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International Journal of Project Management 34 (2016) 923 – 936

International Journal of Project Management

www.elsevier.com/locate/ijproman

Enhancing the supplier's non-contractual project relationships with designers

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Received 27 October 2015; received in revised form 1 March 2016; accepted 12 April 2016
Available online 13 May 2016

Abstract

Project delivery involves networks of customers, contractors, sub-contractors, suppliers, and designers. Strong interorganizational relationships are considered relevant to project performance. Previous research has focused on contractual relationships in direct supply chains, with little attention to suppliers and their non-contractual relationships. This study develops and tests a framework of relationship strength and its antecedents in the non-contractual relationship between suppliers and designers as third parties in construction projects. The intent is to identify the key factors relevant to enhancing the supplier's non-contractual relationships with designers. The results reveal the supplier's activeness and technical capability as antecedents to trust, and supplier's technical capability and supplier–designer cooperation beyond project boundaries as antecedents to commitment. The different antecedents of trust and commitment imply alternative pathways for strengthening non-contractual relationships in construction projects, thereby deviating from activities in contractual relationships. Further research is proposed on other types of third parties and other antecedents of commitment.

Keywords: Project networks; Relationship strength; Interorganizational relationship; Non-contractual relationship; Trust; Commitment

1. Introduction

Construction projects are delivered in networks of main contractors, their suppliers, and various third parties. Examples of the third parties are designers, consultants and advisors, all of whom are widely used in construction projects (Bresnen and Marshall, 2000). In construction project networks, the project customer is usually the investor and user of the project product. The main contractor delivers the project to the project customer and receives components and partial deliveries from component suppliers.

Manufacturers of construction components and materials as component suppliers are among the most neglected categories in research in the construction sector (Larsson et al., 2006), although as much as 75%–80% of the gross work done in the construction industry involves the purchasing of material and subcontracting of services (Dubois and Gadde, 2000; Miller et al., 2002). Component suppliers operate in more stable markets than the other project actors, and therefore they are able to maintain R&D programs and develop new solutions (Blayse and Manley, 2004). This is why suppliers are regarded as key sources of innovations in the construction industry (Bygballe and Ingemansson, 2014; Gambatese and Hallowell, 2011). Component suppliers' position in project networks is not ideal, since their only contractual relationship is with the main contractor, and contractors are not motivated to enhance their relationships with suppliers (Bygballe and Ingemansson, 2014). Instead, many main contractors select suppliers through competitive tendering based on price (Miller et al., 2002). This is a problem for component suppliers because they are not able to contribute to the construction project before tendering and their innovation potential is wasted (Eriksson et al., 2007).

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http://dx.doi.org/10.1016/j.ijproman.2016.04.002

The decision-making environment in construction projects often includes not only a clear customer and supplier but also third parties that influence the decision making. Designers are chosen as the relevant third parties because they are responsible for designing the construction and specifying materials and components used in the projects, consequently determining the quality of the building (Emmitt, 2006). The quality of designs and specifications is a major concern in construction projects. Designers' inadequate information about materials and components available are causing quality problems and hindering innovations (Emmitt, 2006; Peat, 2009). Designers need technical knowledge during specifications (Emmitt and Yeomans, 2008) and component suppliers have knowledge that can help designers in multiple ways (Gil et al., 2001). Component suppliers are trying to provide this knowledge for designers (Emmitt, 2006; Manley, 2008), but they are facing design firms' "gatekeeping mechanism" that hinders the information flow (Emmitt, 2001). However, Emmitt (2006) has noticed that a good relationship with designers allows the component supplier to go through these gatekeeping mechanisms and enables the component supplier to contribute to the construction project already in the design phase. The relationship between component suppliers and designers is essential for construction innovations, but more research is needed in order to understand this important link in the construction supply chain (Emmitt, 2001; Manley, 2008).

This research focuses on component suppliers as the project network's non-central actors whose interest is to enhance their relationships with designers. Component suppliers' relationships with designers are different compared to customer–contractor and contractor–subcontractor relationships that have been studied earlier (Bygballe et al., 2010). The main difference is that component suppliers and designers are not in a contractual relationship with each other. Suppliers' connections to construction project actors are weak (Håkansson and Ingemansson, 2013) and therefore the relationship between suppliers and designers are likely to be weak. We concentrate on ways to strengthen these relationships. Although earlier research has offered evidence on relationship strength in contractual relationships in project networks, the strength of non-contractual relationships typical to complex project networks has not been studied sufficiently. In this research, we use the concept of relationship strength that characterizes an interorganizational relationship in terms of trust and commitment (in line with Bove and Johnson, 2001; Hausman, 2001; Morgan and Hunt, 1994).

The purpose of this study is to develop and test a framework of non-contractual relationship strength between component suppliers and designers as third parties and its antecedents. The goal is to identify the relevant factors that may promote relationship strength in the non-contractual relationships of component suppliers. In this study, we focus on the relationship between designers and component suppliers, particularly from the viewpoint of the designers. For the purpose of the research, other potential viewpoints are excluded (e.g., component suppliers, contractors, customers, and any other third parties). These viewpoints are suggested as topics for future research.

The next chapter justifies the need for enhanced interorganizational relationships in supplier–designer relationships. Then, we develop the concept of relationship strength and a framework on its antecedents. After introducing the hypothetic–deductive research design and questionnaire method, the results section presents the testing of the stated hypotheses with a sample of 89 designers. In the discussion, the key findings in light of the empirical evidence and earlier research are summarized. As contributions, we identify key factors that explain relationship strength between designers and suppliers from the designers' perspective, and suggest avenues for further research.

2. Enhancement of interorganizational relationships in project networks

2.1. Importance of enhancing supplier–designer relationships

Manufacturers as component suppliers have innovation potential but there are barriers that hinder their contribution to construction projects. A major barrier from the suppliers' perspective is that they do not have sufficient knowledge about customer needs, product development needs and potential areas for innovating (Larsson et al., 2006; Wandahl et al., 2011). Suppliers often do not often have direct linkages to project customers in construction project networks. Designers are key actors in this respect because they are engaged in the early phases of the construction projects and they are providing professional design service for the project customer or the main contractor. This is why they have good knowledge about customer needs and development needs that would be helpful for component suppliers.

Component suppliers are motivated to provide information for designers in order to generate demand for their components (Emmitt, 2006; Manley, 2008). By providing information for designers, component suppliers try to raise the designers' awareness about their offering and to get their new components adopted by the designers. This is important for component suppliers because designers tend to use familiar materials and components in their design specifications in order to minimize their risk (Emmitt, 2006). The main contractors and project customers are using designer's specifications as a guideline in their purchasing decisions (Errasti et al., 2007; Peat, 2009). If the specifications are fulfilled, then the designer remains responsible. In these situations the designer may transfer the liability to the supplier through warranties or guarantees. If the contractor does not follow the specifications, then the liability is transferred to the contractor (Emmitt and Yeomans, 2008). Contractors are usually transferring the liability further to suppliers through contractual clauses (Eriksson et al., 2007). In private sector projects, designers may select a specific product to the specifications because they perceive that the quality of the building would suffer if the contractor chooses the product (Emmitt, 2006). In the public sector, legislation and regulations prohibit the designers' appointment of suppliers and limits the interaction between designers and possible component suppliers before tendering. However, legislation and regulations do not remove the fact that the designers are using familiar materials and components in specifications that are narrowing down the potential component suppliers who are able to tender.