

Governmental Governance of Megaprojects: The Case of EXPO 2010 Shanghai

Zhao Zhai, *School of Economics and Management, Tongji University, Shanghai, China*

Tuomas Ahola, *Department of Industrial Management, Tampere University of Technology, Tampere, Finland*

Yun Le, *School of Economics and Management, Tongji University, Shanghai, China*

Jianxun Xie, *School of Economics and Management, Tongji University, Shanghai, China*

ABSTRACT ■

While the governance of Western megaprojects is indirectly influenced by governments through legislation and regulations, the Chinese state actively oversees and controls projects of societal importance. To provide clarity on the role of the state in Chinese megaprojects, we carried out a case study focusing on EXPO 2010 Shanghai. Our analysis revealed that through a project-specific organization Construction Headquarter (CHQ), the Chinese state executes administrative strength, forces authorities to temporarily integrate their processes for the benefit of the project, influences contractor and resource selection decisions, induces leadership accountability, and promotes shared project values.

KEYWORDS: megaprojects; project governance; governmental governance; Construction Headquarter; China

INTRODUCTION ■

Over the past three decades, the fast economic development in China has given rise to numerous societally significant megaprojects. Although low performance is considered a common characteristic of megaprojects (Flyvbjerg, 2011; Ruuska, Ahola, Artto, Locatelli, & Mancini, 2011), many Chinese megaprojects, especially infrastructure projects, have been finished at a rapid pace with remarkable success (Shen, Jiang, & Yuan, 2012). Since the centrally planned economic system in China was replaced by a socialist market economy after the 1980s, market forces have shaped how projects are organized among multiple private and public stakeholders (Kim & Reinschmidt, 2011; Ng & Loosemore, 2007; Warsame, 2009). The socialist market economy combines features of both socialism and capitalism and is based on the dominance of the state-owned sector over a coexisting open-market economy. Within this economic model, privately owned enterprises have become a major component of the economic system alongside central state-owned enterprises (Sigley, 2006). Traditionally, it has been argued that “projects and politics do not mix” (Kharbanda & Pinto, 1996, p. 106). Yet, in China they do mix, at times with successful project outcomes, as for example, in the case of the Bird’s Nest project, the national stadium built for the Beijing 2008 Olympic Games (Manzenreiter, 2010). Although some argue that active governmental involvement reduces a project’s chance of success (Morris & Hough, 1987; Zhang, Gao, Feng, & Sun, 2015), it is indeed possible that governmental involvement may favorably influence the project. In contrast to the separation between government and project owner seen in developed countries where the government is typically considered a stakeholder external to the project (Winch, 2007), the Chinese government usually acts as not only the regulator but also as an active coordinator in the project organization.

According to Miller and Lessard (2001), institutions such as laws, regulations, and practices influence the delivery of projects and influence their performance. Embedded into the social and political context, a megaproject organization shares characteristics of both markets and hierarchies (Gunnarson & Levitt, 1982), and many (e.g., Müller et al., 2013; Pryke, 2006; Ruuska et al., 2011) have argued that hybrid forms of networked and project-based organizations warrant attention. In the Chinese context, although private companies do exist, the government has regulatory oversight and actively establishes specific agencies to monitor and control how networks of private companies are allowed to operate. In particular, the establishment of a project-specific, state-directed organization called Construction

Governmental Governance of Megaprojects

Headquarter (CHQ), first introduced under the centrally planned economic system, is the main vehicle for the state to oversee and direct the completion of major infrastructure projects. The origin of the CHQ has strong ties to Chinese military command, where the term *headquarter* refers to the source for orders requiring absolute and unquestionable obedience. Earlier academic research has associated the use of the CHQ with both positive and negative outcomes. Its political nature has been shown to increase progress and efficiency (Li, Lu, Kwak, Le, & He, 2011a) at the cost of overuse of administrative power and even corruption (Chang, 2013).

The objective of this article is to bring additional clarity to the active involvement of the government in Chinese megaprojects, in particular, through Construction Headquarter, a project-specific organization set up for the purpose of monitoring and influencing projects. For the purposes of this article, we define the government's active involvement in projects as *governmental governance*. We empirically study the governmental governance of a specific megaproject—namely, Expo 2010 Shanghai—to address the following research question:

How does the Chinese state actively govern megaprojects?

This article is structured as follows. First, we discuss extant literature addressing governance of projects and highlight a gap in the current knowledge of governmental governance. We then introduce our research methodology and present the results of our case study of the EXPO 2010 Shanghai. Finally, we discuss the implications of our findings, addressing the governance of megaprojects and suggesting avenues for further research.

Governance of Megaprojects

Megaprojects are utilized as vehicles to deliver infrastructure of societal importance such as subsea tunnels, airports, and nuclear power stations. Such projects temporarily bring together a heterogeneous network of complementary actors

working toward a shared goal (Pitsis, Clegg, Marosszky, & Rura-Polley, 2003). Because of their societal significance, megaprojects are influenced by their external environment, through interaction with various stakeholders that include governmental actors and public not-for-profit organizations such as safety authorities (Winch, 2006).

Earlier academic research on project governance has been categorized based on whether governance is considered internal or external to a specific project (Ahola, Ruuska, Arto, & Kujala, 2014). According to the former perspective, megaprojects are subject to the governance of their owners (Association for Project Management, 2004; Crawford et al., 2008). Adopting this view, earlier studies have suggested the use of flexible management structures as a means to facilitate the progress of public projects (Klakegg & Haavaldsen, 2011; Klakegg, Williams, Magnussen, & Glasspool, 2008). Those who view project governance as internal to a specific project believe the governance structure of a project performs a role that is equivalent to the role of the top management team in firms—a role of oversight and coordination. Earlier studies adopting this view have explored the use of various distinct governance mechanisms, including the use of different contractual arrangements (Ruuska et al., 2011), establishing and using integrated teams to support coordination and joint problem solving (Brady, Davies, Gann, & Rush, 2007), having one firm assume the role of systems integrator in the project (Hobday, Davies, & Prence, 2005), governing inter-organizational relationships within the project (Arto, Eloranta, & Kujala, 2008), and utilizing practices for risk allocation (Abednego & Ogunlana, 2006). Although these studies have significantly extended the knowledge on how private owners govern megaprojects, research addressing the role of the state as an active participant, or even the main coordinating body in the megaproject organization, has been scant. However, a few studies clearly relate to this issue. Williams, Klakegg, Magnussen, and Glasspool (2010) have demonstrated that

once the governance structure of a project becomes linked to political processes, the project can become increasingly difficult to predict and control as a result of public intervention. Even when similar policies are employed, the outcome varies dramatically because of different social orders (Biggart & Guillén, 1999). In addition, earlier research considering the role of the government at a broad level has discussed top-down and bottom-up approaches to governmental governance. In top-down approaches, the government adopts regulatory approaches and sets specific organizational arrangements, such as identifying a particular governance paradigm (Müller et al., 2013). It has also been argued that as the megaproject owner, the government has the responsibility to establish a suitable governance structure (Aubry, Müller, & Glückler, 2011) and enhance the capacity of the structure for self-regulation (Miller & Lessard, 2001). On the other hand, bottom-up governance approaches leverage relational elements emerging from the social norms, traditions, beliefs, and values of individuals within a society (Chi, Ruuska, Levitt, Ahola, & Arto, 2011). In China, the relational issues represent a sensitive topic between fragmented public sectors and integrated private sectors (Zou, Kumaraswamy, Chung, & Wong, 2014).

Despite a continuously increasing stream of research that has investigated governance on megaprojects from diverse perspectives, we recognize that research identifying discrete means through which governments monitor and steer megaprojects—that is, concrete governance mechanisms through which governmental governance takes place in megaprojects—is practically nonexistent. In the following sections, we attempt to address this gap in research by means of an empirical case study of the EXPO 2010 Shanghai.

Research Approach and Data

Because our research addresses a contemporary and dynamic phenomenon, governance relations among actors in a specific focal project, in accordance

with Yin (2009), we chose a case study-based research approach. Our case study focuses on the EXPO 2010 Shanghai, which is short for The World Exposition Shanghai China 2010. The project organization included 50 main designers, 60 construction contractors, and 60 project supervision consultants. The project included the construction of one boulevard and four large permanent pavilions; 600,000 square meters of supported facilities, tunnels, and metro lines across the EXPO site; as well as other municipal facilities outside the site. In addition, 93 temporary pavilions that were to be decommissioned after the event were constructed. Because of its complexity and high societal significance, the project was actively monitored and influenced by the Chinese state. Thus, we saw EXPO 2010 Shanghai as an ideal candidate for gaining new insights and understanding of governmental governance.

“Better City, Better Life” was the theme of EXPO 2010 Shanghai China. The EXPO site was located in Shanghai’s downtown area, near the Huangpu River. It covered a 5.28-km² area and had a total floor area of 2.4 million square meters, at a cost of more than 20 billion Chinese Yuan (RMB), which was the biggest in EXPO history. In two and a half years, more than 300 stakeholders signed more than 1,500 contracts and finished more than 300 buildings, 100 exhibitions, and 33 kilometers of new roads. During the peak period, there were more than 100 interrelated construction projects being constructed simultaneously and 20,000 workers on site every day. EXPO 2010 Shanghai harbored a complex organization consisting of an organizing committee, executive committee, Construction Headquarter (CHQ), bureau of coordination, headquarter office, and three different firms that were in charge of construction and operations (Le, Ren, Xie, Jiang, & Wang, 2009).

To gather data, 21 representatives of the owner and contractors were interviewed face-to-face, combining viewpoints from people inside and outside of

the government. Fourteen interviewees in the temporary management organization represented direct regulatory control on EXPO and seven interviewees represented commercial contractors operating under the influence of governmental governance. The interviewees represented a broad spectrum of expertise on the management of megaprojects, and many of the respondents had been working on the EXPO project throughout its entire construction process, lasting 24 months. Further details on individual interviewees are provided in Table 1. Each interview lasted between 59 and 120 minutes, was conducted by two or three interviewers, and was digitally recorded and transcribed. The total duration of our interview recordings is nearly 24.1 hours (on average, 69 minutes per interview).

The interviewees were all key decision makers representing various authorities, state owners, and main contractors. The interviews were structured according to themes that included project organization, involved actors and their roles, governance and management structures in the project, progress of the project, and responses to challenges during the project. We asked questions that were open-ended in nature, allowing the interviewees to describe their experiences freely and in rich detail, focusing on both the positive and negative aspects of the project. In addition to information concerning the project actors and structures in place, we placed emphasis on identifying and describing events during the project that had required a managerial response. Regarding these events, we inquired how the event occurred, how project actors responded to it, what the challenges or troubles they had met were, and what the outcomes of the event were for the project. We made every effort to obtain a thorough understanding of the governance practices employed in the case and both the positive and negative influences of these practices on involved organizations and individuals.

In addition to carrying out interviews, we familiarized ourselves with records provided to us by the management team responsible for the life cycle management of EXPO from 2006 to 2010. These records described the responsibilities and routines of project actors, and we utilized this information to support and—to an extent—verify the data we collected through interviews. For instance, *Special Reports (in Chinese) to Leaders of Shanghai Expo Construction Headquarter* described the formulation of the Construction Headquarter Office and strategies derived by governmental officials; *The Outlines of Shanghai Expo Construction (in Chinese)* illustrated the responsibilities of the main participants; and *Annual Reports of Shanghai Expo Construction Headquarter Office (in Chinese)* provided a detailed description of the role of the Construction Headquarter Office in EXPO 2010 Shanghai.

When all the textual data were obtained, we integrated them into the qualitative analysis software QSR NVivo 10. We used an open coding approach in our analysis, following Miles, Huberman, and Saldaña (2013). First, we adopted an in vivo coding method to summarize the basic topics, thus identifying the most important themes associated with the state’s role in governing the EXPO project. We read the transcripts line by line, assigned codes, and made notes on every paragraph. In this process, we abstracted groups of codes from the events identified by interviewees. All of them referred to governmental governance approaches on the EXPO project.

Second, we categorized the initial coding schemes by comparing research notes, and organized similar codes into one conceptual category, thus depicting emergent themes. As illustrated in Table 2, we listed four themes (observations) that emerged from this analytical process and parts of codes and quotes. The whole coding process comprised 76 codes, including as “strong administrative intervention,” “shorten the approval process,” and “coordination among different departments.”

Governmental Governance of Megaprojects

No.	Interviewee Position	Organization	Organization Description		Interview Length (min.)
1.	Vice Commander	Construction Headquarter (CHQ)	Authority unit established by local government	Owner	103
2.	Deputy Director A	Construction Headquarter Office (CHO)	Authority unit established by local government, governed by Construction Headquarter	Owner	118
3.	Deputy Chief Engineer	Construction Headquarter (CHQ)	Authority unit established by local government	Owner	70
4.	Deputy Director B	Construction Headquarter Office (CHO)	Authority unit established by local government, governed by Construction Headquarter	Owner	65
5.	Manager	Overall Project Management Team (OPMT)	Consultant in Construction Headquarter Office	Owner	85
6.	Project Manager	China Pavilion Project Department	Project department in CHO	Owner	70
7.	Project Manager	EXPO Axis Project Department & Park Project Department	Project department in CHO	Owner	65
8.	Deputy Manager	EXPO Axis Project Department	Project department in CHO	Owner	68
9.	Project Manager	Temporary Pavilion in A&B District Project Department	Project department in CHO	Owner	65
10.	Project Manager	C District Project Department	Project department in CHO	Owner	69
11.	Deputy Manager	D&E District Project Department	Project department in CHO	Owner	58
12.	Project Manager	Urban Best Practice Area Project Department	Project department in CHO	Owner	61
13.	Manager	Investment Division in EXPO Shanghai Group	One owner of EXPO	Owner	59
14.	Project Manager	EXPO Division in EXPO Shanghai Group	One owner of EXPO	Owner	75
15.	Deputy Commander	Shanghai Construction Group (SCG)	Main contractor of EXPO	Contractor	57
16.	Project Manager	Construction Division in SCG	Main contractor of EXPO	Contractor	62
17.	Deputy Chief Engineer	Shanghai Construction Group (SCG)	Main contractor of EXPO	Contractor	55
18.	Manager	China Pavilion Department in SCG	Project department in contractor	Contractor	59
19.	Project Manager	EXPO Park Department in SCG	Project department in contractor	Contractor	70
20.	Project Manager	EXPO Culture Center Department in SCG	Project department in contractor	Contractor	61
21.	Commander	Puxi Department in SCG	Project department in contractor	Contractor	53

Table 1. Descriptions of interviewees.

By inductively categorizing these codes into second-order themes, we were able to develop a holistic understanding of the governance of the focal project.

Finally, we revisited the four second-order constructs that represented mechanisms used by the state to govern EXPO 2010 Shanghai. When differences in interpretation came up, we discussed them first among the authors ourselves, and when necessary, we contacted our informants and asked them to further clarify the observed practices until we were certain that we had

accurately described the practices of the focal project. In parallel, to improve the reliability of the analysis, we triangulated our findings with archive data when such data were available (Miller, Cardinal, & Glick, 1997). In particular, we were able to use the archival data to verify the sequence of several events mentioned by our informants.

Results

In this section, we describe the governance structure of the EXPO 2010 project and specific governance mechanisms.

Table 2 presents the four distinct governance mechanisms we identified, illustrates observations of their use in the focal project, and provides quotes linking our observations to specific interviews.

Governance Structure of EXPO 2010

Though China's economy is developing rapidly, the country still implements the political structure of centralization. Societally important infrastructure construction projects are all financed and run by the government. The regulatory framework is based on a series of

Governance Mechanisms Used by Construction Headquarter	Observations	Exemplary Codes	Exemplary Quotes
Authority integration	Different authorities such as the Water Agency, Planning Bureau, Real Estate Development Agency, and Urban Council involved in the project needed to demonstrate flexibility and work together for the benefit of the project. In processing official documents, such as permits, these authorities needed to ensure that their actions did not delay the progress of the project.	Strong administrative intervention Importance of government Importance of administrative intervention	<i>What we depend on is a strong administrative intervention. . . . Actually, it is impossible to complete the construction task without the support from all aspects of the society. Social supports are multiple. And government sectors of all functions, relevant bureaus of district government, and municipal government go first and they all offer vigorous support.</i> (Deputy Director A of CHO, owner) <i>This type of project must be advocated by government. Otherwise, how could it be possible for our country to develop megaprojects?</i> (Vice Commander of CHQ, owner) <i>The engineering construction in China is just like a battle, with its command as the combat system. Thus, it needs a strong intervention from the administration.</i> (Manager of OPMT)
Influencing supplier selection and allocation of supplier resources	Suppliers with a proven track record of successful collaboration with the government were prioritized in supplier selection. The selected suppliers were asked to assign their best resources (personnel, equipment) to the project to maintain and further deepen their relationship with the government.	High-quality standard Cooperation with owners Put effort in the work At a fast pace	<i>The owner asked us to implement the project to get the Luban Award (top award for best construction project in China), or else we would get fined. What's more, we need to set the highest standard for ourselves and suppliers.</i> (Project Manager of Expo Culture Center Department in SCG) <i>We set up a Technology Center at the scene, work together, and we are all ready to cooperate with the owners at any time.</i> (Project Manager of EXPO Park Department in SCG) <i>All participating units have followed an unwritten rule: work first and money second. There is nothing within or without one's duties and there is no bargaining. All of us would do the work first and then talk about the price in our spare time. The participating main contractors and subcontractors all did a good job.</i> (Deputy Manager of EXPO Axis Project Department, owner) <i>Finally, it takes us less than 10 months to build the Sun Valley. It is proposed by the Germans to finish the detailed design with over RMB 90 million, but we manage it with only RMB 18 million.</i> (Project Manager of EXPO Axis Project Department & Park Project Department, owner)
Promoting personal accountability of project leaders	Key project officials were held personally accountable to the government for the success of the project, motivating them to prioritize the project over other matters.	Leaders have power Leaders work hard	<i>The leaders threw themselves into work and influenced others. In the meantime, main leaders in CH and CHO are officials and in our culture, the role and authority of the leader are rarely questioned.</i> (Deputy Director A of CHO) <i>I'm tired every day and I often work until 11 or 12 o'clock at night. I do not even know when and how I suffered the heart attack, until it was diagnosed in October 2009. Then I went to the hospital, had an infusion solution for two weeks, and hurried back to work again.</i> (Deputy Director A of CHO, owner)

(continued)

Governmental Governance of Megaprojects

Governance Mechanisms Used by Construction Headquarter	Observations	Exemplary Codes	Exemplary Quotes
Exercising cultural control	Support of the public and the commitment of individuals working for the project was strengthened by actively and broadly promoting the societal importance of the focal project.	Leaders make key decisions	<i>Such a big project has been done and it contributes most to leaders. Leaders have put a lot of effort into this project. The program has been adjusted for several times and the size of the building has also been expanded for several times. There are numerous changes as well as problems during the process. Without the supports and the promotion from the leaders, we cannot accomplish such a good job.</i> (Deputy Manager of EXPO Axis Project Department, owner)
		Local residents' support	<i>Support from the mass majority is also essential. We invited them to visit the construction site and we celebrated together and exchanged ideas with them. We can understand and support each other.</i> (Deputy Director A of CHO, owner)
		People from different companies working together	<i>I think I will never have this experience later. Namely, I may never have another chance to communicate, cooperate, and work with persons from so many cultural backgrounds in the context of such a big stage.</i> (Project Manager of Urban Best Practice Area Project Department, owner)
		National glory	<i>For the image of the country, I feel we all have an obligation to do this project well. Accordingly, the cultural concept of our country, the management, and the quality of the people will have a comprehensive improvement. And the whole society and the whole Western mainstream media will have a comprehensive understanding of China. I believe that by doing so, we can truly win glory for China and win glory for the nation.</i> (Vice Commander of CHQ, owner)
		Giving up rest	<i>From early 2009 on, we only have a one-day rest per month. And since 2010, we almost had no rest, no Saturdays and no Sundays; our construction staff, including the general contractors and subcontractors and all onsite workers were in charge of equipment operation. There are working staff on duty in 24 hours. And the shift work schedule is adopted to ensure its smooth operation.</i> (Project Manager of EXPO Division in EXPO Shanghai Group, owner)
Individual support	<i>CH depends on all the individual support. We will not make it without cohesion and cooperation.</i> (Commander of Puxi Department in SCG, contractor)		

Table 2. Governance mechanisms used by Construction Headquarter in EXPO 2010 Shanghai.

legal rules, criteria, or formulas, such as the Measures for the Administration of National Key Construction Projects promulgated in 1996, which conform to the role of the state to coordinate, guide,

and supervise megaprojects and local governments to support the state in this role. For the EXPO project, the state formulated management regulations for all actors to solve new problems that they

had rarely met before. One interviewee stated, "We produced one outline and nine manuals, including 42 regulations and 43 procedures to improve efficiency" (manager of OPMT).

The Chinese government influenced the implementation of the project through the governance structure illustrated in Figure 1. Altogether, the EXPO project organization can be characterized as complex: It included 52 investors and more than 100 contractors.

On 30 October 2003, the Bureau of EXPO Coordination (BEC), which was composed of 29 divisions, was established to take charge of the preparation, organization, operation, and management of the EXPO. Given the time limit and the numerous construction units of EXPO, the Chinese government set up a multilevel governance structure to manage it.

The Organizing Committee, founded in 2004 as the leading organization to host EXPO, was composed of 46 government officials, including the vice premier of the State Council. The Executive Committee at the local government level, which was composed of the secretary of the Shanghai Municipal CPC Committee, the mayor of Shanghai, and 46 governmental departments, was responsible for the specific tasks set out by the Organizing Committee. The government-level committees demonstrated the significance of EXPO. As a societally significant infrastructure program, EXPO was a combination of nearly 300 subprojects. As such, EXPO required

a specific organization to supervise and coordinate action:

The mayor decides to set up the Construction Headquarter and bring the previous mature management mode of the major projects in Shanghai into EXPO. . . . It benefits the project if the government could involve and balance resources. (Deputy Director A of CHO)

The central government established the Construction Headquarter (CHQ) as the management unit in October 2007, and the Deputy Mayor (as the Commander) and Undersecretary (as the Executive Vice Commander) of Shanghai commanded it. Sixteen key persons working in CHQ were selected from the administrative departments of the municipal government and the main investors, such as the Water Agency, Planning Bureau, Urban Council, and EXPO Land Company. CHQ acted as a steering organization, so a subunit, called the Construction Headquarter Office (CHO), was created to manage the construction process. According to Deputy Director A of CHO, this office was a “coordinating organization, but not an investment unit and not a construction unit.” It was a functional department within the Construction Headquarter.

Before the establishment of the Construction Headquarter, the engineering

department of BEC was in charge of construction issues. In order to open the EXPO on time, this department was independent from BEC, operated with more freedom, and it was the predecessor of the CHQ. This arrangement, typical in China, can be described as “one team with two titles.” In practice, one organization has two identities and works under the corresponding name based on the respective positions of key employees and decision makers. Core personnel in CHO were “borrowed” from more than 30 companies and authorities of Shanghai through the administrative instructions of the Shanghai government. They were paid by the companies from which they came and it was agreed that they would return to their employers after the EXPO project ended. Therefore, the Construction Headquarter was actually a temporary organization, established on governmental documents. Deputy Director A of CHO pondered the management: “Since there will be a new team, a new system, a new environment, how could we strengthen the sense of cohesion?”

CHO acted mainly as a coordinator. It was responsible for coordinating across actors and promoting the execution of interrelated subprojects to ensure that they would meet the requirements of the project. Related subprojects were numerous. Municipal infrastructures, such as electricity, gas, communication, tunnels, and subways, all had to be developed. Because of the tight and fixed schedule of the EXPO, important resources, such as water, electricity, and roads, were insufficient at the early phase of construction, so the role of a coordinator was essential.

The Construction Headquarter adopted a strong matrix organization pattern, which included ten functional management divisions (FMDs) and ten project departments (PDs) to coordinate the project. FMDs, including the Safety FMD, Cost & Contract FMD, and Administration FMD, were in charge

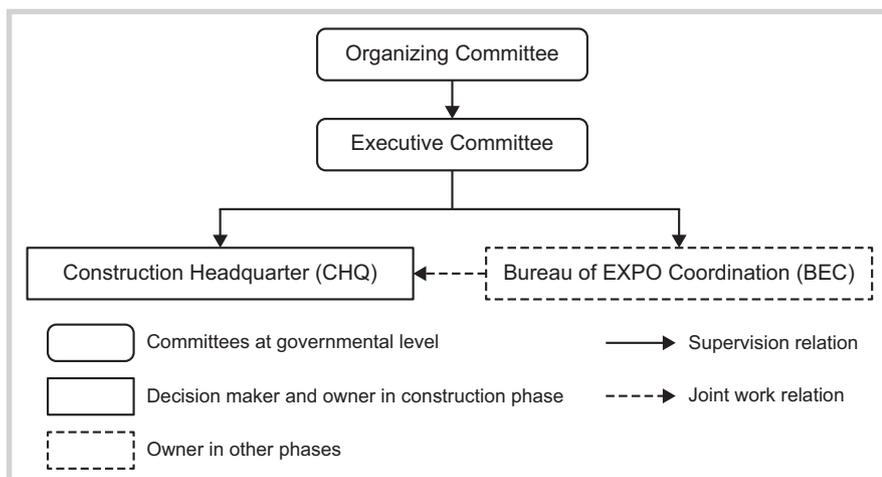


Figure 1: Structure for governmental governance in EXPO 2010 Shanghai.

Governmental Governance of Megaprojects

of the overall regulation, coordination, and control. PDs, on the other hand, were responsible for construction and onsite coordination, and they applied flexible organizational models because of different subproject sizes. The Construction Headquarter assigned two or three professionals as the core team in the PDs. Management and consulting companies were employed through open bidding to join the PDs. Large state-owned enterprises participated as general contractors.

To support the Construction Headquarter, the main contractor, Shanghai Construction Group (SCG), set up a dedicated project management office to guarantee the construction: "The engineering construction in China is just like a battle, with its command as the combat system. Thus, it needs a strong intervention from the administration" (Manager of OPMT, deputy commander and deputy chief engineer of SCG).

In conclusion, the Construction Headquarter is a temporary, top-management organization, acting on the behalf of the government in megaprojects. It is composed of local officials who regulate megaprojects through administrative intervention. CHO is the most important functional department in that it works onsite and plays a main role as the owner. The Construction Headquarter was created specifically for a particular megaproject and discontinued when the project was completed. In the EXPO case, the Construction Headquarter ceased to exist after the EXPO exhibition closed in October 2010.

Governance Mechanisms Used by the Construction Headquarter in EXPO 2010

Authority Integration

The Chinese approval process for major projects is very complicated and "needs more than 100 seals" (deputy director A of CHO). If even a single sub-process encounters significant problems in acquiring the required approvals, the entire project will be delayed. When

CHQ took charge in 2007, the subprojects were facing pressure in completing challenging tasks within a tight schedule of less than 1,000 days. Therefore, CHQ developed a parallel approval platform for EXPO that required multiple authority units to work simultaneously to speed up the completion of tasks. Joint meetings were held in which related authorities gathered to "seal" the issue at hand.

The integrative work that CHQ performed in this type of coordination supported the smooth execution of the project. For instance, in April 2010, several large piles of construction waste were still located around the EXPO pavilions. According to local regulations, construction waste needs to be disposed of based on a predetermined schedule. To ensure that opening day would take place on 1 May of that same year, the mayor of Shanghai called the Sanitation Agency and asked for support. Over the following two weeks, the chief of the Sanitation Agency and director of the Sanitation Department in Pudong District stayed onsite with CHQ all night, supervising hundreds of workers and 72 trucks transporting the waste.

"Priority for efficiency" was a core management principle in EXPO 2010. CHQ designed an integrated outline, in which every single deadline was settled. To meet the strict deadline and fulfill the requirements set by the government, "the Project Department (PD) got authorization from CHO to command subprojects and make decisions on design changes and funding applications within limit, and Functional Management Divisions (FMDs) to act as coordinators as required by PD" (Deputy Director A of CHO). PD then obtained an authorization document from the commander of CHQ, and signed a responsibility certificate to guarantee the completion of their tasks on time. This document was treated with the same respect as military orders, thereby placing considerable pressure on PD members.

We observed that cooperation among different authorities was reflected in the form of flexible arrangements for coordinative meetings among owners, investors, and other stakeholders whenever they were considered necessary. Leaders in CHQ assumed a coordinative role in these meetings. The decisions made were recorded as minutes, which would be definitive and legally binding. The Deputy Director of CHO described the meetings:

Any investor would ask for help when they have problems. I even conducted 11 meetings in one day. All the meeting minutes are written down as evidence for auditing in the future.

According to our findings, the time-consuming process for obtaining seals of approval gave rise to time pressures. In response, the government ordered all related authorities to work in close collaboration with the Construction Headquarter. With powerful support from the government, EXPO construction could move forward at a faster pace than regular projects. Despite considerable effort from the government to accelerate the focal project, an audit of the EXPO released in 2011 by the National Audit Office showed that the project had met its economic objectives. According to the report, the actual cost of 31.70 billion RMB exceeded the budgeted cost of 30.04 billion RMB within a reasonable range. The additional costs had been caused by the rising price of materials, application of innovative technologies, and changes in design rather than the acceleration of pace.

Influencing Supplier Selection and Allocation of Supplier Resources

Most of our interviewees emphasized the importance of the relationship between the owner and contractor. All key contractors had extensive experience in working with the government. The main contractor, Shanghai Construction Group (SCG), had strong political ties with the local government.

It was developed out of the Shanghai Construction Engineering Division and was established in 1953. Since its establishment, especially after being transformed into a state-owned enterprise in 1994, SCG had completed a large number of landmark projects. Among these projects were the Oriental Pearl Television Tower in Shanghai, LuPu Bridge (the world's longest steel arch bridge), Shanghai International F1 Circuit, and the Shanghai World Financial Center. SCG is under the supervision of the Shanghai government. Other major contractors in the project included Shanghai Baoye Group and Hongrun Construction Group, both large-scale, state-owned enterprises. Deputy Director A of CHO described the manager's confidence in the main contractor:

We are inclined to choose the biggest and best contractor. Seventy percent of EXPO construction was undertaken by SCG. Other contractors were all large-scale, state-owned companies. We trust them. We gave SCG the permanent projects through bidding and authorized them to lead on site. They completed their work excellently and even assisted CHO to coordinate other stakeholders for free.

To open a high-quality EXPO, the government drew up strict terms in the contract, to limit the participation of less qualified contractors. For instance, one of the requirements was that the EXPO Culture Center would be good enough to become a recipient of the annual LuBan Award, the top award for the best construction project in China. The contractors would be fined if the project did not achieve this goal. Given this requirement, the designer and constructor needed to follow very high standards in their work. SCG utilized the best resources of the company to ensure that the EXPO would win this award, which they did it.

In the Chinese institutional context, social ties with the government have a special meaning for companies. Contractors that were able to participate

in EXPO expected that their chances of winning contracts in the future would be significantly improved. SCG stationed its best personnel from 17 subsidiaries and 13 business units into the EXPO project. To enhance its collaboration with the government, SCG asked a group of its leaders to live on site to ensure the company's readiness to cope with any unforeseen event. The commander of SCG's Puxi Department described the company's intentions when it came to participating in the EXPO:

Even if we don't make a profit in EXPO, we insist on doing our best. Participating in EXPO is indeed an intangible asset. Everyone will know us and that our service is the best. SCG appointed elite members in the sub-projects. For instance, an engineer who had been in charge of Shanghai Stadium and the National Theatre was named as project manager of Culture Center. In the peak-hour construction, we had 12 onsite project departments and more than 10,000 workers.

The government made significant efforts to ensure that the process for selecting suppliers and investors was transparent. Based on publicly available information, no prosecuted corruption cases were recorded in the EXPO from the construction phase to the present. Deputy Director A of CHO described the mechanisms that were in place to prevent corruption:

We insist on choosing contractors and suppliers through competitive tender and invitational tender. To regularize the construction behavior, we established a leading group led by the secretary of Disciplinary Inspection, which exercised power in accordance with the law and worked painstakingly to improve party conduct, promote integrity, and fight corruption.

When selecting suppliers and investors, the BEC signed an "Integrity Agreement" with all 648 contractors and suppliers, promised to maintain cleanliness with 42 state organizations, and signed a "Building a Clean EXPO" agreement with 139 companies involved in the exhibition.

Promoting Personal Accountability of Project Leaders

Leaders of the EXPO project faced the challenge of managing a large group of parties, including different levels of agents, contractors, suppliers, investors, operators, and the public. Both the leaders of owner and contractors were Communist Party members. The executive leaders in the project organization were held personally responsible for the project. When a project required coordination and decision making, administrative instruction from upper officials was considered crucial.

Formerly, we just needed to allocate tasks to stakeholders. Whether the task was finished or not had nothing to do with us. The stakeholders were in charge of it and assumed their respective obligations and responsibilities. But now, after the establishment of the Construction Headquarter, this responsibility falls on all of us. (Vice Commander of CHQ)

The impressive progress of the EXPO relied largely on the project leaders, who demonstrated the ability to both carry responsibility and secure the commitment of their teams. According to Deputy Director B of CHO, "Whenever there is a difficulty, our leaders always support the staff to the greatest extent." Most interviewees emphasized the traits of leadership—in particular in terms of expressing passion and energy for the project. Deputy Director A of CHO elaborated on this:

We advocate that the leader, the cadre, and the party member should set an example. The leaders threw themselves into work and influenced others. In the meantime, main leaders in CHQ and CHO are officials and in our culture, the role and authority of the leader are rarely questioned.

Rather than stay behind the workers, EXPO leaders took the initiative and let the others follow. The leaders devoted themselves to their work, and as a result, driving the enthusiasm of subordinates was manageable. The subordinates, in turn, devoted all their energy

Governmental Governance of Megaprojects

to completing their tasks on time and according to project scope. Leaders at the government level who were involved in the EXPO, either directly or indirectly, dealt with the improvement of transparency with regard to performance-oriented management, supervision, and relationships with the contractors and owners.

Exercising Cultural Control

EXPO 2010 developed its own unique culture, nurtured by a set of values that were exercised by its leaders, as we discuss as follows. The rapid development of China's economy caused a phenomenon wherein the construction of major infrastructure projects is closely connected to China's political recognition, international status, and economic development. Similarly, the EXPO showed great political significance. The inflexible opening date of the EXPO was a major strategic lever that government repeatedly utilized in order to ensure that project actors did what needed to be done. To ensure the successful construction of the focal project, the government promoted a culture characterized by Chinese values: "put the project's interests above everything else" (manager of OPMT). In this culture, the major concern of every participant was to complete the EXPO efficiently and following high-quality standards. Many sacrificed their vacations and possibly their own health and worked around the clock. The deputy commander of SCG presented us with the following example:

Most workers gave up their vacations. We have spent three New Year's Eves on the site. In this year (2010), we invited relatives of migrant workers to Shanghai, hired special cooks for workers with different taste preferences, and reserved tickets for them. People from various sectors visited—for example, doctors from Second Military Medical University provided free health checks, and Shanghai Opera Troupe held free performances, and so on.

This value-driven commitment was amplified when projects were attached

to significant ideological and political meanings. On the 100-day countdown of the project, an oath-taking rally was held. All PDs signed a pledge to cancel the rest of their weekend vacations. The leader of CHO, the project manager, and the construction personnel all worked exceptionally hard for the project, potentially putting their well-being at risk and constantly being away from their families and loved ones.

Not only the stakeholders but also local residents and businesses played a significant role in the success of the EXPO. According to *China Economic Weekly*, approximately 270 companies and 17,000 households had to be relocated to accommodate the EXPO site. In addition, thousands of residents surrounding the site were bothered by the noise and dust resulting from intense construction. To compensate for the considerable hardship caused by the project to local citizens and firms, households received living spaces and monetary compensation, and the relocated companies obtained state support for further development of their businesses. To strengthen the support of the public, CHO organized activities in the name of the Communist Party. The residents also organized parties and galas for the workers (called "heart-to-heart" performance) to encourage them to work hard.

Discussion

Our observations highlight the central role of the Construction Headquarter (CHQ)—a project-specific organization set up by the government for managing the megaproject. This result contrasts findings from earlier empirical studies on megaprojects carried out in Western countries in which the role of the government has been characterized as relatively inactive (Ruuska et al., 2011; Sallinen, Ahola, & Ruuska, 2011). Instead of acting indirectly through legislation and regulations, we observed how the Chinese government used the CHQ to influence both the selection of actors and their resources and the

coordination of work in the focal project. This finding complements earlier research that has highlighted the role of a private owner in the governance of major projects (Ahola et al., 2014; Turner & Simister, 2001; Winch, 2001). Indeed, the assumption that the project owner—such as the owner of a nuclear power station—is alone in control of the project may be erroneous; in reality, control is shared between the owner and the government, which actively exercises its power through various organizations it controls, in addition to acting (more) passively through legislation. Thus, our findings support the earlier work of Miller and Hobbs (2005), who have argued that large projects need specific governance regimes adapted to their societal contexts to avoid problems related to supervision and the coordination of work. Also, Brady et al. (2007) have described the governance of large projects as a group activity that in addition to the owner, involves other central organizations, such as main contractors. Levitt, Henisz, Scott, and Settel (2010) pointed out that "governments in almost all jurisdictions lack capacity to perform some tasks associated with the lifecycle of infrastructure, so one approach to unified governance has been the creation of private public partnerships." (p. 762) Earlier research has associated the involvement of government in megaprojects with primarily negative outcomes, such as increasing costs and delaying the schedule (Olander & Landin, 2005) and limiting the availability of necessary resources (Aaltonen, Kujala, & Oijala, 2008). However, in line with Fassin (2009), our analysis of EXPO 2010 Shanghai shows how the government used its power to drive forward society's interests by ensuring the progress of the project and building shared commitment for the whole project organization, even though some individual members of society had to endure hardships (such as relocation).

Our findings contribute to the existing knowledge on specific governance

mechanisms used by governments to monitor and steer megaprojects. We observed how the state forced independent authorities to tighten their collaboration for the benefit of the project, ensuring that acquiring approvals and permits did not hinder progress. Similarly, megaprojects such as the London 2012 Olympics built systems integration between levels and individual component subsystems to coordinate the stakeholders (Davies & Mackenzie, 2014). The Olympic Delivery Authority in London Olympics appointed by the government was a public-sector client organization, whereas the Construction Headquarter in EXPO 2010 Shanghai was a temporary governmental actor. This finding reflects China's current economy, where administrative decentralization limits the strong government power on economic processes.

Second, we observed how the state used the Construction Headquarter to influence the selection of both suppliers and the specific resources those suppliers used for the focal project. This finding aligns with previous research, which has shown that managers working for primary contractors prefer to develop and maintain long-lasting relationships with governmental decision makers (Li, Yao, Sue-Chan, & Xi, 2011b). Earlier research carried outside the Chinese context had shown that project-based firms actively strive to develop inter-organizational relationships to both private and public actors (Ahola, Kujala, Laaksonen, & Aaltonen, 2013; Cova, Ghauri, & Salle, 2002). In Korea, big private firms with close ties to the state take priority over other firms in the market (Biggart & Guillén, 1999), while in China the leading firms are mostly those owned by the state. We observed how the Chinese state ensured that the best available resources were secured for the focal project, even to the extent that some involved suppliers expected not to be able to make a short-term financial profit through EXPO 2010. Although this result supports earlier research addressing the importance of

public-private relationships in China (Chen & Partington, 2004), further research is required to verify whether similar behavior can be observed in contexts where the market is less controlled than in China.

Third, we observed how the state promoted the personal accountability of individual project leaders to ensure their full commitment to the project. Informants highlighted the high value of leadership as a part of the governance approach, which reflected the traditional Chinese culture that team leaders should consider themselves the "father" of the team, with a duty to be a role model, in order to integrate all the members to work hard for the goal (Chen & Partington, 2004). Earlier research discussing the use of this mechanism has been relatively scant, with the exception of Lenfle and Loch (2010) who highlight the central role of Dr. Oppenheimer in the Manhattan Project. In the Sydney 2000 Olympic infrastructure project, a Project Alliance Leadership Team was built to solve sudden and unexpected problems and ensure that the project achieved its goals (Pitsis et al., 2003). In addition to working for private firms, leaders of megaprojects in China frequently are party members and hold positions in government, allowing them to draw influence from multiple sources.

Finally, we observed how the state was actively promoting a shared view of the societal importance of the project, both to ensure the commitment of workers and to reduce public opposition toward the project. This result relates to Aronson, Shenhar, and Pataanakul (2013), who have argued that a strong shared project culture may increase the possibilities of project success. Government can also be understood as an intermediary that combines its own legal stake and society's moral stake (Sallinen, Ruuska, & Ahola, 2013). In China, the use of this governance approach has earlier been linked to relational norms of national glory and individual values, and those approaches

have been tested in other megaprojects such as Bird's Nest and Beijing Capital International Airport Terminal 3 (Chi et al., 2011). Earlier research has also shown how public opposition toward a megaproject can be very harmful for its progress (Aaltonen & Sivonen, 2009), highlighting the importance of activities directed at ensuring the support of all stakeholders who are affected by the project. National culture is one determinant of the organizational choice of one system of governance over another (Toivonen & Toivonen, 2014).

No megaproject delivery model is free of faults. In addition to hardship caused by major dislocations of people and businesses from the project site, the EXPO faced strong negative public criticism. For example, the comparison between expected and ex-post financial figures shown in the audit report reflects that significant cost overruns took place. Though this is consistent with other studies indicating that most megaprojects globally face over-budget issues (Meier, 2010; Olaniran, Love, Edwards, Olatunji, & Matthews, 2015), it is still an important concern because large projects consume very significant amounts of public resources. Also, in China, corruption issues on large construction projects have caused massive reputational damage to the Communist Party and even to the country (Shan, Chan, Pe, & Hu, 2015), which raised questions on the EXPO 2010 Shanghai project. Although neither a specific governmental audit nor our research revealed any evidence of corruption in the EXPO, we cannot rule out the possibility that malfeasance may have occurred.

Conclusion

The Chinese state actively influenced EXPO 2010 by setting up a Construction Headquarter, an organization dedicated to monitoring and controlling the project. The Construction Headquarter assumed a highly active and powerful role in the project, forcing normally independent authorities to

Governmental Governance of Megaprojects

integrate their processes for the benefit of the project, influencing contractor and resource selection decisions carried out by private contractors, inducing leadership accountability, and promoting shared project values. The findings complement earlier understandings of the management of megaprojects by highlighting the active role of the state and by describing governance mechanisms that have not been extensively addressed in previous studies. Our findings also have implications for practitioners working in both Chinese and Western megaprojects. In particular, project managers who work in different geographical contexts can be expected to benefit from increased awareness of the highly different roles that states can assume in the governance of megaprojects. We also found out that the importance of developing strong interpersonal and inter-organizational relationships with public actors was strongly emphasized. Combined, these observations imply that the governance of megaprojects appears to be highly context-specific, and lessons learned in one context might often not be directly transferable to another geographical context.

Because we observed only a single project, the generalizability of our findings is subject to the usual strict limitations. Based on a single case, we cannot claim that the role of the CHQ would be identical in all Chinese megaprojects or that all four governance mechanisms we identified could be observed in other contexts. Finally, as a result of the qualitative orientation of our study, we are unable to make any claims concerning the relations between the observed governance structure and the efficiency and effectiveness of the project outcomes.

As our study is limited to a single case, we would welcome additional research, and in particular, quantitative research addressing how various governance mechanisms relate to the efficiency and success of megaprojects. Additional research is also needed to

be able to understand which contextual factors, such as the political system, tendering practices, and social factors, are associated with the utilization of different governance mechanisms. Such research could help us move forward from describing governance structures to understanding what kind of structure would be optimal in a given context. In addition, our findings could be further complemented by comparisons among different kinds of subprojects executed within the scope of a large megaproject. Our focal project included subprojects financed and constructed by foreign investors, those financed by foreigners and constructed by locals, and those financed and constructed by locals. As megaprojects are becoming increasingly international, it would be important to understand both the similarities and differences in the management of different categories of mixed nationality subprojects.

Acknowledgment

The authors would like to acknowledge the financial support provided by the National Natural Science Foundation of China (project number: 71390523).

References

- Aaltonen, K., Kujala, J., & Oijala, T. (2008). Stakeholder salience in global projects. *International Journal of Project Management*, 26(5), 509–516.
- Aaltonen, K., & Sivonen, R. (2009). Response strategies to stakeholder pressures in global projects. *International Journal of Project Management*, 27(2), 131–141.
- Abednego, M. P., & Ogunlana, S. O. (2006). Good project governance for proper risk allocation in public-private partnerships in Indonesia. *International Journal of Project Management*, 24(7), 622–634.
- Ahola, T., Kujala, J., Laaksonen, T., & Aaltonen, K. (2013). Constructing the market position of a project-based firm. *International Journal of Project Management*, 31(3), 355–365.

Ahola, T., Ruuska, I., Artto, K., & Kujala, J. (2014). What is project governance and what are its origins? *International Journal of Project Management*, 32(8), 1321–1332.

Aronson, Z. H., Shenhar, A. J., & Patanakul, P. (2013). Managing the intangible aspects of a project: The affect of vision, artifacts, and leader values on project spirit and success in technology-driven projects. *Project Management Journal*, 44(1), 35–58.

Artto, K., Eloranta, K., & Kujala, J. (2008). Subcontractors' business relationships as risk sources in project networks. *International Journal of Managing Projects in Business*, 1(1), 88–105.

Association for Project Management (APM). (2004). *Directing changes: A guide to governance of project management*. High Wycombe, England: Author.

Aubry, M., Müller, R., & Glückler, J. (2011). Exploring PMOs through community of practice theory. *Project Management Journal*, 42(5), 42–56.

Biggart, N. W., & Guillén, M. F. (1999). Developing difference: Social organization and the rise of the auto industries of South Korea, Taiwan, Spain, and Argentina. *American Sociological Review*, 722–747.

Brady, T., Davies, A., Gann, D., & Rush, H. (2007). Learning to manage mega projects: The case of BAA and Heathrow Terminal 5. *Project Perspectives*, XIX, 32–39.

Chang, C. L. H. (2013). The relationship among power types, political games, game players, and information system project outcomes: A multiple-case study. *International Journal of Project Management*, 31(1), 57–67.

Chen, P., & Partington, D. (2004). An interpretive comparison of Chinese and Western conceptions of relationships in construction project management work. *International Journal of Project Management*, 22(5), 397–406.

Chi, C. S. F., Ruuska, I., Levitt, R., Ahola, T., & Artto, K. (2011). *A relational governance approach for*

- megaprojects: Case studies of Beijing T3 and Bird's Nest projects in China*. Paper presented at the Engineering Project Organizations Conference, Estes Park, Colorado.
- Cova, B., Ghauri, P. N., & Salle, R. (2002).** *Project marketing: Beyond competitive bidding*. West Sussex, England: John Wiley & Sons Ltd.
- Crawford, L., Cooke-Davies, T., Hobbs, B., Labuschagne, L., Remington, K., & Chen, P. (2008).** Governance and support in the sponsoring of projects and programs. *Project Management Journal*, 39(S1), S43–S55.
- Davies, A., & Mackenzie, I. (2014).** Project complexity and systems integration: Constructing the London 2012 Olympics and Paralympics Games. *International Journal of Project Management*, 32(5), 773–790.
- Fassin, Y. (2009).** The stakeholder model refined. *Journal of Business Ethics*, 84(1), 113–135.
- Flyvbjerg, B. (2011).** Over budget, over time, over and over again: Managing major projects. In P. Morris, J. K. Pinto, & J. Söderlund (Eds.), *The Oxford handbook of project management* (pp. 321–344). Oxford, England: Oxford University Press.
- Gunnarson, S., & Levitt, R. E. (1982).** *Is a building construction project a hierarchy or a market?* Paper presented at the 7th INTERNET Congress.
- Hobday, M., Davies, A., & Prencipe, A. (2005).** Systems integration: A core capability of the modern corporation. *Industrial and Corporate Change*, 14(6), 1109–1143.
- Kharbanda, O. P., & Pinto, J. K. (1996).** What made Gertie gallop? Lessons from project failures. New York, NY: Van Nostrand Reinhold Company.
- Kim, H. J., & Reinschmidt, K. F. (2011).** Market structure and organizational performance of construction organizations. *Journal of Management in Engineering*, 28(2), 212–220.
- Klakegg, O. J., & Haavaldsen, T. (2011).** Governance of major public investment projects: In pursuit of relevance and sustainability. *International Journal of Managing Projects in Business*, 4(1), 157–167.
- Klakegg, O. J., Williams, T., Magnussen, O. M., & Glasspool, H. (2008).** Governance frameworks for public project development and estimation. *Project Management Journal*, 39(S1), S27–S42.
- Le, Y., Ren, J., Xie, L., Jiang, W., & Wang, J. (2009).** The root of complexity in EXPO 2010 Shanghai (Chinese Version). *Construction Economy*, 11, 99–101.
- Lenfle, S., & Loch, C. (2010).** Lost roots: How project management came to emphasize control over flexibility and novelty. *California Management Review*, 53(1), 32–55.
- Levitt, R. E., Henisz, W., Scott, W. R., & Settel, D. (2010).** Governance challenges of infrastructure delivery: The case for socio-economic governance approaches. In J. Ruwanpura, Y. Mohamed, & S. Lee (Eds.), *Construction Research Congress 2010* (pp. 757–767). Banff, Canada: American Society of Civil Engineers.
- Li, S. X., Yao, X., Sue-Chan, C., & Xi, Y. (2011b).** Where do social ties come from: Institutional framework and governmental tie distribution among Chinese managers. *Management and Organization Review*, 7(1), 97–124.
- Li, Y., Lu, Y., Kwak, Y. H., Le, Y., & He, Q. (2011a).** Social network analysis and organizational control in complex projects: Construction of EXPO 2010 in China. *Engineering Project Organization Journal*, 1(4), 223–237.
- Manzenreiter, W. (2010).** The Beijing Games in the western imagination of China: The weak power of soft power. *Journal of Sport & Social Issues*, 34(1), 29–48.
- Meier, S. R. (2010).** Causal inferences on the cost overruns and schedule delays of large-scale U.S. federal defense and intelligence acquisition programs. *Project Management Journal*, 41(1), 28–39.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2013).** *Qualitative data analysis: A methods sourcebook*. Thousand Oaks, CA: SAGE Publications.
- Miller, C. C., Cardinal, L. B., & Glick, W. H. (1997).** Retrospective reports in organizational research: A reexamination of recent evidence. *Academy of Management Journal*, 40(1), 189–204.
- Miller, R., & Hobbs, B. (2005).** Governance regimes for large complex projects. *Project Management Journal* 36(3), 42–50.
- Miller, R., & Lessard, D. R. (2001).** *The strategic management of large engineering projects: Shaping institutions, risks, and governance*. Cambridge, MA: MIT Press
- Morris, P. W., & Hough, G. H. (1987).** *The anatomy of major projects: A study of the reality of project management*. Chichester, England: John Wiley and Sons.
- Müller, R., Andersen, E. S., Kvalnes, Ø., Shao, J., Sankaran, S., Rodney Turner, J., Biesenthal, C., Walker, D., & Gudergan, S. (2013).** The interrelationship of governance, trust, and ethics in temporary organizations. *Project Management Journal*, 44(4), 26–44.
- Ng, A., & Loosemore, M. (2007).** Risk allocation in the private provision of public infrastructure. *International Journal of Project Management*, 25(1), 66–76.
- Olander, S., & Landin, A. (2005).** Evaluation of stakeholder influence in the implementation of construction projects. *International Journal of Project Management*, 23(4), 321–328.
- Olaniran, O. J., Love, P. E. D., Edwards, D., Olatunji, O. A., & Matthews, J. (2015).** Cost overruns in hydrocarbon megaprojects: A critical review and implications for research. *Project Management Journal*, 46(6), 126–138.
- Pitsis, T. S., Clegg, S. R., Marosszeky, M., & Rura-Polley, T. (2003).** Constructing the Olympic dream: A future perfect strategy of project management. *Organization Science*, 14(5), 574–590.
- Pryke, S. (2006).** Projects as networks of relationships. In S. Pryke & H. Smyth (Eds.), *The management of complex projects: A relationship approach* (pp. 213–235). Oxford, England: Blackwell Publishing Ltd.

Governmental Governance of Megaprojects

- Ruuska, I., Ahola, T., Artto, K., Locatelli, G., & Mancini, M. (2011).** A new governance approach for multi-firm projects: Lessons from Olkiluoto 3 and Flamanville 3 nuclear power plant projects. *International Journal of Project Management*, 29(6), 647–660.
- Sallinen, L., Ahola, T., & Ruuska, I. (2011).** Governmental stakeholder and project owner's views on the regulative framework in nuclear projects. *Project Management Journal*, 42(6), 33–47.
- Sallinen, L., Ruuska, I., & Ahola, T. (2013).** How governmental stakeholders influence large projects: The case of nuclear power plant projects. *International Journal of Managing Projects in Business*, 6(1), 51–68.
- Shan, M., Chan, A. P., Le, Y., & Hu, Y. (2015).** Investigating the effectiveness of response strategies for vulnerabilities to corruption in the Chinese public construction sector. *Science and Engineering Ethics*, 21(3), 683–705.
- Shen, L., Jiang, S., & Yuan, H. (2012).** Critical indicators for assessing the contribution of infrastructure projects to coordinated urban–rural development in China. *Habitat International*, 36(2), 237–246.
- Sigley, G. (2006).** Chinese governmentalities: Government, governance and the socialist market economy. *Economy and Society*, 35(4), 487–508.
- Toivonen, A., & Toivonen, P. U. (2014).** The transformative effect of top management governance choices on project team identity and relationship with the organization: An agency and stewardship approach. *International Journal of Project Management*, 32(8), 1358–1370.
- Turner, J. R., & Simister, S. J. (2001).** Project contract management and a theory of organization. *International Journal of Project Management*, 19(8), 457–464.
- Warsame, A. (2009).** Organizational modes in the residential building sector in Sweden. *Construction Management and Economics*, 27(2), 153–163.
- Williams, T., Klakegg, O. J., Magnussen, O. M., & Glasspool, H. (2010).** An investigation of governance frameworks for public projects in Norway and the UK. *International Journal of Project Management*, 28(1), 40–50.
- Winch, G. M. (2001).** Governing the project process: A conceptual framework. *Construction Management & Economics*, 19(8), 799–808.
- Winch, G. M. (2006).** The governance of project coalitions: Towards a research agenda. In D. Lowe & R. Leiringer (Eds.), *Commercial management of projects: Defining the discipline* (pp. 323–324). Oxford, England: Blackwell Publishing.
- Winch, G. M. (2007).** Managing project stakeholders. In P. W. G. Morris & J. K. Pinto (Eds.), *The Wiley guide to project, program, and portfolio management* (pp. 271–289). Hoboken, NJ: Wiley.
- Yin, R. K. (2009).** *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: SAGE Publications.
- Zhang, S., Gao, Y., Feng, Z., & Sun, W. (2015).** PPP application in infrastructure development in China: Institutional analysis and implications. *International Journal of Project Management*, 33(3), 497–509.
- Zou, W. W., Kumaraswamy, M., Chung, J., & Wong, J. (2014).** Identifying the critical success factors for relationship management in PPP projects. *International Journal of Project Management*, 32(2), 265–274.
-
- Zhao Zhai** is a PhD candidate at the Research Institute of Complex Engineering & Management, and School of Economics and Management at Tongji University, Shanghai. She holds a master's degree in hydropower engineering and management. Her research interests cover project governance and stakeholder management in megaprojects. She can be contacted at kensizhai@gmail.com.
-
- Tuomas Ahola** is an Assistant Professor in the Department of Industrial Management at Tampere University of Technology, Tampere, Finland, and an Adjunct Professor of Project Management at the Norwegian University of Science and Technology, Trondheim, Norway. He specializes in inter-organizational networks in the context of project business and has published more than 15 peer-reviewed journal articles. Dr. Ahola lectures on various content areas of project business to both academic and industry audiences. He can be contacted at tuomas.ahola@tut.fi.
-
- Yun Le** is a Professor at the Research Institute of Complex Engineering & Management, and School of Economics and Management at Tongji University, Shanghai. He has published many books and articles on project management, program management, and corruption research in Chinese megaprojects. Professor Le gained his management experience from consulting with governments and large companies over the past 20 years. He can be contacted at leyun@tongji.edu.cn.
-
- Jianxun Xie** is a PhD candidate at the Research Institute of Complex Engineering & Management, and School of Economics and Management at Tongji University, Shanghai. For ten years, he has been working as a project manager at K&Z Construction Project Management Co., Ltd, and has been responsible for managing several large projects. His research interests include project governance and program management. He can be contacted at 1210373@tongji.edu.cn.

Copyright of Project Management Journal is the property of Project Management Institute and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.

Copyright of Project Management Journal is the property of Project Management Institute and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.