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# Governance of social responsibility in international infrastructure megaprojects

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## 1 Introduction

Megaprojects are a critical aspect of socio-economic development that can have huge effects on local communities, the environment, society, politics, or locals' way of life (Zeng et al., 2015; Denicol et al., 2020). Megaproject social responsibility (MSR) refers to “the policies and practices of stakeholders through the whole project lifecycle that reflect responsibilities for the well-being of the wide society” (Zeng et al., 2015). MSR governance refers to socially responsible actions of relevant stakeholders to alleviate and eliminate a megaproject's negative effects on socio-economic and environmental outcomes during the megaproject's entire lifecycle (Lin et al., 2017; Ma et al., 2017), such as poverty reduction, human rights protection, social philanthropy, and environmental protection (Zeng et al., 2015). For large international contractors, differences between the decision-making scenarios of international megaprojects in host countries and those in their home countries are huge (Javernick-Will and Scott, 2010; Cramton et al., 2021). Differences

in political, cultural, economic, and regulatory contexts can lead to differences in the content of MSR, as well as in that of corporate social responsibility (Maignan and Ralston, 2002; Matten and Moon, 2008). Consequently, MSR governance is challenging for international contractors. Good performance in MSR might contribute to the sustainability of megaprojects, whereas the absence of MSR governance in international megaprojects might generate huge losses for international contractors (Ma et al., 2017; Petkova and van der Putten, 2020; Leviker, 2021). Therefore, we argue that MSR governance can improve the quality of international megaprojects and reduce conflict among different parties in host countries (Campbell et al., 2012; Zhou and Mi, 2017; Ma et al., 2021).

## 2 Managerial practices of MSR governance in international megaprojects

The Addis Ababa–Djibouti Railway (AADR) is a good example of how MSR governance contributes to enhancing the sustainability of megaprojects. AADR is the first electrified railway in East Africa equipped with Chinese equipment and complied with Chinese industrial standards. AADR is financed by China and is designed, built, and operated with Chinese products and technology (Wang, 2019; Leviker, 2021). AADR was built by China Railway Group Limited and China Civil Engineering Construction Corporation. The MSR governance of AADR addressed several key issues including economic development, employment, philanthropy, environmental protection, and sustainable operations.

First, the project participants took economic development into account at the pre-feasibility and design stages by addressing how to improve logistic efficiency, reduce transport costs along the railway, create jobs in local communities, and reduce poverty in Ethiopia and Djibouti (Mohapatra, 2016; Yalew and Guo, 2020). In a coordinated effort, Ethiopia established the Industrial Parks Development Corporation to build several industrial

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parks covering approximately an area of 200 km<sup>2</sup> with preferential investment policies for foreign investors. For example, the Eastern Industry Zone along the railway attracted 85 companies to build their factories manufacturing clothing, textiles, shoes, cement, medicine, and automobiles. Ethiopia could become a manufacturing hub in Africa with the help of industrial parks. The increased activity has significantly improved the region's economic exportation, employment, and living standards (Mohapatra, 2016; Yue and Huang, 2019).

Second, the project team hired and trained local employees and also disseminated knowledge to them to enhance their technical skills through the project (Tovar, 2019). Ethiopian youth benefited greatly from the project, which created approximately 3000 new job opportunities. To ensure operational safety, the local Ethiopian employees received a wide range of thorough technical and management training to provide them with operational, technological, and managerial skills (Yue and Huang, 2019).

Third, the project teams were proactive in engaging in philanthropy, including helping increase local water supplies, build local schools, and deliver relief supplies during disasters (Harper, 2015; Wang et al., 2016). As an example, Ethiopia was hit in 2015 by the most severe drought in 30 years. A large amount of food was collected by international organizations and shipped to Djibouti in preparation for an emergency delivery. Transporting the supplies via trucks from Djibouti to Ethiopia would have taken days. The Ethiopian Ministry of Transportation asked if the AADR could be used as a rescue tool in emergency situations. At the time, the railway had just been laid. After the China Civil Engineering Construction Corporation performed a safety inspection to ensure the railway was safe to use (Wang et al., 2016), the incomplete railway was commissioned early to transport 3000 tons of grain from Djibouti to drought-hit areas in Ethiopia (Harper, 2015). During the COVID-19 pandemic, the AADR helped Ethiopia transport over 100000 tons of chemical fertilizers, wheat, and other essential materials, ensuring the availability of civilian supplies and transportation of agricultural materials (Dai, 2020).

Fourth, the environmental governance of this project was manifested by the provision of an environmentally friendly transportation approach for cargo and passengers, with specific goals to reduce energy use and carbon emissions, to improve air quality (Tovar, 2019), to enhance biodiversity on land, and to reduce water pollution through reducing truck accidents and hazardous spills on roads (Zijdeveld, 2020). Specifically, the contractors invested more than USD 4 million in building overpasses for safe animal crossings (Zijdeveld, 2020). Contrary to detrimental effects that megaprojects may have on the environment, the AADR project had a positive effect by shifting traffic from road to rail.

Fifth, to ensure successful long-term operation, the original operators stayed for five years after the completion of the project to train local operational managers and maintenance personnel (Xinhua, 2016). The post-project training and operation transfer enabled the locals to acquire the necessary knowledge and expertise (Tovar, 2019). In addition, the newly-built railway may have a positive effect in encouraging local peace by improving local solidarity, expanding connections, and reducing conflicts between communities (Harper, 2015).

As of today, the project has been considered a great success by a variety of stakeholders (Leviker, 2021). The AADR has overcome the challenges caused by the COVID-19 pandemic. Its traffic volume has returned to its pre-pandemic level. The company's operating income in the first half of 2020 was 51% greater than that in the same period of 2019 (Dai, 2020).

Nevertheless, many lessons have been learned regarding MSR gaps between foreign teams and local stakeholders due to a lack of understanding of local cultures, norms, and regulations, as well as the concerns of local communities. One such example is the Poland Highway A2 project constructed by the China Overseas Engineering Group Co., Ltd. (COVEC). One contributing factor to the project's heavy losses was that the engineering team lacked experience in dealing with local regulatory, social, and environmental issues in the host country (Chang, 2011; Petkova and van der Putten, 2020).

First, poor knowledge and understanding of the European Union (EU)'s laws resulted in COVEC's inefficiency in controlling labor and equipment hiring costs (Kanarek, 2017). COVEC's managers initially resisted hiring local labor and preferred to hire Chinese workers to save expenses. Polish law mandates, however, that a high percentage of local workers should be hired. COVEC underestimated the material use and equipment hire costs in the bid document, because they had imported a large volume of materials and equipment from China in other non-EU projects before, which, however, was challenging in Poland because they had to obtain EU certification (Ni, 2011). Thus, during the construction stage, COVEC lacked construction machines licensed in the EU, leading the company to hire Polish subcontractors to acquire the labor and lease the equipment. Furthermore, all employees working in Poland were entitled to the adjusted salary by law, regardless of their citizenship, which had not been factored into COVEC's bid budget (Petkova and van der Putten, 2020).

Second, due to ill-consideration of the cultural and social differences between China and Poland, COVEC's managers assumed that their prior international experience in non-EU projects could be successfully transferred to the Highway A2 project. Given that COVEC's managers did not have a profound understanding of European culture, they assumed that previous verbal agreements between Polish government officials and themselves

were as valid as formal contacts in Chinese contexts. In Poland, however, no formal agreement can be enforceable unless all terms are written down by both entities. COVEC's managers were positive about their relationships with government officials in host countries but were unaware of Polish business culture (Kanarek, 2017). Thus, the original contract was written in Polish with only a few A4 sheets attached with several dozen pages of appendixes (Ni, 2011). The cultural differences between the Polish subcontractors and COVEC also increased the costs of communication and cooperation between them. As an example, the Polish subcontractors were unwilling to accept COVEC's work habits, such as overtime working, shouting slogans before beginning the day's work, and labor protections. COVEC's managers were unaware of Polish culture and scheduled their largest delegation to visit Poland on Good Friday. Language barriers between Chinese managers and Polish workers led to ineffective communication in the workplace, slowing down the project process and raising costs (Ni, 2011).

Thirdly, the EU's strict environmental protection regulations also increased project costs for the Poland Highway A2 project. The COVEC managers did not take into account costly environmental protection approaches in the bid budget. However, the construction work was temporarily halted for two weeks during the autumn because seven rare species of frogs, toads, and newts would migrate across the motorways during that time (Kanarek, 2017). According to EU law, COVEC was required to construct special wildlife tunnels to allow wildlife to pass through, an uncommon practice in their non-EU projects. COVEC's managers had believed that they could negotiate with local regulators or governments to lower environmental standards because they were unaware of the importance of environmental protection in Poland (Ni, 2011).

In conclusion, significant MSR gaps arose between China and Poland in employee protection, cultural awareness, and environmental protection, resulting in a massive budget increase for the Poland Highway A2 project. After two years of being the first Chinese contractor to win a large European highway contract, COVEC withdrew from the USD 447 million highway construction contract. From a comparison of these two cases, we argue that MSR governance could have a crucial effect on the success of an international infrastructure megaproject, from its preliminary stages to its operational phases (Ma et al., 2017).

### 3 Future research on MSR governance in international megaprojects

The Belt and Road Initiative (BRI) offers Chinese contractors an opportunity to invest in international

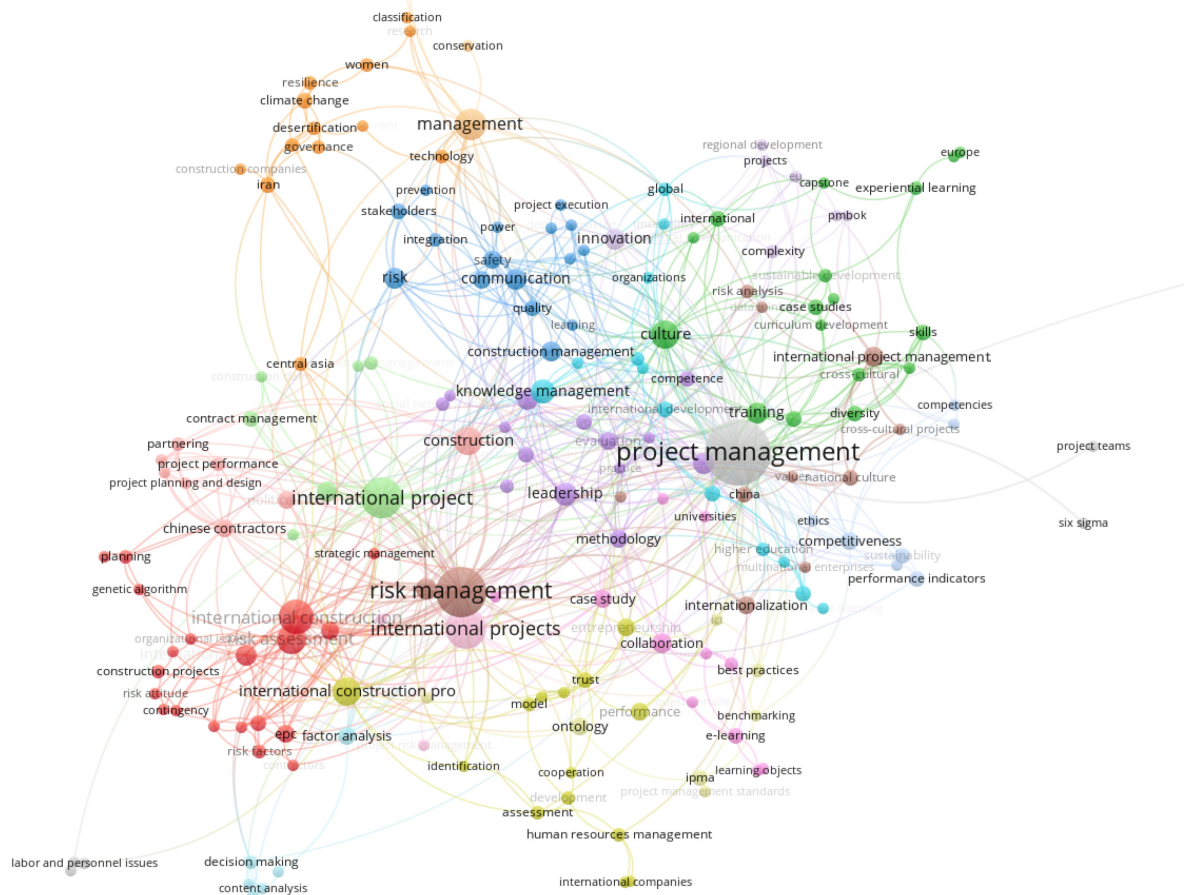
infrastructure projects that would promote connectivity between Asian, European, and African countries. Large international contractors participating in BRI megaprojects must enhance their MSR awareness and practices with local stakeholders to achieve the quality objectives of the projects (Lim et al., 2021). To balance interests among multiple stakeholders (including contractors, suppliers, designers, employees, the general public, local communities, and non-government organizations), project participants need to fulfill different MSR roles based on a triple-dimension model (Lin et al., 2017; Lehtinen and Aaltonen, 2020). A megaproject lacking a healthy MSR governance framework can be doomed to fail. MSR governance is therefore crucial for international megaproject teams.

As shown in Fig. 1, previous research in international project management has largely focused on five aspects: Market selection of international contractors (Chen et al., 2016; Lee and Han, 2017), entry mode of international contractors (Chen and Messner, 2011; Shen et al., 2017), organizational management in international projects (Jung and Wang, 2006; Mahalingam and Levitt, 2007), risk management of international projects (Han et al., 2008; Kardes et al., 2013), and international project governance (Orr and Scott, 2008; Scott and Levitt, 2011). In the international project management literature, a number of papers discussed market selection and entry modes because contractors decide first which market they want to enter (Chen et al., 2016), then which entry mode will benefit them the most (Chen and Messner, 2011). Scholars also discussed risk management in international project management, including political, institutional, and cultural risk (Al Khattab et al., 2007; Han et al., 2008). International project managers need to consider how to reduce the institutional challenges present in international projects via managerial practices and project governance since institutional contexts differ between home countries and host countries (Mahalingam and Levitt, 2007; Orr and Scott, 2008).

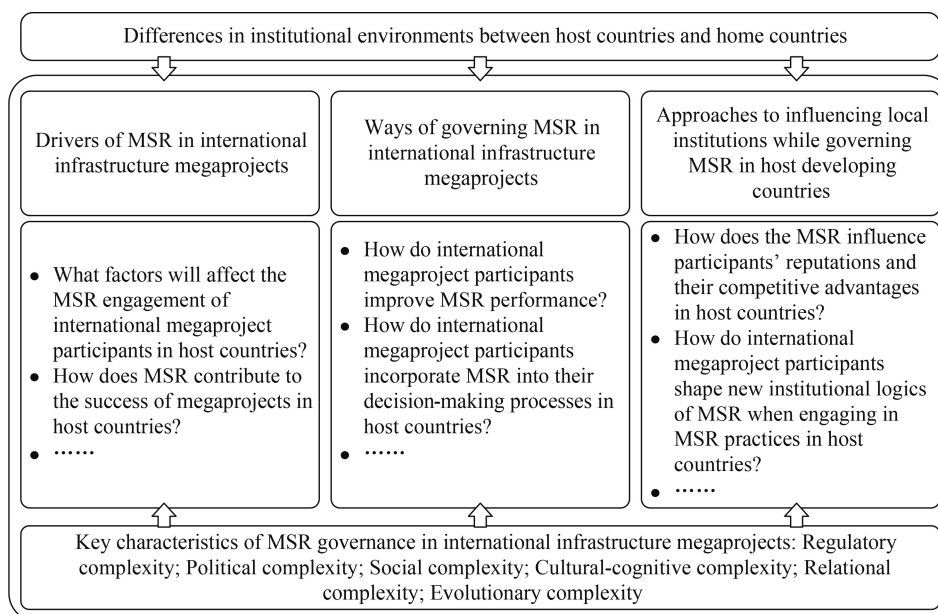
Despite its importance, MSR governance has received little attention in international project management studies (Zhou and Mi, 2017; Denicol et al., 2020). Based on the evidence that the regulations, norms, and cultures in host countries and home countries will significantly affect the decision-making, construction, and operations of megaprojects (Cramton et al., 2021), we propose a research framework that future research should consider, as shown in Fig. 2.

We also suggest the following research questions for project management researchers to consider for future research:

- (1) How does MSR influence megaprojects' successful delivery and participants' reputation in host countries?
- (2) How do international megaproject participants manage stakeholders' interests by strategically undertaking MSR?



**Fig. 1** Knowledge map of international project management (Note: The map was drawn with the assistance of the VOSViewer, and the data were taken only from the Web of Science Core Collection database).



**Fig. 2** Research framework of MSR governance in international infrastructure megaprojects.



(3) How do international megaproject participants include social norms, cultural beliefs, local expectations, and preferences into their decision-making processes in host countries?

(4) How do international megaproject participants employ strategies (at organizational and managerial levels) to improve MSR performance during megaprojects' life-cycles in host countries?

(5) How do international megaproject participants engage in different strategies to alleviate and eliminate air pollution and carbon emissions throughout projects' life-cycles?

(6) How do international megaproject participants shape new institutional logics of MSR when investing in international megaprojects in developing host countries?

With more and more BRI megaprojects being carried out by Chinese contractors in recent years, researchers must examine the international MSR domain. Understanding how megaproject participants manage MSR activities can help governments formulate suitable policies, while investigating the economic outcomes of different types of MSR can help contractors to improve their competitive advantages. These new directions will bring international project management into a sustainable development-driven era tackling the challenges of economic, social, and environmental issues around infrastructure megaprojects.

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