakened or damaged where legitimation seekers express the view that project support from a legitimation provider has become weakened, or a legitimation provider has expressed doubt or opposition concerning the project by, for example, questioning project aims, benefits or utility. For example, while the project leader commented that "*We were thinking: why had they [developed] negative attitudes and unwillingness to the project and were so difficult to work with?*", other stakeholders said: "*I am concerned about missing money…if the system showed me a figure that I couldn't trust, then there was a problem*."

(4) **Withdrawn**. Previously granted legitimation is withdrawn where legitimation seekers express the view that project support from a legitimation provider has disappeared, or they describe how they have encountered resistance (eg, "*The system and the project became something of a trouble they preferred to avoid. I personally think, if I was a finance staff, and there was no benefit for my work or incentive for my contribution, why should I care about it?*"). Legitimation is also withdrawn where a legitimation provider expresses the view that the system could not be used or was not fit for purpose (eg, *"…if we can't have the fee-collection feature, the smartcard is just a canteen and library card. So what's the point we supported the project and suffered the heavy work all the way through?*").

We considered that activities for gaining legitimation occurred mainly in the early phases of the project. Activities for maintaining legitimation occurred when already-granted legitimation was weakened or damaged, and we characterized this as occurring where there was: (1) weakened support from a stakeholder (for example, the project leader's reaction to encountering user resistance to the payment system); (2) doubt or opposition from a stakeholder concerning the system (for example, student complaints about delayed system installation). Activities for repairing legitimation occurred when already-granted legitimation was withdrawn, and we characterized this as occurring where there was: (1) weakened support from a stakeholder, resistance or damage (for example, project team awareness of damaged security subsystem); (2) an IS stakeholder view that the system could not be used, or was not fit for purpose (for example, finance department doubts concerning system usefulness if the fee-collection function was absent).

The monitoring of legitimation status is thus necessary, as even when legitimation is granted (a type of "closure' (Bijker 1995)), this may be temporary. In addition, monitoring may not be straightforward. While overtly positive responses, such as active participation and positive expressions about the system, can be easily perceived as signifying the granting of legitimation, detecting legitimation failure is more challenging. This is because more time may be needed before the effects of legitimation seeking activities become visible, or because IS stakeholders' reluctance to grant legitimation may, for example for political reasons, rarely be displayed overtly (Brown 1995).

Different Approaches to Legitimation Seeking: Conformity and Manipulation

In the original LAM (Flynn and Hussain 2004), an IS project team actively seeking legitimation for an IS initially constructs a legitimation "target": their ideas of IS characteristics, how the IS would be used by users and its predicted organizational effects. This concept is similar to the organizing vision of Swanson and Ramiller (2004) and to the technological frames of Orlikowski and Gash (1994). After learning norms of important stakeholders who have the potential to grant legitimation for the IS, teams often then identify a "legitimation gap": the distance between the legitimation target and stakeholder norms (eg, beliefs, cultures, routines, and practices). Such a gap has been highlighted by Klein and Hirschheim (1989) and elaborated as technochange misfit (Markus 2004), frame incongruence (Orlikowski and Gash 1994), or due to logics of opposition (Robey and Boudreau 1999). More broadly, it may be seen as due to the existence of the different communities of practice (Wenger 1998) and the associated disparities in situated learning arising from the different world views of the project team and the stakeholder groups. To achieve legitimation, we conceptualize that an IS project team needs to shorten the distance between two "territories":

- **IS project team territory**: This is the area over which the project team has control. Elements in this territory include the *IS* (functionality, predicted effects, configuration), *project organization and delivery* (leadership and management of the project, IS development/implementation methodologies), and *organizational structure* relevant to the IS and its use (rules, policies and standards). The elements in this

territory are normally controllable and configurable by the project team, for example, they can design and implement particular functions of an IS, determine the project schedule, or impose rules and routines for the use of the IS. However, the team usually has more controlling power over the IS and project organization and delivery than organizational structure, as IS managers often lack high level authority or positional power in organizations.

- **Stakeholder territory**: This area comprises stakeholder norms, values, and beliefs. Elements in this territory are abstract, existing in stakeholders' mindset. Thus, although the elements are accessible by IS project team who can deliberately take actions to "learn norms" (Flynn and Hussain 2004), they are normally not controlled by the IS project team. Stakeholders autonomously grant or withhold legitimation based on their own judgments in which elements of the IS project team territory are evaluated according to their underlying norms and values. When stakeholders consider the IS, the IS project, and the use of the IS as desirable, proper and appropriate, legitimation is granted; otherwise, legitimation is withheld. Nevertheless, the IS project team can attempt to influence stakeholder norms, values, and beliefs to achieve favourable outcomes from stakeholder judgements.

To bridge the gap between the two territories, a project team can choose from the following strategies:

(1) **Conformity strategies**: the project team learns stakeholder norms, does not attempt to influence them, but instead changes relevant elements in IS project team territory to conform to these norms. This is similar to a traditional ISD approach which focuses on gathering user requirements and then develops/configures the IS to meet needs. It also resembles the process of translation between communities of practice, where the components of one community's world view are framed in terms of the world view of another (Pawlowski and Robey 2004).

(2) **Manipulation strategies**: the project team learns stakeholder norms and identifies which norms are obstacles to realise the legitimation target. They can then actively approach stakeholders to manipulate these norms. Thus, the project team aims to change how stakeholders see the IS and its predicted effects, and to convince them that these are beneficial to them.

The ABC university case has examples of both manipulation and conformity strategies. In the early phase of the project, the project team attempted to directly influence stakeholder norms towards the system, for example, they referred to other universities that had successfully implemented similar systems. In another example of manipulation strategies, the project team allowed more time for stakeholders to change how they perceived the system, without changing the system at all.

In the later phase of the project however, there was a trend towards employing conformity strategies. When the team learnt that there was little hope of changing the security guards' behaviour, they decided to abandon the security subsystem, dramatically changing the system characteristics to save the wider project from harm. They also had to rewrite the project documentation to exclude the fee-collection function from the project objectives. This action was a significant change to the characteristics of the system because an important function was left out. This action was also a big change to the project organization as the change in the system was formally documented. Although this strategy did not aim to gain further legitimation for the system, it repaired damaged legitimation by conforming to stakeholder norms that a legitimate system should at least meet what was stated in the project objectives.

Shifts in stakeholder perceptions of legitimation were thus strongly linked to their shifts in perception about system features and their utilization (Orlikowski and Gash 1994). For manipulation strategies, stakeholder norms to evaluate these features were manipulated by the project team; whereas, for conformity strategies, system features were changed, to conform to project team learning concerning user norms and technology capabilities.

Based on the case study, we can suggest that the choice between conformity and manipulation strategies is largely dependent on project team perceptions of two issues: (1) the extent to which the team have control over the elements in their own territory; that is, how easy is it for IS characteristics, project organization and delivery, and relevant organizational structure to be changed by the project team. (2) The extent to which there is stakeholder flexibility, that is, the likelihood of success in changing stakeholder territory (stakeholder norms).

Figure 2 attempts to show two dimensions: the controllability of the IS project team (the level of control and influence the project team have on their territory), and stakeholder flexibility (how fixed or flexible stakeholders are with respect to changing their norms relevant to the target). How the case study is evaluated against the two dimensions is also shown in the figure.

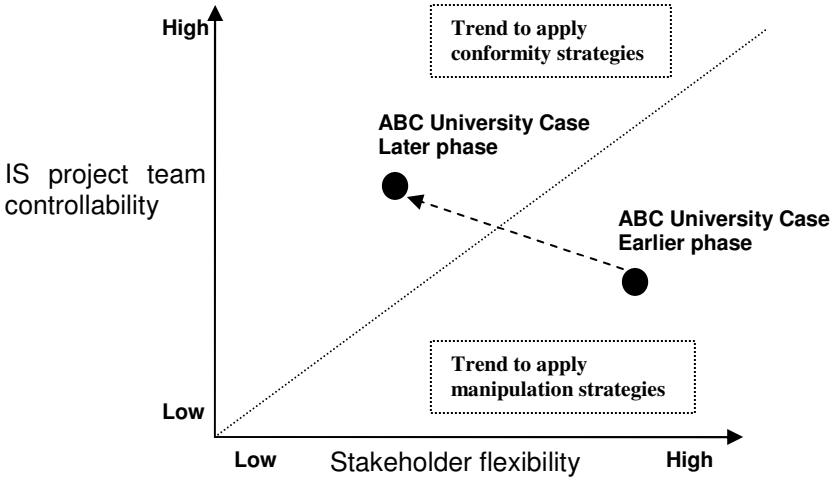

Figure 2. IS project team controllability and stakeholder flexibility

In the early phase of the ABC university case, the team perceived stakeholder flexibility as high, because key stakeholders showed enthusiasm at the start of the project. Directors responded well to visits and the team felt confident about their influencing skills, as they thought canteen and shop owners would change norms and behaviour. IS project team controllability was perceived as low, mainly because the team had limited understanding of the system, which was an off-the-shelf package, as well as its organizational effects. Team members stated: "*It was not until the system had been put into service and such large numbers of active users became reality, we did realize that we need more manpower to handle [it]*", "*… we didn't know how to do [database configuration] and we didn't want to take any risk. The IT company didn't seem to have any idea either!*" Because of their perception of their low controllability and high stakeholder flexibility, the team mainly employed manipulation strategies in this phase.

In the later phase, the team's perception of stakeholder flexibility changed to low, because they encountered resistance and defeats, as the project manager said: "*We were thinking: why had they [developed] negative attitudes and unwillingness to the project and were so difficult to work with?*" However, the team's controllability improved slightly as they learnt about system limitations. They were able to change system characteristics and project organization dramatically to repair legitimation. Thus they shifted to conformity strategies.

The case study provides a real example of shift from manipulation to conformity strategies (as shown in Figure 2). We can envisage a different situation in other IS projects where a project team starts with conformity strategies and then switches to manipulation strategies (opposite to the direction shown in Figure 2). In this imaginary scenario, the team might initially be very cautious about their own controllability, and might assume that conforming to stakeholder norms and demands could achieve project success. Later on, the team might encounter legitimation defeats, which are warnings that the team should gain more control over the direction of the project and/or that project success is under question even with stakeholder needs fulfilled. This may be due to stakeholders' selfish demands, making realisation of business benefits impossible, or to irreconcilable conflicts between different stakeholders. The team would then have to stop applying conformity strategies, resolve legitimation difficulties (legitimation maintaining and repairing activities), and then continue to gain legitimation by manipulation strategies.

To sum up, it is apparent that when an IS project team has a high level of control over their territory and changing stakeholder norms is difficult, they are likely to apply conformity strategies to legitimation-gaining activities. When the team has a low level of controllability and stakeholders appear to be flexible, they may apply manipulation

strategies. Key events that may trigger the shift from one strategy to another can be legitimation maintaining and/or repairing activities in which the team reassess themselves and the stakeholders.

To be able to change the elements in their own territory, important factors for project teams include their technical expertise and capability, resources available to them, knowledge about the system and the extent to which system vendors are forthcoming and honest about the customisability of their products (Natovich 2003), and their organizational status, identity and power. In contrast, to change stakeholder norms, project teams must consider factors such as personal characteristics of the stakeholders, their organizational status and power, and elements of their norms that are to be changed.

Recommendations for practitioners are, for conformity strategies, that they consider alternative technologies and solutions that have a better chance of being accepted by users. For manipulation strategies, they may identify those users who are more likely to support the proposed IS, or be influenced by legitimation strategies more easily.

Conclusion

Legitimation-seeking focuses on how IS project teams can involve stakeholders in ISD and appropriately present an image in which the IS is seen as meeting stakeholder needs and wants. This research adds to the growing evidence base that seeking legitimation is important in IS projects (Brown 1998; Kohli and Kettinger 2004; Hussain et al. 2004; Keable et al 1998; Flynn and Puarungroj 2006; Kaganer et al. 2010). Our motivation for this research has been firstly, to show that a process-based account of legitimation-seeking activities is important for understanding IS organizational legitimation, and secondly, to demonstrate how the area of legitimation has the potential to draw together disparate IS research areas such as resistance and user involvement.

Through a legitimation lens, findings of the case study provide some insightful explanations to why individuals accepted or resisted a new IS, and how their perceptions shifted through legitimation seeking activities, utilisation and appropriation of the new technology. We were fortunate in gaining good access to management-level staff at the organization as their perceptions were vital to our understanding of organizational legitimation.

From the case, a clear example of the need for legitimation is shown by the failure of managerial domination when the team attempted to institutionalise the use of the smartcard system through issuing a formal organizational policy. Canteen and shop staff resisted this policy, which was later rescinded and replaced by targeted legitimation strategies, which eventually had the desired effect.

Our research has relevance for practitioners as we provide an empirical case study that illustrates how legitimation was sought and controlled strategically as an important resource (Ashforth and Gibbs 1990). We have identified sets of legitimation strategies (Suchman 1995) that managers may refer to while seeking legitimation for systems. Practitioners should always select such strategies by considering the context where they are to be used.

One major contribution of this research concerns the maintenance and repair of legitimation, and the identification of four different types of legitimation status. During the life of an IS project, managers should be on the alert to detect and resolve issues that could undermine support, and thus should not treat legitimation that has been granted as a fait accompli. One way to continuously monitor and evaluate legitimation status is to talk to stakeholders through regular information briefing meetings or personal contacts. While stakeholder discourse and communication can provide some insights into the status of legitimation, another indicator can be the extent of resource flow in an organization. In the view of Stone and Brush (1996), the greater the degrees of certainty with which resources are supplied to a project (finance, personnel, technology, contributions from stakeholders), the more legitimation the project possesses. Interruptions in project resource flow therefore could suggest legitimation decline. We have proposed ILAM as an improved process model. IS management might face challenges in retaining legitimation for an IS. Prior IS legitimation research has not considered how legitimation challenges and crises are dealt with, and exposing these is valuable as they provide realistic practices of legitimation maintaining and repairing.

Another main contribution of this research is the discussion of two different, but related, legitimation seeking approaches: Conformity and Manipulation. Our descriptions of conformity and manipulation strategies offer more detail and are more relevant to IS contexts than descriptions provided by previous literature (Oliver 1991; Suchman 1995), where there is some confusion about what "conformity" or "manipulation" actually means to IS managers and project teams in the context of seeking legitimation in IS projects. Therefore, to this end, our research has improved understanding of conformity and manipulation legitimation strategies, and applications of these strategies are evident in our case study.

We have identified examples of these legitimation seeking approaches in the case study and discussed some factors that could influence IS project team choice of these approaches, for example, IS project team controllability and stakeholder flexibility. We believe that a single best legitimation seeking approach might not exist because one approach might appear suitable for a situation but might be ineffective or even inapplicable in other circumstances. Further research is clearly need to explore the approaches and corresponding strategies in other case study settings, leading to a more complete understanding of legitimation seeking activities in IS projects.

This research recognizes several limitations. Firstly, single case study research did not allow us to take advantage of the strengths of multiple-case research (Herriott and Firestone 1983) with regard to developing new knowledge about legitimation-maintaining and legitimation-repairing activities in IS projects. Biases may take places in single case research where cross-case analysis is infeasible (Eisenhardt 1989). Secondly, the retrospective data collection is another limitation, in that data collection was not concurrent with the actual project, as access was gained after the project had finished. A disadvantage related to retrospective accounts might be errors in interviewees' recall of historical events (Glick et al. 1990). Another shortcoming of using retrospective accounts is that interviewees may neglect important project events, or add their own judgment or interpretation into the narratives, in an attempt at post-rationalization.

As suggested by Banville's (1991) research design for legitimation studies, further research can adopt a more ethnographic research approach instead of collecting data in relatively short field visits to research sites. The distinctions made by Griffith (1999) between concrete/abstract, core/tangential technology features may be investigated for their applicability to the refinement of conformity and manipulation strategies. In addition, action research (Avison et al. 1999, 2001) can be an alternative approach to study IS legitimation.

Appendix: Examples of the Grounded Theory Approach for Data Analysis Coding

Interviewee	Transcript Fragments	Coding and Analysis
Director of Logistic Department	*We were indeed impressed by what other university had achieved! Their systems were really good examples which we could follow. Their adoption of the technology was successful as they had all of their students putting money on smartcards.*	Motivation, Legitimation granted (for smartcard adoption)
Director of Finance Department	*We found that other universities used their smartcard system with a strategic view. Their systems integrated work of academic affairs offices, banking and finance together to provide a unified platform for student services.* *We, as finance department, wised to have a web portal in smartcard system, so that student could go to the smartcard website, pay fees and check their payment history. The sooner this became reality, the better. What we specifically expected was that the system and its fee-collection function would make our work easier than before……*	Legitimation granted (for smartcard adoption) Legitimation being sought (likely to grant)
Chief IT Technician	*The finance department was very supportive at that time. If there was anything that could help them with internal accounting and auditing, that would be welcomed by them. And the logistic department too. They were very active and supportive.* *After [presenting the proposed system] to all departments, many of them looked like…dazed and stupefied…What I mean is: they had no idea about whether the system would impact their work. Very few people knew something about smartcard technologies and its applications, but most people just thought: 'you want to do the project, ok, whatever, you go ahead'.*	Monitoring, (a satisfactory level of legitimation achieved) monitoring, evaluation, (a modest level of legitimation achieved, but sufficient to carry on the project)
Director of Network Centre	*The feedback and comments we received were very positive and encouraging. People really looked forward to it. But, I have to say, some of them wanted to wait and see what's really gonna*	Monitoring, Evaluation,

Interviewee	Transcript Fragments	Coding and Analysis
(acting project manager)	*happen. Even they waited and see, all other departments showed their willingness to support us. After all, some departments had been motivated to sort out the canteen payment problem, while other departments did not have this pressure. At that time, the focus was on the canteen issue.* *The work went on extremely smoothly and we were very optimistic about the project. We had an overall plan and we were so confident that we made a claim - we were going to make the system the best one in our province…we were sure that we could make the application of the system [successful] in all designated areas.* *Students responded enthusiastically, being happy with the fashion outlook of the card and the convenience to be brought by it.* *We produced the document and quickly got senior management to approve it. We could not stand on that the system was not used properly and we must do something to make these people willing to use the system. The regulation was promulgated officially and it aimed to compel all canteens and shops to use the system.* *We were thinking: why they [developed] negative attitudes and unwillingness to the project and were so difficult to work with?..... We started talking to these people to find out what they thought about the system, and we listened to other staff and students too.*	Legitimation level/status (outcome/decision: continue the project and gaining legitimation) Monitoring, evaluating, (decision: continue the project) Check legitimation status, monitoring Determination, Use of power and domination Evaluation; Problem with legitimation, Transition: from gaining to maintaining Conformity strategy
Director of Security Department	*I think I was impressed at that time and I thought the system was very advanced and cutting-edge. Erm…having the system could reduce our [i.e. managers] workload and provide a lot of convenience.*	Legitimation status: granted
Director of Student Management Department	"*[The new function] has greatly reduced our workload. We are now working more efficiently than ever before. The amount of funds we are able to process has increased considerably. You no longer see students queuing in my office to get money……*	Legitimation – granted
Student A	*There was not much concern at the beginning. But things were quickly getting worse when some of us discovered students in other halls could use smartcard in their canteens and shops. But students living here, like us, didn't have the same service so we thought it was not convenient to us at all. We made our concerns known by university officers. We asked for the installation of smartcard terminals in our hall as soon as possible.*	Legitimation being weakened
Smartcard System Service Manager	*…every single piece of system equipment was damaged and broken!... From the security guard's perspective, it's painful to work under the system's monitoring. They didn't have much freedom if their activities were recorded by the system. So they damaged the equipments to avoid using it.*	Legitimation – seriously damaged Evaluation

The table above shows a small selection of categories that emerged from the analysis. The researchers worked to reduce overlap and redundancy among them, for example, categories related to levels and status of legitimation were combined into four general states of legitimation (as mentioned in the Discussion section): (1) being actively sought, (2) granted. (3) damaged or weakened, and (4) withdrawn.

The data analysis also led to creation of models and theory that incorporates most important/significant categories. For example, the integrated legitimation activity model (ILAM) was based on categories related to different types of legitimation activities, monitoring and evaluation, and legitimation status.

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