Investigating the relationship between communication-conflict interaction and project success among construction project teams

Guangdong Wu a, Cong Liu a, Xianbo Zhao b,*, Jian Zuo c,d

a School of Tourism and Urban Management, Jiangxi University of Finance & Economics, Nanchang 330013, China
b School of Engineering and Technology, Central Queensland University, Sydney, NSW 2000, Australia
c School of Architecture and Built Environment, The University of Adelaide, Adelaide 5005, Australia
d Entrepreneurship, Commercialisation and Innovation Centre (ECIC), The University of Adelaide, Adelaide 5005, Australia

Received 20 February 2017; received in revised form 17 July 2017; accepted 11 August 2017
Available online xxxx

Abstract

This study aims to investigate the effects of communication-conflict interaction on the success of construction projects. The conceptual model was validated with empirical data via the structural equation modeling. The results showed that task conflict was positively related to project success, while enhanced communication among teams stimulated the positive effect of task conflict. Process conflict and relationship conflict affected each other and were negatively related to project success, leading to poor communication among teams. Additionally, communication willingness and formal communication were positively associated with project success, whereas informal communication negatively affected project success. Therefore, it is necessary to enhance the communication willingness and effectively enhance the formal communication among various project teams during the implementation of construction projects. Efforts are required to establish the formal communication mechanism to take advantage of the positive effect of task conflict whereas mitigating the negative effect of process and relationship conflict.

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Keywords: Project team; Communication; Conflict; Project success

1. Introduction

With the rapid development of construction industry, an increasing number of construction projects are undertaken in China, and the market competition become even more intense. Coupled with the increasing complex project environment, conflicts in construction projects have become a typical feature of the construction industry (Chen et al., 2014; Wu, 2013). The achievement of project success inevitably involves a large number of specialized project teams (e.g., owners, contractors, consultants, designers) with specific core competencies. A project team is characterized by diversity, multi-disciplinary knowledge, with dynamics and temporary features, while the ultimate goal of the project team is to achieve project success (Wu et al., 2017). Construction projects are featured with uncertainty, temporary, and fragmentation (Stark et al., 2014). With common goals of achieving the project success, project teams tend to be interdependent with each other, which may lead to conflicts (Wong et al., 1999). Furthermore, contracts of construction projects are inherently incomplete (Demirel et al., 2016). According to Consoli (2006), an incomplete contract is a crucial factor that leads to conflicts. Similarly, the last decade has witnessed the growing level of complexity in the construction technologies, and the increasingly specialized division of labor. These characteristics require a higher level of engagement and collaboration among project teams, which may lead to conflicts (Wu et al., 2017). Thus conflicts inevitably occur during
the process of construction projects. In construction projects, conflicts can be defined as mutual interactions among project teams due to different perspectives on project objectives (e.g., quality, time, cost, safety), as well as poor communication (Harmon, 2003; Wu, 2013). Examples of conflicts include confrontational relationship between teams, disputes on the task arrangement, conflicting objectives of teams. According to Ding (2012), losses can account for around 3%–5% of the total project investment due to failing to resolve or properly handling such conflicts. Similarly, project conflicts can lead to a confrontational relationship between teams and make it difficult to achieve project objectives (Jelodar et al., 2015).

Construction projects are typically characterized by high uncertainty, complexity and inter-organizational task interdependence, which makes communication ever more important (Badir et al., 2012). The knowledge background, cultural values and benefit demands of each project team vary, which often lead to conflicts (Buvik and Rolfsen, 2015). Communication provides project teams with efficient coordination to complete their task and reduce the risks for conflicts (Kennedy et al., 2011; Reed and Knight, 2010). During the project implementation, project teams are involved in resource exchange and information communication. Construction projects increasingly applied inter-organizational and multidisciplinary partnerships, highlighting the need for effective communication to realize timely delivery (Nielsen and Erdogan, 2007). Effective communication enables the project team to clearly understand each other’s views, intentions, to explicitly determine the rights, responsibilities and benefits, and to facilitate teamwork (Otter and Emmitt, 2007; Tai et al., 2009). Poor communication, on the other hand, not only leads to asymmetric information between project teams, but also ferment confrontation between teams and lead to conflicts (Clark and Brennan, 1991).

A lack of strategic direction and objectives-related communication can lead to time and cost overruns, and reduction in profit (Brockman, 2014; Siew, 2015). If project teams can process and exchange information in an effective manner, the volume of unnecessary expenditure can be reduced. Therefore, it is worth investigating the interaction between communication and conflict, and the role of communication in navigating conflict and project success. This study aims to investigate the effects of communication and conflict on project success in construction projects. To date, vast majority of existing studies on conflict among project teams were conducted from the perspectives of management strategies, e.g. cooperative, competitive, and compromise strategies (Hemple et al., 2009). By contrast, the key elements of communication that may affect conflict among teams are largely overlooked. Very few of them adopted a multi-dimensional approach to analyze the effects of the communication-conflict interaction, as well as the transformation mechanism between different types of conflicts. Therefore, this study contributes to the existing body of knowledge by proposing a conceptual model and consequently validating the model with empirical evidence. In addition, functional and dysfunctional effects of conflicts in construction projects are examined, which is another theoretical contribution of this study.

2. Literature review

2.1. Team communication

Axley (1984) considered communication as metaphorical pipeline along which information is transformed from one individual to another. DeSanctis and Monge (1998) proposed that communication is the process of sharing and exchanging ideas, facts, feelings and opinions between two or more people. Loosemore and Muslmani (1999) suggested communication is a cyclical process where people continuously share information over time. Cheung et al. (2013) defined communication as a two-way process between the sender(s) and receiver(s) through commonly used media. Communications is, in general, the basic means through which project teams interact with the project counterparts (Orlikowski and Yates, 1994). By means of communication, project teams can exchange information and link each other to achieve project objectives (Tai et al., 2009). Similarly, Conrads and Lotz (2015) proposed that team communication was the activity by which team members convey information to each other in an appropriate manner, or active information exchange activities between teams. Gregory (2008) recognized team communication as a process of mutual understanding and collaboration among teams through knowledge interaction and information transmission. Matteson et al. (2014) pointed out that team communication included the exchange of information among teams as well as the interaction of thoughts and emotions, thus making it an activity of information transmission and emotional communication. Communication difficulties or disorders during the projects process can directly lead to a sharp increase in the volume of unnecessary expenditure (Hwang et al., 2014; Tai et al., 2009). Jergeas and Hartman (1994) highly recommended communications as a means of avoiding claims and disputes in construction projects. Walker (1995) indicated the use of bidirectional communications as a means of improving quality in construction projects. Carr et al. (2002) proposed that effective team communication was the basis for unity, cooperation and democratic decision-making in the process of project implementation. Deetz and Putnam (2001) claimed that team communication helps to coordinate and control the action of each project team. Kwofie et al. (2015) found that the main functions of team communication include control, motivation, emotional expression and information transmission. By influencing or inspiring others to act, effective communication is an indicator to measure the result of communications (Tai et al., 2009). The measurements include accuracy, timeliness, completeness, barriers and understanding (Porter and Lilly, 1996). It is well recognized that effective communication plays a key role in achieving the success of construction projects (Martin et al., 2014; Senaratne and Ruwanpura, 2016).

The construction project team has certain unique characteristics, such as temporary in nature, task-oriented, having different team goals, and inconsistent core competencies (Ibadov, 2015). Project teams require the collection, analysis and real-time communication of information for early warning of deviations from planned performance and timely decision-making for corresponding actions (Lee and Rojas, 2013). In the context of construction
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