



# The effect of employment externalization on orientation to innovation

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## Abstract

**Purpose** – This paper aims to analyze the influence of externalization in the workforce on creating a work context that supports innovation and the moderation of this relationship by different contextual variables.

**Design/methodology/approach** – These relationships were studied using a sample of 249 workers from five firms. Hierarchical regression analysis was used to contrast the hypotheses.

**Findings** – The results of the study indicate that externalization affects the permanent worker's orientation to innovation negatively and that this relationship is moderated by contextual variables such as group potency and monitoring.

**Originality/value** – The aim of this paper is to stimulate new lines of research on externalization and orientation to innovation and their repercussions for the firm.

**Keywords** Externalization, Orientation to innovation, Job security, Organizational support, Collective perception of efficacy, Employment protection, Innovation

**Paper type** Research paper

## 1. Introduction

Recent decades have witnessed a gradual movement from full-time to part-time or temporary employment – toward temporary work contracts – in the advanced industrial economies of Europe, the US and the Pacific Rim (Bergström, 2001). European governments have promoted temporary contracts as an instrument of labor market flexibility (Esping-Andersen and Regini, 2000). Contingent or external work is an umbrella concept that describes any company employment relationship other than salaried, full-time and permanent work (internal work), that is, other than the relationship established when the employer hires individuals directly for a standardized number of hours in the employer's workplace (Johnson and Ashforth, 2008). The broadest understanding of this term includes not only jobs available through Temporary Agencies (TAs), but also forms of employment such as part-time work, direct temporary hiring (without recourse to TAs), and contracts and subcontracts for goods and services (Conelly, 2004). Authors use the term “externalization” to describe all of these practices (e.g. Davis-Blake and Uzzi, 1993; Walsh and Deery, 2006). Pfeffer and Baron (1988) distinguish between three kinds of externalization: externalization by reducing length of employment (temporary employment), externalization of management control (independent contracts/outsourcing) and externalization from the workplace (e.g. e-work).

Organizations have had to face a complex, dynamic environment that demands flexibility to adapt to changing conditions (Wright and Snell, 1998). An important aspect of organizational flexibility is flexibility in human resources management, which focuses



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on adapting employee attributes (e.g. knowledge, skills and behaviors) to changing environmental conditions (Ngo and Loi, 2008). Researchers have considered two strategies in using labor flexibility (Kalleberg, 2000): improving employees' ability to perform a variety of jobs and participate in decision-making, and reducing costs by limiting workers' involvement in the organization. These strategies have been labeled differently, as numerical vs functional flexibility, and internal vs external flexibility.

Among the potential benefits of internal employment are greater stability and predictability of the firm's skills and capabilities and better coordination and control. However, these benefits may be obtained at the risk of limited ability to adapt to changes in the environment (Panayotopoulou *et al.*, 2010). Externalization, in contrast, reduces many administrative and labor costs (Voudouris, 2004) and increases a firm's flexibility to confront the changing market conditions and organizational needs (Davis-Blake and Uzzi, 1993; Storey *et al.*, 2002). Despite these advantages, the employment of a temporary workforce can have negative consequences (Allan, 2000; Broschak and Davis-Blake, 2006; George, 2003). Some authors focus on permanent workers' resentment toward the changes that externalization has created in their work, such as lower levels of loyalty, involvement, and trust in the organization (Davis-Blake *et al.*, 2003; George, 2003).

The intensification of international competition, rapid technological changes, and the maturity of clients' needs require that firms consider innovation as a fundamental way of adapting to these changes (Eisenhardt and Tabrizi, 1995). Studies in strategic theory argue that organizations that adopt an innovation first are those best able to create isolation mechanisms, since knowledge of the innovation is not available to competitors (Lieberman and Montgomery, 1988). The theory of resources and capacities also argues that the set of human abilities as well as the knowledge, material resources and reorientation of values, norms and culture that a firm needs to develop different kinds of innovation make external imitation more difficult, implying greater competitiveness (Lengnick-Hall, 1992).

The innovation process involves stages through which an organization moves, from the exhibition of a new product or practice to its adoption and resulting assimilation. Research identifies the main phases of innovation as initiation (evaluating the potential of the innovation to be adopted) and implementation (the real use of the innovation by the organization's members (Sheu and Lee, 2011).

Although the arguments presented previously have led to numerous prior studies have analyzed the influence of structural and contextual variables on organizational innovation, Russell (1992) and Craig (1995) emphasize the need not only for organizational systems, structures and agreements for the implementation of organizational innovation but also for certain positive attitudes and behaviors toward innovation in company as a whole. Thus, a critical element of the initiation phase is "openness to innovation", that is, the willingness of the organization's members to consider (or resist) innovation (Hurley *et al.*, 2005). Hurley and Hult (1998) develop the term "orientation to innovation", or openness to new ideas, as an aspect of the firm's culture. Our study defines the variable of orientation to innovation as a dimension of the organization's culture.

Despite preliminary evidence that externalization may have negative effects on permanent workers, research on the consequences of externalization has focused mainly on the differences in attitudes and behaviors between permanent and

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temporary workers. Studies suggest, however, that externalization can undermine the relationships among permanent workers. On reviewing the literature, we find that specific structural and contextual factors of an organization can interact in complex ways to influence orientation to innovation (Hurley and Hult, 1998; Chandler *et al.*, 2000; Lovelace *et al.*, 2001).

While the facts show that the model of the labor market is changing to incorporate increased use of externalized labor, we see simultaneously substantial emphasis on the importance of innovation as a means of maintaining competitive advantage in today's increasingly turbulent environment (Christensen and Overdorf, 2000).

The goal of this article is therefore to examine the consequences of externalization from the perspective of employees. First, we analyze explicitly how the dimension and scope of externalization are related to orientation to innovation in organizations. Second, we examine how the relationship between employee externalization and orientation to innovation is moderated by contextual variables such as job security, supervisory responsibility, communication, monitoring and group potency. These variables represent different methods that organizations use to construct relations with their permanent workers (Ashford *et al.*, 1989), methods that can influence the degree to which these workers perceive externalization negatively.

## 2. Literature review and hypotheses

### 2.1 *Externalization and orientation to innovation*

Analysis of the organizational culture can explain better how a specific organization functions and thus enable the adoption of measures for improvement or change through appropriate programs. Culture is understood as the perceptions and orientations shared in a specific work domain. The construct "organizational climate" can be defined as the shared perceptions of members of an organization exposed to the same organizational structure (Schneider, 1990). Among the various studies of the distinction between organizational climate and culture, Denison (1996) views climate as a situation related to the feelings and behavior of the organization's members. It is temporary, subjective, and often vulnerable to manipulation by people with power and influence. Culture, in contrast, indicates a context that has evolved. Rooted in history and maintained collectively, it is sufficiently complex to resist attempts at manipulation. For Schneider (1990), culture reflects a less conscious, subtler psychology of the workplace. Whereas the policies of climate, practices and compensation are observable, the beliefs and values of the culture cannot be observed directly. Ostroff *et al.* (2003) argue that climate refers to what happens in an organization and culture to why it happens.

Organizational culture exercises a regulating influence on the individual behavior of the organization's members, influencing the workers' attitudes and behavior (Gilder, 2003; Ngo and Loi, 2008). Despite general agreement on the theoretical-practical importance of culture, there is a significant lack of explanatory models for the complex mechanisms by which people come to share norms, values and similar behavior. A first step is to analyze the attitudinal and behavioral referents that underlie the norms, values and perceptions of the organization's culture. Among the studies from this area most often cited, we find (Kilmann and Saxton, 1983) orientation to the client, orientation to personnel, orientation to the organization's results and capacity for contributions, orientation to costs, and orientation to innovation.

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Our research focuses on the orientation to innovation, defined as a cultural characteristic that includes the perception that change and creativity are supported and stimulated, as well as risk-taking in new areas where the members have little experience. Based on the literature on organizational culture, we suggest that the deepest manifestations of orientation to innovation are found at the cultural level, where the passage of time, histories, reinforcement of behaviors and the creation of organizational processes generate the basic assumption among the employees that innovation is important. A culture oriented to innovation requires leadership that defines clearly all of the processes that affect the development of beliefs and assumptions about the real importance of innovation as a critical axis in the organization (Hurley and Hult, 1998; Tesluk *et al.*, 1997; Wan *et al.*, 2005).

Research has identified many variables that act as antecedents to innovation. Studies of innovation focus on three main groups of antecedents: individual, environmental and organizational determinants (Hurley *et al.*, 2005). More recently, the culture of the organization has also been considered an antecedent of innovation. Organizational culture has various dimensions:

- orientation to innovation;
- emphasis on learning;
- teamwork;
- participation;
- support for creativity;
- orientation to flexibility; and
- emphasis on externalization.

Our research analyzes the relationship between two dimensions, externalization and orientation to innovation. The literature review shows few studies that analyze directly the influence of externalization processes on orientation to innovation in permanent employees (Adams and Brock, 1996; George, 2003; Storey *et al.*, 2002; Wan *et al.*, 2005).

The strategic and economics literatures disagree on the nature of the association between employee relations and orientation to innovation. Some models of firm strategy emphasize the need to construct and maintain human resources capable of carrying out innovation processes (Barney, 1995; Grant, 1991). By extension, the erosion of these conditions through the use of externalization can damage the organization's orientation to innovate in products or services, although the organization may gain short-term cost advantages through such temporary contracts.

The theory of resources and capacities of the firm (Barney, 1995; Grant, 1991) proposes that organizations should construct and maintain resources in order to compete. According to this theory, innovation in products or processes is the result or manifestation of the capacities and resources of the organization (Prahalad and Hamel, 1990). This perspective complements the view that orientation to innovation is acquired cumulatively throughout a trajectory of experience (Pavitt, 1990), a theoretical perspective suggesting that a human resources strategy emphasizing that employment policies based on security, the long term, and high commitment will lead to innovation and that less secure and short-term policies such as externalization will damage performance in innovation.

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The literature on human resources also suggests that security in permanent employment contracts generates high commitment among employees. Such commitment is necessary, or at least advantageous, in cases where the organization is moving toward the implementation of innovations (e.g. Schuler and Jackson, 1987), since an organization's orientation to innovation depends greatly on the knowledge and abilities that its personnel possess. Practices like externalization, which maintain workers only temporarily, can damage orientation to innovation, because they limit internal development of core skills and capabilities (Lepak and Snell, 1999).

Schneider (1973) was the first to develop a work plan to explain the basis for perceptions held by the organization's members. Research shows that different individuals can observe the same phenomenon but perceive it differently. Factors such as security and temporariness, which are characteristics of externalization, can affect how the organization's members perceive aspects of the organizational culture (in this case, orientation to innovation).

Pfeffer (1995), among others, notes much academic agreement that firm performance can be improved through different human resources practices. Practices such as externalization impact perception of the organization's culture, including orientation to innovation (Ferris *et al.*, 1996). Studies by Valverde *et al.* (2000) and Arvanitis (2005) also find that flexible work practices can have a negative impact on employee attitudes, leading employees to feel insecure, marginalized and thus, less satisfied and less committed.

Still other authors, focusing on permanent workers' attitudes, find that heavy use of temporary workers reduces trust, perceptions of psychological contract breach (George, 2003), reduced organizational commitment and loyalty, and increased turnover intention (Biggs and Swailes, 2006; Davis-Blake *et al.*, 2003), all of which are predicted by job insecurity (for review studies, see, e.g. De Witte, 1999, 2005; Sverke *et al.*, 2002).

Similarly, Cuyper *et al.* (2009) establish that the use of temporary employment may affect the working conditions of permanent workers negatively and have unfavorable consequences for permanent workers' attitudes, behavior, health and wellbeing. George (2003) finds that the dimension and extent of externalization can have negative repercussions for employees' attitudes. These processes generate resistance to changing the accepted schemas for interaction, values, customs and norms, in this case those associated with innovation.

There is no magic formula or best way of creating and sustaining a culture oriented to innovation, but management knows that it has one important challenge: to avoid inconsistency in the values that it propounds and the actions that employees undertake in the organization. Employees perceive their organization as an innovative organization when they see that innovation is the priority of management, whose commitment is clear in its actions, hiring and compensation decisions, organizational structure, procedures and resources available, etc.

Based on two quite different points-of-view, authors like Adams and Brock (1996) argue that externalization can benefit innovation. First, diversity of contracts enables constant renewal by enabling new ideas to enter the organization. Second, flexible employment policies neutralize complacency and rigidity.

Our review demonstrates that the literature reaches ambiguous, inconsistent conclusions on the influence of externalization. The theory of resources and capacities

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suggests, however, that the extensive use of employment externalization practices may be completely incompatible with the adoption of innovation. Contingent labor may thus be perceived in some circumstances as a means to access knowledge that is favorable to innovation, but in others (where cost reduction is the fundamental reason) as a form of labor detrimental to innovation. Labor externalization is still used predominantly to reduce costs and to absorb fluctuations in demand (Storey *et al.*, 2002).

Externalization causes certain dimensions of the organizational culture, such as orientation to innovation, to deteriorate (Johnson and Ashforth, 2008; Broschak and Davis-Blake, 2006; Davis-Blake *et al.*, 2003; George, 2003; Panayotopoulou *et al.*, 2010). Therefore, we propose the following hypothesis:

- H1.* Externalization is negatively related to permanent workers' orientation to innovation.

## 2.2 Contextual factors

The arguments presented above suggest a direct effect of externalization on orientation to innovation, but this effect may vary depending on the contextual conditions, in which externalization is developed. Given the inconsistent results of research on the relationship between contingent work and employee attitudes, Johnson and Ashforth (2008) argue the need for studies that examine moderators of this relationship.

Hurley and Hult (1998) analyze the relationship between contextual factors (participation, support and collaboration, power, communication, tolerance of conflict and risk) and the organization's orientation to innovation. Chandler *et al.* (2000) identify various contextual factors as necessary for the development of orientation to innovation. First, managerial support is crucial for establishing a climate of support for innovation. Second, the organization must have a system of compensation and recognition that supports innovative activity. More recently, Lovelace *et al.* (2001) observe that lack of cohesion interferes with individuals' ability to work together to find innovative solutions.

Based on our literature review, we will analyze five contextual factors that may moderate the relationship of externalization to our dependent variable: job security, as related to job protection; communication-cooperation, monitoring and supervisory responsibility, related more closely to support; and finally, group potency, or the beliefs shared by members of the group concerning their capacity to achieve specific goals or perform predetermined activities.

*2.2.1 Job security.* In studying the nature, causes and consequences of job security, Greenhalgh and Rosenblatt (1984) define it as "the worker's perception of his or her impotence to maintain the desired continuity in a threatened work situation".

Prior research has shown that the organizational conditions that protect job security and mobility can help to construct strong relationships with permanent workers and to establish unifying links between the organization and the permanent workers (Cuyper and Witte, 2011; Kalleberg, 2000). By connecting employees to the organization, perception of high job security will lead employees to work harder for the benefit of the organization. Insecurity, in contrast, is interpreted as a stress factor that introduces a threat.

Authors such as Kanter (1983) argue that organizations' managers impede innovation and the generation of new ideas when they express their criticism openly and fail to praise and when they inform employees that they can be fired at any

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moment. For Kanter, individuals respond to lack of security by showing lower orientation to innovation. Van Gundy (1985) analyzes the innovation-related factors that form organizational climate and determines that the climate is composed of ten factors that affect innovation, including job security. Other authors suggest that flexibilization and externalization of employee relations represent a return to the preindustrial era, with drastic consequences for the wellbeing of employees and job security (Kalmi and Kauhanen, 2008), eroding traditional values such as long-term employment security and mutual loyalty between employer and employee (Ko, 2003).

Permanent workers who perceive their jobs as secure do not interpret the organization's use of externalization practices as a threat. For Kraimer *et al.* (2005), the more job security employees have, the less they will perceive hiring temporaries as a threat and the more they will interpret the benefits of the organization's hiring of temporaries as creating an obligation that they need to reciprocate by performing well.

Based on these arguments, we establish the following hypothesis:

*H2.* The more positive the permanent workers' perception of the security of their jobs, the less negative the relationship between externalization and orientation to innovation.

*2.2.2 Supervisory responsibility.* Assigning permanent workers supervisory responsibility involves creative distribution of authority. Many organizations are currently working to use this management practice to give their employees a greater role in leadership, capacity for influence, visibility and ultimately power.

Research based on employees' trust in the organization suggests that employees feel the organization values them more highly when managers trust and rely on them and when they are assigned responsibility for members of the organization – ultimately, when individuals are granted some autonomy in performing their tasks (Pierce *et al.*, 1989). The belief that one is effective is a necessary but not a sufficient condition; part of the secret of effective people lies in the responsibilities delegated to them in the performance of their job activities. This situation of greater supervisory responsibility at work initiates more new, creative ideas and puts them into practice, giving rise ultimately to more innovations in the organization (Sciulli, 1998).

In a context of externalization in which permanent workers are responsible for supervising and training their temporary colleagues, permanent workers will feel that they form an important part of the organization; they feel valued and essential to the organization, not marginal or dispensable (George, 2003). Based on the foregoing arguments, we propose the following hypothesis:

*H3.* The more positive the permanent workers' perception of supervisory responsibility, the less negative the relationship between externalization and orientation to innovation.

*2.2.3 Communication.* Communication is a key element for the success of innovation. It determines the degree of assimilation of the ideas concerning innovation and facilitates information flows among the different levels of the organization. Communication is also the main tool ensuring that the organization's members participate in the process of generating innovation (Johnson, 1990).

Research has verified that quality and kind of communication are repeatedly mentioned as critical factors for innovation (Bouwen and Fry, 1991). Internal

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communication attempts to disseminate to the workers what the organization itself is doing, to transmit the firm's culture. Calantone *et al.* (2002) argue that the different divisions are encouraged to overcome cross-functional communication barriers to increase information flow, coordinate actions with other departments, and develop a common sense of innovation.

Innovation involves change, and communication about the nature and extent of the change with those affected by it will make them more receptive. It is important to transmit information about the need for the change and its consequences. Lack of necessary information is one of the most significant elements causing resistance to externalization processes. According to these arguments, we suggest:

- H4. The more positive the permanent workers' perception of communication, the less negative the relationship between externalization and orientation to innovation.

*2.2.4 Monitoring.* Another variable that may moderate the relationship analyzed is monitoring, which consists of a support and follow-up program to help the worker develop capabilities that fulfil his or her potential and to behave in ways that connect his or her knowledge and skills with those of co-workers to satisfy the global needs of the firm. Monitoring facilitates change and flexibility in organizations, providing a structured and effective model that enables good management of performance and drives the development of workers' potential.

The model of work characteristics developed by Hackman and Oldman (1976) demonstrates that individual autonomy has a positive effect on performance. Many studies of self-esteem suggest that employees who possess autonomy in their jobs feel more valued by their organizations (Pierce *et al.*, 1989). However, Langfred (2004) suggests that this positive relationship depends on the level of monitoring and that the autonomy-performance relationship can become negative if monitoring is insufficient. In other words, high levels of individual autonomy, should be accompanied by relatively high levels of monitoring; conversely, insufficient monitoring could lead to lower performance.

Along these lines, Powell (1996) affirms that it is necessary to monitor employees even when they trust management to grant them greater autonomy. For Workman (2009), the psychological contract suggests that employees expect espoused security threats to be real and perceive the monitoring of activities to be justified. Opponents of monitoring in turn argue that invasion of privacy can actually make employees sick and may have a negative effect on the productivity that organizations wish to achieve (Martin and Freeman, 2003). Although some research indicates that vigilance and follow-up affect individual motivation negatively, most studies support the conclusion that performance benefits from monitoring (Larson and Callahan, 1990).

Studies of innovation show that the organization's members need autonomy and self-management for the organization to innovate (Thompson, 1980). In contrast, less autonomous employees merely fulfil the requirements and do not try to find new sources of information that might reveal a gap between what the organization does and what it could do. Although research agrees that innovation cannot be standardized, it still requires discipline and a certain degree of monitoring in the performance of tasks assigned to the workers (Drucker, 1986; Craig, 1995). Still other authors stress that greater individual autonomy within a team will lead some members to work more

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independently than others, necessitating more monitoring and communication to avoid loss of coordination between processes (Langfred, 2004).

In a context of externalization, increased monitoring could make permanent workers feel valued by the organization, leading them to interpret less negatively the fact that other workers are not involved in similar programmes. Participation in a monitoring process can give them more information about the contingent workers, making the threat of externalization more controllable. Taking these considerations into account, we formulate the following hypothesis:

- H5.* The more positive the permanent workers' perception of the monitoring, the less negative the relationship between externalization and orientation to innovation.

*2.2.5 Group potency.* Teamwork has been very popular in the past decade, and many organizations have restructured their procedures to accommodate teams or working groups (Cohen and Veled-Hecht, 2010). One construct that has attracted researchers' attention is group potency, the shared belief among the members of a group that it is capable of achieving specific goals or performing predetermined activities (Guzzo and Shea, 1992; Lester *et al.*, 2002). This construct is related to the cognitive social theory of Bandura (1982), which defines it as the self-perception of one's competence.

Groups with a high level of potency perform their activities more effectively (Campion *et al.*, 1993). This suggests that organizations can improve the performance of their work teams by increasing levels of potency. Lovelace *et al.* (2001) observe that lack of cohesion interferes with individuals' ability to find innovative solutions together. Lack of agreement among the members of an organization indicates that individuals are more committed to their individual positions, making it more difficult to reach consensus.

Feelings of group potency can increase permanent workers' motivation within the organization, making it less likely that they interpret externalization negatively. A stronger feeling of self-efficacy among the permanent workers can mitigate the threat of externalization, since the situation is perceived as more controllable and less damaging. Greater group potency also implies greater unity among the organization's members in seeking objectives, values, and common beliefs – in this case, those related to innovation – instead of maximising individual goals. We therefore propose the next hypothesis:

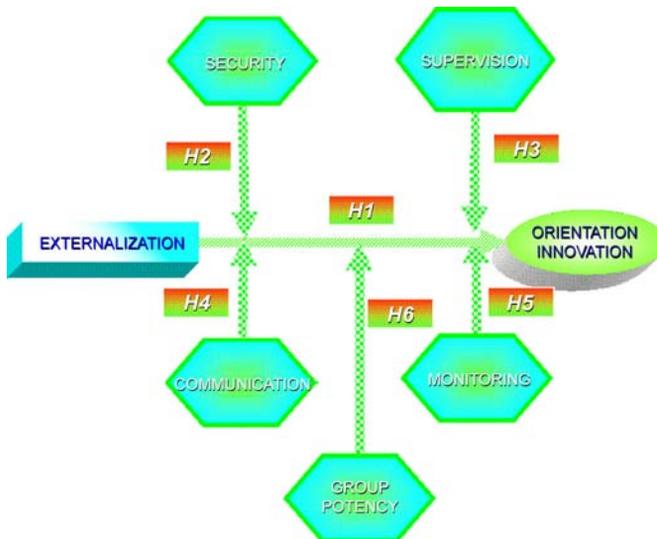
- H6.* The more positive the permanent workers' perception of group potency, the less negative the relationship between externalization and orientation to innovation.

The relationships proposed between these variables are presented in Figure 1.

### **3. Methodology**

#### *3.1 Data and sample*

To contrast the hypotheses, we performed an empirical study of a selection of five firms with different kinds and degrees of externalization and taken from the following sectors: facilities, water management, integral management of administrative processes, transport and auto mechanics.



**Figure 1.**  
The effect of employment externalization on orientation to innovation

The data were gathered through the distribution of questionnaires to the 313 permanent workers in three organizational units in each participating organization. We explain how these units were selected in the next section. Since low response rate to questionnaires on strategic issues in the firm is a common problem, we were especially careful to maximize the response rate. We first performed a pre-test of the questionnaire through a series of in-depth interviews with workers at the five firms. We then sent a second questionnaire to workers who had not answered by approximately one month after the first mailing. We obtained 249 valid responses, or a response rate of 79.55 percent. Of the workers surveyed, 182 (73 percent) were men and 67 women; 85 (34 percent) had studied at the university; 11 (4.3 percent) were managers, 44 (17.9 percent) professionals, 64 worked in administration (25.5 percent), 70 were technicians (28.2 percent) and 60 operators (23.9 percent). Finally, we analyzed the possible risk of bias between non-respondent and respondent. The database provided secondary information on the number of employees and billing of all sample firms that did not respond. The Kolmogorov-Smirnov test did not show significant differences in occupation ( $p = 0.496$ ) or gender ( $p = 0.633$ ), nor did we find any other evidence of bias in the sample.

### 3.2 Measurements

**3.2.1 Externalization.** The study measured externalization with the procedures used by George (2003) using data that indicated the scope and duration of these firms' externalization. To measure scope, the employees responsible for human resources in the five firms participated actively as key informants in the research, following the methodology suggested by Seidler (1974) and George (2003). Each informant classified his or her organizational units into the three following groups: low, medium and high scope of externalization, based on the subjective perception that each held of the organizations. To collect the data, we then randomly chose one organizational unit per category. Questionnaires were sent to all permanent employees in these organizational

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units. To confirm the information provided by those in charge of human resources, we analyzed whether the current number of temporary workers in each organizational unit corresponded to the subjective classification of the human resources directors. The data were adjusted to the categories of the managers. In the organizational units with high externalization, temporary workers represented on average 42 percent of the labor. In units with moderate externalization, they formed 24 percent of the personnel and in units with low externalization 11 percent. We applied ANOVAs to analyze whether the three organizational units differed significantly in distribution of temporary workers within each organization. The differences were significant for all of the organizations. According to the arguments of Lawrence (1988) and George (2003) and to the results of the ANOVAs, which indicate that the categories themselves differ, we codified scope of externalization as a categorical variable. The value one represented low scope of externalization, the value three moderate scope, and five high scope.

The individuals responsible for human resources in these five organizations also participated in measuring the duration of externalization. Each informant classified the organizational units chosen previously into the three following groups: low, medium or high duration of externalization, a division also based on the participants' subjective perception of their organizations. To confirm the information provided by the people responsible for human resources, we gathered data from records on the first time that they used temporary workers in each of the units studied. For each unit, we chose the position occupied for most time by temporary workers. Its duration provided the measure for the duration of externalization in this unit. The data obtained from the records agreed with that provided by the human resources managers. We then codified duration as a categorical variable. The value one represented low duration of externalization, the value three medium duration, and five high duration.

Finally, for each unit, we calculated the average values for scope and duration, generating an index that approximated the degree of externalization of each unit in each organization.

Orientation to innovation was measured using a scale of five items proposed by Koys and DeCotiis (1991). This scale includes the perception that change and creativity are supported and stimulated, as well as risk-taking in new areas in which the members have little experience. We evaluated the degree of agreement or disagreement with statements such as, "In our organization, we foster the development of new ideas" and "In our organization, we search for new ways of doing work." The scale's internal consistency was analyzed using the Cronbach's alpha. The value of the statistic was much higher than the limit of 0.7 usually considered acceptable ( $\alpha = 0.908$ ). Exploratory factor analysis also confirmed that the indicators yielded a single factor.

Perception of job security was measured by the ten-item scale developed by Oldham *et al.* (1986) to evaluate workers' perception that their jobs are stable in their current firm ( $\alpha = 0.873$ ). The scale that measured job security included items such as, "I am certain that I will work in this firm as long as I want to," "I will be able to keep my current job as long as I want to," "I feel secure in my job," and "My job will last as long as I want it to."

*3.2.2 Supervisory responsibility.* We used a scale proposed by George (2003) based on four items that enabled us to determine whether the workers used part of their time supervising and training their colleagues. The scale used was a five-point Likert-type scale that evaluated items such as, "I dedicate part of my time to training my

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colleagues and subordinates” and “I dedicate part of my time to supervising my colleagues and subordinates.” We analyzed internal consistency using the Cronbach’s alpha and obtained a value higher than the limit usually considered acceptable, 0.7 ( $\alpha = 0.845$ ).

*3.2.3 Monitoring.* We used the four-item scale of Cummings and Bromiley (1996). The scale was a five-point Likert-type scale, and the value obtained for reliability was high ( $\alpha = 0.911$ ). This scale was composed of items such as, “In my firm, it is assured that each worker meets the deadlines for his or her work, that workers attempt to measure the support and follow-up programs that help them to develop capabilities more in accord with their potential and to behave in ways that unite their knowledge and skills with those of co-workers to satisfy the global needs of the firm.”

*3.2.4 Group potency.* This variable was measured by a five-point Likert scale composed of eight items from the scale developed by Guzzo *et al.* (1993). Internal consistency of the scale was measured by the Cronbach’s alpha, and the statistical value obtained was higher than the limit usually considered acceptable, 0.7 ( $\alpha = 0.863$ ). This variable was measured by items such as, “We workers trust each other, and I expect to have a considerable degree of influence in my workplace,” which attempts to measure the shared perception that working as a team can be effective.

*3.2.5 Communication.* We used a measurement instrument with eight items adapted from Lester *et al.* (2002). Two of these came from the scale developed by Campion *et al.* (1993), which measures communication and cooperation. Three items came from the scale proposed by O’Reilly and Roberts (1976), which includes clarity and precision of communication. We also incorporated three items added by Lester *et al.* (2002) to their measurement instrument to evaluate the ability of members of an organization to work together to solve problems and make decisions. All items were averaged in a global index, which showed good internal consistency ( $\alpha = 0.891$ ). The scale that measured the variable communication-cooperation was composed of items such as, “The members of my department are willing to share information with other workers in the firm,” “We cooperate in performing tasks,” “We work together to solve problems and make decisions,” and “There is much cooperation between the members of my organization.”

*3.2.6 Other variables.* The questionnaire measured age (in years), sex, academic level (primary school, secondary school, university study), professional occupation (managers, professionals, technicians and operators) and length of time with the organization (in years). Time with each of the five organizations studied was codified by five binary variables.

### 3.3 Analysis

To contrast the hypotheses, we used hierarchical regression analysis. In a preliminary stage, we performed a regression amongst the dependent and moderating variables. The next phase included the independent variable. Finally, we added five terms that represented the interactions between the independent variable and each of the moderators.

To complete the contrast of the hypotheses on moderation, we confirmed that there was a significant moderating effect and then analyzed the sign and significance of the slope of the relationship between externalization and the dependent variables, following Jaccard *et al.* (1990), as a function of the values taken by the moderating variable. To do this, we performed an additional analysis, in which we evaluated the effect of the

independent variable on the dependent variable while distinguishing between different levels of the moderating variable. Again following the recommendations of Jaccard *et al.* (1990), we assigned values of an above-average standard deviation to the high level and values below the average standard deviation to the low level.

#### 4. Results

The descriptive analysis and the correlation matrix between dependent and independent variables are shown in Table I, which also provides the reliability of the different scales. The values of the correlation coefficients for the independent and dependent variables confirm appropriate aggregation of the variables. To ensure that multicollinearity does not affect the results, we calculated the tolerance indexes and inflation factors of the variance for each regression model. All cases maintained levels well below the recommended levels, indicating that the results are not affected by multicollinearity.

Table II shows the results of the hierarchical regression analysis. *H1* suggests that the higher the externalization, the lower the permanent workers' orientation to developing innovation in the organization. As shown in Model 2, which incorporates the independent variable of externalization, this variable has a significant and negative effect on orientation to innovation ( $\beta = -0.226, p < 0.001$ ). In Model 2, this is highly significant ( $F = 16.73, p < 0.001$ ), as the increase in  $R^2$  is ( $\Delta R^2 = 0.038, p < 0.001$ ). These results confirm the validity of *H1*.

*H2* suggests that permanent workers' perception of the level of job security moderates the relationship between externalization and orientation to innovation. As Model 3 shows, the term that represents the product of externalization and permanent workers' perception of security is not significant for predicting the dependent variable. Thus, the data do not support *H2*. Model 3 is also significant ( $F = 10.88, p < 0.001$ ), since the increase in  $R^2$  is ( $\Delta R^2 = 0.05, p < 0.01$ ).

Analysis of *H3* also indicates that the relationship between externalization and orientation to innovation is moderated by perceptions of supervisory responsibility. From Model 3, we see that the relationship between externalization and orientation to innovation is not moderated by the level of supervisory responsibility. However, Model 3 shows that perceptions of supervisory responsibility influences permanent workers' orientation to innovation positively and significantly ( $\beta = -0.236, p < 0.001$ ). Thus, the results do not verify the moderating effect of this variable, but they do confirm that supervisory responsibility influences permanent workers' development of orientation to innovation directly.

*H4* suggests that communication moderates the relationship between externalization and orientation to innovation. According to Model 3, the relationship between externalization and orientation to innovation is not moderated by communication. However, Model 3 indicates that communication influences permanent workers' orientation to innovation positively and significantly ( $\beta = 0.300, p < 0.001$ ). Again, although the moderating effect is not verified, the data provide support for the direct effect of communication on orientation to innovation.

Similarly, for *H5*, we analyzed the relationship between externalization and orientation to innovation moderated by monitoring. Model 3 indicates that monitoring moderates the relationship between externalization and orientation to innovation ( $\beta = -0.165, p < 0.01$ ), but in the opposite direction to that expected.

Variable	Mean	SD	1	2	3	4	5	6
Orientation innovation	3.73	1.01	0.908 <sup>a</sup>					
Externalization	3.31	1.32	0.37**					
Supervisory responsibility	2.76	1.23	0.45**	0.43**	0.845 <sup>a</sup>			
Job security	3.41	0.98	0.14	0.35**	0.356**	0.873 <sup>a</sup>		
Monitoring	3.69	0.98	0.28**	-0.09	0.10	0.17*	0.911 <sup>a</sup>	
Group potency	3.79	0.67	-0.08	0.08	-0.16*	0.20**	0.08	0.863 <sup>a</sup>
Communication	3.91	0.75	0.35**	0.03	0.12	0.08	0.21**	0.32**
								0.891 <sup>a</sup>

Notes:  $n = 184$ ; <sup>a</sup>Cronbach's alpha. \* $p < 0.05$ ; \*\* $p < 0.01$

**Table I.**  
Mean, standard deviation, reliability and correlations

	Orientation innovation		
	Model 1	Model 2	Model 3
Supervisory responsibility	0.379** (5.335)	0.299** (4.064)	0.236** (3.125)
Job security	-0.023 (-0.327)	-0.076 (-1.067)	-0.041 (-0.531)
Monitoring	0.195** (2.956)	0.187** (2.910)	0.227** (3.436)
Group potency	-0.136 (-1.908)	-0.124 (-1.788)	-0.087 (-1.200)
Communication	0.311** (4.477)	0.334** (4.911)	0.300** (4.309)
Externalization		-0.226** (-3.184)	-0.239** (-3.280)
Exter * security			-0.045 (-0.614)
Exter * supervisory			-0.063 (-0.923)
Exter * monitoring			-0.165* (-2.537)
Exter * communication			-0.100 (-1.517)
Exter * group potency			0.143* (2.085)
$R^2$	0.343	0.381	0.431
Adjusted $R^2$	0.323	0.358	0.391
$F$	17.095**	16.728**	10.880**
Change in $R^2$		0.038	0.050
$F$		10.136**	2.772*

**Table II.**  
Effect of externalization  
on orientation to  
innovation

**Note:** \* $p < 0.01$ ; \*\* $p < 0.001$

We then confirmed the strength and nature of this effect, as shown in Table III. To do this, we performed an additional regression analysis to confirm the effects of externalization on orientation to innovation, this time distinguishing between high and low levels of monitoring. As mentioned above, a high level of this variable includes observations whose point value for the degree of monitoring is above the mean and low-level values, lower than the mean. Detailed examination of the interaction term

	Orientation innovation	
	Model 1 <sup>a</sup> High monitoring	Model 2 <sup>b</sup> Low monitoring
Externalization	-0.45* (-5.541)	-0.142
$R^2$	0.211	0.020
Adjusted $R^2$	0.204	0.004
$F$	30.701*	1.240

**Table III.**  
Effect of externalization  
on orientation to  
innovation for different  
levels of monitoring

**Notes:** \* $p < 0.001$ . <sup>a</sup> $n = 118$ ; <sup>b</sup> $n = 66$

shows that, when we establish the condition of high monitoring, externalization is negatively related to orientation to innovation ( $\beta = -0.45, p < 0.001$ ). This effect is not significant for the condition of low monitoring. Thus, both the significant interaction term in the regression analysis and the investigation of the nature of the interaction term support Hypothesis 5, but in the opposite direction to that expected.

Finally, *H6* proposes that group potency moderates the relation between externalization and orientation to innovation. As Model 3 shows, the interaction between externalization and group potency predicts the orientation to innovation significantly ( $\beta = -0.143, p < 0.01$ ). Therefore, we must again verify the nature and strength of the moderating effect. To do this, we perform another regression analysis, which enables us to confirm the effect of externalization on orientation to innovation, distinguishing between high and low levels of group potency. The analysis of the interaction term shows that a condition of low group potency will result in externalization being negatively related to orientation to innovation ( $\beta = -0.56, p < 0.01$ ), as can be seen in Table IV. This effect is not significant when we establish the condition of high group potency. We have therefore verified that the multiplicative term is significant in the multiple regression analysis. Together with the analysis of the nature of this term, this provides support for *H6*.

### 5. Discussion

Our study has analyzed whether externalization influences the perceptions and attitudes of permanent employees toward innovation. More specifically, we have examined its relationship to permanent workers' orientation to innovation. The results indicate that externalization has a significant and negative influence on orientation to innovation for permanent workers but that these effects are moderated by monitoring and group potency.

The results obtained add evidence to the small theoretical body of literature that analyzes the negative effects of externalization on employees' attitudes and perceptions (Barney, 1995). The data support the argument that the use of temporary workers is generally associated with a lack of beliefs, perceptions and values and a weak culture for innovation. More specifically, the analysis indicates that permanent employees react negatively to the adoption of innovative behaviors when facing processes of externalization.

Depending on the management policies and practices engineered by managers to raise the levels of externalization, such a situation could weaken the employee's

	Orientation innovation	
	Model 1 <sup>a</sup> High group potency	Model 2 <sup>b</sup> Low group potency
Externalization	-0.16 (-1.561)	-0.56* (-6.305)
<i>R</i> <sup>2</sup>	0.026	0.324
Adjusted <i>R</i> <sup>2</sup>	0.015	0.316
<i>F</i>	2.439	39.748*

Notes: \**p* < 0.001; <sup>a</sup>*n* = 98; <sup>b</sup>*n* = 86

**Table IV.**  
Effect of externalization on orientation to innovation for different levels of group potency

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involvement in his or her work in the long term, since workers' negative interpretations influence their behavior.

These results are especially interesting since, as observed above, the use of externalization is increasing in organizations for different reasons, such as obtaining greater flexibility (Davis-Blake and Uzzi, 1993), cost reduction, acquisition of specific knowledge or skills (Matusik and Hill, 1998), adjustment of personnel levels in response to fluctuating market demand, reconfiguration of the deployment of resources, and reduction of the time required to respond to significant changes in the environment. One must also consider, however, the social costs associated with this business practice. Permanent workers are less open to the perception that the organization supports and stimulates change and creativity, as well as risk-taking in new areas in which the members have little experience. Because creating and sustaining a culture of support for innovation is necessary to fostering innovation, it is important to promote a culture of support for innovation in which management's values become employees' practices (Hofstede, 1994). Studies like that by Russell and Russell (1992) find that a culture of support for innovation is a necessary and sufficient explanation for successful innovation strategy. This culture as an expression of the organization's values and beliefs related to innovation plays a crucial role in providing the motivation and direction necessary for monitoring innovation. Craig (1995) stresses the necessity not only of organizational systems, structures and agreements directly related to innovation but also of specific attitudes in the company as a whole, which include the value of a work environment open to innovation and change.

The foregoing leads us to conclude that scenarios of externalization are not favorable to orientation to innovation to the extent that they condition negatively people's ways of working and behavior as well as the development of the processes through which innovation levels are raised. This problem is aggravated in dynamic environments like contemporary ones, in which organizations are increasing their use of both externalization (Matusik and Hill, 1998) and innovation as a means of improving the organization and making it more competitive (Hitt *et al.*, 1997; Tidd, 2001). We should point out that the organizations studied were not involved in processes of suspension of payments, regularization, lay-offs or any other circumstance that could affect the structural conditions of employment. This leads us to think that externalization influences organizations' orientation to innovation negatively even in situations of growth or stability.

The results indicate that the negative relationship between externalization and innovation orientation is less pronounced among permanent employees who share greater group potency. Workers who share a greater sense of self-efficacy as an organization can mitigate the negative perceptions that externalization produces, as the situation is perceived as more controllable and less damaging. Thus, in a context characterized by externalization, managers should create a collective perception that group work can be effective, since this perception affects the positive relationship between externalization and innovation orientation. Cohesion and unity among the members of the organization will lead the permanent workers to consider temporary workers to be competent in performing their activities (Smith, 1998) and will thus help to prevent negative behavior toward the use of practices such as externalization. The results also confirm that lack of cohesion interferes in individuals' ability to find innovative solutions.

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Contrary to our expectations, the effects of externalization are more damaging among permanent employees who are monitored more intensively. Managers should thus be careful in using this practice. The results show that monitoring enables the development of values or principles related to innovation, but monitoring in a context of externalization implies follow-up and vigilance and can affect orientation to innovation negatively.

Our conclusions support the results obtained in the literature on the existence of different kinds of monitoring. Coercive monitoring has a negative influence, especially if it is perceived as having been established as a means of control. Permissive monitoring has a positive influence when it is perceived as an element of support, orientation and guidance in developing the activities performed by the organization's employees.

The results confirm that monitoring is perceived as a coercive instrument in a context of externalization, as a means by which the administration attempts to obtain the hard work and submissiveness of the employees by stifling innovation. In a context where externalization practices are not used, however, monitoring is perceived as a permissive instrument for support and follow-up that helps the worker to develop capabilities that fulfill his or her potential and to behave in ways that connect in his or her knowledge and skills with those of co-workers to satisfy the global needs of the firm. Monitoring enables employees to improve and direct their tasks toward functions that facilitate innovation by creating a work climate that supports and fosters innovation.

This result may be due to the fact that monitoring, perceived as a control mechanism in a context of externalization, creates a climate characterized by lack of trust in the organization. In this context, the use of monitoring transmits insecurity to employees and increases personal risks, making permanent workers feel threatened by these practices.

Although our arguments are based on permanent workers' interpretations of externalization, the data were not obtained by asking the workers directly and explicitly about their perceptions and interpretations, but rather from independent sources. This is also a limitation in the study by George (2003). Finally, this study used a convenience sample of five organizations. The non-random nature of choosing the firms in the sample as well as their cross-sectional character may limit generalization from the results. Longitudinal studies should be developed to extend this line of research in order to determine the long-term implications of externalization policies and their long-term consequences.

The results of this study indicate that externalization has negative effects on permanent workers' orientation to innovation. The results also indicate that these effects are stronger when permanent workers perceive high monitoring. In contrast, the effects are less negative when permanent workers perceive high group potency or cohesion among different members of the organization. Our study thus adds empirical evidence to previous work on the effects of workforce externalization on the organization, extending the previous tendencies found in these studies and developing further the conditions under which externalization affects employees' orientation to innovation.

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