Institutional entrepreneurs: The driving force in institutionalization of public systems in developing countries

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Abstract
Purpose – While institutional theory is used widely in the information system (IS) literature to study implementation of systems, the actual process of institutionalization has received less attention. To address this gap in the literature, this study uses three concepts drawn from the theory, namely institutional isomorphism, institutional logic, and institutional entrepreneurship, and the interplay between them to explore the role of the dominant institutional entrepreneur in the institutionalization of a public system, as an instance of e-government initiatives.
Design/methodology/approach – In an interpretive case study, this study examined the institutionalization process of an e-procurement system over a four-year period (2007-2011) in the Indonesian city of Yogyakarta.
Findings – This study reveals that different institutional isomorphism mechanisms emerge during the process and institutional logics evolve over time. More interestingly, it uncovers the dominant role of an institutional entrepreneur, the city's mayor, who mobilized resources and support to drive the institutionalization process. At the beginning stage, institutionalization is best described as a process of instilling values, cultivated by the mayor, followed by a process of creating reality through a typification process, whereby the e-procurement system is embedded in the existing practices and institutionalized.
Research limitations/implications – As an interpretive study, the findings are generalized to theoretical concepts rather than the population. The interrelationship between the three concepts of institutional theory represents plausible rather than deterministic links. It also offers practical insights, such as e-procurement implementation strategy.
Originality/value – This paper goes beyond simply using institutional theory as an interpretive lens by examining the interrelationship between the mechanisms of institutionalization. It shows that the main catalyst of the institutionalization process is the institutional entrepreneur who managed the institutional isomorphism and was instrumental in changing the institutional logic. It also presents lessons from a successful case where corrupt practices were highly institutionalized at the beginning but were decreased through the system.
Keywords - Public systems, E-government, E-procurement, Institutional theory, Institutional isomorphism, Institutional logic, Institutional entrepreneurship, Developing countries, Indonesia.
Paper type – Research paper

1   Introduction

There are many serious challenges in implementing public systems in developing countries, and of e-government in general (Krishna and Walsham, 2005; Sein, 2011). One of the main challenges relates to institutional issues (Furuholt and Wahid, 2008; Heeks and Santos, 2009). Scholars argue that such systems will not realize their potential without institutional change leading to routinization of practices (Avgerou, 2000; Kumar and Best, 2006). Since each context is unique, the institutionalization process may also differ from one context to another (Heeks and Santos, 2009). Especially in developing countries, lack of institutionalization is identified as one of the main causes of failure (see e.g., Kumar and Best, 2006).

In response, the information system (IS) research community has used institutional theory as a lens to study history of IS implementation and its associated impacts within an organization (Avgerou, 2000; Mignerat and Rivard, 2009; Weerakkody *et al.*, 2009). Findings from this stream have added to our understanding of why implementation of systems is often met with resistance, and how institutions remain stable. The actual process through which institutional forces bring about change, however, has received less attention (Sahay *et al.*, 2010). In other words, explaining the institutionalization of a new system and the simultaneous (and often necessary) de-institutionalization of the old system, remains a challenge for IS research.

To meet this challenge, we have been conducting a longitudinal study on the implementation of an e-procurement system in the city of Yogyakarta in Indonesia. We use concepts from institutional theory – institutional isomorphism, institutional logic, and institutional entrepreneurship – to explain the institutionalization process. In an earlier paper from the study, Wahid (2012) described how the system was institutionalized. The three mechanisms were in evidence and provided a good interpretive lens to understand the process. However, we did not explore the inter-relationship between these concepts. Since institutionalization requires interplay between these mechanisms (Misangyi *et al.*, 2008), our study only answered part of the puzzle. The question remained: *How does the interplay between institutional isomorphism, institutional logic and institutional entrepreneurs affect the institutionalization of the e-procurement system? Further, are these three mechanisms equally important or does one take a dominant role in influencing the other two?*

In this paper, we revisit the data, and through a fresh analysis, attempt to answer these questions. Specifically, we focused on the role of a dominant institutional entrepreneur in implementing isomorphism and changing the institutional logic that led to the successful institutionalization.

The remainder of the paper is structured as follows. In Section 2, we describe the key concepts from institutional theory that help to develop our analysis. Section 4 provides a brief summary of the context and the research method used. Section 5 presents the findings, followed by discussion in Section 6. Section 7 concludes the paper with the study's limitations, and implications for practice and research.

2   Institutional theory

Institutional theory sees institutions as "multifaceted, durable social structures made up of symbolic elements, social activities, and material resources" (Scott, 2008, p. 48). The theory provides useful insights into not only the persistence and the homogeneity of institutions but also institutional change and transformation (Dacin *et al.*, 2002). Institutional researchers believe that the institutional context where IS is developed and implemented needs to be taken into account to study its impact on organization (Avgerou, 2000; Orlikowski and Barley, 2001; Weerakkody *et al.*, 2009). Institutional theory is also used to portray the relationship between actors and to explain isomorphic mechanisms between the actors which emerge during an IT implementation (Kim *et al.*, 2009). Our study focused on three mechanisms of institutional change: institutional isomorphism (DiMaggio and Powell, 1983), institutional logics (Thornton *et al.*, 2005; Thornton and Ocasio, 1999), and institutional entrepreneurs (DiMaggio, 1988; Dorado, 2005). These are briefly described below.

2.1   *Institutional isomorphism*

Although institutions function to provide stability and order, they undergo both incremental and revolutionary change (Scott, 2008). Thus, an institution is also a 'process', including the processes of institutionalization and deinstitutionalization (Scott, 2008). Generally, institutionalization may be defined as "the process through which a social order or pattern becomes accepted as a social 'fact'" (Avgerou, 2000, p. 236), whereas deinstitutionalization is "the process by which the legitimacy of an established or institutionalized organizational practice erodes or discontinues" (Oliver, 1992, p. 564).

External environment is seen as influential for institutional change. Organizations are not passive entities controlled by the demand of their environments but are active players capable of responding strategically and innovatively to environmental pressure (Orlikowski and Barley, 2001; Weerakkody *et al.*, 2009). Organizations are subject to pressure to adapt to or to be isomorphic with the external environment through three mechanisms: coercive, mimetic, and normative (DiMaggio and Powell, 1983).

Coercive isomorphism stems from political influence and is a result of pressure exerted on organizations by other institutions upon which they are dependent (DiMaggio and Powell, 1983), such as regulatory bodies and parent corporations (McKinley *et al.*, 1995; Teo *et al.*, 2003). Legitimacy is legally enforced (Scott, 2008). Normative isomorphism is associated with professionalization and learning. When organizations have frequent communication with each other, they learn to think or behave similarly (McKinley *et al.*, 1995; Teo *et al.*, 2003). Legitimacy is governed by moral values (Scott, 2008). Mimetic isomorphism is a response to emergent uncertainty and takes a new practice for granted as a part of new culture. Legitimacy is culturally based (Scott, 2008). Over time, they become more like other organizations through a cloning-like process (McKinley *et al.*, 1995).

In short, the external environment puts pressure on institutions to organize and become similar. However, institutions are not passive and they actively respond to coercion from other organizations, learn from other organizations through communication or simply mimic other organizations.

2.2   *Institutional logic*

Introduced by Friedland and Alford (1991), institutional logics seek to explain contradictory practices and beliefs inherent in institutions. Every institutional order has a central logic that guides its organizing principles and provides social actors with vocabularies of motive (Thornton and Ocasio, 2008). It is defined as "the socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality" (Thornton and Ocasio, 1999, p. 804). This definition provides a connection between individual agency, cognition, and socially constructed institutional practices.

Institutional actors can be viewed as agents and carriers for producing and reproducing the institutional logic within a specific institutional environment (Scott, 2008). It is available to individuals, groups, and organizations to elaborate, manipulate, and use to their advantage (Friedland and Alford, 1991). Institutional logics may work at different levels, both within institutions and between institutions (Sahay *et al.*, 2010; Thornton and Ocasio, 2008).

Within an organization, multiple and competing institutional logics may be simultaneously in play (Friedland and Alford, 1991). These competing institutional logics can hinder or trigger change and they can be pre-existent or a consequence of change (Currie and Guah, 2007; Thornton and Ocasio, 1999). Over time, institutional logics may shift from one to another, and this will influence how the institutionalization process takes place (Thornton et al., 2005).

In short, institutional logic guides the behaviour and practices of an organization's members. Multiple and often contradictory institutional logic may be present in the same organization. Changing the prevalent institutional logic and installing a new logic is the key to bring about change.

Without neglecting the significant role of external environment in explaining institutional change, increasing attention is being paid to internal agents of change, so-called institutional entrepreneurs (DiMaggio, 1988; Dorado, 2005; Wijen and Ansari, 2007). Institutional entrepreneurs are purposeful actors who have resources at their disposal and social and political skills and social position to lead change (Dacin *et al.*, 2002). They serve as agents of legitimacy supporting the creation of institutions that they consider to be appropriate and aligned with an interest that they value highly (Dacin *et al.*, 2002; DiMaggio, 1988). This interest will influence the institutional logic the agents have and hence the character of the new institutions will be dependent on it. From this perspective, institutionalization is a process of instilling values (Selznick, 1957). Before value is instilled in an organization, it merely has instrumental utility as a mechanical and disposable tool (Scott, 1987). Institutionalization can also be considered as a process of creating reality that "occurs whenever there is a reciprocal typification of habitual actions by types of actors" (Berger and Luckmann, 1967, p. 54).

As resources are integral to institutionalization, institutional entrepreneurs use strategies to mobilize resources (Dacin *et al.*, 2002; DiMaggio, 1988). At least three distinct resource mobilization strategies can be identified: convening, leveraging, and accumulating. These three strategies are not mutually exclusive and may happen simultaneously but normally one will dominate (Dorado, 2005).

In the convening process, the resources mobilization is carried out through collaborative arrangement as a precondition for institutional change (Dorado, 2005). This involves 'collective institutional entrepreneurship', that is, "the process of overcoming collective inaction and achieving sustainable collaboration among numerous and dispersed actors to create new institutions or transform existing ones" (Wijen and Ansari, 2007, p. 1079). Institutional entrepreneurs are the driving force behind the leveraging process (Dorado, 2005). They can mobilize legitimacy and support through the use of frames, in order to shape people's perceptions, cognitions, and preferences (Battilana *et al.*, 2009). In the accumulating process, support is gained through the actions and interactions of various actors that over time, result in a dominant design which is then diffused (Dorado, 2005).

In short, in addition to external influences, institutional entrepreneurs affect the institutionalization process internally. They do so by using strategies to mobilize resources and to gain support from other institutional members to their course of action.

3   Context and research method

3.1   *The context*

As in many developing countries, corruption is believed to be one of the main barriers to development in Indonesia. Corruption that affects public procurement in Indonesia involves a wide spectrum of individuals and organizations, including political leaders, judicial figures, senior administrators, and officials in procurement roles, as well as suppliers and contractors (Jones, 2007).

As part of its effort to curb corruption in public procurement, the Indonesian government introduced an IT-based e-procurement system in 2008. The main objective was to improve the transparency and accountability of public procurement. This objective has gained ground in Indonesia because budget leakage in public procurement has reached an alarming level. It is estimated that between 10% and 50% of the public procurement budget has been misappropriated (Anonymous, 2009). According to the Multilateral Development Bank (2007, p. 21), "the very complexity, overregulation, and lack of predictability in the legal systems in numerous transitional and developing countries where governments lack accountability and transparency serve as windows of opportunity for corruption".

The use of the system from 2008 until 2011 in 191 government agencies has saved 11.00% of the procurement budget (Lembaga Pengkajian Pengadaan Barang/Jasa Pemerintah, 2011). The city of Yogyakarta, the study site, implemented e-procurement in 2008. After having been in place for four year (2008-2011), the system has provided 15.44% efficiency.

3.2 Research method

This study is interpretative in nature and can be best described as a case study that involves a longitudinal analysis. We positioned ourselves as 'outside researchers' with a low level of involvement (Walsham, 1995). Case study is appropriate since the problem under investigation is practice-based, where the experiences of the actors are important and the context of action is critical (Benbasat *et al.*, 1987). The detailed research methodology is depicted in Figure 1 (adapted from Jankowicz (2000), Kamal and Alsudairi (2009), and Walsham (2006)).
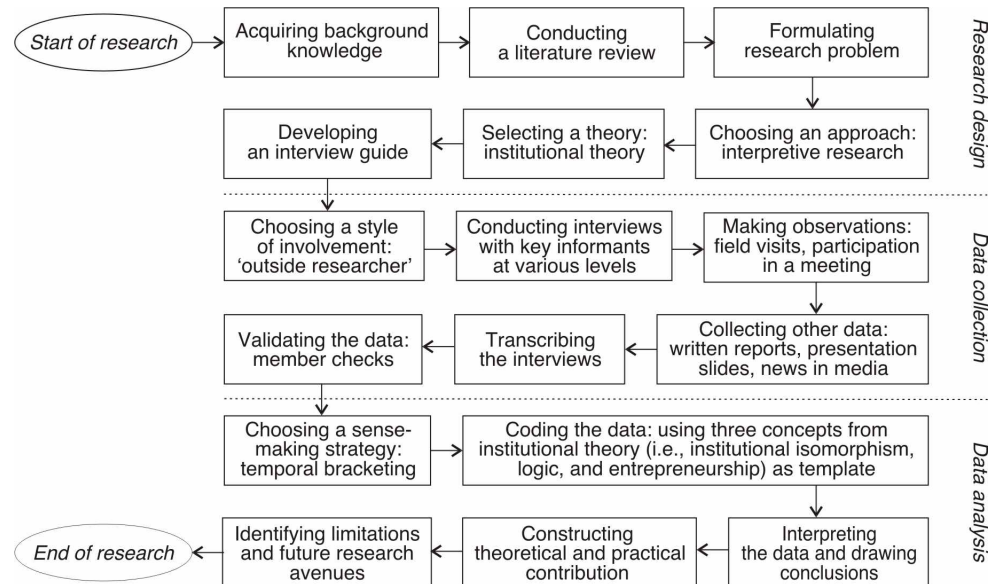

Figure 1. Research methodology

Our main data collection was through interviews. We developed an interview guide based on institutional theory. Using the snowball method, we interviewed a number of key players involved (or were involved in the past) in the implementation of the system. We also consulted the current organizational structure to identify potential informants. The interviewees were the mayor of the city of Yogyakarta, four heads/vice-heads of departments, three heads of divisions and three administrators. We conducted a total of 11 interviews between July and August 2011. Interviews lasted between 30 to 150 minutes. Most of the interviews were recorded.

In order to ensure the validity of our interpretation of the phenomenon, we conducted member checks (Bygstad and Munkvold, 2010) through informal discussion with three of the informants. In addition, we also collected data from written documents/reports and other secondary data such as news media, field observations, and participation in a national meeting of e-procurement agencies. In analysing the data, we used the three concepts from institutional theory as the templates in the coding process. To use the temporal bracketing strategy (Langley, 1999) in the sense-making process, we arranged the temporal dimension of the emerging concepts in a timeline to examine the possible shifts of each concept over time.

4 Findings

Table 1 summarizes the main events and the status of the implementation trajectory of the e-procurement system in Yogyakarta. In general, the process could be divided into the three phases identified by Tolbert and Zucker (1996), corresponding to pre-institutionalization (2007-2008), semi-institutionalization (2009-2010) and full-institutionalization (2011 onwards). However, these stages should not be interpreted as clear-cut in a deterministic way. From the opposite perspective, at the first phase, the old procurement practice began to deinstitutionalize (Oliver, 1992).

Table 1. Implementation trajectory of the e-procurement system.

Phase	Year	Main events or status
Pre-institutionalization	2007	- The mayor declared his willingness to adopt the e-procurement system. - An internal preparation team was setup to learn how e-procurement works by visiting two other cities and the National Development Planning Agency (*Badan Perencanaan Pembangunan Nasional* [Bappenas]). - The mayor mobilized resources and support from various stakeholders. - In collaboration with the Corruption Eradication Commission (*Komisi Pemberantasan Korupsi* [KPK]), all the government officers (around 9,000) signed an Integrity Pact (*Pakta Integritas*) to reject corrupt practices.
Pre-institutionalization	2008	- Resources were allocated and granted. Support was gained. - Training for e-procurement officers was held. - The city signed a memorandum of understanding with Bappenas (6 March). - A series of training for suppliers/contractors was conducted. - Mayor's decree on the establishment of an e-procurement agency (LPSE) was released. - Internal recruitment for e-procurement committee members was carried out. - The e-procurement system and agency were launched officially (25 July). - Eleven tenders were successfully conducted via the system.
Semi-institutionalization	2009	- Mayor's decision came into force. All tenders valued at more than IDR 500 million should use the system. - Internal recruitment for new e-procurement committee members was carried out. - A further series of training programmes for suppliers/contractors was conducted. - Mayor's decree on the establishment of Procurement Services Unit (*Unit Layanan Pengadaan* – ULP) was released. - The city was described by Transparency International Indonesia as the cleanest city in Indonesia with regard to its anti-corruption practices. - Fifty-one tenders were successfully conducted via the system.
Semi-institutionalization	2010	- Mayor's decision came into force. All tenders valued at more than IDR 100 million should use the system. - Internal recruitment for new e-procurement committee members was carried out. - Mayor's decree on the technical guidelines of the e-procurement mechanism was released. - Another series of training programmes for suppliers/contractors was conducted. - One hundred and thirty seven tenders were successfully conducted via the system.
Full-institutionalization	2011	- Further training for suppliers/contractors was conducted. - Internal recruitment for new e-procurement committee members was carried out. - The e-procurement Agency of Yogyakarta was named the Motivating Agency (*LPSE Motivator*) by the National Public Procurement Agency. - Two hundred and forty seven tenders were successfully conducted via the system.

We found that different forms of institutional isomorphism, institutional logics, and resource mobilization strategies took place in various stages of the e-procurement implementation. We present the findings by these phases in Table 2.

Table 2. Institutionalization process.

Main concept	Sub-concept	Pre-institutionalization (2007-2008)	Semi-institutionalization (2009-2010)	Full-institutionalization (2011-onwards)
Institutional isomorphism	Isomorphic pressure	*Normative* - The public demanded more transparent and accountable government. - The mayor decided to adopt the system.	*Coercive* - A set of regulations was enacted.	*Mimetic* - The e-procurement practice has been widely adopted by other districts.
	Basis of legitimacy	*Morally governed* - Legitimacy was based on shared values originated from the mayor.	*Legally enforced* - The e-procurement practice was enforced by a set of regulations issued at both national and local levels.	*Culturally supported* - The e-procurement practice was embedded in the practices and was taken for granted and no longer dependent on powerful actors (such as the mayor).
Institutional logic		*Transparency and accountability* - The adoption of the system was to increase the transparency and accountability of the public procurement processes.	*Efficiency* - The adoption of the system was to gain efficiency in the public procurement measured by the percentage of savings.	*Better process* - The officers felt more comfortable with the use of the system (as indicated, such as, by no more political pressures and terrors).
Institutional entrepreneurship	Resource mobilization	*Convening* - The mayors invited diverse stakeholders (such as the heads of departments and the local parliament) to build collective institutional entrepreneurship.	*Leveraging* - The mayor gained support from backers, and together they bargained for support from other stakeholders (such as the reluctant departments and the vendors).	
	Institutionalization	*Instilling value* - The mayor cultivated values on how to use the technology and to build good governance practices.	*Creating reality* - The institutionalization was achieved through typification, where certain actions (such procurement planning and tenders) came to be associated with certain actors (such as departments, ULP, and LPSE).	

5   Discussion

Figure 2 shows the critical events during the institutionalization of the e-procurement system. The top half of the figure depicts the actions of the dominant institutional entrepreneur (the mayor) while the bottom half captures the progression of the other two concepts in our analytic lens, namely, institutional isomorphism and institutional logic. Our discussion is structured around this figure.
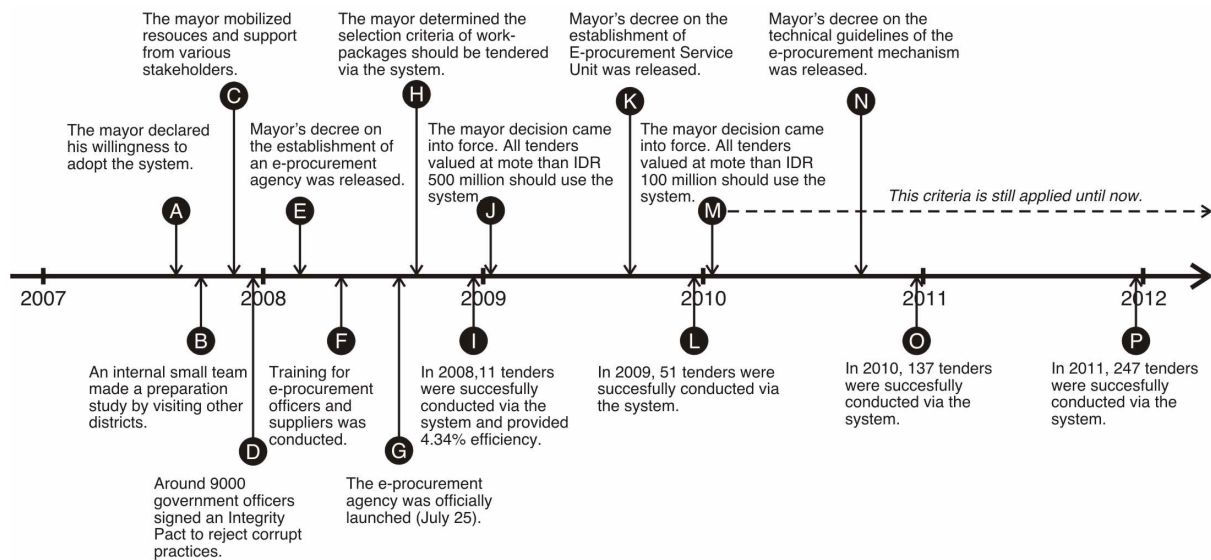
Figure 2. Critical events and the role of the mayor in the institutionalization process.

5.1   Interplay of institutional entrepreneur, institutional isomorphism and institutional logic

The implementation of the system began when the mayor declared his willingness to adopt a more transparent and accountable procurement process at the end of 2007 (pt. A). This was his interpretation of the external normative isomorphic pressure of the public demand for accountable government. External normative isomorphism also happened through a learning process from e-procurement in other cities (pt. B). The mayor was instrumental in formation of internal normative isomorphism through his mobilization of support from different stakeholders through a series of meetings (pt. C). A significant act was the signing of the 'Integrity Pact' where 9000 government officers promised to reject corrupt practices. Through these actions, the mayor challenged the existing institutional logic of 'following government regulations' and 'collaborative procurement practices' (in order to 'make requirements clear' and to 'give priority to local vendors' as informants said). The new institutional logic he sought to install was 'transparency and accountability'.

Given the public demand for accountable government, this was a rather obvious action. Adoption of this institutional logic increased the legitimacy of the institution, whereby other institutional logics were seen as less appropriate, desirable, and viable (Dacin *et al.*, 2002). This finding is in accordance with previous studies where normative pressure from key stakeholders (such as the public, customer, and suppliers) was vital (Kim *et al.*, 2009; Teo *et al.*, 2003). Normative isomorphism was also found at the beginning stages of the implementation of a public system (Kim *et al.*, 2009)

A collective institutional entrepreneurship was built through a convening process (pt. C). The mayor understood that e-procurement implementation required collective action – joint activities by a wide group of actors on the basis of mutual interests (Wijen and Ansari, 2007) – and was beyond the capacity of individual actors (Dorado, 2005). This recognition was very important to overcome inaction, to ensure a long-term commitment of resources, and to unify different factions so that they collaborated and supported the e-procurement initiative (e.g., Furuholt and Wahid, 2008; Wijen and Ansari, 2007). This finding supports the argument by Dorado (2005) that convening strategy is most likely adopted when actors perceive that change is required but how it will be implemented is not clear. The actors then mobilize support by convincing other actors to initiate the desired change.

The role of institutional entrepreneurs is even more important in a culture of great power distance, like Indonesia where inequality in power distribution is accepted and, in some cases, expected by less powerful people. E-procurement institutionalization could be seen as a process of instilling values that originated with the mayor and spread to other stakeholders. Here, the basis of legitimacy was morally governed (pt. D), where shared values were regarded as the primary basis of a stable social order (Scott, 2008).

The mayor's next action was to issue a decree to establish an e-procurement agency (pt. E) and the agency was formally launched soon after (pt. G). Although traces of normative isomorphism can be detected at this juncture – training programs were conducted (pt. F) – this signalled a shift of isomorphism from normative to coercive. (The same mechanism can be seen at points J, M and N further downstream). The basis of legitimacy was legally enforced through decrees (pt. H). This is important in Indonesia's highly volatile government context, where decisions made by one incumbent may be overturned by the next, and can lead to projects being derailed (Furuholt and Wahid, 2008).

One year after the e-procurement implementation (2009), a new dominant institutional logic, that of 'efficiency', emerged. This was facilitated by the fact that the system had delivered efficiency at a certain level (pt. I). This logic gave new momentum to the diffusion of the system. It is difficult to find logics that can compete against this new logic. For the mayor, this institutional logic was a powerful means to convince other stakeholders and to mobilize resources for further development.

In this phase, support mobilization was mainly effected through a leveraging process (pt. M). By now, the e-procurement practice was already transparent. The mayor's action maps nicely with the typical leveraging processes found in the literature. Institutional entrepreneurs define a project, gain support from other subsidiary actors (i.e., backers), and then together with the backers, bargained for support and acceptance from other stakeholders (DiMaggio, 1988).

At this point in time (2009), the new e-procurement practice was more firmly established and transformed into internalized practice. Institutionalization was dominated by a process of creating reality through typification (Scott, 1987); certain forms of actions came to be associated with certain classes of actors. This typification process has continued till today with only minor adjustments.

After three years in place, in 2011, e-procurement has become embedded in the new practices as evidenced by the number of tenders made via the system (pts. O and P). Mimetic isomorphism overtook the previous isomorphism mechanisms, as the new practices were taken for granted and gained support culturally (Scott, 2008). The dominant institutional logic became more internally-oriented, it was a 'better process'. Over time, institutional logics shifted from one to another, and this influenced how the institutionalization process took place (Thornton *et al.*, 2005). The officers recognized the benefits of using the system to perform their procurement tasks: less external political pressure, a less risky, faster process, and greater incentive. The system can be seen as having become institutionalized, as its existence was no longer dependent on powerful actors (Avgerou, 2000).

5.2   *Summary of findings*

To sum up, we identified patterns in the institutional change in the e-procurement case. Our analysis of the interplay of the three mechanisms of institutionalization reveals that the dominant role was played by the institutional entrepreneur, i.e., the mayor. He shaped the institutional isomorphism and through his actions and mobilization strategy, was instrumental in deinstitutionalizing the old institutional logic that bred corruption and installing a new institutional logic that led to a more accountable government. At the same time, success in these actions emboldened him to take further action such as issuing new decrees. Visible results gave his actions legitimacy and increased his credibility. The inter-relationship between the mechanisms is thus reciprocal. Figure 3 captures this inter-relationship.
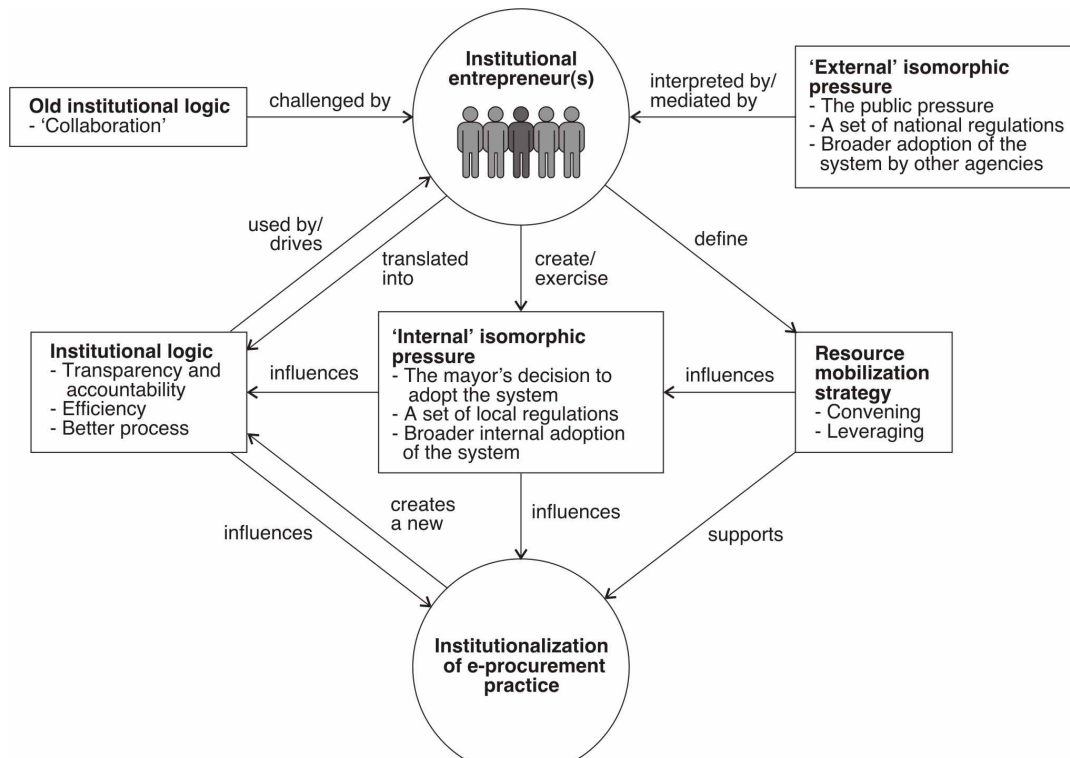
Figure 3. The inter-relationship between the three mechanisms

6 Conclusion

In this paper, we explained how institutionalization of a public system (i.e., e-procurement) took place in an Indonesian local government. Our study revealed that different isomorphism mechanisms happened during the process of institutionalization, from normative, through coercive, to mimetic isomorphism. The institutional logic used by the members of the institution evolved over time. Transparency and accountability logic were dominant at the beginning of the implementation of the system, but then were overtaken by cost-reduction logic. In the end, a better process became the dominant institutional logic. Our study also revealed that the role of institutional entrepreneurs was instrumental, especially during the beginning stage of the implementation, which could be considered as the process of instilling values. In the beginning, resources mobilization as a precondition for institutional change was achieved through a convening process, involving various stakeholders in a collaborative arrangement. Subsequently, leveraging strategy was adopted to mobilize the resources. The study revealed that the dominant role in the institutionalization process was taken by the institutional entrepreneur.

In the rest of this section, we discuss the practical and theoretical implications of our findings. In doing so, we provide some recommendations for practice and suggest future research directions. Before we proceed to the implications, we point out the limitations of our study.

6.1   Limitations
Like any study, ours suffers from limitations. First, the successful implementation of a public system may be context-sensitive, and hence a single case study cannot capture a possible alternative explanation for the success or whether its findings are applicable in other contexts. Including other successful implementations may enable us to capture other, possibly competing, trajectories in the institutionalization process. Second, our case represents a successful instance of institutionalization. We cannot draw any conclusions about failure of an institutionalization process. Including failed or not-so-successful implementations in a future study using multiple cases can give us a more complete picture. However, as an interpretive study, the findings are generalized to theoretical concepts rather

than the population (Lee and Baskerville, 2003). As such we can make inferences about institutional theory and the relationships between its concepts.

6.2   Practical implications

Based on our findings, we can offer some suggestions for practitioners and policy makers. First, beyond revealing that institutional entrepreneurs are important, our study also provides insights on how such entrepreneurs can mobilize support or resources. In the beginning stage, when there are many conflicting institutional logics and the opportunity is not clear enough, convening is the most appropriate strategy. Through this strategy, a collective institutional entrepreneurship can be built. When the opportunity becomes clearer, leveraging strategy may be adopted to strengthen the support. Second, shared values are important during the beginning stage of institutionalization to minimize the resistance. However, when the adoption of the system becomes broader, coercive pressure can be exercised carefully to ensure its sustainability.

The study also revealed actual benefits experienced by the local government after adopting the system. These included cost reduction, a faster and more effective process, a better incentive for procurement officers, and a more transparent and accountable public procurement process. Did the system actually reduce corruption? Some findings indicate that the possibilities of engaging in corrupt practices have been minimized through such outcomes as cutting the direct interaction between the internal procurement committee and the vendors on one hand, and between the vendors on the other. However, further systematic research is needed to address this challenging question.

6.3   Theoretical implications

In conducting this study, we were motivated by the call for research to study institutionalization using an historical approach (Mignerat and Rivard, 2009) and specifically in the context of public sector (Weerakkody *et al.*, 2009). We used concepts from institutional theory and found that a dominant role in the institutionalization process was played by institutional entrepreneurs who shaped the isomorphism and installed the new institutional logic. This finding is in line with the literature (Currie and Guah, 2007; Mignerat and Rivard, 2009; Scott, 2008) and has important theoretical implications some of which we discuss below.

While all three mechanisms are useful in understanding and explaining the institutionalization process, there is a plausible explanation why institutional entrepreneurs emerged as the most influential mechanism. Institutional isomorphism and institutional logic are essentially structural mechanisms; by contrast institutional entrepreneurs conceptually enter the arena of agency (Battilana *et al.*, 2009). Such actors actively define and push the values necessary to bring about institutional change (Misangyi *et al.*, 2008). A public system (or any system) is implemented with at least an espoused intention. In our case, the intention behind the e-procurement system was to combat corruption. This is no easy task, especially in a developing country such as Indonesia that is ranked at the very bottom of the corruption index. Combating corruption requires an active intervention by social actors to change the existing institutional logic (Misangyi *et al.*, 2008).

The central role of institutional entrepreneurs is echoed in other research streams as well. The concept of 'intermediaries' as actors of change has been articulated in the ICT for development literature (Madon and Sahay, 2002; Sein, 2011). How they do it is an important area of research. According to institutional theory, they use resource mobilization strategies such as leveraging and convening. While useful, these do not adequately account for the complex process of building a network needed to bring about change. Concepts from actor-network theory (Latour, 2005), specifically the enrolment and translation process by a central actor can enhance our understanding. Such actors make themselves an obligatory passage point and thus steer the network (Thapa, 2011). Future research can use the two theories to sharpen the analytical lens.

Agency also brings in the issue of motivation behind an institutional actor's actions. Institutional theory considers all members of an organization as potential entrepreneurs. Some become active, others stay passive. What explains this? Concepts from Stakeholder Theory can provide some

answers. A stakeholder becomes active when he/she is salient and has acquired three required characteristics, namely, power, legitimacy and urgency (Mitchell *et al.*, 1997). Members of any organization have legitimacy but some may lack power. What may propel those who have both is urgency. Introduction of a system may create urgency. For those who are tied to existing institutional logic, it becomes urgent to maintain the status quo. For those who strive to deinstitutionalize this logic and install a changed logic, it becomes equally urgent (if not more so). We could trace these mechanisms in our case, but did not specifically use these concepts to analyse the data. This could be a useful direction for future research.

Our study also contributes to the research stream that examines the inter-relationship between the mechanisms of institutionalization. Prior work has looked at the relationship between institutional entrepreneurs and institutional logic (Misangyi *et al.*, 2008; Sahay *et al.*, 2010) and how institutional entrepreneurs act to bring about institutional change (Battilana *et al.*, 2009). To the best of our knowledge, our study is the first one to examine all three mechanisms simultaneously. In doing so, we hope to have shed some light on how e-government practices are transformed. Arguably, transformation is the ultimate objective of e-government.

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