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Management innovation: The role of internal, external factors, and business group affiliation

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ABSTRACT

In this study, we investigate the role of internal and external factors in management innovation. Specifically, we consider employee training and employee creativity as internal factors, whilst consultants, government subsidies, and government contracts are external ones. In addition, we investigate whether the impacts of internal and external factors on management innovation are affected by business group affiliation. Based on a sample of Turkish firms drawn from the World Bank Enterprise Survey, the results indicate that while employee training, employee creativity, government subsidies, and government contracts contribute to management innovation, consultants have no effect. Furthermore, the findings show that business group affiliates benefit more from employee creativity and government contracts in management innovation, whereas independent firms utilize government subsidies more in their management innovation activities. This study contributes to our understanding of the antecedents of management innovation and the moderating role of organizational context in an emerging economy.

1. Introduction

Management innovation refers to the introduction of management practices, processes, and structures that provides firms with a competitive advantage (Birkinshaw, Hamel & Mol, 2008; Hamel, 2006; Teece, 1980; Volberda, Van Den Bosch & Heij, 2013). It creates value for firms through changes and improvements in their organizational form, managerial practices, processes, and techniques (Birkinshaw et al., 2008; Damanpour & Aravind, 2012; Damanpour, Walker & Avellaneda, 2009). These innovations are complex, pervasive, and their impact is not certain (Damanpour, 2014). Management innovations are difficult to replicate and create competitive advantage. Therefore, firms need to introduce such innovations as well as technological ones (Volberda et al., 2013).

Management innovations take place in response to the changes in firms' internal or external environments (Damanpour, 1991). That is, they emerge from a problem related to the operations or are shaped by the changes in the business environment (Birkinshaw & Mol, 2006). Given its importance in firms' competitive advantage and level of performance, there is a need for the examination of its antecedents and the contextual factors that affect management innovation (Volberda et al., 2013). In particular, scholars have suggested the examination of internal and external factors that facilitate such innovation (Damanpour & Aravind, 2012; Khosravi, Newton & Rezvani, 2019; Volberda et al., 2013). However, research on the antecedents of management innovation is still limited (Damanpour & Aravind, 2012; Khosravi et al., 2019; Vaccaro, Jansen, Van Den Bosch & Volberda, 2012; Wu, 2010). Moreover, these antecedents may differ from the factors that are associated with technological innovation (Damanpour, 1991; Keupp, Palmie & Gassmann, 2012).

There are several gaps in the management innovation literature. First, research on management innovation has extensively been conducted in developed economies (Camison & Villar-Lopez, 2011; Ganter & Hecker, 2013; Heyden, Sidhu & Volberda, 2018; Mol & Birkinshaw, 2009; Ravichandran, 2000; Rosner, 1968; Subramanian & Nilakanta, 1996; Vaccaro et al., 2012). This raises the issue as to whether and to what extent, the theories and methodologies used to study strategy in developed economies are suited to the distinct social, political, and economic contexts as well as firm characteristics of emerging economies (Wright, Filatotchev, Hoskisson & Peng, 2005). Emerging economies are defined as low-income, rapid-growth countries, which typically pursue liberalization (Hoskisson, Eden, Lau & Wright, 2000). In such

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economies, markets are inefficient, governments play an important role, and network relations are prevalent, whilst risk and uncertainty are high (Khanna & Palepu, 1997; Xu & Meyer, 2013). Hence, emerging and developed economies may differ in terms of firms' strategies (Khosravi et al., 2019; Young, Tsai, Wang, Liu & Ahlstrom, 2014). Accordingly, the examination of management innovation from the perspective of emerging economies is important for two reasons. First, in addition to domestic activities, emerging economy firms engage in international activities in other economies (Singh, 2018; Wright et al., 2005). To compete with their peers in domestic and international markets, they need managerial capabilities; however, they lack necessary management processes and techniques (Hitt, Dacin, Levitas, Arregle & Borza, 2000). Management innovation, which is one of the important types of innovation, creates a competitive advantage for emerging economy firms (Damanpour & Aravind, 2012; Hamel, 2006). That is, firms in such economies need to introduce new management systems and structures to adapt to the changes and catch up with their peers in domestic and international environments. Second, emerging economy firms operate in environments which are characterized by high volatility, uncertainty, complexity, and ambiguity. In this case, firms overcome the complex and uncertain nature of such environments by creating new management practices and structures (Frynas, Mol & Mellahi, 2018). However, since change in management processes is inevitable and not easy, the examination of management innovation and understanding what facilitates changes in management systems and structures in such economies become important (Zhou, Tse & Li, 2006). In sum, an emerging economy represents a rich context for exploring the relations between drivers, organizational context, and management innovation (Christensen, Hang, Chai & Subramanian, 2010; Damanpour & Aravind, 2012; Zhou & Li, 2010). In addition, this investigation is important for practitioners in emerging economies. In order to create competitive advantage in domestic and international environments, managers and policy makers should introduce management innovations in emerging economies. They also need to understand the factors that facilitate or hinder management innovations to leverage their capabilities for developing such innovations in highly volatile and complex environments (Frynas et al., 2018). In this respect, the findings in this study provide practical implications for other emerging economy firms and help managers with developing the necessary strategies to effectively implement management innovations in such economies (Bu & Cuervo-Cazurra, 2020; Geldes, Felzensztein & Palacios-Fenech, 2017; Yu, Dong, Shen, Khalifa & Hao, 2013; Zhou & Li, 2010).

In addition, previous studies have focused on the role of individual or internal factors, such as top management, leadership styles, education level of the workforce (employees, managers or leaders), and learning in management innovation (Camison & Villar-Lopez, 2011; Damanpour & Schneider, 2006; Heyden et al., 2018; Jaskyte, 2011; Kimberly & Evanisko, 1981; Mol & Birkinshaw, 2009; Su & Baird, 2018; Vaccaro et al., 2012; Young, Charns & Shortell, 2001). Some studies have investigated the role of organizational and institutional factors, such as firm size, organizational slack, economic orientation, centralization, and formalization (Budros, 2000; Ganter & Hecker, 2013; Mol & Birkinshaw, 2009; Rosner, 1968; Subramanian & Nilakanta, 1996). Several studies have also examined the role of environmental or external factors, such as environmental dynamism, competition (Ganter & Hecker, 2013; Hecker & Ganter, 2013; Ravichandran, 2000), and knowledge search (Ganter & Hecker, 2013; Mol & Birkinshaw, 2009) in management innovation. Management innovations have been implemented by individuals. In this regard, employees play an important role in creating ideas. In particular, such innovations can be understood through examining the role of individuals in terms of employee creativity (Cerne, Kase & Skerlavaj, 2016; Volberda, Van Den Bosch & Mihalache, 2014). While creativity is regarded as an important input in management innovation, research on whether firms benefit from it through enhancing such innovation or whether it has negative consequences is scarce (Cerne et al., 2016; Shalley, Zhou & Oldham, 2004). Moreover, training, which provides a base for experience and a method for innovating, has been emphasized to a lesser extent (Mol & Birkinshaw, 2014). Therefore, the association between employee training, employee creativity, and management innovation needs to be examined in greater detail (George, 2007; Volberda et al., 2014). Previous studies have also examined the role of knowledge search from external partners (Cerne, Jaklic & Skerlavaj, 2013; Ganter & Hecker, 2013; Mol & Birkinshaw, 2009); however, whether firms benefit from the knowledge of consultants in management innovation in emerging economies remains underexplored. In addition, prior research has mainly focused on the role of government in technological innovation (Deng, Ding & Xu, 2020; Guo, Guo & Jiang, 2016; Kang & Park, 2012). However, how government relations, such as obtaining subsidies and government contracts, influence management innovations in emerging economies has not been examined in detail. In particular, investigating the role of creativity, training, consultants, and governments is of importance for emerging economy firms, since they operate in environments characterized by inefficient markets and high levels of government involvement. In these environments, firms need to engage in change to compete with peers and survive (Zhou & Li, 2010; Zhou et al., 2006). Notably, firms' changes in managerial practices, structures, and processes, which are context-specific, ambiguous, and hard to replicate, become sources of competitive advantage (Volberda et al., 2013). However, the effects of knowledge acquired from external resources, skilled labor, and government relations on firm strategy (i.e., management innovation) may differ from the impacts observed in developed economies (Hoskisson et al., 2000; Wright et al., 2005; Xu & Meyer, 2013).

Importantly, the relationships between various driving mechanisms and management innovation may vary according to the contextual factors, such as type of organization as well as institutional, and environmental conditions (Birkinshaw et al., 2008; Damanpour, 1991; Mol & Birkinshaw, 2009; Volberda et al., 2013, 2014). In emerging economies, one of the dominant organizational contexts is business groups, which provide affiliated firms with resources and have an impact on innovative activities. Business groups have emerged to overcome the market inefficiencies in such economies. They provide affiliated firms with resources that are often less available to independent firms (Chang & Hong, 2000; Khanna & Palepu, 1997). This resource sharing within groups can enhance their capabilities in implementing new management practices, structures, and processes. However, as past studies on business groups have mainly investigated the impact of business group affiliation on technological innovation (Belenzon & Berkovitz, 2010; Chang, Chung & Mahmood, 2006; Hsieh, Yeh & Chen, 2010; Mahmood & Mitchell, 2004; Wang, Yi, Kafouros & Yan, 2015), the investigation of these groups from a management perspective, in particular, how affiliation with a group affects management innovation, has been limited (Bruton & Lau, 2008). A study by Kim and Lui (2015) shows that business group affiliation is significantly related to organizational innovation in Korean firms. As Carney, Gedajlovic, Heugens, Van Essen and Van Oosterhout (2011), and Lamin (2013) have pointed out, research on business groups has provided limited evidence as to whether affiliated firms' strategies differ from those of independent ones in emerging economies. That is, whether affiliation with a group provides superior advantages to affiliates over independent firms remains unclear. Also, the relations between various antecedents and strategy (i.e., management innovation) may differ between affiliated and independent firms (Lamin, 2013; Wright et al., 2005). Hence, the examination of how affiliation with a group moderates the relationships between various internal, external factors and management innovation in an emerging economy becomes important. In this regard, this paper aims to address these gaps in the literature by investigating the role of various factors as well as organizational context in management innovation. The key motivation for this work is the lack of prior focus on how such factors affect management innovation, and how these relations are moderated by being affiliated with a business group in an emerging economy.

This paper contributes to the management innovation literature in

several ways. The main contribution of this study relates to investigating management innovation in an emerging economy context by considering business groups, which is a prevalent type of organization in such economies. By doing so, this study complements the existing research, which has mostly been conducted in developed economies (Camison & Villar-Lopez, 2011; Ganter & Hecker, 2013; Heyden et al., 2018; Mol & Birkinshaw, 2009; Ravichandran, 2000; Rosner, 1968; Subramanian & Nilakanta, 1996; Vaccaro et al., 2012). We provide empirical evidence on the impact of various internal and external antecedents on management innovation as well as the moderating role of organizational context, namely business group, in these relations, by utilizing a sample of Turkish firms. This investigation provides better understanding of the country-specific differences in relation to the drivers of firms' management innovation activities, allows for generalization of the findings (Ganter & Hecker, 2013; Khosravi et al., 2019; Wang & Libaers, 2016; Wu, 2010), and builds upon the limited research carried out in emerging economies (Jiao, Koo & Cui, 2015; Liao, Fei & Liu, 2008; Sony & Naik, 2012). In doing so, this paper advances the understanding of management innovation through extending the theoretical approaches used to examine firm strategy extensively in developed economies to an emerging economy (Hoskisson et al., 2000; Khosravi et al., 2019; Wright et al., 2005). Providing evidence on the relations between various antecedents and management innovation allows for better interpretation of the impacts of these factors on such innovations in different institutional contexts and under country-specific conditions (Volberda et al., 2014).

Second, related to the emerging economies, this study considers the moderating impact of business group affiliation between internal, external antecedents, and management innovation. Previous research has contended that the relationships between the various drivers and management innovation may vary according to the organizational context (Birkinshaw et al., 2008; Damanpour, 1991; Hecker & Ganter, 2013; Wu, 2010). A business group, which, as abovementioned, is a prevalent type of organization in emerging economies, provides affiliated firms with resources that can facilitate the implementation of management innovation. A recent study by Guzman and Espejo (2019) on work units in SMEs, examines the unit-level relationship between promotive voice behavior (generation and communication of ideas), management innovation, and the moderating role of organizational resource availability in this relationship in an emerging economy, namely Chile. The authors conceptualize the work units' resources as the availability of financial resources, space, time, and personnel within SMEs. The present paper differs from their study in terms of utilizing a sample of group affiliated and independent firms. Also, the availability and range of resources that group membership provides to affiliated firms may differ from the opportunities that other forms of organization provide. Hence, this paper extends the existing theoretical debate on management innovation to a relative under-researched organizational context, namely the business group, and helps to uncover the role of organizational form in such innovations (Bruton & Lau, 2008; Kim & Lui, 2015). It addresses a gap in management innovation research by providing a better understanding as to whether relations between management innovation and various factors differ depending on the organizational conditions when all the focal firms are operating in an emerging economy.

Third, we focus on internal and external factors as the key antecedents of management innovation. It has been stated that there is a need to explore the drivers of such innovation to provide insights into this research field (Birkinshaw et al., 2008; Damanpour & Aravind, 2012; Khosravi et al., 2019; Volberda et al., 2013). In this regard, we first examine the role of employee training and creativity as internal antecedents. Then, the role of external consultants, government subsidies and government contracts as external drivers in management innovation is considered. Different from the existing research, which focuses on the role of workforce education level (Ganter & Hecker, 2013; Mol & Birkinshaw, 2009), we analyze the impact of employee training, which has been regarded as an important driver of management innovation (Mol & Birkinshaw, 2014). Since emerging economies lack skilled workforce, and employees' competencies to introduce new ideas can be developed by training, the examination of whether employee training enhance management innovation becomes essential (Lee, Pak, Kim & Li, 2019; Mahmood & Mitchell, 2004). Moreover, we examine the role of employee creativity, which has not been fully considered in management innovation research (Cerne et al., 2016). We also probe the impact external consultants have on management innovation. Since emerging economies lack well-developed processes and systems of accounting, governance, regulation, financial infrastructure, and efficient markets compared to developed economies, the 'legitimizing' role of consultants could differ in these contexts (Kearney, 2012; Mol & Birkinshaw, 2009). While consultants can be important sources of information necessary for introducing management innovations, diffusion of novel management practices through consultants may cause diminishing returns due to the imitation by other firms or context specific nature of such innovations (Birkinshaw & Mol, 2006; Damanpour & Aravind, 2012; Mol & Birkinshaw, 2009). In addition, different from the previous research, which has generally focused on the role of government in technological innovation in developed economies (Deng et al., 2020; Guo et al., 2016; Kang & Park, 2012), this study involves examining the influence of government relations, such as government subsidies and securing or attempting to secure government contracts, on management innovation. This investigation is particularly important for emerging economies as governments play an important role in firms' innovation activities (Deng et al., 2020). In particular, different from the existing research, the role of creativity, training, government, and business groups in management innovation is examined.

We test our propositions through an empirical analysis of survey data from 1081 firms operating in an emerging economy, namely Turkey. Our results show that employee training and employee creativity positively affect management innovation. In addition, government subsidies and government contracts enhance management innovation, whereas external consultant utilization has no effect on such innovation. The results also reveal that affiliated firms benefit from employee creativity and government contracts in management innovations more than unaffiliated firms; however, the use of government subsidies has a stronger impact on such innovations for unaffiliated firms than for affiliated ones. The remainder of this paper is set out as follows. In Section 2, we review the literature on management innovation and generate hypotheses. Section 3 introduces the research methodology, while Section 4 presents the results. Section 5 provides discussion of the findings, implications for theory and practice, along with limitations and avenues for further research.

2. Conceptual background and hypotheses

Management innovation pertains to changes in firms' management principles, processes, and practices (Hamel, 2006). These changes relate to firms' managerial procedures, administrative systems, and introduction of management practices that are new to the firm, such as new approaches to structuring it, new management techniques, and new marketing methods (Ansari, Reinecke & Spaan, 2014; Birkinshaw et al., 2008; Crossan & Apaydin, 2010; Damanpour, 1987, 1996, 2014; Mol & Birkinshaw, 2009). In the literature, different terms, such as organizational, administrative, management innovation are used (Daft, 1978; Damanpour & Aravind, 2012; Damanpour & Evan, 1984; Gopalakrishnan & Damanpour, 1997; OECD/Eurostat, 2005; Volberda et al., 2013). However, since the term 'management innovation' is regarded as being more encompassing, in this study, we use it (Birkinshaw et al., 2008; Volberda et al., 2013).

Management innovations are tacit in nature, ambiguous as well as being difficult to observe and define (Birkinshaw et al., 2008; Teece, 1980). They can be specific to the firm in which they are created (Birkinshaw & Mol, 2006). Since these innovations are difficult to imitate

and embedded in firms' social context, they are the sources of competitive advantage (Hecker & Ganter, 2013). They enhance firms' productivity, competitiveness, performance, and thus, create value (Birkinshaw et al., 2008; Damanpour & Aravind, 2012; Tavassoli & Karlsson, 2015; Volberda et al., 2013). They also reduce production and transactions costs, as well as improving labor productivity (Hecker & Ganter, 2013). Management innovations are influenced by individual, organizational, and/or environmental factors (Damanpour, 1991). Also, it has been argued that management innovation processes are influenced by internal and external change agents. While internal ones include a firm's managers and employees, external ones can be consultants, academics, or other external actors (Birkinshaw et al., 2008; Volberda et al., 2013).

2.1. Internal factors and management innovation

2.1.1. Employee training

Management innovations can be challenging because they cause changes in the administrative structure of firms, such as reassignment of individuals' tasks and responsibilities (Damanpour, 2014). They entail risks and are not easily codified, thus requiring support from people in organizations to be carried out effectively (Birkinshaw & Mol, 2006). Birkinshaw et al. (2008) point out the role of individuals in management innovations stating that the process can largely be shaped by the conscious and deliberate actions of individuals, particularly the employees, because they have the knowledge about their organizations that can be utilized to implement new ideas. Individuals in a firm introduce management innovations to provide a solution to a problem, thus making their firms work more effectively (Birkinshaw et al., 2008). In this case, employee training and education help individuals utilize knowledge better for management practices (Ganter & Hecker, 2013), provide them with skills in problem solving, and prepare the ground for change (Tushman & Nadler, 1986). Since management innovations are complex and tacit in nature, educated employees are more likely to develop new management ideas and solve problems associated with their implementation (Damanpour & Schneider, 2006, 2009; Mol & Birkinshaw, 2009). They play an important role in the introduction of management innovations since they facilitate the application of new practices, processes, and structures (Heyden et al., 2018; Volberda et al., 2013; Wu, 2010).

Tushman and Nadler (1986) state that in a firm, education and training programs expose individuals to the change, the importance of innovation, and to skills in communication and problem solving. Previous studies have mainly focused on the role of education in management innovation. For instance, Mol and Birkinshaw (2009) find a positive impact of the education level of the workforce on management innovation in UK firms. Similarly, Ganter and Hecker (2013) reveal a significant positive impact of an educated workforce on management innovation in German firms. Several studies have also investigated the role of top manager education. For instance, Young et al. (2001) find a positive impact of this in the form of graduate degree on the total quality management adoption in US hospitals. Kimberly and Evanisko (1981), examining the role of individual, organizational, and contextual factors in management (administrative) innovations, attribute the adoption of such innovations to highly educated and cosmopolitan managers in the health sector. On the other hand, Bantel and Jackson (1989) find no significant impact of top management team education level on administrative innovation in US banks. Damanpour and Schneider (2006) find no impact of manager education on administrative innovation in US public organizations.

As Tushman and Nadler (1986) assert, the most innovative firms invest in education and training programs. In addition to education, training increases the individuals' learning and experience, which leads to an effective implementation of management innovations (Mol & Birkinshaw, 2014). Firms' employees introduce new management practices through learning, because learning increases the ability to develop new ideas and utilize knowledge (Camison & Villar-Lopez, 2011). In a learning-based environment, employees explore and generate new ideas (Desouza et al., 2009). In this case, employee training increases individuals' ability to be innovative (Blundell, Dearden, Meghir & Sianesi, 1999). Their capability to introduce and implement new ideas can be developed by training (Lee et al., 2019). However, while the education level of employees has been investigated in the previous research (Ganter & Hecker, 2013; Mol & Birkinshaw, 2009), the role of employee training in management innovation has been neglected. We argue that, since emerging economies lack skilled workforce, employee training is essential in management innovations (Mahmood & Mitchell, 2004). We propose,

Hypothesis 1. Employee training has a positive impact on management innovation.

2.1.2. Employee creativity

Creativity, which pertains to the production of new ideas related to firms' procedures or policies by individuals, is one of the most important drivers of non-technological innovation (Amabile, 1988; Cerne et al., 2016). It has been proposed that questioning the issues related to management, change, leadership, and employee engagement is important in firms. Whilst managers are assumed to be responsible for changes in processes or strategies in a firm, employees' imagination and desire are important in management innovation (Hamel, 2006). Individuals' ideas play an important role in making management innovation happen in firms. When employees encounter a problem, they tend to come up with ideas to solve it, which leads the firm towards management innovation (Birkinshaw & Mol, 2006). Creative employees develop ideas about organizational processes and procedures (Gumusluoglu & Ilsev, 2009). Also, employees should contribute to the development of new ideas for effective management innovations (Monge, Cozzens & Contractor, 1992). Mumford, Scott, Gaddis and Strange (2002) note that the creative work process involves idea generation (creative processes and activities) and idea implementation (innovation processes and activities). In order to be creative, ideas must have the potential to create value for firms. Creativity is acknowledged as a key input for innovation, which is the successful implementation of creative ideas (George, 2007; Shalley et al., 2004). Guzman and Espejo (2019) suggest that the role of employees in the idea generation stage of the innovation process is crucial. Also, managers' attitude and leadership are essential for increasing the likelihood of idea generation by employees, and the development of these ideas into innovations (George, 2007; Mumford et al., 2002). While employees, who generate ideas, may implement those ideas in developing successful innovations, they can also transfer those to others for their own use, thus serving as an input for organizational innovations (George, 2007; Oldham & Cummings, 1996; Shalley et al., 2004). These generated ideas may be implemented by employees or others, such as team, unit members, managers, or external change agents (Birkinshaw et al., 2008; Gumusluoglu & Ilsev, 2009; Guzman & Espejo, 2019; Somech & Drach-Zahavy, 2013). As a result, creativity at the individual level, through idea generation and implementation, can enhance innovations at the firm level (Gumusluoglu & Ilsev, 2009; Mumford et al., 2002; Oldham & Cummings, 1996). Guzman and Espejo (2019) argue that, if voice behavior, which is related with the generation of creative ideas, is frequent, work units will have more ideas, which can be selected as input to management innovation. However, even if employees generate ideas, only their successful implementation will lead to innovative activities (George, 2007; Mumford & Gustafson, 1988; Shalley et al., 2004).

It has also been argued that creativity can be risky for employees and firms as it may entail a challenge to the status quo. It may also increase uncertainty and reduce predictability (George, 2007). For instance, implementation of a creative idea, which includes changes in work processes, can result in fewer opportunities for other employees in a firm (Shalley et al., 2004). The ideas that employees create may not always be new and useful. The uncertainty relates to whether new and useful

ideas will be implemented by others, such as managers or supervisors. Moreover, there is a risk of failure in implementing creative ideas (George & Zhou, 2007; Mumford et al., 2002). In the literature, the investigation of the relations between employee creativity and management innovation is scarce. Regarding which, Gumusluoglu and Ilsev (2009), examining the relations between employee creativity, transformational leadership and organizational (product) innovation, find that creativity has no impact on innovation. Focusing on top management teams, Kickul and Gundry (2001) discover a positive interaction impact between managerial creativity and functional diversity on evaluation of new ideas or opportunities. We suggest,

Hypothesis 2. Employee creativity has a positive impact on management innovation.

2.2. External factors and management innovation

2.2.1. External consultants

Firms need external support when they lack expertise to achieve management innovations. External actors, such as academics, consultants, media organizations, management gurus, or ex-employees can provide firms with new ideas and knowledge, which facilitate the implementation of such innovations (Birkinshaw et al., 2008; Birkinshaw & Mol, 2006). Firms that have ties with these external knowledge sources, are more likely to develop and implement new management ideas and practices. Managers refer to these sources when they search for new ideas and knowledge that are necessary for these innovations (Mol & Birkinshaw, 2009; Volberda et al., 2013). They collaborate with research centers, universities, and other firms in order to incorporate knowledge into their innovation activities (Mas-Verdu, Ortiz-Miranda & Garcia-Alvarez-Coque, 2016). Abrahamson (1996) points out the role of management fashion setters, such as consulting firms, management gurus, media publications, and business schools in management innovations. Since their implementation is difficult, these external actors help in shaping and legitimizing the innovation activity. They also provide the necessary inputs and expertise for such innovations (Birkinshaw & Mol, 2006; Mol & Birkinshaw, 2014). Whilst external actors do not actively implement new ideas in an organization, they have a critical role in making management innovation happen through combining their knowledge with individuals' specific ideas (Birkinshaw et al., 2008).

In this regard, consultants play an important role in the adoption of management systems and structures. They help firms with the implementation of new organizational practices, being sources of new ideas and insight (Tether & Tajar, 2008; Wright, Sturdy & Wylie, 2012). Since management innovations are tacit in nature, firms may require their expertise to implement such innovations successfully. A consulting organization may take a primary role in management innovation through documenting it, which provides the application of innovative activities to the different settings (Birkinshaw & Mol, 2006). Consultants may also provide valuable information about similar innovations implemented in the past (Tether & Tajar, 2008). A new organizational form or management system, which is developed by a consulting firm, can be implemented in different firms (Damanpour & Aravind, 2012). Consultants intend to improve the effectiveness of an organization and generate solutions to the problems managers face in their firms (Birkinshaw et al., 2008). However, consultants may also affect management innovation in a way that prevents firms from developing novel ideas, such as pushing their own off-the-shelf solutions, instead of allowing them to implement their own ideas (Birkinshaw et al., 2008). It has also been argued that new management practices implemented in one firm may be diffused to other firms through consultants (Damanpour & Aravind, 2012). Since management innovations are complex, uncertain, and ambiguous, their diffusion to different firms may not yield desired outcomes (Birkinshaw & Mol, 2006; Damanpour, 2014). In summary, since firms in emerging economies operate in an environment with weak institutional support and resources, the role of consultants in supporting management innovations can be more pronounced in such economies in the initial stages of such implementations. However, their benefit may decline due to the potential imitation by competitors or context specific nature of such innovations (Birkinshaw & Mol, 2006). Hence, we propose,

Hypothesis 3. External consultant utilization has an inverted U-shaped relationship with management innovation.

2.2.2. Government subsidies and government contracts

Firms in emerging economies operate under conditions where capital, labor, and product markets are inefficient (Khanna & Palepu, 1997; Meyer & Peng, 2016). In these economies, internal knowledge creation and R&D activities are usually low (Wang & Libaers, 2016). Hence, governments support firms' innovative activities through subsidies, tax incentives, or loans aimed at reducing the cost of innovation (Allen, Utterback, Sirbu, Ashford & Hollomon, 1978; Bronzini & Piselli, 2016; Dolfsma & Seo, 2013; Kang & Park, 2012). Firms also benefit from access to export and import licenses, and government contracts (Bunkanwanicha & Wiwattanakantang, 2009; Diaz-Diaz, Lopez-Iturriaga & Santana-Martin, 2022; Goldman, Rocholl & So, 2009; Sharma, Cheng & Leung, 2020). Contracts are the formal agreements between two parties, which provide a framework about each party's rights, duties, and responsibilities. Such agreements may shape firms' innovation activities. A contract may constraint firms' opportunistic behavior and exert an influence on their activities through setting out formal procedures (Wang, Yeung & Zhang, 2011). A government, as a buyer, can request advanced technologies through its policies, which may have an encouraging impact on firms' innovation activities (Dolfsma & Seo, 2013). Qi and Nguyen (2021) argue that when firms have government contracts or attempt to get one, they need to interact and have close relations with government bodies. They also need to conform to government procedures and rules during this process. Therefore, such firms are considered to have connections with the government. In this regard, firms that have or intend to get government contracts, may need to meet the requirements, and accordingly develop new management practices or processes. It has been suggested that firms that attempt to secure government contracts, are more likely to develop innovations (Habiyaremye & Raymond, 2018). However, firms may also behave opportunistically, if they interpret detailed contracts as a sign of distrust. This may be observed in emerging economies more compared to developed ones, as relations rely on social connections and these connections may limit the role of contracts (Wang et al., 2011). Also, Boubakri, Mansi and Saffar (2013) argue that firms that have close government connections tend to have less conservative investment choices.

Research on government and innovation relations has mainly been conducted in developed economies. The studies have focused on the relations between government subsidies and technological innovation, or R&D (Deng et al., 2020; Wallsten, 2000). For instance, Bronzini and Piselli (2016) show a positive impact of R&D subsidies on innovation in Italian firms, with this impact being higher for smaller firms than for larger ones. Lach (2002) finds a positive impact of R&D subsidies on small firms' R&D expenditures in the Israeli manufacturing sector. Gorg and Strobl (2007) find evidence that government support for R&D increases expenditure on it in Irish firms. Almus and Czarnitzki (2003) show that firms that receive subsidies achieve higher R&D intensity than those that do not receive such funding in Germany.

In the context of emerging economies, Guo et al. (2016), examining Chinese SMEs, show that firms, supported by government funds, innovate better than those that have no support. Lin and Luan (2020) discover a positive impact of government subsidies on innovation performance in Chinese firms, whilst Kang and Park (2012) find a positive influence of government R&D support on innovation in Korean firms. However, research on how government affects management innovation is scarce. Regarding which, a study by Jiao et al. (2015) shows that government effectiveness in the form of various services has a positive impact on management innovation in Chinese firms. Habiyaremye and

Raymond (2018) find that government subsidies and contracts are determinants of innovation in firms in transition economies. Firms may utilize government support in the form of subsidies in management innovations and government contracts may enhance such activities in emerging economies. Therefore, we propose,

Hypothesis 4a. Government subsidies have positive impact on management innovation.

Hypothesis 4b. Government contracts have positive impact on management innovation.

2.2.3. The moderating role of business group affiliation

Prior studies have suggested that the effectiveness of various antecedents of management innovation may depend on the organizational context in which firms operate (Birkinshaw et al., 2008; Wu, 2010). In emerging economies, one of the important contexts is the business group, which is a dominant form of organization (Carney, Van Essen, Estrin & Shapiro, 2018; Colli & Colpan, 2016). Business groups are defined as a collection of legally independent firms that operate under common administrative or financial control (Cuervo-Cazurra, 2006; Granovetter, 1995; Leff, 1978). They are a network form of organization, where individual affiliates are connected to each other through various ties, such as crossholdings, interlocking directorates and social bonds (Goto, 1982). These ties facilitate the sharing of tangible and intangible resources (Chang & Hong, 2000). Groups have largely arisen in response to underdeveloped institutions so as to generate their own internal capital, labor and product markets (Khanna & Palepu, 1997).

In emerging economies, due to the lack of external institutions and efficient markets, business groups contribute to innovation of affiliates through providing an internal capital market for resources, such as finance, technology, knowledge, and trained labor (Hobday & Colpan, 2010; Mahmood & Mitchell, 2004). They provide training and education opportunities for their human capital, which may be less available to independent firms (Lamin & Dunlap, 2011). They also have trained human resources that can be mobilized between affiliated firms. This mobilization allows for the diffusion of knowledge, which is necessary for innovations (Hobday & Colpan, 2010). That is, internal labor markets have an important role in facilitating knowledge sharing between affiliates. Accordingly, learning from each other through such sharing enhances innovation (Belenzon & Berkovitz, 2010; Hsieh et al., 2010). All these training and other opportunities may exist less in independent firms. In sum, the training opportunities of employees in affiliated firms may lead to more management innovations compared to innovation activities in independent ones.

In a group setting, employees may become more creative in developing ideas that are necessary for management innovations. George (2007), discussing the mutual interaction between creativity at individual and collective levels, suggests that collective creativity stems from an internal process within individual group members in the context of their group membership and interactions. In the case of business groups, employees of affiliated firms can interact and share knowledge with each other due to the social ties within the group (Mahmood, Zhu & Zajac, 2011). That is, network characteristics that facilitate knowledge and information sharing enhance creativity (George, 2007). This knowledge and information exchange may also be a representation of willingness to discuss ideas (Guzman & Espejo, 2019). Hence, this collective creativity may become more evident in affiliated firms, thus leading to more management innovations compared to the activities in independent ones.

Shalley et al. (2004) suggest that research that investigates the organizational conditions that facilitate the conversion of ideas to innovations within a firm is needed. In this regard, examining how the business group context moderates the relation between creativity and management innovation becomes essential. It has been argued that having access to resources facilitates the implementation of ideas in management innovation. Due to the internal markets of the groups, this resource access may be more available to affiliated firms compared to independent ones. Employees with more resources may be more likely to discuss and implement ideas, because the perception of having access to those resources would increase the effort employees put forth to discuss potential ideas for implementation. Thus, affiliated firms may innovate better than their independent peers (Guzman & Espejo, 2019; Mahmood & Mitchell, 2004). However, group affiliation may also have a negative impact on these relationships. For instance, affiliated firms are embedded in their internal relations, which may be harmful since continuous relations may not create new resources for innovation (Granovetter, 1985). If such firms rely only on knowledge exploitation within the group, they may confront over-embeddedness, caused by inertia and increasing similarity of knowledge (Gobbo & Olsson, 2010; Uzzi, 1997). Strong ties and solidarity between them might, in fact, over-embed them in that relationship. This prevents them from obtaining new ideas and knowledge (Adler & Kwon, 2002; Granovetter, 1995). In this case, compared to independent firms, affiliated ones may benefit from knowledge they obtain from training or create novel ideas in a group setting to a lesser extent in developing management innovations.

Despite these possible unfavorable impacts, affiliated firms benefit from knowledge created through training and collective creativity within groups in implementing management innovations. For instance, Guzman and Espejo (2019), based on research on work units in Chilean SMEs, examine the unit-level relationship between promotive voice behavior (communication of ideas), resource availability and management innovation. The findings indicate that voice behavior is significantly related to management innovation. Moreover, organizational resource availability positively moderates the relation between voice behavior and management innovation. Thus, we propose,

Hypothesis 5a. The impact of employee training on management innovation is greater for business group affiliated firms than for unaffiliated firms.

Hypothesis 5b. The impact of employee creativity on management innovation is greater for business group affiliated firms than for unaffiliated firms.

In business groups, ties among affiliated firms increase trust, which leads to the transfer of knowledge (Hsieh et al., 2010). These ties between affiliated firms become more important in emerging economies, where the institutions for knowledge and infrastructure for innovation are insufficient (Chang et al., 2006; Mahmood et al., 2011). Business group affiliates benefit from knowledge acquisition from other firms within the group, which can make affiliated firms more innovative than independent ones (Kim, Kim & Hoskisson, 2010; Lee, Choo & Yoon, 2016; Manikandan & Ramachandran, 2015). Also, affiliated firms not only engage in knowledge acquisition from group firms, but also, have exchange relations with their partners outside their boundaries. Group reputation and political ties allow firms to develop collaborations with others, such as foreign organizations, consultants, and research institutions to exploit knowledge for innovation from their relationships (Chang et al., 2006; Mahmood & Mitchell, 2004). For instance, Hecker and Ganter (2013) find a positive relationship between affiliation with an enterprise group and the adoption of workplace management innovation. However, since independent firms have such opportunities to a lesser extent, they may benefit from external consultants more in their management innovation activities compared to affiliated ones. In this regard, we expect that the curvilinear relationship between external consultants and management innovation is stronger for unaffiliated firms than that for affiliated ones. That is, unaffiliated firms are likely to have higher management innovation impact than affiliated ones across the levels of external consultant utilization. Therefore, we propose,

Hypothesis 6. The inverted U-shaped relationship between external consultant utilization and management innovation is stronger when firms are unaffiliated with a business group.

In emerging economies, thanks to internal markets and interfirm ties, groups can support affiliates through allocating resources for innovation, such as finance and R&D investments (Khanna & Palepu, 1997; Mahmood et al., 2011). However, independent firms do not have access

to such markets, and they need to exploit government sources effectively to compete with affiliates (Chittoor, Sarkar, Ray & Aulakh, 2009). Therefore, independent firms may benefit from subsidies in developing new management practices and processes more. Hence, the effectiveness of government subsidies in management innovations may be observed more in independent firms compared to affiliated ones. Thus, we propose,

Hypothesis 7a. The impact of government subsidies on management innovation is greater for unaffiliated firms than for business group affiliated firms.

Business groups in emerging economies have close ties with governments, which provide affiliated firms with the resources that are necessary for innovation (Hobday & Colpan, 2010; Khanna & Yafeh, 2007; Mahmood & Mitchell, 2004). Groups in such economies determine their strategies and structure in response to government incentives, privileges, and policies. They easily communicate with governments to have opportunities, such as access to low-cost capital and information (Schneider, 2010). This access to information and capital allows them to have advantages over independent firms in innovative activities. Also, thanks to their reputation and political ties, groups can secure government contracts, which may encourage managerial innovations (Colpan, 2010; Granovetter, 1995). The communication and political connections with governments may be observed less in independent firms compared to group affiliated companies and hence, the latter may benefit from government contracts in developing new management practices more than the former during this process. Hence, we propose,

Hypothesis 7b. The impact of government contracts on management innovation is greater for business group affiliated firms than for unaffiliated firms.

3. Research methodology

3.1. Data

The firm-level Enterprise Surveys are conducted by World Bank.[1] The survey collects information from private sector firms operating in manufacturing and services (construction, retail, wholesale, hotels, restaurants, transport, storage, communications, and IT) industries. Firms with government/state ownership are not eligible to participate in an Enterprise Survey. The surveys include information related to firm characteristics, infrastructure, competition, finance, labor, business-government relations, innovation, and performance. The surveys are answered by business owners and top managers through face-to face interviews and carried out in cooperation with business organizations. Enterprise surveys are used in previous research (Iriyama, Kishore & Talukdar, 2016; Jiao et al., 2015; Srholec, 2011; Wang & Libaers, 2016). The potential common method bias is reduced through procedural remedies provided by the survey (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). First, respondents' answers, firms' and interviewees' identities are kept anonymous. Second, the sections related to dependent variable (i.e., management innovation) and independent variables (i.e., employee training, creativity, consultants, government relations) are collected through different surveys. Third, the survey includes different response formats, such as binary and Likert scales. All these ensure the confidentiality and the accuracy of the responses, suggesting that common method bias is unlikely to be a problem in the present study (Krammer, 2019).

The data for this study comes from the fifth round of the Business Environment and Enterprise Performance Survey (BEEPS V) collected in Turkey between 2013 and 2014, jointly by World Bank and the European Bank for Reconstruction and Development. This survey offers us a comprehensive firm level data in an emerging economy context. The sample for Turkey was selected using stratified random sampling, which enhances the credibility of the data. The survey provides information on innovation activities and various characteristics of the firms operating in manufacturing and services sectors (ISIC Rev. 3.1) in six different regions. After omitting firms with missing information, the final sample includes 1081 firms.

3.2. Variables

3.2.1. Dependent variable

Management innovation is operationalized by including innovation activities in management practices, structures and marketing methods, following Mol and Birkinshaw (2009).[2] In the survey, respondents were asked "Over the last three years, has this establishment introduced new or significantly improved organizational methods in the following areas for the first time?" and "Over the last three years, has this establishment introduced new or significantly improved marketing methods in the following areas for the first time?". The six items related to management innovation are "new knowledge management systems to better use or exchange information, knowledge and skills within the establishment; introduction of management systems for general production or supply operations, such as supply chain management systems, lean production, business reengineering, quality management systems; new methods for distributing responsibilities and decision making among employees; a significant change to the management structure of the establishment, such as creating new divisions or departments, integrating different departments or activities; new types of collaborations with other businesses, research organizations or consumers; outsourcing or subcontracting of business activities in production, procurement, distribution, recruiting or ancillary services". The four items related to marketing innovation are "significant changes in the product's appearance; introduction of a new method of advertising or product promotion, such as use of a new media for advertising, a new brand image or logo, a new trademark; introduction of a new method of product placement or sales channels, such as product licensing, franchising, direct selling, exclusive retailing, tailoring or customizing the presentation of the product to different types of customers; new pricing strategies to market the establishment's goods or services, excluding pricing methods used solely to differentiate prices by customer segments". The management innovation scale takes the value 0 if the firm has no management and marketing activity at all, 1 added for each management and marketing innovation activity, with the maximum value 10. The Cronbach's alpha value for the management innovation variable is 0.92.

3.2.2. Independent variables

Employee training: Regarding employees, previous studies utilize workforce education level, which is measured as the percentage of the employees with a degree level (Ganter & Hecker, 2013; Mol & Birkinshaw, 2009). In this paper, employee training is used as one of the internal factors. In the survey, respondents were asked "Over fiscal year, did this establishment have formal training programs for its permanent, full-time employees?". It is assigned the value 1 if the respondents answer 'yes', and 0 if the respondents answer 'no'.

Employee creativity: Gumusluoglu and Ilsev (2009) measure creativity by considering employees' idea generation and implementation based

[1] Accessed at: https://www.enterprisesurveys.org/methodology.

[2] In the Oslo Manual, organizational innovation is defined as "the implementation of a new organizational method in the firm's business practices, workplace organization or external relations", and marketing innovation is defined as "the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing" (OECD 2005, p.49, 51). Following previous studies in the literature, we operationalize management innovation including innovation activities related to management and marketing (Ganter & Hecker, 2013; Mol & Birkinshaw, 2009).

on leaders' evaluation. Somech and Drach-Zahavy (2013) measure individual creativity by using creativity-relevant personal characteristics based on employees' assessment. Then, they operationalize team creativity (i.e., generation of ideas) through creative ideas raised by the team based on leaders' assessment. Guzman and Espejo (2019) measure voice behavior (generation and communication of ideas) based on employees' own assessment. In the present study, the investigation of creativity pertains to employees' idea generation. In the survey, firm managers as respondents were asked "During the last three years, did this establishment give employees some time to develop or try out a new approach or new idea about products or services, business process, firm management, or marketing?". It takes the value 1 if the respondents answer 'yes', and 0 if the respondents answer 'no'.

External consultants: To measure external consultants, respondents were asked "In the last three complete fiscal years, how many times has this establishment hired an external consultant (such as management consultant, engineer, architect, accountant)?". It shows the number of times the establishment hires an external consultant.

Government subsidies: Respondents were asked "Over the last three years has this establishment received any subsidies from the national, regional or local governments or European Union sources?". It takes the value 1 if the respondents answer 'yes', and 0 if the respondents answer 'no'.

Government contract: Several studies utilize Business Environment and Enterprise Performance Survey to measure government contract in examining government relations (Habiyaremye & Raymond, 2018; Lee & Weng, 2013; Qi & Nguyen, 2021). Qi and Nguyen (2021) measure government connections of a firm through whether the firm has secured or attempted to secure a contract from the government, to examine the relations between such connections and credit access in developing country SMEs. The authors state that this conceptualization relies on a realized outcome of government connections. They further argue that focusing on such connections allows to capture the indirect network ties, which represent firms' (SMEs) connections with the government and are unobservable to researchers. We follow a similar approach. In the survey, respondents were asked "Over the last year, has this establishment secured or attempted to secure a government contract?". It is coded as 1 if the respondents answer 'yes', and as 0 if the respondents answer 'no'.

Business group affiliation: Group affiliation is coded as 1 if a firm is a part of a larger enterprise, and as 0 if not. There are 215 affiliated and 866 unaffiliated firms in our sample.

3.2.3. Control variables

Several control variables are included in this study. *Firm age* is the logarithm of the length since the firm begins its operations. *Firm size* is operationalized as the logarithm of the number of employees. We also include an *industry* classification dummy by splitting the sample into two groups, such as manufacturing (coded as 1) and service (coded as 0) firms (ISIC Rev. 3.1). *Export* is measured by export sales as a percent of firm sales. *Degree* is measured as the percentage of employees with a university degree. *R&D* is operationalized by a dummy variable, coded as 1 if the firms spend on research and development activities, as 0 if not. *Product innovation* takes the value 1 if the firm introduces new or significantly improved products or services during the last three years, 0 if not. *Process innovation* takes the value 1 if the firm introduces new or significantly improved methods for the production or supply of products or services during the last three years, 0 if not.

4. Results

Table 1 contains the means, standard deviations, minimum, maximum values, and the correlations between the variables. The correlations are below 0.6 and the variance inflation factor (VIF) for the variables are within the limits of tolerance (i.e., less than 10, the mean VIF is below 3); therefore, multicollinearity is unlikely to be a problem in this study (Hair, Black, Babin & Anderson, 2010).

Table 2 summarizes the results of the regression analysis. Since the dependent variable has more than two categories, the model is estimated through ordered logit regression (Long & Freese, 2001) using the Stata 14 software (StataCorp, 2015, V14.2). Model 1 includes the control variables. Among the control variables, firm size ($\beta = 0.336$, $p < 0.01$), export ($\beta = 0.005$, $p < 0.1$), degree ($\beta = 0.014$, $p < 0.01$), R&D ($\beta = 0.867$, $p < 0.01$), product innovation ($\beta = 0.656$, $p < 0.01$) and process innovation ($\beta = 2.243$, $p < 0.01$) positively affect management innovation. These results are consistent with the findings in existing studies (Ganter & Hecker, 2013; Mol & Birkinshaw, 2009). Firm age and industry have no significant impact upon management innovation.

Model 2 introduces the moderating and explanatory variables to test the main effects of internal and external factors on management innovation. It also includes the squared term for external consultants. Although we do not hypothesize, we find that affiliation with a group has a significant positive impact on management innovation ($\beta = 0.573$, $p < 0.01$). With regard to internal factors, whilst weak, employee training has a significant positive impact on management innovation, thus, hypothesis 1 is supported ($\beta = 0.400$, $p < 0.1$). The results also indicate a strong significant positive effect of employee creativity on management innovation, suggesting that hypothesis 2 is supported ($\beta = 0.960$, $p < 0.01$). Regarding external factors, the coefficient for external

Table 1
Descriptive Statistics and Correlations.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.Man. I.	1														
2.Training	0.21*	1													
3.Creativity	0.27*	0.37*	1												
4.Consultant	−0.01	−0.03	−0.03	1											
5.Subsidies	0.16*	0.17*	0.12*	0.01	1										
6.Contract	0.23*	0.21*	0.20*	−0.02	0.22*	1									
7.Affiliation	0.20*	0.26*	0.21*	−0.03	0.14*	0.18*	1								
8.Firm age	0.08*	0.11*	0.06	−0.01	0.05	0.14*	0.09*	1							
9.Firm size	0.21*	0.41*	0.28*	0.00	0.16*	0.24*	0.36*	0.26*	1						
10.Industry	0.06*	0.12*	0.14*	−0.05	0.10*	0.05	0.12*	0.08*	0.24*	1					
11.Export	0.10*	0.13*	0.05	0.02	0.13*	0.07*	0.13*	0.02	0.22*	0.16*	1				
12.Degree	0.14*	0.22*	0.18*	−0.03	0.03	0.13*	0.05	0.03	0.17*	−0.04	0.02	1			
13.R&D	0.35*	0.14*	0.20*	−0.03	0.15*	0.14*	0.08*	0.04	0.13*	0.08*	0.08*	0.13*	1		
14.Product I.	0.34*	0.16*	0.20*	0.01	0.14*	0.13*	0.10*	0.05	0.11*	0.08*	0.11*	0.09*	0.32*	1	
15.Process I.	0.51*	0.11*	0.22*	−0.08	0.15*	0.13*	0.08*	0.02	0.06*	0.05	0.11*	0.08*	0.36*	0.51*	1
Mean	0.72	0.39	0.51	1.06	0.10	0.16	0.20	18.23	115.17	0.82	27.95	11.17	0.15	0.12	0.11
Std. Dev.	1.96	0.49	0.50	6.07	0.30	0.37	0.40	12.74	368.52	0.39	36.57	15.52	0.35	0.33	0.31
Min.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Max.	10	1	1	100	1	1	1	90	5200	1	100	100	1	1	1

* $p < 0.05$; $N = 1081$.

Table 2
Hierarchical Ordered Logit Results: Management Innovation.

	Model 1	Model 2	Model 3	Model 4	Model 5
Firm age	0.138	0.143	0.135	0.090	0.087
	(0.140)	(0.145)	(0.146)	(0.147)	(0.147)
	[0.323]	[0.325]	[0.353]	[0.538]	[0.556]
Firm size	0.336***	0.122	0.122	0.101	0.094
	(0.069)	(0.080)	(0.082)	(0.081)	(0.084)
	[0.000]	[0.129]	[0.137]	[0.215]	[0.260]
Industry	−0.032	−0.131	−0.088	−0.078	−0.018
	(0.280)	(0.299)	(0.303)	(0.306)	(0.310)
	[0.908]	[0.662]	[0.771]	[0.799]	[0.953]
Export	0.005*	0.004	0.004	0.004	0.003
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
	[0.067]	[0.115]	[0.175]	[0.182]	[0.288]
Degree	0.014***	0.008	0.008	0.010*	0.009*
	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)
	[0.005]	[0.135]	[0.163]	[0.079]	[0.097]
R&D	0.867***	0.764***	0.817***	0.818***	0.870***
	(0.219)	(0.227)	(0.229)	(0.229)	(0.232)
	[0.000]	[0.001]	[0.000]	[0.000]	[0.000]
Product I.	0.656***	0.524**	0.528**	0.541**	0.555**
	(0.245)	(0.253)	(0.253)	(0.255)	(0.256)
	[0.007]	[0.038]	[0.037]	[0.034]	[0.030]
Process I.	2.243***	2.061***	2.095***	2.107***	2.125***
	(0.252)	(0.261)	(0.263)	(0.263)	(0.264)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Affiliation		0.573***	−1.088	0.290	−1.304
		(0.218)	(0.832)	(0.323)	(0.877)
		[0.009]	[0.191]	[0.369]	[0.137]
Employee training		0.400*	0.422	0.370	0.478*
		(0.225)	(0.262)	(0.227)	(0.264)
		[0.075]	[0.107]	[0.103]	[0.071]
Employee creativity		0.960***	0.633**	1.025***	0.683**
		(0.249)	(0.276)	(0.255)	(0.278)
		[0.000]	[0.022]	[0.000]	[0.014]
External consultants		0.065	0.062	0.096	0.109
		(0.137)	(0.137)	(0.122)	(0.122)
		[0.638]	[0.649]	[0.434]	[0.371]
External consultants squared		−0.006	−0.006	−0.004	−0.005
		(0.017)	(0.017)	(0.007)	(0.007)
		[0.714]	[0.715]	[0.525]	[0.481]
Government subsidies		0.516**	0.464*	0.883***	0.844***
		(0.247)	(0.250)	(0.314)	(0.313)
		[0.037]	[0.063]	[0.005]	[0.007]
Government contract		0.708***	0.720***	0.178	0.209
		(0.221)	(0.223)	(0.290)	(0.291)
		[0.001]	[0.001]	[0.539]	[0.472]
Affiliation X Employee training			0.006		−0.331
			(0.483)		(0.509)
			[0.990]		[0.516]
Affiliation X Employee creativity			1.886**		2.091**
			(0.830)		(0.871)
			[0.023]		[0.016]
Affiliation X External consultants				0.064	0.014
				(0.288)	(0.303)
				[0.823]	[0.964]
Affiliation X External consultants squared				−0.030	−0.029
				(0.032)	(0.034)
				[0.348]	[0.395]
Affiliation X Government subsidies				−1.038**	−1.117**
				(0.513)	(0.521)
				[0.043]	[0.032]
Affiliation X Government contract				1.505***	1.557***
				(0.461)	(0.480)
				[0.001]	[0.001]
Log likelihood	−712.99	−679.68	−676.04	−672.55	−668.63
Pseudo R^2	0.16	0.20	0.21	0.21	0.22
LR chi^2	279.46***	346.08***	353.36***	360.34***	368.17***

Standard errors in parentheses, p values in square brackets, * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. N = 1081.

consultants ($\beta = 0.065$, $p > 0.1$) is positive and the coefficient for squared term of external consultants ($\beta = -0.006$, $p > 0.1$) is negative as expected; however, they are not significant. Thus, hypothesis 3 is not supported. However, the effect of government subsidies on management innovation is significantly positive, thus providing support for hypothesis 4a ($\beta = 0.516$, $p < 0.05$). Government contracts also have significant positive effect on management innovation, thus providing support for hypothesis 4b ($\beta = 0.708$, $p < 0.01$).

Model 3 adds the interaction terms between affiliation and the variables related to internal factors, such as employee training and

employee creativity. First, there is no evidence that employee training in affiliated firms leads to greater management innovation vis-à-vis unaffiliated ones, so hypothesis 5a is not supported ($\beta = 0.006$, $p > 0.1$). However, we find a significantly positive result for the impact of interaction between affiliation and employee creativity on management innovation, suggesting that affiliated firms benefit from employee creativity in management innovation more than unaffiliated ones. Thus, hypothesis 5b is supported ($\beta = 1.886$, $p < 0.05$) (remains significant in model 5, full model). Model 4 adds the interaction terms between affiliation and the variables related to external factors, such as external consultants, government subsidies, and government contract. It also includes the interaction term between affiliation and the squared term of external consultants. The coefficient for the interaction term between affiliation and external consultants is not significant ($\beta = 0.064$, $p > 0.1$). The coefficient for the interaction term between affiliation and the squared term of external consultants is not significant ($\beta = -0.030$, $p > 0.1$); hypothesis 6 is not supported. The interaction between affiliation and government subsidies has a significant negative impact on management innovation, indicating that unaffiliated firms benefit from government subsidies in management innovation more than affiliated ones. Thus, hypothesis 7a is supported ($\beta = -1.038$, $p < 0.05$) (remains significant in model 5, full model). Finally, the impact of interaction between affiliation and government contracts on management innovation is significant, suggesting that government contracts have stronger positive influence on management innovation for affiliated firms than for unaffiliated ones. Thus, hypothesis 7b is supported ($\beta = 1.505$, $p < 0.01$) (remains significant in model 5, full model). We have also estimated the model by using a dummy variable for management innovation, which is assigned the value 1 if the firm introduces at least one type of management and marketing innovation activity, and 0 if not. The logit regression results are consistent with the findings of the present study (available upon request).

5. Discussion

In this paper, we aim to investigate the role internal and external factors play in management innovation, along with the conditioning role of context, such as business group affiliation. Regarding the impact of internal factors, this study shows that employee training and creativity enhance management innovation in an emerging economy, where firms operate under weak capital, labor, and product markets. This result reveals the importance of individuals in implementing management practices and processes, thus being consistent with similar studies, where management innovation has been found to be enhanced by employee creativity and workforce education level (Ganter & Hecker, 2013; Guzman & Espejo, 2019; Kickul & Gundry, 2001; Mol & Birkinshaw, 2009).

Concerning the external factors, interesting results emerge. We expect an inverted U-shaped relationship between external consultant utilization and management innovation. However, the relationship is not significant. It has been argued that firms' knowledge acquisition from external partners contributes to the adoption of new management practices (Ganter & Hecker, 2013). However, previous studies have shown conflicting evidence regarding the role of external knowledge from various resources in management innovation. For instance, Mol and Birkinshaw (2009) show a positive impact of knowledge from market participants, such as suppliers, customers, competitors, consultants, on management innovation in UK firms, whereas in a similar study, Ganter and Hecker (2013) find no impact of market sources on such innovations in German firms. As Ganter and Hecker (2013) argue, this finding may be the result of variances in the institutional environments of the countries. In our case, although we expect a curvilinear association between external consultants and management innovation, their utilization shows different consequences in an emerging economy context compared to developed economies. This may be the result of inefficient markets and institutions in the former context, which fail to provide firms with sufficient knowledge and expertise in their innovation activities (Meyer & Peng, 2016). Different from the previous research, which has generally focused on the role of government in technological innovation (Deng et al., 2020; Guo et al., 2016; Kang & Park, 2012), this study has addressed the impact of government, i.e., government subsidies and contracts, on management innovation. This investigation is particularly important for emerging economies as governments play an important role in firms' innovation activities. Our findings suggest that in such economies, firms that utilize government subsidies and secure or attempt to secure contracts, introduce more management innovations. These results reveal the important role government plays in firms' management innovation activities in these economies (Jiao et al., 2015).

Regarding the moderating role of business group affiliation in the relationship between internal factors and management innovation, we find that employee creativity becomes more important in generating management practices and processes when firms are affiliated with a group. However, while employee training is important for management innovation across all firms, it has no additional impact on affiliates' innovation activities. Within the context of an emerging economy, whilst groups have more opportunities for their affiliates, training may be essential for innovation for all firms irrespective of group affiliation, because firms in these economies are continuously learning to achieve innovations and compete with their peers (Xu & Meyer, 2013). In terms of the moderating role of group affiliation in the relationship between external factors and management innovation, we find that affiliation does not moderate the curvilinear relationship between external consultant utilization and management innovation. Indeed, while consultants assist firms in implementing management innovations, in an emerging economy context, their effectiveness may be context specific, and relate to resistance to change (Tether & Tajar, 2008; Wang & Libaers, 2016; Wright et al., 2012). Our findings also suggest that unaffiliated firms benefit from government subsidies more than affiliated ones. That is, since independent firms lack group advantages, such as internal capital, labor and financial markets or R&D opportunities, they benefit from government subsidies more in their management innovations. Chittoor et al. (2009) argue that since affiliates benefit from internal markets for products as well as capital resources within their group, accessing international technological and financial resources is more important for independent firms than for those affiliated with groups. Similarly, in our research, we elicit that independent firms need to be more effective in utilizing resources, such as subsidies, than affiliated ones, in their management innovation activities. However, the effectiveness of government contracts in management innovation is higher for affiliated firms than for independent ones, which may be the result of groups' reputation, close ties, and political connections with governments (Mahmood & Mitchell, 2004).

5.1. Implications for theory and practice

From the theoretical point of view, this paper contributes to management innovation research in several ways. First, in response to the need for research in different institutional environments, this study advances the management innovation literature by investigating the impact of internal and external factors on management innovation in an emerging economy (Damanpour, 2014; Khosravi et al., 2019; Wu, 2010). Firms in these economies pursue innovation activities to keep pace with the rapid development of their peers in domestic and international environments. However, due to the high volatility, uncertainty and complexity in such economies, the development and implementation process of such innovations can be challenging (Damanpour, 2014; Wright et al., 2005). In fact, firms develop such innovations as a response to complex and uncertain environments (Frynas et al., 2018). In this case, the investigation of management innovation and its drivers from an emerging economy perspective allows us to get a better understanding of whether the impact of various antecedents related to the

country-level dynamics on management innovation differs from the effects observed in developed economies (Khosravi et al., 2019; Mol & Birkinshaw, 2009). Second, we have considered the organizational context, such as business groups, which is particularly relevant to emerging economies. Different from SMEs used in Guzman and Espejo (2019), we emphasize the role business groups have in management innovation. Affiliated firms, bound together with various formal and informal ties in a group, benefit from both their own resources and other affiliates' resources in fostering generation and implementation of creative ideas. Moreover, the controlling company at the top may also allocate resources to member firms, which can relate to broad range of tangible and intangible ones, including financial, political, and social capital. Independent firms may have less opportunities to get access to these resources. Hence, the examination of whether business group affiliation interacting with internal and external factors affects management innovation answers a call for further research and contributes to the existing management innovation literature (Khosravi et al., 2019).

Third, in this paper, we have investigated employee training and employee creativity as internal factors, which have been underemphasized in management innovation research (Cerne et al., 2016). This consideration shows the essential role individuals have in making management innovations happen (Volberda et al., 2014). In addition, external consultants, government subsidies and government contracts have been examined as external antecedents. Our consideration of external consultants extends the current knowledge on the relationship between utilizing external knowledge from consultants and management innovation. The findings show that emerging economy firms differ from peers in developed economies in terms of utilizing consultants in such innovations. While external agents are the sources of legitimacy, they may be costly (Birkinshaw et al., 2008; Mol & Birkinshaw, 2014). Different from the previous research, which has generally focused the role of government relations in technological innovation, in this paper, we have emphasized the importance of government subsidies and contracts in management innovation, thus advancing the limited research on how government relations affect management innovation in an emerging economy (Jiao et al., 2015). In this regard, this paper extends the theoretical discussions in developed economy research to an emerging economy context by examining whether management innovation is affected by various internal and external factors as well as considering how such relations differ depending on being affiliated with a business group or not. This investigation advances our understanding by allowing us to comprehend better the nature of management innovation in different country conditions and organizational contexts (Damanpour, 2014; Damanpour & Aravind, 2012).

From the practical point of view, the investigation of management innovation is of importance for firm managers and practitioners in emerging economies. In rapid changing environments of emerging economies, firms need to introduce new management systems and structures to adapt to external change in domestic and international markets (Hecker & Ganter, 2013; Zhou et al., 2006). However, management innovations can be challenging for emerging economy firms, which operate in complex, volatile environments and do not have strong innovative capabilities (Hoskisson et al., 2000; Kafouros & Forsans, 2012; Zhou et al., 2006). Therefore, for successful implementations, managers need to know the drivers and obstacles in such innovations in these economies (Damanpour, 2014; Zhou et al., 2006). The results of this study suggest that firms in emerging economies should mind individuals who provide ideas and find solutions to problems as they have primary role in management innovations in their organizations (Volberda et al., 2014). However, since this process includes challenges with regard to implementation of practices and processes, firms in such economies should also consider the potential country-specific variations in utilizing external knowledge sources, consultants in our case, to manage management innovations effectively (Birkinshaw et al., 2008; Ganter & Hecker, 2013). The findings also imply that a firm's relation with government in emerging economies is critical; however, firms should assess government relations carefully, as their contribution to management innovation differs depending on their affiliation with a group or not.

This study has a number of limitations, which can trigger several avenues for further research. The arguments in this study have been investigated in a single country. Emerging economies may also differ among themselves in terms of institutional conditions. Therefore, further research in other emerging economies may enhance our understanding of how management innovation is implemented (Birkinshaw et al., 2008; Khosravi et al., 2019; Volberda et al., 2014; Wu, 2010). This paper examines limited numbers of drivers based on the availability of the data. While the proposed relations in our model are based on the theoretical arguments in management innovation literature, such innovations may be affected by broad sets of intraorganizational and interorganizational factors, and contextual factors may moderate these relations. Therefore, it would be helpful to address the impacts of learning, capabilities, external networks, and the effects of interactions between those antecedents on management innovation (Volberda et al., 2013; Wolfe, 1994; Wu, 2010). In addition, one of the issues related to the creativity and its relations with innovation is idea generation vs. implementation. In our case, based on the availability of the data, while we were able to measure only the idea generation of employees, we could not capture whether management innovations are developed, or implemented by managers or employees. Future studies may consider obtaining data from both managers and employees to understand whether such innovations are implemented by the idea generators (Cerne et al., 2016; George, 2007; Gumusluoglu & Ilsev, 2009; Guzman & Espejo, 2019; Somech & Drach-Zahavy, 2013). Future research may also consider the impacts of antecedents on different types of management innovations (Heij, Volberda, Van Den Bosch & Hollen, 2020). In addition, it was not possible to use other waves of the survey since some of the variables were not available, such as management innovation. Therefore, the cross-sectional nature of the survey data may limit the interpretations on causation (Iriyama et al., 2016; Wang & Libaers, 2016). While the model is well constructed and theory-driven, given the possibility of reverse causality the findings should be interpreted cautiously. Using longitudinal data would enable to examine the causal relationships (Vaccaro et al., 2012). Future research may also combine the quantitative data with qualitative one to explain the causal relations deeper and provide more granular information on the nature of management innovation.

CRediT authorship contribution statement

Ozlem Ozen: Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing. **Ebru Ozturk-Kose:** Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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