Organizational learning in public organizations

A case study

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ABSTRACT: Public organizations with their distinct characteristics of ambiguous goals, diffused accountability, restricted autonomy and greater environmental pressures are often subject to criticisms about their dysfunctional learning behavior. This study explores how organizational learning processes occur in a public organization in Macau through the conceptual lens of powers and politics. The findings indicated that while the "power of system" appeared to be the major learning barrier, other types of power, such as "power of resources", "power of processes" and "power of meaning" helped promote the overall sensemaking behavior in the organization. We argue that power should be studied in a more positive way. It depends on whether the power holders could make better use of the appropriate source of power to their advantage in order to overcome the learning barriers.

Key words: Power, Politics, Organizational Learning, Public Organizations, Macau

TÍTULO: Aprendizagem organizacional em organizações públicas: Um estudo de caso

RESUMO: As organizações públicas com as suas diferentes características: objectivos ambíguos, responsabilidades difusas, autonomia limitada e acrescidas pressões ambientais são frequentemente alvo de críticas devido ao seu comportamento disfuncional na aprendizagem. Este estudo aborda a forma como decorrem os processos de aprendizagem organizacional numa organização pública em Macau, segundo a perspectiva teórica dos poderes e da política. Os resultados indicaram que, enquanto o «poder do sistema» parecia ser a maior barreira à aprendizagem, outros tipos de poder, tais como os «poderes dos recursos», o «poder dos processos» e o «poder do significado» ajudaram a promover o comportamento aglutinador criador de sentido na organização. Defendemos que o poder deve ser estudado de forma mais construtiva e isso está dependente do facto de os detentores do poder conseguirem usar mais racionalmente a fonte de poder mais adequada para seu beneficio, a fim de superaram as barreiras à aprendizagem.

Palavras-chave: Poder, Política, Aprendizagem Organizacional, Organizações Públicas, Macau

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INTRODUCTION

In recent decades, organizational learning has been an important research topic across different academic disciplines, and the field is currently characterized by a dual emphasis on both scholarly observation and best practices intended for practitioners (Easterby-Smith et al., 1998). The basic tenet is that organizations should focus more on improving the learning processes inside the organizations in order to keep pace with the external environmental changes. New concepts, such as "learning organization" (Senge, 1990), "absorptive capacity" (Cohen and Levinthal, 1990), or "knowledge management" (Nonaka and Takeuchi, 1995), have emerged as a response to the need for developing the capability for organizational learning.

Public organizations are no exception as they have been facing increasing pressures to change from both external and internal sources (Finger and Brand, 1999). However, literature on the aspect of organizational learning of public organizations is still under-developed (Ferdinand, 2004), and a distinctive approach on this own needs to be developed (Vince, 2000). However, according to Mintzberg (1983), since most public organizations can be categorized as "machine bureaucracy" and the way they learn is often subject to the influence of power and politics (Contu et al., 2003; Huzzard, 2000), it is important to understand how the functioning of power can facilitate and hinder the practice of organizational learning and stakeholder engagement in public organizations (Hong and O, 2009; Taylor et al., 2009).

The aim of this study is to explore the organizational learning processes in a public organization in Macau. Through the analysis of the five distinctive characteristics of public organizations (LaPalombara, 2000), including "purpose and goals", "accountability", "autonomy", "orientation to action" and "environment", we analyze how different sources of power (Coopey, 1995; Hardy, 1996; Vince, 2001) can influence learning in public organizations and their related impact on learning outcome.

The rest of this paper is organized as follows. We will first review the extant theories of organizational learning and power in relation to public organizations. Then we will elaborate the overall research methodologies and the case background. The following part presents the main findings and the overall conclusion and implications of the study will be discussed in the last part.

THEORETICAL BACKGROUND

Power and organizational learning

Power is often narrowly defined in management theory (Lawrence et al., 2005) as

the capacity of individuals to exert their will over others (Huzzard, 2004). But it can actually appear in a wide variety of formats in organizations (Clegg, 1989; Covaleski et al., 1998; Hardy and Clegg, 1996; Lawrence et al., 2001). Therefore, power needs to be understood in its diverse forms and structures even though it resists explanation in terms of a singular theory (Hardy and Clegg, 1996).

Generally, power appears in two different modes in which it operates – systemic and episodic (Clegg, 1989; Foucault, 1977; Giddens, 1984; Hardy and Clegg, 1996; Lawrence et al., 2001). Episodic power refers to those discrete, strategic and political acts initiated by self-interested actors. This mode of power has been the traditional focus of organizational research and theory, with its emphasis on examining which actors in organizations are most capable of influencing organizational decision-making (Pfeffer, 1981). In contrast, systemic power works through routine and the ongoing practices of the organization. Rather than being held by autonomous actors, systemic forms of power are diffused throughout the social systems that constitute the organizations (Clegg, 1989; Scott, 2001).

In addition to the above two types of power, we can also approach the concept through four different dimensions, namely the "power of resources", "power of processes", "power of meaning" and "power of the system" (Lukes, 1974; Hardy, 1996). The "power of resources" is the most basic form of power whose focus is primarily on the link between power and control of scarce resources. Power is generally exercised by holders of resources in order to bring about the desired behavior through the utilization of key resources on which others depend, such as information, expertise, political access, creditability, control of money and other rewards. "Power of processes" normally resides in the daily practices of the senior management of the organization, who makes use of a variety of procedures to prevent subordinates from participating fully in the decision-making processes. It has typically been seen as a normative device used by the dominant groups for protecting their self-interests and bringing about new changes into the organizations to their advantage.

The "power of meaning" is often used to shape the perceptions, cognitions and preferences among the employees so that they accept the current situation. This dimension of power is probably the most sophisticated and influential of the four, because the corporate members cannot imagine any other alternatives for changing the status quo. Lastly, the "power of the system" is often beyond the reach of organizational members since it is embedded in the values, traditions, cultures and structures of a given institution, thus affecting all organizational members in its network. The special feature of this power is that it can drive individuals' behavior without being consciously noted. In sum, power is a capillary force and not the property of

dominant groups (Fulop and Linstead, 1999). Power is not something external to organizational members or relationships but "penetrates the very essence of our being" (Vince, 2001).

After reviewing some concepts about power, we conceive organizational learning as a political process (Taylor et al., 2009; Vince, 2001; Coopey and Burgoyne, 2000) through which organizational members engage in various sense-making and sense-giving activities (Weick, 1995). For top managers, sense-making activities, such as environmental scanning and issue interpretation, represent key tasks in organizations and bring about strategic change (Gioia and Thomas, 1996; Smircich and Stubbart, 1985; Thomas et al., 1993). For other stakeholders, sense-making activities affect how they construct their identities, preserve their organization's image, and respond to organizational crises (Pratt, 2000). Sense-making occurs in organizations when members confront events, issues, and actions that are confusing them (Gioia and Thomas, 1996; Weick, 1993, 1995). It is a process of social learning in which individuals try to interpret and explain sets of cures from their environments. It allows people to deal with ambiguity and uncertainty by creating rational accounts of the world around them to enable proper actions (Maitlis, 2005).

On the other hand, sense-giving is defined as "the process of attempting to influence the sense-making and meaning construction of others toward a preferred re-definition of organizational reality" (Gioia and Chittipeddi, 1991: 442). Through continuous sense-making and sense-giving activities, it provides organizational members a chance for weaving together of past, present and future to generate an important insight into the nature of collective knowledge processes (Marshall and Rollinson, 2004). Enactive sense-making involves attempts to bring prior experiences, future expectations and current activities into alignment under specific contexts of action (Marshall and Rollinson, 2004).

Public organizations and their characteristics

A public organization is a legal entity that provides services to the general public on behalf of the government. Its operation is subject to various forms of control and regulations imposed by the government and sanctioned by the general public. In effect, all institutions established by law or by constitutions, which are involved in the process of government, can be termed as public organizations. But they do differ in significant ways from private organizations. For private organizations, profit-making and efficiency improvement are their main concerns, whereas public organizations encounter distinctive normative pressures during the course of their operations. This is because the government is a politicized organization with the satisfaction of the interests of different stakeholders as its top priority (Finger and Brand, 1999).

Compared with private enterprises, public organizations have the following characteristics (LaPalombara, 2000), which may hinder the individual desire for organizational learning;

- 1) Purposes and goals. Public organizations are vastly different from private enterprises in terms of their goals and purposes. Their goals are sometimes vague, diffused or even contradictory with each other, because the functions performed by a government are so diverse and wide-ranging, covering different social aspects and satisfying different interest groups.
- 2) Accountability. As mentioned before, public sector officials are accountable to a wide spectrum of individuals and constituencies, and their actions are always subject to the governance by a number of laws, constitutions, administrative regulations, judicial decisions and executive orders. Moreover, all of them are under continuous scrutiny from outsiders, including the mass media all the time. This means the actions of all public officials are constrained by external and internal rules and limitations (Rainey and Milward, 1981). Their agendas are essentially normative and rarely are they based on the consideration of increasing efficiency.
- 3) Autonomy. In addition, the issue of multiple accountabilities implies that the public organizations are less autonomous than private businesses (Levin and Sanger, 1994). Not only is the formal chain of command more complex, but the informal influences from political parties and other parties also often affect the freedom available to persons in these organizations.
- 4) Orientation to action: Compared to private enterprises, the actions of public organizations tend to be reactive rather than proactive. Conservatism, rather than risk-taking, becomes their modal orientation for action. Conservatism grows out of the fact that these public organizations are more traditional and institutionalized than private ones. There are countless examples showing that the efforts to reform these organizations often fail (Destler, 1981).
- 5) *Environment*. Since the atmosphere of public organizations is very normative, the enactment of a single policy relies on careful manipulation of both internal and external environmental forces. People inside public organizations should learn how they can overcome the various kinds of constraints described above.

Learning challenges

Until now most knowledge about organizational learning is derived from the study of the private sector. Previous studies (Peacher et al., 2001; Dierkes et al., 2001) have

gone little beyond Coopey (1995) and Blackler and McDonald (2000) in addressing power and politics in organizational learning. Even though Lave and Wenger (1991) recognized that unequal relations of power in social learning communities must be included more systematically in the analysis, this promise has thus far not materialized in more recent work (Contu and Willmott, 2003).

But the study of organizational learning in public organizations should be more challenging from the perspectives of power and politics. However, there is still limited understanding about the relationship between power and organizational learning in public organizations (Ferdinand, 2004; Hong and Lao, 2006; Huzzard, 2000; Taylor et al., 2009; Vince and Saleem, 2004). Worse still, most of such literature originated in western countries like the United States, and very few come from eastern countries (Huysman, 1999). As a result, the objective of this study is to explore the organizational learning processes in public organization. Specifically, we attempt to investigate how those four types of power (Hardy, 1996) can affect the sense-making and sense-giving process in public organizations.

METHODOLOGY

The present study followed a qualitative research design for its unique power to extract organization members' own constructions and accounts of experience (Dutton and Dukerich, 1991; Isabella, 1990). As informed by Gioia and Thomas (1996), information generated by qualitative methodology is suitable for studying dynamic processes, especially where these processes are constituted of individuals' interpretations. These characteristics make qualitative methodology a suitable approach for this study for its power to reveal how things evolve in a particular context, in our case about organizational learning processes in public organizations. And it also provides the flexibility for researchers to fine-tune their research throughout the process for generating more useful data.

Within the scope of qualitative research, we adopted a single case study approach because our research question was dealing with complex patterns of change (Yin, 1994). The case under study was the Macao Identification Services Bureau, one of the divisions in the Macao SAR government, People's Republic of China (PRC). The focus of this study was to examine how the Bureau went through the whole learning process for the issuance of new generation electronic passports. The reasons for choosing this Bureau as the subject of study were that 1) it was a public organization; 2) there was a new learning initiative, i.e. electronic passport, 3) involvement of different stakeholders; and 4) the ease of access.

The data was mainly collected in the form of interviews, supplemented by other secondary data sources, such as documents and observation. Different stakeholders involved in the project were interviewed in order to contrast distinct perspectives about their learning experiences and the politics encountered throughout the implementation process. The following groups of people were chosen as the interviewees for this research, who included both management as well as operational and I.T. support staff. This was because they were the main stakeholders involved in different capacities throughout the whole process of this project. By having in-depth interviews with them, it would be easier to discover the dynamics of power and politics encountered when different parties engaged in the organizational learning process. The background of the interviewees is listed in Table (see p. 26).

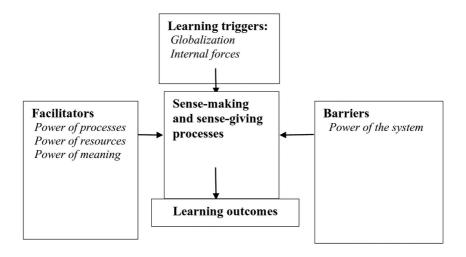
Following Van Mannen (1988), we divided the data analysis process into three distinct phases. In the first phase, all interview data was clustered into different categories to generate specific concepts, a process that is called "categorical analysis". Each category was labeled with one key description subsequently forming one theme. After the categorical analysis, some categories were found to overlap. Then the first--order analysis helped to group them together and form a set of initial concepts. For the second-order analysis, those initial concepts were grouped into a more general and abstract level for theoretical generalization. And continuous iterations between data and the emerging structure of theoretical arguments were carried out to ascertain whether there was enough evidence to support each identified theme as a key finding (Gioia and Thomas, 1996). In the third phase of narrative analysis, the aim was to elaborate the identified themes in more detail. As the interviewee might say something different from what he/she really thought, Sandelowski (1986) emphasized that a qualitative research was credible only if it revealed an accurate description of individuals' experiences and the people having that experience would know from those descriptions or interpretation that it was their own. As a result, the narrative analysis was the most important part of the whole data analysis process.

Moreover, as the second author was also one of the participants in this project, we were clear about the biographical data of each informant and their interrelationships. This helped us to understand their true meanings and link their stories with different themes that emerged. We also tried to corroborate the interviews with the events observed during our participation of the project in order to discover the reasons behind their perceptions.

FINDINGS

Triggered by both a global trend and internal forces, the overall learning process in public organizations was continuously shaped and re-shaped by different types of power, including the "power of resources", "power of processes", "power of meaning" and "power of the system". Moreover, we attributed the salient characteristics of public organizations as "power of system" constituting the main learning barriers and influencing the overall sense-making and sense-giving process in the case company (See Figure). We elaborated the detailed findings below.

FIGURE
Organizational learning processes in public organizations



Learning triggers

Many countries, especially the US government, have become more prudent and cautious since 9/11. In order to better protect their own countries, many foreign governments tightened up their immigration regulations and strengthened the security standard of the passports, thus triggering the demand for a new generation of e-passport with a microchip installed inside for better protection of personal information and to prevent falsification. As a result, the Macao SAR Government needed to cope with this demand and started preparing the launch of new e-passport, which represented the external source of learning trigger described by Finger and Brand (1999).

Another learning trigger in public organizations came from an internal source, which, in this case, was about the expiry date of the first generation of passports. It could be considered as a good timing for launching the new generation e-passport and showcasing one of the achievements of the Macao SAR Government after a

decade of governance. If a high-quality e-passport with well-designed security features could be launched, it would help improve the international image of Macao. The concerns for "face" and governance represented the main internal pressure of continuous learning and improvement for the Bureau.

Learning barriers

As suggested by LaPalombara (2000), it is known that the purpose and goals of public organizations are very different from those of private organizations. Public organizations usually have a wide range of goals to be satisfied. However, sometimes they may be so vague and diffused that only few people in the public organizations know about them. In this case, many of the interviewees admitted that their bosses did not clearly communicate the goals of this project to them beforehand, because the top management had other concerns which prevented them from disclosing all information to their subordinates. Coupling with the culture of this organization, many of the staff may not be notified and became dissatisfied.

Operating staff "A" had the following comments;

"For me, I got to know about the implementation of this project from the newspaper, not from my superior. And this is a common situation in our Bureau. Usually after the publication in the mass media, the superior begins to spread the news to us. This is different from other companies where employees should know first about what is going on. Maybe this is so-called confidentiality!"

Unlike private organizations in which profit maximization is their main concern, public organizations are mainly accountable to a wide spectrum of individuals and constituencies. And any decision made should also be in accordance with all the related administrative regulations, judicial decisions and executive orders. Moreover, their actions are also monitored by the mass media. As a result, any decision should be made with great care.

Apart from being accountable to various stakeholder parties, public organizations usually have to follow complex chains of command. Using the study as an example, the Identification Services Bureau was mainly accountable to the Secretary of Administration and Justice. So the decision to launch this e-passport project was ultimately taken by the Secretary. This significantly reduced the autonomy of the Bureau for using this project and others as initiatives for organizational learning.

For example, Department Head "C" recalled that the top management inside this organization was not the initiator of this project;

"Working in a government department, even for me, the head of an implementation unit, I am just following the instructions from the higher authority after they made the order."

To conclude this section, public officials performed in an environment where the enactment of a new learning initiative was driven by both internal and external environmental forces. They had to overcome many challenges before the project was completed. As argued by Lukes (1974) and Hardy (1996), this type of power was invisible but permeated the activities of all organizational members. In the case of public organizations, the "purpose and goals", "accountability" and "autonomy" were all considered as "power of the system". And as mentioned before, since the various purpose and goals in public organizations were diffused and could not be totally understood by the internal members, there was a wide spectrum of entities to be accounted for and they did not even have the right to make the final decisions. All of these factors indicated that they were working in an environment where it was difficult to initiate organizational learning, constituting the overall learning barriers brought by the "power of the system".

Learning facilitators

Since the top management and the middle management knew that it was not easy to change the mind of senior staff due to the effect of the power of the system, they tended to withhold some of the important information on the project to minimize their worries. This withholding technique could be categorized as a manifestation of the power of processes. According to Hardy (1996), this form of power lies in organizational decision-making processes for the dominating groups of the organization to make use of a variety of procedures and political routines by preventing subordinates from participating fully in decision-making to influence the outcomes.

Department Head "C" recalled his experience as follows;

"I did not mention much to the operational staff until they are chosen to be involved in the project. This is because many things were uncertain and I won't tell them what they should be responsible until the uncertainties were clear... By the way, I think it is not necessary to involve all people in the very early stage as they may not even know what we intended to do and this will be a waste of time."

On one hand, the management withheld the participation of their subordinates in order to reduce their resistance. On the other hand, they also tried to provide enough resources for the subordinates to do their work. Department Head "S" admitted that the top management provided enough resources for him.

"If there was no strong commitment from the top management, it might not be successful. But for my subordinates, I will assign them with different work according to their capabilities, trying to let them have a good feeling and motivation so they can finish the job on time. In addition, for every task, I will also arrange one or more backup staff in order to reduce the risk of discontinuity during the peak season of annual leave."

From the above quotes, it was obvious that the top management was willing to provide necessary resources for the subordinates. Based on this, the top management is clearly using the power of resources (Hardy, 1996) to facilitate the project implementation. This is the most basic form of power in which someone retains the control of different resources in order to bring about the desired behavior of others. The resources could be information, expertise, political access, money and rewards. In this case, the management used this power for the better utilization of human resources (making better personnel arrangements), financial resources (giving out overtime payment), expertise (providing training courses) and authority (using the hierarchical force to get work done) in order to solve the difficulties the employees encountered during the project implementation.

In addition to the power of resources, it was also important to shape the employees' understandings about their expected roles and contributions to the project's implementation. This was especially true for the front-line employees who happened to know the project details at the later stage. It was revealed that they were not quite satisfied with the top management's withholding approach. Therefore, more time was needed to change their mind. As commented by the Operating Staff 'W':

"For the operational activities, they (top management) will not care very much. They think they are routines and have the confidence to let the middle level management solve the problems themselves... I think my boss did listen to us, and he would not totally reject our opinions. For things which he thinks are reasonable, he will try his best to satisfy our suggestions and give us proper feedback."

From what was mentioned, it could be understood that the use of power of meaning was to prevent conflicts occurring in the first place. This type of power is probably the most sophisticated one and can lead to fundamental changes. In this case, it was shown that the middle management at the Bureau was trying to use this power to re-shape the subordinates' understandings. Through continuous dialogues and manipulation of the feedback process, he tried to make them accept the demand that the project had to be launched on time and the management was doing their best to help them overcome any possible difficulties. In this way, it was hoped that the overall dedication of the subordinates to the project would be increased.

Learning outcomes

According to the interview data, it was shown that interviewees at different levels managed to follow the instructions of their top management and launched the project on time with high quality regardless of the negative effects of power of the system. Despite different barriers encountered during the process, the participants were still able to resolve all of them and satisfy the requirements from different stakeholders. Their typical reaction towards the completion of this project can be summarized as follows;

"I think this project can be considered successful as the new passports can finally be issued on time." (Operating staff "A")

"I think this is a successful project. With the support from the users, co-operation form the vendors and our technical unit's devotion, the project runs successfully." (O.I. Support Technician "H")

As an overall summary of their learning experiences, thorough preparation, team spirit and effective communication were the three critical factors contributing to the success of the project. But the development of these two factors would depend very much on the effective use of positive power of meaning, processes and resources to facilitate learning and overcome the negative power of the system. Perhaps the Bureau had learnt something useful for future development. Specifically, thorough preparation was the product of power of processes and power of resources. The withholding technique was used at the very beginning to reduce subordinates' fears. On the other hand, the development of a team spirit in the end showed that different parties in this department, including the management, technical staff and operational staff, worked together to develop a positive organizational climate through the power of meaning to mitigate the adverse factors. And finally, apart from the successful launch of the project, the top management was also able to generate strong commitment from both the technical staff and operating staff and form effective communications that would be beneficial for further development.

CONCLUSION

In this study, we explored how organizational learning took place in a public organization by examining the experience of launching an electronic passport in the Identification Services Bureau in Macao. It was discovered that public organizations had their own limitations for implementing organizational learning, which we considered as the power of the system. Such power included diverse purposes and goals, accountability to a wide spectrum of individuals and constituencies and the nature of

civil works with a low degree of autonomy. All these formed an adverse environment for individual creativity and learning, which were also the salient characteristics of public organizations.

However, in order to overcome those systemic barriers, the senior management in this case made effective use of other types of powers, namely "power of processes", "power of resources" and "power of meaning" to mitigate the "power of the system" by reducing the participants' fear about accepting changes and motivating them about the importance of taking a proactive attitude towards learning and related contribution to the project success. Finally, the project was launched on schedule and all the interviewees agreed that it was a great success and they had obtained useful experiences for the future.

The findings of this study contributed to extant literature in the following ways. First, it is widely accepted that the dynamics of power and politics influence the behavior in organizations (Coopey 1995; Blackler and McDonald, 2000; Easterby-Smith et al., 1999; Vince, 2001; Contu and Willmott, 2003), but the effect on the public organization is far from clear, a view also shared by Ferdinand (2004) and Easterby-Smith et al. (1998). Therefore, by aiming at filling this gap in current literature, this study generated a conceptual model grounded on interview data to demonstrate the relationship between different types of power and the impact on the organizational learning outcome. Specifically, the learning outcome was mainly affected by the participants' orientation to action; before taking any action, the participants have to make sense of what kinds of action should be undertaken, and this was influenced by the four types of power as suggested by Lukes (1974) and Hardy (1996). Before any change occurred, stakeholders had to make sense of what went on and their specific roles. And due to their bureaucratic background, also known as "power of the system", this created some barriers to learning. But it was also evident that other types of power were positive in the sense that they could act as facilitators for organizational learning by overcoming the inertia and behavioral rigidity prevalent in government departments.

Second, our findings about power and organizational learning were somehow different from what was conceived by Argyris and Schon (1978) and Senge (1990), who argued that organizational politics, along with power, is one of the main barriers to the establishment of learning organization and so is power. They consider power and politics to be detrimental to learning and they need to be overcome and nullified if learning is to take place. However, we argue that power should be studied in a positive way and it should be regarded as an influential force that generates positive learning outcomes.

Third, as the mainstream literature on organizational learning tends to have individual action bias (Huysman, 1999), the socio-political dynamics are persistently overlooked. This study served as a general reminder that all social issues can also affect the learning outcome of public organizations.

Additionally, this study provides some practical lessons for executives. First, as it is discovered that organizational learning takes place in a top-down manner in public organizations, the main actor should always be the top management as they usually process most of the facilitators for the learning process. On the other hand, this also means they are vested with a great responsibility for ensuring the project success. Therefore, the top management should have thorough planning and considerations for all projects to be implemented, otherwise, problems occurring due to lack of preparation entail high costs in time and money. Frustrations will easily be generated as most of the subordinates are not prepared for any change. Moreover, negative emotions and even personal attacks on the organization will be mounting from the wide spectrum of stakeholders and constituencies. This will form a vicious cycle so that nobody will be willing to initiate any change in the future.

Second, apart from the management effort, it is also crucial to have the support of subordinates in a public organization for a project to be successfully implemented. As the top management is usually conceived as the initiator of the learning initiative, the subordinates can be viewed as the executors. Therefore, wholehearted support from them can create a better organizational learning outcome. But the key question is how can this be achieved? The overall implication from the study is that the usage of 'power of meaning' was very important. And the prerequisite was that the subordinates should develop trust in their top management. Trust can be built through regular daily contacts and strengthened by two-way communication. For example, more constructive, frequent and two-way sharing of information is highly recommended in which there should be representatives of different parties of stakeholders, including the management and their subordinates. These meetings can allow them to have a common channel for communicating their opinions and concerns. More understanding can help build better trust. In addition, some more informal gathering activities can also help strengthen their relationships. If there is enough trust between the management and subordinates, it will be much easier for the former to construct the "power of meaning".

This study also suffered from some limitations. The objective was to study how the use of different power sources can act as both facilitators and barriers for organizational learning through engagement in sense-making and sense-giving activities in public organizations. In order to generate detailed insights of people's thoughts and

examine the processes in a micro-level analysis, an in-depth case study was conducted at Identification Services Bureau of Macao. Like other single case studies, the findings of this study were limited to the understanding of the particular concerns and feelings of participants working for the electronic passport project of this organization. There is limited generalization to a wider scope of projects.

On the other hand, the electronic passport project underwent several stages before the researcher began the study which meant it was difficult to obtain detailed information about the early preparatory work; this had involved some other parties such as the technical service support company, Pacific Century Cyber Works (PCCW), and the correspondences with the Secretary of Administration and Justice. As a result the study was focused mainly towards the final stage of implementation. If it had been possible to include the interviews with participants of the early stage, the research results would be more comprehensive. Moreover, as a high proportion of the interviewees were from the senior staff, the results may not adequately represent the junior staff. Due to all these limitations, there should be more studies to collect the opinions and experience from the "technical core" (Mintzberg, 1983) in order to generate more comprehensive information about organizational learning in public organizations.

In terms of future research, interested scholars should explore the bottom-up processes and see how the dynamic interactions between power and politics differ from our findings. For example, what specific challenges will be encountered when a change is originated from the operating staff? Furthermore, since this study conceives organizational learning as being shaped and driven by certain power holders in the organization, should the momentum for organizational learning be prone to flux of certain individuals' turnover? These issues are some potential topics of further studies.

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