

Validating a model of cooperative procurement in the construction industry

Ossi Pesämaa^{a,*}, Per Erik Eriksson^{b,1}, Joseph F. Hair^{c,2}

^a *JIBS – Jönköping International Business School, EIDI – Experience Industries' Development Institute, RUREG – Research Unit for Rural Entrepreneurship and Growth, CISEG – Center for Innovation Systems, Entrepreneurship and Growth PO Box 1026, SE-551 11 Jönköping, Sweden*

^b *Luleå University of Technology, Division of Business Administration and Management, Sweden*

^c *Kennesaw State University, Department of Marketing, Coles College of Business, Kennesaw, Georgia, USA*

Received 20 March 2008; received in revised form 8 October 2008; accepted 16 October 2008

Abstract

Project management in the construction industry involves coordination of many tasks and individuals, affected by complexity and uncertainty, which increases the need for efficient cooperation. Procurement is crucial since it sets the basis for cooperation between clients and contractors. This is true whether the project is local, regional or global in scope. Traditionally, procurement procedures are competitive, resulting in conflicts, adversarial relationships and less desirable project results. The purpose of this paper is to propose and empirically test an alternative procurement model based on cooperative procurement procedures that facilitates cooperation between clients and contractors in construction projects. The model is based on four multi-item constructs – incentive-based compensation, limited bidding options, partner selection and cooperation. Based on a sample of 87 client organisations, the model was empirically tested and exhibited strong support, including content, nomological, convergent and discriminant validity, as well as reliability. Our findings indicate that partner selection based on task related attributes mediates the relationship between two important pre-selection processes (incentive-based compensation and limited bid invitation) and preferred outcome of cooperation. The contribution of the paper is identifying valid and reliable measurement constructs and confirming a unique sequential order for achieving cooperation. Moreover, the findings are applicable for many types of construction projects because of the similarities in the construction industry worldwide. © 2008 Elsevier Ltd and IPMA. All rights reserved.

Keywords: Construction industry; Cooperation; Partnering; Procurement

1. Introduction

Construction is an industry in which project management plays a crucial role. Project management is a core activity that involves the practice of setting up routines to coordinate and solve difficult tasks for a temporary

team. The teams are often cross-functional, including members from many organisations with different interests and objectives. Managing construction projects is often very complex, involving many interactions and tasks requiring specific competence for each part of the project [1]. The actual construction process takes place in a project setting and shares many similarities across different countries throughout the world.

To manage costs, increase quality and reduce risk, procurement has become a key part of the planning and coordinating process [2]. Due to increased uncertainty, complexity, time pressure and customization in construction projects, high levels of coordination and cooperation among project participants are required [3,4]. Suppliers,

* Corresponding author. Tel.: +46 (0)36 101933; fax: +46 (0)36 101888.
E-mail addresses: ossi.pesamaa@ihh.hj.se (O. Pesämaa), pererik.eriksson@ltu.se (P.E. Eriksson), jhair3@comcast.net (J.F. Hair).

URLs: <http://www.ihh.hj.se/eidi>, <http://www.ihh.hj.se/rureg> (O. Pesämaa).

¹ Tel.: +920 493058.

² Tel.: +1 678 797 9736; mobile: +1 770 335 7962; fax: +1 678 797 9783.

including for example plumbers, electricians, carpenters, painters and machine drivers, must work together to provide complex and customized solutions within a short period of time. These suppliers meet many times during the actual construction process to solve and adapt to emerging difficulties that cannot be planned for and covered in a contract *ex ante* due to, for example, uncertain ground conditions or changing client demands.

The task of coordinating and managing the many suppliers and their activities is often performed by the main contractor (or Construction Management Company). The client then has only a single point of contact to ensure that promises and contractual requirements are being met. Traditionally, client–contractor relationships have been characterized as adversarial and maintaining arms-length distance, as a result of competitive procurement procedures. Recently, clients and main contractors are increasingly coordinating their activities, and often develop close cooperative relationships (typically referred to as partnering) with each other and share many experiences from project to project [5]. Such partnering relationships improve coordination and flexibility, which is often beneficial in projects characterized by complexity and uncertainty [6,7]. Partnering has received much positive attention in recent research, but some researchers claim that full fledged partnering is not always suitable [8,9]. In fact a suitable balance between cooperation and competition often is most appropriate [10]. Notwithstanding the potential shortcomings of partnering most authors agree that increased cooperation is desirable in construction projects characterized by high complexity, customization, time pressures, and uncertainty [6,11,12].

Previous research confirms that cooperative relationships are not easily established [9,13]. In fact, most clients realize the importance of cooperative relationships but lack the understanding of how to establish them [10,14,15]. The movement toward more cooperative relationships is hindered by the traditional type of procurement that encourages competition rather than cooperation [16]. Hence, it would be useful to identify an alternative type of procurement and increase the understanding of how clients can establish cooperative relationships with contractors through cooperative procurement procedures.

The purpose of this paper is therefore to propose and empirically test an alternative procurement model, based on cooperative procurement procedures, which facilitates cooperation between clients and contractors in construction projects. Since the construction industry shares many similarities worldwide, the findings should have widespread applicability.

2. The procurement model

To understand the theory behind and the value of another contribution to procurement, it is important to approach it from two perspectives. First, the way procurement is viewed traditionally and second, the fundamental aspects of an alternative model.

The traditional competitive type of procurement in the construction industry involves inviting numerous bidders to prepare lump sum contract proposals based on detailed design documents prepared *ex ante* by the client and their consultants. In the subsequent bid evaluation the lowest lump sum price is typically awarded the contract [3,10]. A principal assumption in this neoclassical view is that price leads to a satisfying decision and that the decision maker(s) is capable of achieving a thorough positive outcome. A process such as this is often referred to as a rational process. One drawback of this type of theoretical reasoning, however, is the assumption that throughout this rational process the decision maker is competent to make the best decision with the greatest value and avoid subjective preferences. Most modern, complex industrialized products contain attributes that make it difficult for the decision maker to assess the quality of the product based only on objective factors and avoid subjective characteristics. A primary reason for this is that environmental laws and related regulations cause difficulties in making completely objective decisions. The rational process in such situations then becomes a process to identify alternatives based on previous experiences (e.g., familiarity), or on reputation, legitimacy, quality standards or some other qualifying factor. The process also eliminates others because of their size, lack of relationships to key suppliers, uncertain reputation, or their overall standards are not consistent with ethical and environmental regulations. A recent trend is these latter factors appear to play a more important role in the rationale of decision makers throughout the procurement process. As a result, competitive procurement processes increasingly leads to disputes, conflicts and adversarial relationships [16,17] and the movement is more toward client–contractor cooperation [18] because it is more effective [19] and improved procurement procedures are implemented [20].

A new theoretical model will contribute to the ongoing debate on how to improve the procurement process. At the basic level any theory represents a system of ideas and relationships that can be defined, measured and tested in a representative empirical setting [21]. Structural equation modeling (SEM) techniques represent not just a methodological breakthrough, but also a theoretical improvement because it is possible to test how well nomological networks of observations correspond to accurately selected samples and by so doing assess the focal theory's underlying quality in terms of validity and reliability [21]. These evolving micro empirical theories require detailed definitions and specifications of the models as they relate to the underlying populations. They also include the advantage of offering more accurate implications for practice and fewer abstractions for the more general scope of debate [21]. Our proposed procurement model was guided by and emerged from the scientific foundations of the SEM techniques process.

Specifically the theoretical model hypothesizes relationships between both incentive-based compensation and limited invitation of contractors [22] and ultimately coop-

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات