NATURE OF CIO POSITION POWER: EVIDENCE FROM CHINA

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Abstract

This paper extends the power theory established in western management literature to study Chinese CIOs’ position power. By conducting case study on six logistics companies, we investigate what CIO position power includes, how CIOs acquire the position power, and determining factors of CIO position power. We find Chinese CIOs typically have three kinds of legitimate position power (i.e., power of participating IT assessment activities, IT-enabled business process power, and data administration power) and coercive/punishment position power. They gain legitimate position power and coercive/punishment position power through different ways. In addition, we find that firm strategic orientation, CEO’s IT competency, and CIO tenure are factors that determine the nature of CIO position power.

Keywords: position power, CIO, legitimate, coercive/punishment, China
1 INTRODUCTION

It has been recognized that information technology (IT) plays a critical role in enhancing organizational competitiveness. Stories of use of IT as a major competitive tool are legendary (Ives and Learmonth 1984, McFarlan 1984). Today’s Chief Information Officers (CIOs) tend to be responsible for IT-enabled firm strategy and business processes throughout the organization (Chun and Mooney 2008). Both scholars and practitioners are paying more attention on the roles of CIOs. However, our knowledge of CIO position power is still very limited. Although management and marketing researchers have investigated issues of position power in organizations, few studies emphasize IS area. Some scholars argue that CIO position power should be clarified to ensure that innovative use of IT are identified and exploited (Cash et al. 1992, Synott 1987, Applegate and Elam 1992).

In developed countries, CIOs are often at the executive level, and directly report to CEOs. However, CIOs in developing countries perceive powerlessness as an IS leader. According to 2008 China CIO Report (Li et al. 2008), among 150 Chinese CIOs in various industries, only 26.7% are members of top management team (TMT) and have the right to speak in TMT. 2009 China CIO Report (Li et al. 2009) finds similar pattern, but the role of CIO is evolving from IT functional head to strategic partner. This status quo motivates us to investigate position power of China’s CIOs to truly understand their status and help them acquire and strengthen power. Meanwhile, studying Chinese CIO phenomenon is of particular interest, comparing with studying western cases, not only because CIO is a relatively new position in China but also because Chinese culture is characterized by high power distance and collectivism (Zhao et al. 2006a).

Since there is almost no IS literature on position power, we conduct case study to understand the phenomenon. Focusing on logistics industry, in which IT is essential to core competence, we interviewed six companies. Our aim is to understand nature of CIO position power including: (1) what is the nature of CIO position power, i.e., what kind of position power China’s CIOs have? (2) How did CIOs acquire that position power? (3) What are the determining factors of CIO position power?

In what follows, we review literature in Section 2, describe our research method in Section 3, in Section 4 we present our research findings, and finally we conclude in Section 5.

2 LITERATURE REVIEW

Position power is defined as an elusive quality of bargaining advantages derived from formal authority and obligations, institutional backing, and status (French and Raven 1959, Allison 1988). Certain characteristics, such as reporting level, of an organizational position can influence perceived authority and power, and affect organizational actions (Hambrick 1981, Rousseau 1978).

French and Raven (1959) develop a widely accepted model of social (organizational) power that has five bases. Among the five, three bases are of position power, which a leader can exert over subordinates. These three position power are legitimate power, reward power, and coercive/punishment power.

Legitimate power of leader/subordinate denotes that leader has a legitimate right to influence subordinate and subordinate has an obligation to accept this influence (French and Raven 1959, Bass 1960, Etzioni 1961). Subordinates may accept an induction from leaders simply because he previously promised to support leaders, and he values leaders’ word too much to break the promise. We note that legitimate power is very similar to the notion of legitimacy of authority which has long been explored by sociologists.

Reward power is defined as power whose basis is the ability to reward. The strength of the reward
power of leader/subordinate increases with the magnitude of the rewards which subordinate perceives that leader can mediate for him (French and Raven 1959, Bass 1960, Etzioni 1961). Reward power depends on leader's ability to administer positive valences and to remove or decrease negative valences. The strength of reward power also depends on the probability that leader can mediate the reward, as perceived by subordinate.

Coercive/punishment power is similar to reward power in that it also involves leader's ability to manipulate the attainment of valences (French and Raven 1959, Bass 1960, Etzioni 1961). Coercive power of leader/subordinate stems from the expectation on the part of subordinate that he will be punished by leader if he fails to conform to the influence attempt.

Based on the power theory that described above, researchers have studied the effects of position power. For example, Fiedler’s contingency model (1967) proposes that the combination of leader position power with leader–member relations and follower–task structure significantly impacts the relationship-motivated and task-motivated leader’s effectiveness. Antonakis and Atwater (2002) explain the relationship between power distance and leader outcomes.

The growing importance of IT in organizations has created the expectation that IS leader will become a powerful figure, occupying a high-level position within the company and exerting growing influence on the company's strategic direction through membership on the senior executive policy and strategy committee (Cash et al. 1992). Among CIO studies, quite a few have examined the roles of CIO. For example, Ross and Feeny (1999) depict a three-stage evolvement of CIO roles: from a functional head delivering on promise to the strategic partner aligning IT with business, and then to the business visionary driving business strategies. Chun and Mooney (2009) suggest a fourth stage of CIO roles, i.e., the Chief Innovation Officer, whose primary goal is to work with other C-level executives inside and outside the firm to change the firm’s strategy and processes.

However, almost none of existing studies have ever examined the position power of CIO. Only Applegate and Elam (1992) have discussed that reporting level and participation on key senior management committee may reflect, to some extent, CIO position power. In this study, we investigate the nature of China’s CIO position power including what is China’s CIO position power, how to acquire the position power, and what are the determining factors of the CIO position power.

3 RESEARCH METHOD

We carry out an exploratory multiple-case study. This allows us to observe the phenomenon in a natural setting and to engage in theory-building. The most critical element of sampling procedure is the choice of sample frame that constitutes a representative subset of the population from which the sample is drawn. We study CIO position power and choose six private logistics companies. Our choice of logistics industry is because IT plays a critical role in enhancing competitive advantage in this industry. Our choice of single industry is to control industry effect. Data collection involves multiple methods that help to establish construct validity and reliability.

3.1 Data collection phase 1: CIO stories

We collected CIO stories from various sources including CIO Magazine, Computer World, and a few other public sources of information about positions, jobs, and responsibilities of the CIO. All stories are from firms headquartered in China. To ensure that we capture a diverse set of CIO stories, the sample firm sizes range from small, medium, to large, in terms of number of employees. Using these stories, we coded firm characteristics, CIO positions, career paths, roles, and reporting levels. They are compiled in Table 1.

We reviewed articles related to CIO issues in academic and practitioner-oriented journals from 2005 to 2011 and identified general positions, key roles, and activities of senior IS executives. We then categorized these data and developed a generalized framework for studying CIO position power.
throughout the lifecycle of the company’s core enterprise system development. This framework is used to develop the interview protocol (see Appendix A).

3.2 Data collection phase 2: CIO interviews

We conducted 90-minute interview with each of the six CIOs. The interview format was semi-structured and used open-ended questions. The interviews provided primary data on the CIO’s perspective, his or her interpretations of current role and position power, and perspectives on the attributes required to be powerful in the CIO position. The interviews were recorded, transcribed and then coded. These data were kept in an Excel file, along with the secondary data, helping us to organize, compare, and analyze.

Overall, we identified key concepts in the data sources. We then coded and matched the data between CIO stories dataset and the interview dataset to identify common threads and to develop an understanding of nature of CIO position power. Next, we looked for matching patterns of activities across all sources of data. This allowed us to identify qualifications that were consistently required as well as gaps in responsibilities between the datasets.

4 RESULTS

Our interviews aim to identify CIOs’ position power, empowerment mode, and determining factors. For the nature of position power, we list all kinds of position power mentioned by the CIOs and put them in categories. We then compute frequency of each kind of position power mentioned in all the interviews. Position power with 20 or more occurrences is labelled as “strong support”, while position power with 10-19 occurrences is labelled as “medium support” and position power with less than 10 occurrences is labelled as “weak support”. Overall, we find four kinds of CIO position power: three kinds of legitimate power and coercive/punishment power. However, we did not find reward power owned by CIOs. Meanwhile, we find that CIOs get legitimate power and coercive/punishment power through different ways.

In addition, some key concepts, such as firm strategic orientation, CEO’s IT competency, and CEO’s IT belief are identified. Venkatraman (1985, 1989a) defined the “strategic orientation of business enterprises” as: “…the general pattern of various means employed to achieve the business goals, with a particular emphasis on the business unit level of the organizational hierarchy.” IT competency refers to CEOs’ IT-related skills, knowledge, and experience (Basselier and Benbasat 2004). Liang et al. (2007) described IT belief as “CEOs’ subjective psychological state regarding the potential of IT”. We find firm strategic orientation, CEO’s IT competency, and CIO tenure are significant factors determining what kind of position power CIOs may have. Such firm, CIO, and CEO characteristics are summarized in Table 2. In the following, we discuss our main findings in detail.

4.1 Nature of CIO position power

Our first finding is regarding the nature of CIO position power. Our data provides “strong support” to three kinds of legitimate power, i.e., participation in IT assessment activities, IT-enabled business process power, and data administration power, “medium support” to coercive/punishment power, and “weak support” to reward power. Comparing with general power theory established in western management literature, CIOs in China only have legitimate power and coercive/punishment power. None of them have reward power.

- Participation in IT assessment activities

Assessment activities are the first stage of an IT project (Carr et al. 1996). The power of participation in IT assessment activities includes power of suggesting IT investment, determining outsourcing versus making-in-house, and choosing providers. Outcomes of assessment phase include identification of what IT-enabled changes are required, justification of IT-enabled changes, and identification of
<table>
<thead>
<tr>
<th>Firm description</th>
<th>Firm A</th>
<th>Firm B</th>
<th>Firm C</th>
<th>Firm D</th>
<th>Firm E</th>
<th>Firm F</th>
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*Table 1. Sample Description*
<table>
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<tr>
<th>Firm Characteristics</th>
<th>CIO Characteristics</th>
<th>CEO Characteristics</th>
<th>CEO/CIO Relationship</th>
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<td>Firm A</td>
<td>Career Path: Business manager→ CIO Role: Strategic partner that align IT with business Position: General manager; Tenure: 13 years Reporting level: Member of TMT, report to CEO</td>
<td>IT competency: Competent in IT-enabled change IT belief: Strong</td>
<td>Share understanding in IT-enabled change</td>
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<td>Firm B (Pre-IPO)</td>
<td>Career Path: Business manager→ CIO Role: Strategic partner that align IT with business Position: Vice-general manager; Tenure: 2 years Reporting level: Member of TMT, report to CEO</td>
<td>IT competency: Less competent in IT-enabled change IT belief: Growing strong</td>
<td>Share understanding in IT-enabled change</td>
</tr>
<tr>
<td>Firm C</td>
<td>Career Path: IT manager→ business manager→ CIO Role: Strategic partner that align IT with business Position: IT function head; Tenure: 8 years Reporting level: Not a member of TMT, report to CEO</td>
<td>IT competency: Competent in IT-enabled change IT belief: Strong</td>
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<td>Firm D</td>
<td>Career Path: IT manager→ Business manager→ CIO Role: Strategic partner that align IT with business Position: IT function head; Tenure: 12 years Reporting level: Not a member of TMT, report to CFO</td>
<td>IT competency: Less competent in IT-enabled change IT belief: strong</td>
<td>Share understanding in IT-enabled change</td>
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<td>Firm E</td>
<td>Career Path: IT manager→ business manager→ CIO Role: Strategic partner that align IT with business Position: IT director; Tenure: 10 years Reporting level: Member of decision-making committee, report to COO</td>
<td>IT competency: Competent in IT-enabled change IT belief: Strong</td>
<td>Share understanding in IT-enabled change</td>
</tr>
<tr>
<td>Firm F (Pre-IPO)</td>
<td>Career Path: IT manager→ business manager→ CIO Role: Strategic partner that align IT with business Position: Vice-president; Tenure: 2 years Reporting level: Member of TMT, report to CEO</td>
<td>IT competency: Less competent in IT-enabled change IT belief: Strong</td>
<td>Share understanding in IT-enabled change</td>
</tr>
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</table>

Table 2. Firm, CIO, and CEO Characteristics
resources required to IT-enabled change. Our data shows “strong support” to this kind of legitimate power. Three among six CIOs have the power of participation in IT assessment activities. They are all members of top management team. They explained:

“I’m a member of top management team. For major things of our company, such as changing core business processes or changing operations model, I will participate in TMT meeting discussing whether and how it can be enabled by IT, and how much IT budget we need. Once we make decision, I will be responsible for the following details.”

“We have business requirement analysis meeting and I am a member of the decision-making committee. One significant part of my job is to deny requirements raised by business departments. Business departments are raising more and more requirements, however most of them are temporary changes. If we accept these requirements, it will destroy the overall business processes. In the business requirement analysis meeting, instead of satisfying, I must deny those business requirements on behalf of overall organization benefits.”

• IT-enabled business process power

CIOs having this kind of power are business process designer whose main goal is to develop and improve business processes within and outside the firm. In our data, when companies are seeking proactive strategies, three of six CIOs have the IT-enabled business process power. They are primarily interested in process improvement and are looking for opportunities to implement new IS to assist in implementing firm strategy. These CIOs are more forward-thinking. They are willing to engage in testing and using experimental IS applications or to make changes to business processes to take advantage of technical or business opportunities. For example, one CIO said:

“It often happens in the company that due to high employee turnover in the business departments, business departments become unfamiliar with business processes whereas IT department gets familiar with business processes. Therefore, CIO has more deciding power in designing and managing business processes.”

“At the beginning of business process design, we should be open to all opinions, letting people of business operating level have the opportunity to suggest. However, when integrate business with IT, we have to balance business operating flexibility and system complexity. After I hear all the suggestions, I need to decide how much flexibility our systems can support. Once I make the decision, it will be unconditionally implemented.”

• Data administration power

CIOs are responsible for data collection and data resources exploitation by maintaining existing applications and processes. After core enterprise systems get in use, all operation records are stored in database. These data reflects business processes. Top managers need these data records to make decisions for the next business planning. Our data shows that all six interviewed CIOs have data administration power. They recognize the importance of company data resources in decision making and control the data exploitation. They said:

“Company’s data resources are managed by IT department. We have data center that is responsible not only for system maintenance but also for data maintenance. I need to explain data in company meetings, advising other top managers on data analysis. Basically, I’m in charge of enterprise data administration.”

• No IT investment decision power

IT investment decision power is an important legitimate power that determines who finally makes IT investment decision and approves IT budget. Among all the CIOs that we interviewed, none of them have this kind of power. CEOs of these companies own this power.

• Coercive/punishment power
We find medium support to this kind of power. Two out of six CIOs said that they were actively involved in human resource management, and they had the coercive/punishment power during special stages of IT implementation. Both the two newly appointed CIOs have the coercive/punishment power over the whole organization. In this study, newly appointed CIO is define as one who has been in the position for less than two years, and an established CIO is defined as one who has been in the position for five years or more (Applegate and Elam 1992).

Both the newly appointed CIOs were working for companies under transformation. These CIOs primarily focused on innovation and new opportunities, implementing new IS throughout the company. To make innovation possible, CEO must agree that technology is a key contributor to the firm’s strategy and ensure employees’ willingness to experiment new technologies. Such CIOs were fully aware of firm strategy, but their activities were not supported by employees due to the short tenure. Hence, CEO gave them coercive/punishment power to carry IT innovation. Evidence includes:

“When we implemented the IT project, I had the coercive/punishment power over all related employees. We exerted this power very much. For instance, we required all business staffs take an IS operation exam. If a staff can’t pass the exam for the first time, his or her job will be put on hold. If the staff can’t pass the exam for the second time, he or she will be fired. I think the coercive/punishment power is critical during the stage of business process rebuilding.”

- Reward power

No CIOs claim they have reward power. Human resource department of those companies is in charge of employee reward. One CIO said:

“Human resource department is responsible for all the employee incentives mechanism. It has unified performance review system. And HR information systems provide employee performance data.”

4.2 Empowerment mode of CIO position power

Our data reveals that CIO acquires legitimate power through building trust with CEO, whereas the coercive/punishment power is empowered directly by CEO to newly appointed CIO. For instance:

“I have been working here for twelve years. I started from doing basic jobs, and was promoted to IT department head and then CIO. Our CEO trusts me. I gradually gain more power. Employees know my experience, so I don’t need specific power to punish certain employees when we have new information systems under implementation.”

“I started my job in this company two years ago when our company was in the stage of transformation. It was very difficult for me, a new comer, to push my job forward. Therefore, CEO directly empower me the power to punish employees who don’t perform their job well.”

4.3 Determining factors of CIO position power

After we understand the nature of CIO position power, we tried to figure out what determines CIO getting those kinds of power. We analyzed our data and found firm strategic orientation, CEO’s IT competency, and CIO tenure are significant factors.

- Firm strategic orientation: Proactive versus defensive

We found firm characteristics have a profound influence on CIO position power. Specifically, whether having a proactive or defensive firm strategic orientation makes difference. All the six CIOs believe that they will acquire more types of position power when firm strategic orientation is proactive than when it is defensive. One CIO explained:

“Our CEO views IT as an important tool to realize company’s transformation. We plan to go public. While many of our business operations have been cut down, we are exploiting new markets. As a
result, all management processes need to be changed, and information systems need to be upgraded. At this stage, CEO gives me power to decide many information-related things.”

- **CEO’s IT competency**

  We found all the six CIOs believe that whether CEO is capable of IT determines CIO position power. Specifically, when CEO is competent on IT-related issues, he or she will make many IT decisions, leaving CIO with less position power. On the other hand, when CEO is less IT competent, he or she will give CIO more position power to decide IT-related things, especially IT assessment activities. One CIO said:

  “The main reason that my CEO hired me was to upgrade old systems. Our CEO thinks IT is so important in our industry. However, he doesn’t know much about IT. It is too hard for him to handle IT-related things. Therefore, he wants to find a person who is capable of doing this job.”

- **CIO tenure**

  We found CIO tenure a significant factor influencing CIO position power. Established CIOs have more legitimate power because they have built trust with CEOs during the long time working for the company. For them, they don’t need coercive/punishment power because their seniority plays the role. However, for newly appointed CIOs, they gain position power especially coercive/punishment power through direct empowerment from CEOs. They need coercive/punishment power to ensure that their work can be pushed forward smoothly. Evidence includes:

  “I’ve been working here for a long time. I gradually build up trust with CEO, and gain more power.”

  “I’m a new employee. My CEO trusts me, but senior employees don’t follow my decisions. They often complain to CEO about the new system. CEO understands that having problems is normal during IT integration stage. To ensure the new system gets online, he directly gives me coercive/punishment power.”

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**Figure 1. Nature of CIO Position Power**

- **Firm D**
  - Participation in IT assessment activities
  - Data administration power

- **Firm A & Firm C**
  - Data administration power

- **Firm B & Firm F (CIO tenure < 2 years)**
  - Participation in IT assessment activities
  - IT-enabled business process power
  - Data administration power
  - Coercive/punishment power

- **Firm E**
  - IT-enabled organization process power
  - Data administration power

- **CEO characteristics**
  - CEO less competent in IT-enabled firm strategy

- **CEO characteristics**
  - CEO competent in IT-enabled firm strategy

- **Firm strategic orientation**
  - Defensive
  - Risk averse

- **Firm strategic orientation**
  - Proactive
  - Risk taking
Overall, we summarize our findings as a two by two matrix shown in Figure 1. X axis of Figure 1 represents firm strategic orientation. In companies with proactive strategies, CIOs tend to have more power, especially IT-enabled business process power, because this kind of companies have more business process redesign and require IT enabling. Y axis of Figure 1 represents CEO’s IT competency. When CEO is less competent on IT, CIO tends to have more position power especially the power of participation in IT assessment activities. Besides the two dimensions described above, a third dimension is shown in the up-right corner of the Figure 1, where CIO tenure makes difference. For Firm B and Firm F in the up-right corner, their CIOs are both newly appointed, and they both have coercive/punishment power due to the short tenure.

4.4 Consequences of CIO position power

As an extension to the above research questions, we also asked the CIOs how they perceive their job effectiveness by having those kinds of position power. Interestingly, they don’t think position power as a significant contributor to job effectiveness. Having position power is a necessary but not sufficient condition of performing job effectively. One CIO said:

“I don’t look too much on position power. In my opinion, position power only provides you a “passport” to coordinate with business departments. Having position power will not guarantee a good job performance. It only provides the opportunity to exert your talents. In the end, it is your competence that determines whether you perform well or not. That is non-position power.”

5 CONCLUSION

This study has the potential to contribute to literature from the following aspects:

First, this is the first study, to the best of our knowledge, that examines China’s CIO position power. In fact, even IS literature of western countries has not provided evidence on such topic. We examine the nature of CIO position power, and find three kinds of legitimate position power as well as coercive/punishment position power. We didn’t find reward position power. We also find that CIOs acquire legitimate position power and coercive/punishment position power through gradual trust building and direct empowerment, respectively. In addition, whether or not having these kinds of position power is determined by three significant factors, i.e., firm strategic orientation, CEO’s IT competency, and CIO tenure.

Second, this study has the potential to contribute to theory that helps us understand CIO position power in a comprehensive way. Findings from our multiple-case study can be generalized to examine other firms and industries on a large quantity base.

Third, this study helps explain current China’s CIO status, especially power status. It has managerial implications in the way of helping CIOs acquire and strengthen power. We find more and more CIOs having business background that enables them to better support business operations using IT. Building trust with CEOs is an effective way to acquire more power.

However, this study has its own limitation, which requires further research. First, we choose single industry to conduct multiple-case study. Benefit of doing this way is that industry effects can be controlled. However, disadvantage is that we can’t find industry factors that may significantly drive results. Second, there are common factors in our sample. For instance, all CIOs in our sample are playing the role as strategic partner aligning IT with business; all CEOs in our sample are having strong IT belief because IT plays a critical role in their industry; and there is only one type of CEO/CIO relationship. Although we found they are common after we conducted interviews, these common factors hinder us to find additional influential factors. In future research, we should investigate firms that are different on those factors so that we could generate more insights.
Appendix A: Interview protocol and key questions

First, let me ask you some questions about your background.

The next set of questions is designed to help understand your tasks and activities:

1. What is your role as the CIO?
2. What are key responsibilities as the CIO? Ask for a copy of job description.
3. Please introduce the stages of IT development in your company.
4. Please introduce the development process of your company’s core enterprise system.
   1) Initial process: Please explain the decision-making process of IT investment, such as your communications with CEO, and meetings with TMT members. What is your role in the activities of IT investment, and what determines you have such role?
   2) Decision-making process of outsourcing and sourcing: Please describe the details of related activities such as meetings, people involved, and determining factors. What is your role in this process? Why you’re important or not important in the decision making of this process?
   3) Development and implement process: Please describe the whole process, participants (including vendors), and their responsibilities. What is your role in this process?
   4) System update and upgrade process: Please describe your activities in this process. What causes system update and upgrade in your company? What is the role of your IT department and IT vendor? What is the role of TMT members?
   5) Please summarize your decision-making activities in all stages of the core enterprise system project. In which activities that you take the lead? Who or what determines you can take the lead, and why?
5. Please describe your management activities in a year
   1) Your management activities in IT functions. Can you decide reward and punishment of your employees by yourself? If so, why you have such power?
   2) Your management activities with IT suppliers. Can you decide IT suppliers by yourself? If so, why you have such decision power?
   3) Your management activities in company data resources. Whether you are in charge of company’s data resource management? If so, why you have this power?
   4) In your job, are there any decision-making activities that you should participate in but you don’t right now? Why does it happen?

References


