Management control, role expectations and job satisfaction of new product development teams: The moderating effect of participative decision-making

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ABSTRACT

This work examines the relationships between formal and informal management controls (i.e. output, process and professional) and job satisfaction of new product development (NPD) teams. In particular, the study investigates the direct and indirect effects of management controls on job satisfaction through role expectations (i.e. role conflict and role ambiguity) and the moderating effect of participative-decision making. Results are based on a sample of 197 NPD projects. Our findings indicate that management controls have differential effects on role ambiguity, role conflict and job satisfaction of NPD team. In particular, NPD teams respond more favorable to professional and output controls than to process controls. Relatedly, participative decision making was found to moderate the relationships between output, process, professional controls and role expectations.

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1. Introduction

Management control in a new product development (NPD) context involves the efforts of managers to influence the behaviors and activities of NPD team members to achieve successful results (Ayers, Dahlstrom, & Skinner, 1997; Bonner, Ruekert, & Walker, 2002; Poskela & Martinsuo, 2009). Previous research on control of NPD projects has mainly focused on the impact of managerial controls on specific new product performance outcomes such as product quality, project's schedule and budget, and overall project performance (e.g., Bonner et al., 2002; Rijsdijk & van den Enden, 2011; Tatikonda & Rosenthal, 2000). However, an issue that has received very little research attention so far is how management controls affect job satisfaction of NPD teams. This is an important gap as job satisfaction has been widely recognized as a strong determinant of NPD team effectiveness and performance (Barczak & Wilemon, 2003; Rodriguez-Escudero, Carbonell, & Munuera-Aleman, 2010).

Job satisfaction refers to the team members' satisfaction with regard to the recognition, responsibilities, supervision and opportunities offered during the NPD project (Sarin & Majahan, 2001). Marketing studies have shown ambiguous findings concerning the effect of management control on job satisfaction (see e.g. Jaworski, Stathakopoulos, & Krishnan, 1993; Oliver & Anderson, 1994; Challagalla & Shervani, 1996). Such inconsistent findings have prompted several researchers

to examine mediating and moderating variables that influence the relationship between managerial control and job satisfaction (e.g., Challagalla & Shervani, 1996; Evans, Landry, Li, & Zou, 2007). This study proposes further examination of the linkage between management controls and job satisfaction by investigating the mediating effects of role conflict and role ambiguity and the moderating effect of participative-decision making. The study focuses on two types of formal controls (output control and process control) and one type of informal control, mainly professional control.

According to previous research, project team members in NPD are often confronted with unclear and conflicting role expectations as they encounter new and changing customer demands, technical uncertainties, organizational ambiguities and various types of conflicts (Akgün, Lynn, & Byrne, 2006; Barczak & Wilemon, 2003; Kim & Wilemon, 2001). Findings from recent research indicate that role ambiguity and role conflict have, in turn, a negative impact on job satisfaction and performance of NPD teams (Rodriguez-Escudero et al., 2010).

In the current literature, empirical evidence on the mediating effect of role expectations on the management controls-job satisfaction relationship is limited and piecemeal. First, only three studies were found in which these effects were investigated (i.e., Challagalla & Shervani, 1996; Jaworski & Kohli, 1991; Rigopoulou, Theodosiou, Katsikea, & Perdikis, 2012). Second, these studies posit role ambiguity as the key sole mediator of the effects of management control on job satisfaction. Notwithstanding the role of management controls in decreasing role ambiguity, we argue that equally importantly, management controls can ensure that there is a greater agreement between management and team members on role expectations, thereby

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potentially contributing to lowering role conflict. Finally, with a few exceptions (see Ayers et al., 1997; Cravens et al., 2004; Jaworski et al., 1993), researchers have devoted very little attention to the effect of informal control on role expectations and job satisfaction. This is an important gap since as several studies note managers use formal and informal controls to manage NPD teams (Poskela & Martinsuo, 2009; Rijsdijk & van den Enden, 2011). The presence of informal controls and the potential for managers to influence them underscore the need for managers to be more aware of their effects on role expectations and job satisfaction (Jaworski et al., 1993). The current research addresses the existing knowledge gaps by exploring the direct and indirect effects of output, process and professional controls on job satisfaction via role ambiguity and role conflict.

In recent years, the notion of employee's participation in decision making has gained strength among NPD managers (Cooney, 2004). Existing studies have shown that employees who participate in decision-making have a clearer picture of what is involved in executing the project and exhibit higher level of job satisfaction (Fang, Evans, & Zou, 2005). Against this background, an interesting question becomes how participative decision making interacts with management controls to affect NPD team role expectations and job satisfaction.

Research findings concerning the moderating impact of participative decision-making on the effects of management controls have been mixed. In Ramaswami (1996), employees' perceptions of the influence they have on their supervisors regarding their work do not moderate the relationship between output and process controls and employees' dysfunctional behaviors (e.g., concealing and manipulating data). Fang et al. (2005), which examine the moderating effect of goal participation on the relationship between process control and behavior performance using data from both China and United States, indicate that the moderating effect holds in the China sample but not in the US sample. Finally, Atuahene-Gima and Li (2006) show that whereas participative supervision moderates the relationship between process control and employee's trust, it does not moderate the link between output control and employee's trust. The current study adds to the existing literature by examining the moderating impact of participative decision-making on the effects of formal and informal controls on role ambiguity, role conflict and job satisfaction. To the best of our knowledge, this is the first study to examine the proposed relationships.

From a theoretical perspective, the potential contribution of this research lies in identifying multiple ways and contexts in which formal and informal controls can affect job satisfaction of NPD teams, thereby increasing our understanding of the complexity of the relationship between management controls and team job satisfaction. Our research is of potential value for new product managers since it identifies intermediate markers that they should monitor once formal and informal controls are installed in order to ensure that job satisfaction does in fact result. Results also offer useful insights into how participative decision making moderates the effect of management control on role expectations and job satisfaction and thus, provide useful guidance for managers seeking to enhance NPD team design.

2. Definitions and conceptual framework

2.1. Management control

Management control systems refer to the aggregate of policies, procedures and rules organizations use to monitor, direct, evaluate and reward employees (Anderson & Oliver, 1987). Jaworski (1988) identified two broad types of control systems: formal and informal. Formal controls are written, management-initiated control mechanisms, and informal controls are unwritten, worker-initiated control mechanisms (Jaworski, 1988). The current study examines two types of formal controls, namely process and output controls, and one type of informal control.

Output control refers to the extent to which management emphasizes the achievement of end results when monitoring, evaluating and rewarding NPD team members (Jaworski, 1988). Output controls direct team members by specifying output goals and standards. They leave the choice of methods and procedures to the NPD team members themselves (Ramaswami, 1996). Output controls would include the specification of standards such as technical performance, quality, profitability and market share for the product developed (Bonner, 2005).

Process control refers to the extent to which management places an emphasis on procedures and behavioral activities when monitoring, evaluating and rewarding NPD teams (Bonner et al., 2002; Jaworski, 1988). Through process control, management tries to ensure that activities considered necessary and critical for the success of innovation are thoroughly accomplished (Poskela & Martinsuo, 2009). Under this control system, management holds team members responsible for following the prescribed process but does not hold them responsible for the outcome (Jaworski, 1988).

Informal controls are typically classified according to their level of aggregation as follows: self, professional and cultural controls. Self control is exercised when an individual establishes personal objectives, monitors their attainment and adjusts behavior if off course. With professional control, a work unit or small group establishes certain standards, monitors conformity and takes actions when social deviations occur. Cultural control involves an entire division or firm (Jaworski et al., 1993). Because of the focus of the current study is on NPD teams, we only examine professional control.

Professional control represents control by neither outcome nor behavior, but by socialization (Anderson & Oliver, 1987). Professional control is implemented by promulgating common values, beliefs and philosophy within the team. Rather than requiring employees to follow a written set of procedures, the socialization process, as well as rituals and ceremonies, serve to identify and reinforce acceptable behaviors (Kirsch, 1997). This control is also termed "social control" or "clan control".

2.2. Role ambiguity and role conflict

Individuals in organizations are often faced with stress resulting from conflicting, incompatible or unclear expectations regarding their roles in the organization. Two main types of role stress have been defined: role ambiguity and role conflict (Rizzo, House, & Lirtzman, 1970). For this study, role ambiguity is defined as the degree to which NPD team members are unclear about their role, responsibilities, expectations and authority during the development process (Rizzo et al., 1970). Role conflict is the degree of incompatibility or incongruency among role expectations held by NPD team members (Rizzo et al., 1970). For NPD teams, role conflict may occur as a result of working on unnecessary things, working under conflicting directives, receiving tasks that are outside the team's training and capabilities, doing things that should have been done differently, bucking rules or established procedures to carry out their jobs, and receiving tasks without adequate resources to execute them.

2.3. Conceptual framework

Our conceptual framework is illustrated in Fig. 1. As noted earlier, we expect output, process and professional controls to have a direct effect on role ambiguity and role conflict and an indirect effect on job satisfaction via the former variables. Output, process and professional controls are also expected to directly influence job satisfaction. This is based on extant research suggesting that in addition to their effect on employee's job-related cognitions, management control has also critical implications for employee's job-related affects and behaviors (Anderson & Oliver, 1987; Atuahene-Gima & Li, 2006; Sarin & Majahan, 2001).