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# Public participation performance in public construction projects of South China: A case study of the Guangzhou Games venues construction

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#### Abstract

Over the past decade, public participation has been increasingly implemented in Chinese public construction projects (PCPs) to facilitate their smooth execution at the micro level and to promote collaborative governance at the macro level. However, only a limited number of studies have systematically evaluated participation performance in Chinese PCPs. This study aims to develop a public participation performance index (PPPI) for promoting the implementation of public participation in Chinese PCPs. An initial list of 15 key performance indicators (KPIs) was compiled through a literature review and refined by a pilot survey with selected experts. Based on this list, a questionnaire survey instrument was developed and used to collect the opinions of 192 participants with various stakeholder roles in different PCPs in South China. A composite PPPI for PCPs in South China, which consists of six out of 15 KPIs, was then constructed according to the survey results. The Guangzhou Asian Games venue construction was selected as a case study to illustrate the use of this index. The PPPI has great potential for future application in participation practices. Although this index is developed in China, the research method can be replicated in other developing countries to develop similar indices for international comparisons.

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#### 1. Introduction

Over the past two decades, a growing number of public construction projects (PCPs) in China have been initiated to address the needs of rapid urbanization and economic development. Although these projects accelerated regional economic development and urban renewal (Flyvbjerg et al., 2003), they also produced a significant negative effect on urban transportation,

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environment, and lives of local residents, thereby intensifying interest disputes and increasing environmental complaints from the public (Flyvbjerg et al., 2003; Li et al., 2013; Shan and Yai, 2011). For instance, a maglev line extension project in Shanghai encountered significant public protests because of its potential negative environmental effects (Huang, 2010).

To address these disputes, public participation has been increasingly promoted as a solution since the 1990s (Tam et al., 2009; Li et al., 2012; Shan and Yai, 2011). Participation is "a process through which stakeholders influence and share control over priority setting, policy making, resource allocation and access

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to public goods and services" (World Bank, 2013). Furthermore, public participation is widely used in developed countries as an effective approach to improving decision making outcomes, public project execution and collaborative governance (Enserink and Koppenjan, 2007). Irvin and Stansbury (2004) emphasized that the ultimate purpose of implementing public participation in developed countries since the 1950s is enhancing the requirement of democratic governance at the macro level. Since their first introduction to the environmental impact assessments of Chinese PCPs in the 1980s (Plummer and Taylor, 2004), public participation initiatives have been increasingly applied to various phases of PCPs, such as land acquisition, planning, design and construction, over the past two decades (Xie et al., 2014).

Owing to the rapid development of public participation in China, a growing number of studies have examined the effectiveness of this new method (Enserink and Koppenjan, 2007; Li et al., 2012, 2013; Huang et al., 2015; Plummer and Taylor, 2004). However, these research efforts are qualitative gap analyses, and they seldom quantitatively and systematically address participation benefits that should be derived from the sound implementation of public participation. As noted by Sanoff (2000), measuring public participation performance plays a pivotal role in enhancing its practical development; such development not only helps project stakeholders build consensus on project decision-making and development at the micro level (e.g., less negative environmental impacts on nearby communities, reduced project conflicts), it also enhances the establishment of collaborative governance at the macro level (e.g., democratic decision making, more job opportunities) (Enserink and Koppenjan, 2007; Wang, 2001). However, these studies seldom systematically explore the performance requirements of various project stakeholders on public participation activities or provide a pragmatic index tool to guide the participation practices in Chinese PCPs. Irvin and Stansbury (2004) also emphasized that implementing participation-based projects requires a systematic performance evaluation for benchmarking because values and outcomes are essential in evaluating the effectiveness of public participation. Therefore, this study aims to develop a public participation performance index (PPPI) that can systematically measure the performance and promote the development of participation practices in PCPs in South China.

A conceptual participation performance framework that consists of 15 key performance indicators (KPIs) was first formulated by reviewing the literature on performance measurement in participation-related projects. Second, these indicators were used to develop a questionnaire for collecting the opinions of various stakeholders involved in Chinese PCPs. Third, a composite PPPI for PCPs in South China was then derived from the survey results. Fourth, a case study of the Guangzhou Asian Games venue construction was conducted to illustrate the application of this index. Finally, the evaluation results of the case study as well as the significance and limitations of this study were discussed.

#### 2. Public Participation Performance in Public Projects

Although evaluating public participation performance is pivotal to its practical development (Sanoff, 2000), this issue

has not been fully examined in the literature (Lach and Hixson, 1996). In contrast to western countries with a tradition of participatory democracy, several developing countries, such as China, have attempted to implement public participation initiatives to reduce conflicts of interest and to facilitate the smooth execution of public projects or services. Meanwhile, numerous studies and reports stated that the participation requirements in public services and projects could also be triggered by the ever-increasing population of middle classes in the Chinese society, which is driven by constant economic growth. Their participation needs in public services and affairs have been widely accepted as the origin of earliest public participation initiatives (Moore, 1966; Shambaugh, 1996; Economist, 2009).

An extensive review of related international and Chinese literature published between 1993 and 2013 (the methodology will be reported later) has revealed 15 KPIs used to evaluate the effectiveness of public participation in PCPs in developing countries particularly in China. Furthermore, this study classified the performance of public participation in PCPs into two kinds, namely, micro- and macro-levels (Table 1), by extending a twofold categorization framework of public participation effects for public decision making (e.g., process and outcomes) by Irvin and Stansbury (2004). The former refers to direct and immediate effects of public participation activities implemented on the project decision-making and development processes at the micro-level, while the latter refers to long-term effects on governance that emerge from the participation process, particularly the social and political effects.

#### 2.1. Macro-level Participation Performance

Arnstein (1969) introduced the famous eight-rung ladder framework of citizen participation, in which public participation is regarded as a useful index for improving the democracy level of the public affair and service mechanism in a society by maximizing the use of various forms of participation across all related major activities. This framework has been widely advocated by numerous scholars in both developed and developing countries, and it has also been used to examine whether the public participation initiatives in China or in other developing countries can effectively address the democracy requirements (i.e., land acquisition, design plan selection, and project execution) in the decision making and execution of PCPs (Shan and Yai, 2011). By reviewing all the public participation requirements cited in the urban planning ordinances of 27 provincial capitals and 4 municipalities in the country, Shan and Yai (2011) found that China is at the tokenism level of the eight-rung framework of citizen participation, i.e. the public is mainly informed and consulted.

The direct yet classic explanation for the macro-level public participation performance has included some controversies due to the emerging public participation practices in developing countries such as China (Shan and Yai, 2011). Earlier qualitative studies by Li et al. (2012, 2013) and Shan and Yai (2011) (e.g., using interviews, archives, and case studies, etc.)

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