

CONTROL MODES AND INTENSITY IN DESIGN CONSULTING PROJECTS: PROFESSIONALS AS AGENTS

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Control as a primary project governance mechanism and a basic managerial function has been extensively utilized in projects which embrace principal-agent relationships. Prior studies have shown that control is an effective strategy in mainstream principal-agent relationships for principals to motivate their agents to behave in a desired manner and deliver satisfactory outputs. However, little is known about how principals perform control when agents are professionals providing intangible services in professional service projects. Therefore, this study aims to address the research question of how clients determine control strategies (including control modes and intensity) in design consulting projects. The specific research objective is to develop a conceptual framework for determining control modes and intensity in design consulting projects. Based on literature review and agency theory, this conceptual paper establishes a framework comprising antecedents of control modes and control intensity which indicate the feasibility and necessity of control respectively. This study enriches the knowledge about how to determine control strategies in professional service projects. Also, it expands the application of agency theory by delineating a particular type of principal-agent relationship of which agents are professionals.

Keywords: client-professional relationship, control mode, control intensity

INTRODUCTION

The control strategy is extensively adopted by project clients to motivate their agents to behave in a desired manner and deliver satisfactory outputs (Choudhury and Sabherwal, 2003). Control has shown its effectiveness in improving performances of various projects with observable processes and tangible outputs, such as construction projects (Tuuli, Rowlinson, and Koh, 2010), dwelling fit-out projects (Ning, 2017a, 2017b), and information systems development (ISD) projects (Kirsch, 1997).

Design consulting projects, however, are distinctive in tasks characteristics and professional agents. On the one hand, the design work is notoriously hard to supervise and evaluate (Ballard, 1998). As a professional service, it has knowledge-intensive tasks (Von Nordenflycht, 2010), intangible and creative services (Winch and Schneider, 1993), iterative processes (McGeorge, 1988), customized outputs

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(Greenwood, Li, Prakash, and Deephouse, 2005), and co-production between clients and designers (Homburg and Stebel, 2009). On the other hand, designers may be reluctant to be restrained (Emmitt, 2014) since they are professionals who have esoteric design expertise, distinctive ethics, and a great deal of autonomy (Sharma, 1997). Notwithstanding such distinct characteristics of the design consulting project, few studies differentiate it from ordinary tangible projects and examine control strategies in design consulting projects. It is unknown how clients select and conduct control strategies over designers in design consulting projects.

Therefore, this study tends to address the research question of how clients determine control strategies (including control modes and control intensity) in design consulting projects. The specific research objective is to develop a conceptual framework for determining control modes and intensity in design consulting projects. The framework is established based on the literature review and agency theory. It embraces control modes and intensity determined by the feasibility and necessity of control respectively. This conceptual paper enriches the knowledge about how to determine control strategies in professional service projects.

The remainder of this study is structured as follows. Section two presents the literature review. This is followed by the theoretical background—agency theory. The fourth section outlines the development of the framework for determining control modes and intensity in design consulting projects. The final section presents the conclusions, contributions, limitations, and directions for future research.

LITERATURE REVIEW

Control is defined as “attempts by one individual or organization to motivate another to act in a manner consistent with specific expectations and objectives” (Rustagi, King, and Kirsch, 2008: 126). It is a dyadic concept involving two parties - the “controller” who performs control strategies, and the “controllee” who is the receiver of control (Kirsch and Choudhury, 2010; Wiener, Mähring, Remus, and Saunders, 2016). This study focuses on the control strategy adopted by the client (controller) over the designer (controllee) in design consulting projects.

The controller commonly adopts two types of control: formal and informal control (Dekker, 2004; Jaworski, 1988). Formal control uses written prescriptions (e.g. policies, contracts, and procedures) to predefine and evaluate the controllee’s behaviour and outcomes (Das and Teng, 2001). It consists of behaviour and outcome control modes (Ouchi, 1977; Ouchi and Maguire, 1975). The former usually prescribes, monitors, and evaluates the controllee’s behaviour, and the latter aims to make sure the interim and final outcomes meet the controller’s requirements (Kirsch, 1996; Wiener *et al.*, 2016). Informal control relies on social or people strategies, including clan and self-control modes (Kirsch, 1997). Clan control develops shared values and norms among group members to motivate the desired behaviour (Kirsch, Ko, and Haney, 2010; Wiener *et al.*, 2016), whereas self-control depends on the controllee’s self-regulation and self-monitoring (Tuuli *et al.*, 2010).

A central theme of control-related studies is how the controller selects control modes, and a series of antecedents of control has been identified (Wiener *et al.*, 2016). Much of the work on the antecedents of control modes is primarily based on Ouchi’s (1977, 1979) seminal framework and Eisenhardt’s (1985) research. Two antecedents of control modes in Ouchi’s framework are the controller’s knowledge of transformation processes and outcome measurability (Ouchi, 1977, 1979). As Kirsch and Choudhury

(2010) summarized, high level of outcome measurability and the controller's knowledge of transformation processes recommend the use of outcome control and behaviour control respectively; otherwise, clan control is preferred (Kirsch and Choudhury, 2010; Ouchi, 1977, 1979). Eisenhardt (1985) extends Ouchi's framework by adding behaviour observability as an antecedent. Behaviour control is appropriate when the controllee's behaviour is observable (Eisenhardt, 1985). Ouchi's (1977, 1979) and Eisenhardt's (1985) work laid a foundation for later related studies of which a considerable portion stick to these three antecedents of control modes (e.g. Choudhury and Sabherwal, 2003; Das and Teng, 2001; Kirsch, 1996, 1997).

In much of the extant literature, antecedents of control primarily focus on the feasibility of performing a specific control mode from the controller's perspective (Kirsch and Choudhury, 2010). For example, the controller's knowledge of transformation process and ability to observe the controllee's behaviour indicate the feasibility of behaviour control, and the feasibility of outcome control depends on the outcome measurability (Eisenhardt, 1985; Ouchi, 1977, 1979). However, the need for control in a given context has not been taken into full consideration (Kirsch and Choudhury, 2010). Prior studies neglect the varying level of necessity of control, and blindly assume control is needed at the same level in any contexts.

The varying needs for control, however, may require that control strategies should be performed at different degrees in different contexts. Control intensity is introduced to indicate the extent to which the controller exercises a specific control mode (Remus and Wiener, 2012). Prior studies merely focus on the selection of types of control modes, with only a few of them considering what determines the degree of control (e.g. Gregory, Beck, and Keil, 2013; Remus and Wiener, 2012; Rustagi *et al.*, 2008).

To fill in these research gaps, this study develops a conceptual framework in which feasibility and necessity of control are considered as antecedents of control modes and intensity respectively. It supplements existing literature by incorporating the necessity of control and control intensity into the selection of control strategy.

THEORETICAL BACKGROUND

Agency theory is adopted as the theoretical background for two main reasons. First, its core of principal-agent relationship reveals the nature of client-designer relationships in design consulting projects where clients (principals) hire designers (agents) to develop a design solution and achieve their goals (Gray and Hughes, 2001; Macmillan, 2004). As suggested by Kirsch and Choudhury (2010), the nature of controller-controllee relationships can predict the necessity of control in given contexts. Thus, the nature of client-designer relationships based on agency theory would reflect the necessity of control and further determines the control intensity under specific circumstances. Second, agency theory has been widely used in control-related studies, examining the feasibility of control modes. A large percentage of existing antecedents of control modes are derived from agency theory (e.g. Eisenhardt, 1985, 1989).

There are two basic assumptions of agency theory. Based on the economic man model, agency theory assumes that principals and agents are rational actors seeking to maximize self-interests (Bergen *et al.*, 1992). Agents hope to obtain the highest reward for the least amount of workload, whereas principals prefer the biggest gain with the lowest cost (Quinn, 2011). Hence, the first assumption of agency theory is the goal conflict between principals and agents (Anderson and Oliver, 1987; Davis,

Schoorman, and Donaldson, 1997). Although agents are hired by principals, they may prefer to pursue self-interests rather than act in the best interests of principals (Mahaney and Lederer, 2003). To increase the opportunities for pursuing their interests, agents would like to grasp more information and be reluctant to share with principals (Van Slyke, 2006). This phenomenon of the agents' privately-held information is the second assumption of agency theory, called information asymmetry (Waterman and Meier, 1998).

Two typical agency problems may arise from goal conflict and information asymmetry between principals and agents: Adverse selection (hidden information) referring to the situations in which the potential agents exaggerate their qualification to obtain the job (Quinn, 2011); and moral hazard (hidden actions) which is the agent's shirking and opportunistic behaviour (Eisenhardt, 1989; Ferris, 1992). The former happens typically in the pre-contractual phase, whereas the latter is a kind of post-contractual problems (Schneider, 2007). This study mainly focuses on moral hazard problems in design consulting projects.

Control is advocated by agency theorists to curb moral hazard problems (Davis *et al.*, 1997; Toivonen and Toivonen, 2014). It provides principals a tool to regulate or adjust agents' activities to ensure that agents behave in a manner consistent with the principals' goals (Bergen *et al.*, 1992; Schneider, 2007). Davis *et al.*, (1997) argue that the management philosophy of agency theory is control-oriented. Control relationship between the principal and the agent is inherent in the agency model (Schillemans, 2013).

Therefore, agency theory explains why principals perform control over agents. It provides a theoretical background to understand the nature of client-designer relationships and reflect the necessity and feasibility of control in design consulting projects.

Development of the Conceptual Framework

Based on the literature review and agency theory, this study develops a conceptual framework to guide clients on how to determine control strategies in a given context. It is an integrated framework in which both feasibility and necessity of control are considered as antecedents, and control strategies consist of both control modes and intensity.

Structure of the Conceptual Framework

The conceptual framework (Figure 1) has two main parts: control modes and control intensity.

Control modes

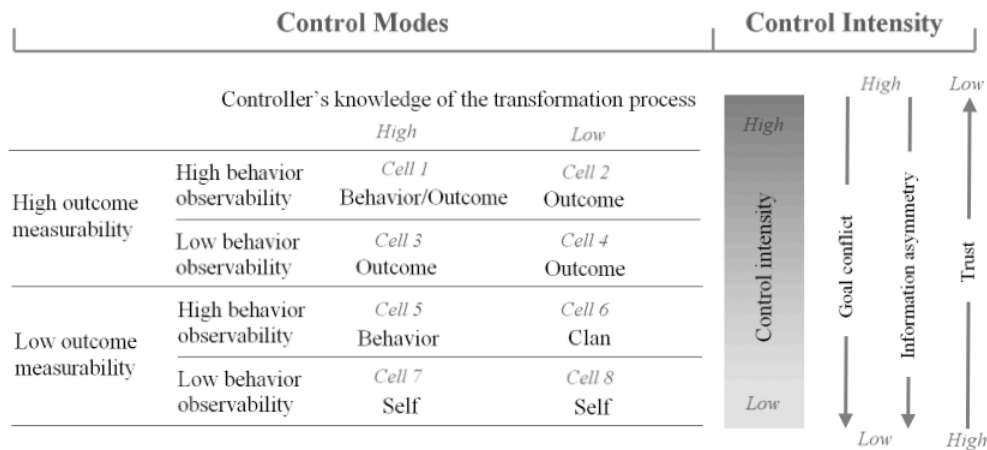
The selection of control modes has been extensively studied. The antecedents of control modes are derived from Ouchi's (1977, 1979) and Eisenhardt's (1985) studies, including outcome measurability, behaviour observability, and the controller's knowledge of the transformation process. The sub-framework of control modes is adapted from models proposed by Govindarajan and Fisher (1990) and Kirsch (1996). Specifically, outcome control is feasible when the outcome measurability is high (cell 1-4), whereas behaviour control is utilized provided that both behaviour observability and clients' knowledge of the transformation process are high (cell 1,5). The use of clan control will increase when behaviour observability is high but the other two factors are low (cell 6). When both outcome measurability and behavior observability are low, it is better to rely on the designers' self-control (cell 7,8).

Control intensity

The framework for control strategy selection is expanded by incorporating the necessity of control as antecedents of control intensity. As Kirsch and Choudhury (2010) suggested, the necessity of control depends on the nature of the controller-controllee relationships. This study adopts agency theory to understand the relationship between clients and designers. Three dimensions of client-designer relationships are introduced to indicate the necessity of control, including goal conflict, information asymmetry, and trust. The former two are the basic assumptions of agency theory, accounting for the reasons and needs for control in principal-agent relationships. Trust is also an important aspect of principal-agent relationships, even though it is not a basic assumption of agency theory. Prior studies have viewed trust as an antecedent of control intensity, showing that high level of trust would lower the intensity of control (Remus and Wiener, 2012; Rustagi *et al.*, 2008; Wiener *et al.*, 2016).

Overall, these three dimensions can predict the possibility of moral hazard problems happen and the necessity of control in principal-agent relationships. Control intensity is determined accordingly. Goal conflict between clients and designers triggers the designers’ opportunistic behaviour (Boatright, 2010). Information asymmetry creates chances for such agency problems to occur (Mahaney and Lederer, 2003). Thus, high control intensity is needed when goal conflict and information asymmetry are strong. Trust, however, reflects the clients’ confidence in designers’ ability, goodwill, and integrity (Mayer, Davis, and Schoorman, 1995). It will lower the necessity and intensity of clients’ control.

Therefore, control intensity is a continuum ranging from high to low. At the upper end of the continuum, control intensity is highest when goal conflict and information asymmetry between clients and designers are high whereas clients have little trust in designers. At the opposite end, little control is needed in design consulting projects.



**Expanded from models of Govindarajan and Fisher (1990); Kirsch (1996).*

Figure 1: Conceptual framework for determining control modes and intensity

Contextualizing the Conceptual Framework in Design Consulting Projects

The conceptual framework should be analysed in the context of design consulting projects to achieve contextualization. It is established mainly based on the existing literature and theoretical foundation. However, its analysis and implementation may be different from theoretical predictions due to the distinctive characteristics of design consulting projects.

Antecedents of control modes: Feasibility of control

Antecedents of control modes may present differently in design consulting projects because of complicated design processes and outputs. It is predicted that outcome control is feasible when the outcome measurability is high (Kirsch, 1996; Ouchi, 1977, 1979). However, the design service is intangible, of which the outcomes are hard to measure and evaluate (Winch and Schneider, 1993). In design consulting projects, what clients purchase are the intangible design services provided by designers rather than a ready-made tangible product, although there are some deliverables (e.g. drawings, models) created (Homburg and Stebel, 2009; Winch and Schneider, 1993). Therefore, in design consulting projects, outcome assessment should emphasize service quality evaluation rather than deliverables measurement. The measurability of overall service quality would determine the utilization of outcome control.

Behaviour observability and the controller's knowledge of the transformation process determine the feasibility of behaviour control (Eisenhardt, 1985; Kirsch, 1996; Ouchi, 1977, 1979). Under most circumstances, it is challenging for clients to observe designers' behaviour and understand design processes (Knotten, Svalestuen, Hansen, and Lædre, 2015). Design is generally an endless iterative process, which is often described as a black box involving problem-finding and problem-solving processes (Sebastian and Prins, 2009; Trebilcock, 2004). Even though clients are pivotal in the design process and co-product with designers, they often cannot fully understand the transformation process (Norouzi, Shabak, Embi, and Khan, 2015). Also, design tasks are knowledge-intensive and creative (Gray and Hughes, 2001; Von Nordenflycht, 2010). For clients who are non-expert in the design domain, designers' behaviour may be opaque and difficult to observe. Thus, behaviour control is relatively less feasible in design consulting projects as two antecedents are both at low levels.

Antecedents of control intensity: Necessity of control

Antecedents of control intensity may be complicated in design consulting projects where agents are professionals (Sharma, 1997). These three dimensions of client-designer relationships are contingent and following a continuum ranging from high to low. Their overall degree determines control intensity at given contexts.

The goal conflict between principals and agents assumed by agency theory is contingent when agents are professionals who have mixed motives (Sharma, 1997). Designers, of course, may not always act in the best interest of principals but prefer to maximize self-interests (Mills, 1990). In this case, the goals of designers and clients are conflicting. However, designers as professionals have service ethics and career pursuits. They may be driven by the pride in the design and a calling to serve others rather than self-interest alone (Sharma, 1997) so that they are intrinsically motivated to provide services without considering self-interest, or at least without sacrificing principals' interest (Fleming, 1996; Von Nordenflycht, 2010). The divergence of goals of principals and agents would be narrowed under this circumstance.

Information asymmetry in agency theory has been expanded as knowledge asymmetry by Sharma (1997) in the case of professionals as agents. This shows the clients' disadvantages in specialized knowledge compared with agents. Knowledge asymmetry is the evolution of information asymmetry, embracing the asymmetry of not only information but also skills for understanding the information (Daal, Haas, and Weggeman, 1998). It is common between clients and designers, owing to their

different domain knowledge (Sharma, 1997). The degree of knowledge asymmetry depends on the clients' knowledge and experiences of design.

The trust between principals and professional agents is also distinctive from mainstream principal-agent relationships. Generally, agency theory is assumed as distrust-based due to agents' self-interest and potential opportunism, so its management philosophy is control-oriented (Davis *et al.*, 1997; Grundei, 2008). However, Reve and Levitt (1984) view the principal-professional relationship as a moral relationship, in which principals trust the capability and faith of the professional agents. Even no trust initially, the interaction and co-production between principals and professional agents would build trust among them (Sharma, 1997). Hence, it is expected that the degree of trust between clients and designers would vary in different contexts.

Overall, the conceptual framework is appropriate to design consulting projects. Its antecedents of control modes and control intensity could reflect the characteristics of client-designer transactions. It enables clients to determine control strategies fitting with the feasibility and necessity of control when agents are professionals.

CONCLUSIONS

Antecedents of control have received much attention in extant studies, examining how to select control modes under specific circumstances. However, varying necessity and intensity of control have been rarely examined so far. Control strategies should include both control modes and intensity, which are determined by the feasibility and necessity of control respectively.

This study develops an expanded conceptual framework for determining control modes and intensity in design consulting projects. Thereinto, control modes selection is determined by the feasibility of control based on models proposed by Govindarajan and Fisher (1990) and Kirsch (1996). Control intensity depends on the necessity of control, which is measured by the nature of client-designer relationships based on agency theory.

This study is the tentative exploration of implementing control strategies in design consulting projects. The proposed conceptual framework would be a significant component of the integrated governance system for design consulting projects. This study enriches the existing knowledge about control strategies and principal-agent relationships. It fills the gap of previous studies on the necessity and intensity of control by developing a conceptual framework which incorporates the feasibility and necessity of control, as well as control modes and intensity. Also, it expands the application of agency theory in design consulting projects where agents are professionals.

The output of this study is limited to a conceptual framework developed based on the literature review and theoretical background. The conceptual framework has not been verified through empirical research. Therefore, future empirical research within design consulting projects is needed to test and revise the current conceptual framework.

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