

Direct and Indirect Employee Voice and Firm Innovation in Small and Medium Firms

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This study adopts an integrated approach to employee voice (EV) and analyses the impacts of direct and indirect EV mechanisms on firm innovation in small and medium-sized firms separately. It also proposes a new categorization for direct EV, by distinguishing between verbal and written mechanisms, allowing us to take the level of formality of different EV mechanisms into account. The analysis of 17,890 European firms shows that verbal, written and indirect EV mechanisms are all positively related to a higher propensity of firm innovation in both small and medium firms. However, for verbal EV mechanisms the relationship is significantly stronger for small firms than medium firms. The results also reveal that medium firms derive higher benefit than small firms while combining and balancing EV mechanisms with different levels of formalization (i.e. verbal and indirect voice). However, the former also suffers from excessive formalization of employees' involvement in the innovation process (e.g. through written and indirect voice). Overall, this study supports recent calls for the need to adopt an integrated, pluralistic approach to EV and has important implications for EV research in small and medium firms.

Introduction

Over the last few decades, scholars' and practitioners' interest in employee voice (EV) has grown enormously (Morrison, 2014; Mowbray, Wilkinson and Tse, 2019; Wilkinson, Barry and Morrison, 2020). Despite significant knowledge accumulation in the field, human resource management (HRM) research has largely focused only on the direct forms of EV (Barry, Dundon and Wilkinson, 2018; Nechanska, Hughes and Dundon, 2020). Two trends have accompanied this tendency: (1) the rise of the high-performance work systems model as the dominant approach to analyse the impact of HRM on organizational performance (Harley, 2014); and (2) a (supposed) general decline in union membership in Western economies. This has led scholars and practitioners to focus more on direct, individual forms of employee in-

volvement and to disregard the potential of collective and representative voice mechanisms (Brewster *et al.*, 2007). Dundon and Rafferty (2018) provocatively referred to this pattern as the 'hyper-individualization of HRM'. The authors argued that a return to a pluralistic approach in HRM research will allow a better understanding of how HRM works outside the dominant context of neoliberal, Anglo-Saxon economies. This is particularly relevant in the case of the EV literature due to the strong influence of the institutional and cultural context in shaping voice systems at the organizational level (Wilkinson *et al.*, 2018a).

Another critical point of the HRM literature on EV resides in the relative absence of small and medium enterprises (SMEs) from the debate (Gilman, Raby and Pyman, 2015; Sameer and Özbilgin, 2014). The limited evidence on SMEs has offered mixed results on the role of EV in the success of the HRM system (e.g. Fabi, Raymond and Lacoursière, 2007; Hayton, 2003; Messersmith and Guthrie, 2010). This literature commonly

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relies on the wider HR system, rather than on EV as an individual practice. However, considering the higher resource constraints of SMEs compared to larger firms, the systemic logic adopted by HRM scholars for larger firms may be less useful in smaller firms (Harney and Alkhalaf, 2020; Patel and Conklin, 2012; Rauch and Hatak, 2016). In this sense, SMEs represent a fertile ground for the advancement of EV research. Indeed, it has been noted that because of their limited hierarchy, smaller businesses offer more opportunities for interaction and communication (Wilkinson, Dundon and Grugulis, 2007). Thus, one may argue that in such contexts, informality and direct relationships may make formal EV mechanisms ineffective as they represent an unnecessary (and costly) bureaucratic burden in employment relationships (Chadwick *et al.*, 2013; Wu *et al.*, 2015).

We argue that to better understand the nuances of EV in SMEs, distinguishing between small and medium firms is a necessary step. Although it is commonly recognized that HRM in small and medium firms may be very different (Cardon and Stevens, 2004; Harney and Alkhalaf, 2020), most studies consider SMEs as a single category or focus only on small firms (e.g. Chadwick *et al.*, 2013; De Winne and Sels, 2010; Patel and Conklin, 2012; Way, 2002). Moreover, studies on medium firms, or comparisons between small and medium firms, are almost non-existent (for a few exceptions, see Della Torre and Solari, 2013; Rauch and Hatak, 2016; Wu *et al.*, 2015). Relatedly, a better understanding of EV in small and medium firms may also imply the need to adopt new categorizations of EV mechanisms that fit better with their distinctive characteristics. Regarding direct EV, for example, the higher degree of informality and managerial discretion in smaller firms may increase the usage and usefulness of direct and face-to-face voice (i.e. *verbal* EV) compared to medium firms. This is because the latter are more structured, often have a formal HR department (Wu *et al.*, 2015) and, therefore, may be inclined to adopt (and benefit from) other, formalized, forms of direct voice (e.g. suggestion schemes or employee surveys, such as *written* EV). Similarly, regarding indirect voice, the weak presence of unions in smaller firms may imply that in such contexts, their role is confined to resolving controversies and grievances (Moore and Read, 2006). Meanwhile, higher levels of formalization in medium firms may make unions and managers more experienced to build

constructive relationships and cooperate for firm development.

Finally, most EV studies (including those on large firms) focus on productivity or profitability as the expected outcomes of EV mechanisms (e.g. Bryson, Charlwood and Forth, 2006; Freeman and Medoff, 1984; Kim, MacDuffie and Pil, 2010). However, EV's influence may be stronger on other important outcomes such as innovation, which is a key driver of SME survival in dynamic competitive environments (Curado, 2018; Poorkavoos *et al.*, 2016). Contrary to larger firms, in SMEs, employees typically perform multiple roles (Messer-Smith and Guthrie, 2010). Combined with flatter organizational structures, this allows them to develop deep knowledge and experience about the business and operations of the firm. This in turn enables them to generate innovative ideas to improve and develop products, processes and organizational routines (Wang, Zhao and Thornhill, 2015). Therefore, identifying the appropriate EV mechanisms may be critical for SMEs, as they have higher resource constraints for innovation compared to larger companies.

This paper aims to advance the EV literature by analysing the relationships between direct and indirect EV mechanisms and firm innovation in small compared to medium-sized firms. Using microdata of 17,890 SMEs from the Third European Company Survey (ECS, 2013), this study makes several contributions. First, it integrates competing literature on EV (Nechanska, Hughes and Dundon, 2020), thereby advancing the overall understanding of the impact of different EV mechanisms in modern workplaces. Second, it focuses on the disregarded context of SMEs and acknowledges that the articulation of the HRM structure changes significantly depending on the dimensions of the company (Forth, Bewley and Bryson, 2006; Rauch and Hatak, 2016; Wu *et al.*, 2015). Third, by distinguishing between verbal and written direct EV (Budd, Gollan and Wilkinson, 2010), this study proposes a more nuanced categorization of direct voice mechanisms that may fit better with the specific characteristics of small and medium firms. This deepens our understanding of the impact of different EV mechanisms in these contexts. Finally, contrary to the large majority of existing EV literature, this study focuses on firm innovation as the intended outcome of EV mechanisms. Firm innovation represents a key source of competitive advantage

in global and competitive markets (De Winne and Sels, 2010; European Commission, 2007), and SMEs represent an optimal organizational context for employee-driven innovation to emerge.

Theoretical framework and hypothesis development

There is a growing debate around competing approaches to EV and the need to integrate different disciplinary perspectives (e.g. Barry and Wilkinson, 2016; Kaufman, 2015; Mowbray, Wilkinson and Tse, 2015; Nechanska, Hughes and Dundon, 2020; Wilkinson and Fay, 2011). The main argument is that although much of the EV literature refers to the seminal exit voice loyalty model proposed by Hirschman (1970), each discipline has evolved to adopt its own conceptualization of EV, disregarding different perspectives and advancements by other disciplines. This tendency has led to the creation of what Wilkinson, Barry and Morrison (2020, p. 2) define as ‘voice silos’ in EV research, where organizational behaviour (OB) and HRM scholars are interested in understanding how direct EV takes shape within organizations (in terms of EV behaviours and the effectiveness of EV mechanisms, respectively) and industrial relations (IR) scholars are focused on analysing collective and indirect forms of EV (Barry, Dundon and Wilkinson, 2018). For example, according to Cardon and Stevens (2004, p. 314), ‘the impact of unionization on the small or emerging firm has been virtually ignored in the HRM literature’. However, disregarding the role of unions may be very detrimental for the advancement of EV voice research in SMEs, especially in a context such as Europe. In Europe, several countries have strong industrial relations systems, most employees are covered by a collective agreement and unionization remains remarkably high (Brewster, Croucher and Prosser, 2019). In Italy, for example, the law guarantees support for trade union activity in all workplaces with more than 15 employees. Similarly, in several European countries (e.g. Norway, Austria, Sweden, Belgium and France), collective bargaining covers approximately 90% of the workforce (Doellgast and Benassi, 2014).

To integrate these different perspectives, this study adopts a comprehensive definition of EV as ‘the ways and means through which employees attempt to have a say and potentially influence orga-

nizational affairs relating to issues that affect their work and the interests of managers and owners’ (Wilkinson *et al.*, 2014, p. 5). Specifically, we focus on the means (i.e. mechanisms) that are available to employees to express their ideas for firms’ organizational, process and product innovation.

Next, we first elaborate on the specificities of HRM in SMEs and the need to analyse EV separately in small and medium firms. Then, we develop specific hypotheses for the adoption of different EV mechanisms and firm innovation outcomes.

HRM and EV in small and medium firms

SMEs tend to have a higher preference for informal management of the employment relationship (Chadwick *et al.*, 2013; Gilman, Raby and Pyman, 2015; Mallett and Wapshott, 2014). This informality, including a lack of HRM expertise, has often been linked to resource constraints, reduced trade union representation and a lack of managerial capabilities (Gautam and Markey, 2017; Gilman, Raby and Pyman, 2015; Marlow, Taylor and Thompson, 2010). For example, in a qualitative study on four UK SMEs, Wilkinson, Dundon and Grugulis (2007) showed that the effectiveness of the adoption of employee involvement practices is more influenced by informal than formal aspects, and that formal practices may also reduce employee satisfaction with the company. Similarly, Gilman, Raby and Pyman (2015) analysed the contours (i.e. the how and why) of EV in five small UK-based firms and found that employees reported high levels of satisfaction and motivation, despite EV largely remaining informal and functional to operational issues. This was because of the perception of a collaborative climate in the organization, a high level of trust between employees and managers, and an adequate level of task autonomy. However, the authors also found that firm-specific resources (e.g. the experience of owner/managers and employees) and constraints (mainly related to the industry context) led to some heterogeneity in the cases analysed. This suggests that the reality of SMEs is much more complex than what is generally believed.

Consistent with this view, Harney and Alkhalaf (2020, p. 9) recently noted that ‘there is as much diversity within the SME category as between SMEs and larger firms’ and that more nuanced approaches are necessary for a deeper

understanding of HRM in SMEs. In this sense, size is one of the most relevant factors (Cardon and Stevens, 2004; Chadwick and Li, 2018; Rauch and Hatak, 2016; Wu *et al.*, 2015). Small firms are more labour-intensive than medium firms, often lack legitimacy as an employer of choice, have a greater share of flexible employees—who can perform multiple roles rather than being specialists, and do not have tangible resources to compete with more established firms (Patel and Conklin, 2012; Rauch and Hatak, 2016; Wu *et al.*, 2015). Most importantly, the higher number of employees in medium firms makes it impossible for owners/managers to manage employment relationships through direct communication and personal interactions only (Wu *et al.*, 2015). Thus, while most smaller companies have a family-style structure that features direct verbal interactions between managers and employees (Wilkinson, 1999), and can hinder the integration and application of trade unions (Dundon, Grugulis and Wilkinson, 1999), greater formalization in medium firms (Forth, Bewley and Bryson, 2006) may lead them to strategically invest in EV mechanisms more similar to those of larger firms, including representative EV.

Nevertheless, existing evidence suggests that a certain level of informality persists in medium firms (Della Torre and Solari, 2013; Marlow, Taylor and Thompson, 2010). For example, medium firms are more likely to have an HR specialist than smaller firms, but are less likely to have that compared to larger firms (Forth, Bewley and Bryson, 2006; Wu *et al.*, 2015). Marlow, Taylor and Thompson (2010) analysed the interfaces between formality and informality in six small firms that grew to medium firms. The authors found a clear pattern towards greater formalization of employment relationships in all organizations. However, they also found a ‘continued adherence to informality which draws upon patronage, ignorance, and prerogative [due to the] inability of either managers or employees to mobilize formal policy or procedure to shape the interaction of formality and informality’ (p. 962). Thus, formality and informality may be considered as part of a single span, and the challenge for medium companies seems to reside in identifying and achieving an appropriate and effective balance between the two (Lai, Saridakis and Johnstone, 2017; Marlow, Taylor and Thompson, 2010).

Analysing voice mechanisms with different levels of formalization (i.e. verbal, written and indi-

rect EV) and their combinations in relation to firm innovation in small firms compared to medium firms represents a unique opportunity for advancing EV literature. This will allow us to translate the complexities of these organizational contexts into the effectiveness of different combinations of EV channels.

Direct EV and firm innovation

Direct EV is the most analysed form in the HRM and OB literature (Nechanska, Hughes and Dundon, 2020). Through direct EV, employees have the opportunity to express their ideas and opinions directly to managers, without the mediation of representatives (Holland, Cooper and Sheehan, 2017). From an OB perspective, direct EV has the explicit intent to promote employees’ ‘communication of ideas, suggestions, concerns, or opinions about work-related issues with the intent to improve organizational or unit functioning’ (Morrison, 2011, p. 375; see also Van Dyne, Ang and Botero, 2003). This allows organizations to collect creative ideas and new perspectives, and increases the likelihood of innovation (Fairbank and Williams, 2001; Grant, 2013). From this perspective, the collection of work-related opinions helps managers to detect problems, opportunities and solutions early, thereby facilitating the adoption of innovations (Van Dyne, Ang and Botero, 2003).

Empirical literature on SMEs supports the view that direct EV promotes firm innovation (e.g. Rasheed *et al.*, 2017). For example, Uhlaner *et al.* (2013) analysed a longitudinal sample of Dutch SMEs (less than 100 employees) and found that employee involvement in renewal activities has a positive effect on process innovation but not on product innovation. Andries and Czarnitzki (2014) also analysed the impact of non-managerial employees, managers and CEO suggestions in the innovation process in a sample of German small enterprises (less than 50 employees). However, the authors found that small businesses derive great benefits from non-managerial employees’ ideas for both product and process innovation, suggesting that the traditional focus of SME literature on the role of the CEO/entrepreneur does not capture the full innovative potential of smaller firms (Andries and Czarnitzki, 2014).

Building on this literature, we argue that the effects of direct EV mechanisms may vary in small firms compared to medium firms, depending on

the type of mechanisms considered (e.g. face-to-face interactions, dedicated meetings, suggestion schemes, etc.). In this regard, an important distinction within the broad category of direct EV mechanisms is proposed by Budd, Gollan and Wilkinson (2010): 'some take the form of informal oral or verbal participation, while others are more formalized in the form of written information or suggestions' (p. 304). This distinction between *verbal* and *written* EV mechanisms may be particularly helpful as it also includes the level of formalization that characterizes different mechanisms, thus allowing one to differentiate between EV mechanisms that are structured at different levels. In this sense, for example, the development and operation of suggestion schemes may be more effective in promoting innovation in medium firms than in smaller firms. This is because medium firms are more likely to have the necessary competences to properly manage the programme (Forth, Bewley and Bryson, 2006; Messersmith and Guthrie, 2010) and have advantages in terms of economies of scale (Sels *et al.*, 2006). In contrast, in smaller firms, managers and employees are more used to interacting through loosely structured, face-to-face mechanisms. This makes the adoption of verbal EV mechanisms more effective in promoting the exchange of innovative ideas compared to medium firms. In the latter, a larger number of employees makes personal interactions between the owner-manager and the employee quite difficult to sustain (Wu *et al.*, 2015).

Considering the aforementioned arguments, we can expect that the adoption of verbal EV mechanisms will encourage firm innovation in small firms more than in medium firms. In contrast, written EV mechanisms foster innovation more in medium firms than in small ones. Formally, we propose the following hypotheses:

H1: The positive relationship between direct verbal voice and firm innovation is stronger for small firms than medium firms.

H2: The positive relationship between direct written voice and firm innovation is stronger for medium firms than small firms.

Direct EV mechanisms may have different levels of effectiveness in small firms compared to medium firms. However, we may also argue that the joint adoption of multiple mechanisms results in higher innovation performance in both contexts. Indeed, the HRM literature largely agrees that

'a combination of employee involvement mechanisms allows employees to be involved in different ways, and that information received via one mechanism can be used in others in order to influence decision-making' (Mowbray, Wilkinson and Tse, 2015, p. 394). That is, the wider the range of EV mechanisms available, the higher the probability that employees take the opportunity to contribute with innovative ideas.

The literature also argues that multiple voice channels may result in a crowding-out effect, with some mechanisms negatively affecting other mechanisms (McCloskey and McDonnell, 2018). For example, in their analysis of a non-union subsidiary of a US multinational company, McCloskey and McDonnell (2018, p. 188) found that 'employees appeared to appreciate the use of a plurality of mechanisms to reach a heterogeneous workforce, but it was provoking some confusion over which method should be used to voice specific ideas or concerns'. Furthermore, multiple voice mechanisms may also generate stress among employees. This can reduce their potential for innovation (Ng and Feldman, 2012), especially in situations (like SMEs) where they have high visibility and are directly responsible for their actions (Webster, Beehr and Christiansen, 2010).

Nevertheless, we argue that the coexistence of verbal and written EV mechanisms sends a supportive message to the employees and gives them more opportunities to contribute to innovative ideas, thereby resulting in an increased potential for the firm to introduce innovation. Hence, we formally hypothesize the following:

H3: Verbal and written EV mechanisms interact in (a) small and (b) medium firms, so that the positive relationship of these mechanisms with firm innovation is stronger when both are jointly present.

Indirect EV and firm innovation

Indirect EV mechanisms are those that lend voice to employees through collective representation, such as trade unions, work councils or joint consultative committees (Brewster *et al.*, 2007; Wilkinson *et al.*, 2014). Emergent, non-union forms of indirect EV are increasingly being analysed by IR literature (e.g. Bryson *et al.*, 2019; Kaufman and Taras, 2010). However, the concept of indirect EV mechanisms has been largely associated with the presence

of trade unions and collective bargaining at the workplace level (e.g. Addison, 2005; Black and Lynch, 2001; Bryson, Forth and Laroche, 2011).

A review of the literature suggests little empirical evidence on the impact of indirect EV on a firm's ability to introduce innovations (e.g. Doucouliagos and Laroche, 2013; Fang and Ge, 2012), except in contexts with strong industrial relation traditions such as Germany and Italy (e.g. see Addison *et al.*, 2017; Gritti and Leoni, 2012; also see Black and Lynch, 2004 for an exception in the US context). From a theoretical perspective, Freeman and Medoff (1984) identified two opposing views that explain the relationship between indirect voice and firm innovation: 'monopoly face' and 'collective voice aspect'. According to the monopoly face, indirect voice impedes firm innovation by imposing restrictions on management flexibility (Verma, 2007). Conversely, the collective voice aspect or the 'shock effect' sees indirect voice as the new source of innovation (Kochan, McKersie and Chalykoff, 1986) that surprises management into efficiency and encourages firm innovation through more research and development (R&D) investment (Fang and Ge, 2012).

In this regard, Batt and Welbourne (2002) argued that SMEs are less likely to have the kind of 'monopoly face', conflictual labour management relations or rigid work rules traditionally found by research on large firms. Indeed, SMEs are more flexible, innovative and rapidly changing than larger firms, and 'in this context firms and unions have more opportunity to adopt new forms of work organization and labour-management relations' (Batt and Welbourne, 2002, p. 5). Similarly, it has been shown that the presence of collective representation gives employees a higher sense of belonging to their organizational team and a higher perception of job security, which also leads to an increase in the level of participation in events and meetings (Matlay, 2002). Trade unions also encourage the adoption of innovative HR practices in SMEs (Bacon and Hoque, 2005) that could potentially contribute to firms' propensity to innovate. For example, research clearly shows that unions facilitate employees' access to training (Barry *et al.*, 2020; Green, 1993), which is a fundamental precondition for employees to proactively contribute to firm innovation.

Meanwhile, in smaller firms, employees may be induced to acquiesce to trade union representation to avoid managerial reprisals and preserve

the informality of the relationships (Dundon and Wilkinson, 2003; Gautam and Markey, 2017). In smaller contexts, trade unions may also have more difficulty in gaining access to the workplace. Furthermore, employees are not always aware of their right to representation (Illesy *et al.*, 2007). In this sense, small companies differ from their larger counterparts (including medium firms) because of the weakness of indirect EV (Dundon, Grugulis and Wilkinson, 1999; Forth, Bewley and Bryson, 2006). Most smaller firms are family run, and this type of governance is often associated with reduced union membership (Holten and Crouch, 2014). As shown by Moore and Read (2006) in their qualitative analysis of collective organization, it is likely that in a smaller context, indirect EV is mainly used to frame grievances and to address the risk of injustice in the workplace, thereby limiting the potential for indirect EV to contribute to innovation (see also Shipton *et al.*, 2019).

Based on the above reasoning, we may expect that while generally positive, the effects of indirect voice mechanisms on innovation are stronger in medium firms than in small firms. Formally, we hypothesize the following:

H4: The positive relationship between the presence of indirect EV mechanisms and firm innovation is stronger for medium firms than small firms.

Direct and indirect EV, and firm innovation

Consistent with the argument that an integration between HRM/OB and IR literature could offer a more complete picture of the effects of EV in modern workplaces (Barry and Wilkinson, 2016; Kaufman, 2015; Wilkinson and Fay, 2011), it is reasonable to expect that direct and indirect EV mechanisms also interact with each other in influencing firms' propensity to innovate. Theoretically, Holland *et al.* (2011, p. 101) argued that direct and indirect EV mechanisms 'are strengthened by one another and better reflect the heterogeneous qualities of a modern workforce across a diverse spectrum of workplace issues'. Similarly, Marchington (2007) suggested that the interaction of multiple channels of voice could contribute to the cross-fertilization of ideas by enhancing operations and establishing networks, thus favouring the emergence of innovative ideas.

Some evidence suggests that mixed EV mechanisms may be difficult to configure and result in

ineffective outcomes (e.g. Kim, MacDuffie and Pil, 2010; McCloskey and McDonnell, 2018). However, existing studies on larger firms are generally supportive of the positive effect of multiple (direct and indirect) voice channels (e.g. Bryson, 2004; Pyman *et al.*, 2006; Wilkinson *et al.*, 2018b). For example, Holland *et al.* (2011) found that direct EV has a central role in influencing job satisfaction and that its effects increase when it is adopted in combination with union voice. Similarly, Wilkinson *et al.* (2018b) recently analysed a large representative sample of Australian employers and employees and found that it is the simultaneous presence of direct and indirect forms of representative voice, rather than the effect of each separately, that has the strongest positive effects on the perceived quality of workplace relationships.

Here, one may argue that smaller firms do not need multiple formal voice channels. This is because in smaller contexts, employees typically experience a higher level of initial intrinsic motivation (Bryson and White, 2019) that can be undermined by formal and complex EV systems. Therefore, verbal EV mechanisms may be sufficient to ensure employees' satisfaction and participation in innovative ideas. However, empirical evidence shows that innovation is greater in small firms when they have high levels of unionization and employee participation (Mazzanti and Zoboli, 2009). More broadly, employees are generally in favour of multiple channels as they feel more involved in managerial decision-making (McDonnell *et al.*, 2014) and can better fulfil their desire to be informed and consulted by management (Wilkinson, Dundon and Grugulis, 2007), and are therefore more likely to contribute with innovative ideas. Thus, it is possible to predict that the combined presence of direct and indirect EV mechanisms fosters firm innovation in both small and medium firms. Hence, we formally hypothesize the following:

H5: Verbal and indirect EV mechanisms interact in (a) small and (b) medium firms, so that the positive relationship of these mechanisms with firm innovation is stronger when both are jointly present.

H6: Written and indirect EV mechanisms interact in (a) small and (b) medium firms, so that the positive relationship of these mechanisms with firm innovation is stronger when both are jointly present.

Research methods

Given the European focus of the study, we consider SMEs as firms with less than 250 employees, with small firms being those with less than 50 employees and medium firms being those with between 50 and 250 employees (European Commission, 2016). The data come from the Third European Company Survey (ECS, 2013), which has been used in previous HRM and IR research (e.g. Allen *et al.*, 2016; Della Torre, Salimi and Giangreco, 2020; Oertel, Thommes and Walgenbach, 2016). The targeted respondents of the survey were the managers responsible for human resources of private and public firms in the industrial and service sectors. The survey collected data for 21,828 SMEs on several subjects, such as direct/indirect EV channels, firms' level of innovation and several other management and work organization practices. After excluding public firms, dropping missing values and codification procedures, our final sample had a total of 17,890 observations.

Variables measurement

The description and measurement of the variables included in the study are presented in Table 1.

Firm innovation. We adopt a comprehensive measure for firm innovation, which includes the adoption of product, process and organizational innovation in the company in the period between 2011 and 2013. According to Zahra, Neubaum and Huse (2000), this is a better conceptualization of innovation compared to existing literature, which tends to focus on product innovation only. By using the Oslo Manual definitions (OECD, 2005) of product, process and organizational innovations (see Table 1), our measure is also consistent with more recent innovation studies (e.g. Anzola-Román, Bayona-Sáez and García-Marco, 2018; Arvanitis, Seliger and Stucki, 2016). To better demarcate firms' propensity to innovate, we grouped firms into high and low innovators, based on the adoption of one type of innovation and no innovation (low innovators = 0) or more than one type of innovation (high innovators = 1).

Employee voice. Employee voice is captured by the presence of seven direct and indirect EV mechanisms in the workplace (Table 1). Such EV mechanisms have been widely used and validated by previous research (e.g. Bryson, 2004; Pyman *et al.*,

Table 1. Variable description

Variables	Description	Measures
<i>Controls</i>		
Country	Four categories of countries: compartmentalized; collaborative; fragmented with rigid labour markets; fragmented with flexible labour markets	Dummy 0–1
Industry	Five industries: manufacturing; construction; commerce and hospitality; transport and communication; financial services and real estate	Dummy 0–1
Multi-location	Multi-located (yes or no)	Dummy 0–1
Work climate	Improved or worsened the work climate in the establishment since the beginning of 2010	From 1 = 'Worsened' to 3 = 'Improved'
Seniority	Percentage of employees older than 50 years of age	From 1 = 'None at all' to 7 = 'All'
Labour productivity	Increase or decrease in labour productivity since the beginning of 2010	From 1 = 'Decreased' to 3 = 'Increased'
Retention policy	Employees are hired with the intention of employing them for a long time?	From 1 = 'Strongly disagree' to 4 = 'Strongly agree'
<i>Dependent variables</i>		
Firm innovation	Since the beginning of 2010, has this establishment introduced any new or significantly changed: - products or services (either internally or externally) - processes (either for producing goods or supplying services) - business practices for organizing procedures (new methods of organizing work responsibilities and decision-making; new methods of organizing external relations with other firms or public institutions)	Low innovators (none or one type of innovation) = 0 High innovators (two or three innovations) = 1
<i>Independent variables</i>		
<i>Direct voice</i>		
(Verbal voice)	Presence of regular meetings between employees and immediate manager	Dummy 0–1
(Verbal voice)	Presence of regular staff meetings open to all employees at the establishment	Dummy 0–1
(Written voice)	Presence of discussions with employees through social media or in online discussion boards	Dummy 0–1
(Written voice)	Presence of suggestion schemes	Dummy 0–1
(Written voice)	Presence of employee surveys	Dummy 0–1
<i>Indirect voice</i>		
	Trade union representation/shop steward. Official employee representation currently exists in your establishment?	Dummy 0–1
	Works council or joint platform. Official employee representation currently exists in your establishment?	Dummy 0–1

2006). To evaluate the correspondence of the constructs of our sample with those reported in the literature and validate the seven variables, we conducted an exploratory factor analysis using principal component analysis (PCA) with varimax rotation as the most appropriate way of reducing data (e.g. Gooderham, Parry and Ringdal, 2008). To minimize discretion in the construction of the bundles of practices, we decided to insert all the voice variables in a single PCA. The analysis identified three factors (*written voice*, *verbal voice* and *indi-*

rect voice; see Table 1) with an eigenvalue greater than 1, which together explained 57.7% of the total variance of variables (the full results of the PCA are available from the authors upon request). The inter-variable correlations within the three factors were all positive and significant. Confirmatory factor analysis (CFA) showed an overall satisfactory fit ($\chi^2/df = 8.23$; GFI = 0.98; RMSEA = 0.02; CFI = 0.98; SRMR = 0.01). To further test the discriminant validity of the three constructs, we also conducted a series of CFA and compared the

three-factor model with alternative models. The results showed that the hypothesized three-factor model fitted the data significantly better than all other alternative models, such as the two-factor model where written and verbal EV mechanisms were combined into a single factor ($\chi^2/df = 75.38$; GFI = 0.86; RMSEA = 0.06; CFI = 0.86; SRMR = 0.03) and the one-factor model where all the voice mechanisms were considered as a unique factor ($\chi^2/df = 184.50$; GFI = 0.64; RMSEA = 0.10; CFI = 0.64; SRMR = 0.05). Moreover, to correct the scores for EV mechanisms that may not be contextually relevant, we created a weighted index for each factor resulting from the CFA. We did this by multiplying the presence of each of the verbal, written and indirect mechanism (0 = no; 1 = yes) by the percentage of firms in a specific size group (i.e. small or medium firms) that adopt such EV mechanisms in the country where the firm operates and then summing the weighted scores into a single index (Chowhan, 2016; Kim, MacDuffie and Pil, 2010).

Controls. Several control variables were included in the analysis (see Table 1). Notably, to further control for the *country of origin*, we relied on the variety of capitalism literature, and specifically on Allen *et al.*'s (2016) classification of countries as 'compartmentalized', 'collaborative', 'fragmented with rigid labour markets' and 'fragmented with flexible labour markets'. This classification represents different institutional perspectives (North, 1990), arguing that formal and informal institutions shaped at the national level could potentially affect the adoption of EV mechanisms and the level of firm innovation. We also controlled for other establishment characteristics, such as the *industry* and *multi-location* of the firm, as variances in the sectoral structure of firms lead to significant technological and learning changes shaping specific patterns of innovation (Malerba, 2002), and multi-located firms are more likely to be involved in collaboration, have innovative links and have integrated R&D activities across locations, which will have important implications for their innovation (Alcácer and Zhao, 2012). Furthermore, we controlled for *work climate* as an important determinant of firm innovation. Studies have shown that a favourable work climate can foster innovation (Tidd and Bessant, 2009), and that the perception of the work climate can influence employees' level of motivation required

for creativity (Amabile *et al.*, 1996; Shipton *et al.*, 2017). The literature also suggests that employees' *seniority* is often associated with skill acquisition and a growing familiarity with the role and organizational environment, thus leading employees to better position their innovative ideas, which in turn may positively affect firm innovation (Shipton *et al.*, 2019; Wagner and Paton, 2014). Likewise, *retention* policies and long-term relationships with employees may increase the likelihood of innovation because they make employees more willing to share their accumulated knowledge and feel safer in expressing their innovative ideas (Shipton *et al.*, 2019). Lastly, we controlled for *productivity* gains, as driving down costs and higher efficiency could positively affect firms' available budget for R&D expenditures and facilitate their investments in innovation (Bas and Paunov, 2018).

Analytical procedure

To test our theoretical predictions, we conducted a three-step hierarchical probit regression analysis with clustered robust standard errors at the country and industry levels. Control variables were used in Models 1 and 2 (for small and medium firms, respectively), followed by the integration of independent variables of verbal, written and indirect EV (Models 3 and 4) to estimate their main effects on a firm's propensity to innovate. In Models 5 and 6, three two-way interaction terms between verbal, written and indirect EV mechanisms were used.

To reduce the risk of multicollinearity, verbal, written and indirect EV indices were mean-centred and the variance inflation factors were estimated, suggesting that there is no issue of multicollinearity. Given the cross-sectional nature of the data and the single source of respondents, we also checked for potential common method bias (CMB) using Harman's single-factor test (Podsakoff *et al.*, 2003). The total variance explained was 23.61% for a single factor, suggesting that CMB does not affect either the data or the results.

Results

Tables 2 and 3 present the descriptive statistics and correlation matrix of the variables. A mean comparison between small and medium firms shows that the latter have higher levels of innovation and adopt more verbal, written and indirect EV

Table 2. Descriptive statistics

Variables	Total sample (SMEs)		Small firms		Medium firms	
	Mean	Std dev.	Mean	Std dev.	Mean	Std dev.
Firm innovation	0.396	0.489	0.350	0.477	0.475	0.499
Verbal EV	1.152	0.497	1.137	0.507	1.178	0.481
Written EV	0.439	0.440	0.328	0.360	0.626	0.496
Indirect EV	0.173	0.334	0.062	0.156	0.360	0.452
Compartmentalized	0.243	0.429	0.236	0.425	0.256	0.437
Collaborative	0.278	0.448	0.279	0.449	0.277	0.448
Fragmented – rigid market	0.239	0.426	0.249	0.432	0.223	0.416
Fragmented – flexible market	0.238	0.426	0.235	0.424	0.243	0.429
Manufacturing	0.323	0.467	0.280	0.449	0.397	0.489
Construction	0.099	0.298	0.110	0.313	0.081	0.273
Commerce and hospitality	0.281	0.449	0.317	0.465	0.220	0.415
Transport and communication	0.066	0.249	0.063	0.243	0.073	0.260
Financial services and real estate	0.034	0.183	0.032	0.176	0.040	0.196
Multi-location	0.281	0.449	0.235	0.424	0.359	0.480
Seniority	1.511	0.982	1.430	1.013	1.650	0.911
Labour productivity	2.347	0.703	2.293	0.716	2.439	0.672
Work climate	1.221	0.671	1.225	0.660	1.215	0.691
Retention policy	2.484	0.574	2.493	0.569	2.470	0.582
No. observations	17,890		11,255		6,635	

mechanisms than the former (Table 2). We ran independent group t-tests to analyse the significance of differences between means in the two groups of firms. The results show that on average, medium firms adopt more verbal, written and indirect EV mechanisms than small firms.

The correlation analysis applied to the total sample of SMEs shows that verbal, written and indirect EV are correlated positively and significantly between each other and with a firm's propensity to innovate. Furthermore, firm size is positively correlated with firm innovation, and direct verbal and written, and indirect EV (Table 3).

Table 4 presents the results of the probit regression models for the propensity of firm innovation (low versus high). In terms of the main effects of EV mechanisms, consistent with our assumptions, the findings suggest positive and significant relationships between verbal, written and indirect EV, and firm innovation for both small and medium firms (Models 3 and 4). To test H1, H2 and H4, we conducted a multi-group analysis to test for differences in the magnitude of verbal, written and indirect EV and firm innovation relationships between the firm size categories. We first estimated the size of each relationship followed by a series of chi-square difference tests to assess differences in the slope parameters for small and medium firms

(Satorra and Bentler, 2001; Wu *et al.*, 2015). The analysis showed that the positive relationship between verbal EV and firm innovation is significantly stronger in small firms than in medium firms ($\Delta\chi^2 = 4.63$, $p = 0.031$). The coefficients for written and indirect EV are not significantly different in small and medium firms ($\Delta\chi^2 = 0.02$, $p = 0.879$ and $\Delta\chi^2 = 0.04$, $p = 0.841$, respectively). Therefore, H1 is supported, whereas H2 and H4 are not.

Turning to the multiple presences of EV mechanisms, the results offer a puzzling picture. In small firms, the presence of multiple EV mechanisms does not have any significant relationship with firm innovation (Model 5). Meanwhile, in medium firms, the interaction is significant and positive for verbal EV combined with indirect EV ($\beta = 0.411$, $p < 0.001$), significant and negative for written EV combined with indirect EV ($\beta = -0.217$, $p < 0.05$) and non-significant for verbal EV combined with written EV. Following Aiken and West (1991), to facilitate the interpretation of significant interactions, we plotted them and performed simple slope tests. The results show that in medium firms, the positive relationship between verbal EV and firm innovation (Figure 1) is positive and significant only when indirect EV is higher versus lower ($\beta = 0.022$, $p < 0.65$ and $\beta = 0.647$, $p < 0.00$ for lower and higher indirect EV, respectively).

Table 3. Pearson's correlations among the study variables (total sample)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1 Firm innovation																			
2 Verbal EV	0.12																		
3 Written EV	0.18	0.24																	
4 Indirect EV	0.12	0.09	0.27																
5 Compartmentalized	-0.01	0.15	0.16	0.13															
6 Collaborative	-0.02	0.01	0.03	0.09	-0.35														
7 Fragmented – rigid market	0.08	-0.15	-0.15	-0.03	-0.32	-0.35													
8 Fragmented – flexible market	-0.05	-0.01	-0.04	-0.20	-0.32	-0.35	-0.31												
9 Manufacturing	0.04	-0.05	0.01	0.08	-0.02	-0.06	0.04	0.05											
10 Construction	-0.09	-0.03	-0.07	-0.05	-0.00	-0.02	-0.02	0.04	-0.23										
11 Commerce and hospitality	0.02	0.03	-0.03	-0.08	-0.00	-0.00	0.02	-0.01	-0.43	-0.20									
12 Transport and communication	-0.06	-0.05	-0.01	0.01	0.00	0.02	-0.01	-0.01	-0.18	-0.09	-0.17								
13 Finance and real estate	0.03	0.04	0.05	0.04	0.02	0.01	-0.04	0.01	-0.13	-0.06	-0.12	-0.05							
14 Size	0.12	0.04	0.33	0.43	0.02	-0.00	-0.03	0.01	0.12	-0.05	-0.10	0.02	0.02						
15 Multi-location	0.14	0.07	0.18	0.20	0.06	0.03	0.03	-0.12	-0.08	-0.09	0.07	0.02	0.06	0.13					
16 Seniority	-0.05	-0.07	0.04	0.13	-0.05	0.06	-0.08	0.06	0.10	-0.00	-0.11	0.03	0.03	0.11	0.01				
17 Labour productivity	0.14	0.12	0.15	0.03	0.12	0.04	-0.18	0.02	0.03	-0.07	-0.03	-0.00	0.03	0.10	0.04	-0.06			
18 Work climate	0.08	0.15	0.10	-0.01	0.18	-0.01	-0.13	-0.04	-0.00	-0.05	0.02	-0.02	0.02	-0.01	0.00	-0.10	0.34		
19 Retention policy	0.04	0.05	0.06	-0.04	-0.05	0.13	-0.10	0.01	-0.00	-0.02	0.01	0.00	0.01	-0.02	0.02	-0.00	0.06	0.03	

Notes: Coefficients greater than 0.019 are significant at $p < 0.01$ (two-tailed). Number of observations = 17,890.

Table 4. Hierarchical probit regression models for EV mechanisms and firm innovation

	Model 1 (small)		Model 2 (medium)		Model 3 (small)		Model 4 (medium)		Model 5 (small)		Model 6 (medium)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Compartmentalized	0.000	0.078	-0.025	0.122	-0.068	0.074	-0.196	0.110	-0.066	0.074	-0.197	0.105
Collaborative	0.013	0.056	0.032	0.069	0.018	0.061	-0.091	0.077	0.023	0.061	-0.104	0.075
Fragmented – rigid market	0.342***	0.050	0.329***	0.063	0.410***	0.053	0.320***	0.074	0.412***	0.054	0.328***	0.070
Manufacturing	0.020	0.068	0.018	0.085	0.049	0.065	0.043	0.075	0.049	0.065	0.043	0.070
Construction	-0.282**	0.074	-0.361***	0.085	-0.248***	0.075	-0.284***	0.083	-0.249***	0.075	-0.282***	0.082
Commerce and hospitality	0.019	0.067	-0.044	0.079	0.048	0.065	-0.015	0.065	0.047	0.065	-0.018	0.061
Transport and communications	-0.381***	0.087	-0.340***	0.079	-0.342***	0.084	-0.285***	0.070	-0.344***	0.084	-0.279***	0.069
Financial services	0.065	0.102	0.190*	0.094	0.056	0.089	0.165	0.093	0.056	0.089	0.164	0.091
Multi-located	0.347***	0.032	0.303***	0.043	0.284***	0.034	0.229***	0.039	0.283***	0.033	0.235***	0.039
Seniority	-0.067***	0.017	-0.032	0.027	-0.065***	0.018	-0.047*	0.023	-0.065***	0.018	-0.051*	0.023
Labour productivity	0.236***	0.020	0.233***	0.025	0.225***	0.020	0.211***	0.025	0.225***	0.020	0.212***	0.025
Work climate	0.128***	0.021	0.033	0.025	0.097***	0.021	0.016	0.026	0.097***	0.021	0.014	0.026
Retention policy	0.091***	0.027	0.098**	0.034	0.069**	0.026	0.089**	0.032	0.069**	0.026	0.089**	0.032
Verbal EV					0.240***	0.030	0.162***	0.047	0.211***	0.038	0.094*	0.044
Written EV					0.381***	0.045	0.344***	0.046	0.403***	0.051	0.389***	0.048
Indirect EV					0.246*	0.117	0.208***	0.055	0.279*	0.117	0.245***	0.051
Verbal EV * Written EV									-0.084	0.078	-0.023	0.068
Verbal EV * Indirect EV									-0.126	0.167	0.411***	0.087
Written EV * Indirect EV									0.168	0.236	-0.217*	0.088
No. observations	11,118		6,565		11,118		6,565		11,118		6,565	
Pseudo R ²	0.051		0.038		0.068		0.059		0.068		0.063	

Notes: *p < 0.05; **p < 0.01; ***p < 0.001. Unstandardized beta coefficients were reported. All tests were two-tailed and robust standard errors adjusted for 180 clusters in the country and sector.

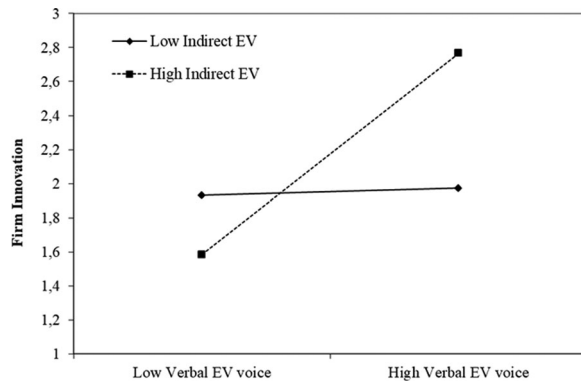


Figure 1. Interaction between verbal and indirect EV, and firm innovation in medium firms

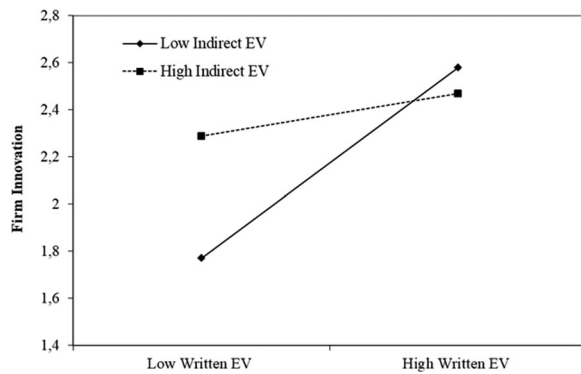


Figure 2. Interaction between written and indirect EV, and firm innovation in medium firms

Furthermore, the positive relationship between written EV and firm innovation (Figure 2) is positive and significant only when indirect EV is lower versus higher ($\beta = 0.426$, $p < 0.00$ and $\beta = 0.096$, $p < 0.36$ for lower and higher indirect EV, respectively). Hence, H5b is supported, whereas H3, H5a and H6 are not.

Discussion and conclusion

Contribution and implications

Drawing on HRM, OB and IR literature, this study contributes to a better understanding of direct and indirect EV mechanisms, and their relationship with firm innovation in small firms compared to medium firms. Overall, we found a significant relationship between the adoption of the three EV mechanisms investigated (verbal, written and indirect EV) and a higher level of firm innovation in both small and medium firms.

Regarding direct EV, these findings are consistent with the literature showing that the adoption of direct EV (in our case, verbal and written EV) is beneficial for SMEs (e.g. Andries and Czarnitzki, 2014; Faems *et al.*, 2005; Rasheed *et al.*, 2017), and that in such contexts the effects of direct EV on firm performance may be even higher than those of other HR practices such as incentives and rewards (Rauch and Hatak, 2016). In this sense, our findings provide further evidence on the importance of direct EV for SMEs' ability to innovate and pave the way for more empirical investigation of the role of individual HR domains in favouring innovation activities in SMEs.

Interestingly, we also found that the magnitude of the positive relationship between verbal EV and propensity to firm innovation is significantly greater in small firms than medium firms. This finding demonstrates that smaller firms are particularly able to involve employees through loosely structured EV mechanisms, mainly based on face-to-face and verbal relationships. The effectiveness of these mechanisms may also be related to the high initial intrinsic motivation of employees in smaller firms (Bryson and White, 2019), which makes them willing to frequently interact with the top management and share their innovative ideas. Through verbal EV, the possibilities to interact with managers are expanded beyond issues related to one's own role and duties (Holland, Cooper and Sheehan, 2017). However, this does not mean that more structured EV mechanisms are unnecessary for smaller firms or that they are effective only in medium firms. Indeed, while the adoption of written EV mechanisms is significantly higher in medium firms compared to smaller firms, we found that the magnitude of the positive relationships of such EV mechanisms with firm innovation is not significantly different between the two groups of firms. Thus, our study provides further evidence that more structured EV mechanisms are more present in medium firms (Forth, Bewley and Bryson, 2006; Patel and Conklin, 2012; Wu *et al.*, 2015). However, we also contradict the common view that for smaller firms, the adoption of more structured HRM practices (in our case, EV) may be unnecessary or even detrimental because of their limited managerial capability, reduced economies of scale and lower ability to recoup investment costs (Harney and Alkhalaf, 2020). Together, our findings on the main effects of verbal and written EV offer an important

contribution to EV research on SMEs, suggesting that compared to medium firms, smaller firms may have a competitive advantage related to their higher ability to exploit verbal EV mechanisms for introducing firm innovation.

Furthermore, to the best of our knowledge, our findings are the first to offer important evidence on the positive influence of indirect EV mechanisms (i.e. trade unions, work councils and joint committees) on firm innovation in both small and medium firms, without significant difference in terms of magnitude of these relationships. Thus, similar to what we found for written EV mechanisms, while our study provides further evidence that the presence of indirect EV mechanisms is significantly higher in medium firms than in small firms (Dundon, Grugulis and Wilkinson, 1999; Forth, Bewley and Bryson, 2006), it also shows that the lower presence of indirect EV mechanisms in small firms does not necessarily mean weakness or ineffectiveness. On the contrary, we found support for the 'collective voice' view of indirect voice (Freeman and Medoff, 1984). We speculate that in such contexts, indirect EV is constructively adopted to better define and identify collective interests, frame grievances, address the risk of injustice amongst workers and contribute to the building of trust between employees and managers. This helps in promoting workplace innovation and the idea that firm innovation, as a collective interest, represents the path that can better protect workers' prospects (Batt and Welbourne, 2002; Gritti and Leoni, 2012). These results are likely to be influenced by the strong industrial relations tradition of several European countries (Brewster, Croucher and Prosser, 2019; Kim, MacDuffie and Pil, 2010). Nevertheless, they largely support the usefulness of adopting a pluralistic approach to better understand EV in modern workplaces.

The need to integrate different EV perspectives becomes evident when interactions between verbal, written and indirect voice are considered. Regarding medium firms, we found that verbal and written EV do not interact significantly in relation to firm innovation. However, indirect EV strengthens the positive effects of verbal EV and reduces the positive effects of written EV. Consistent with the arguments presented above, we may argue that indirect EV mechanisms allow managers and employees to build more cooperative and constructive relationships, for improving the organizational climate, and for increasing the overall level of trust

within the company. These, in turn, also result in increased effectiveness of personal interactions and verbal EV. As shown in the organizational literature on creativity and innovation, these are key elements for employees to decide on using voice channels and contribute to the innovation process (Amabile and Pratt, 2016; Shipton *et al.*, 2017). On the contrary, the findings on the negative interaction between written and indirect EV mechanisms may indicate that an excessive level of formalization of EV may be detrimental in medium firms. In relatively small organizational contexts such as those of medium firms, the presence of an overly structured EV system may indeed induce employees to perceive it simply as a bureaucratic procedure (Marlow, Taylor and Thompson, 2010), thus reducing their motivation to contribute to the innovation process (Bryson and White, 2019).

Turning to small firms, the coexistence of multiple EV mechanisms does not have a significant effect on a higher level of firm innovation. Thus, smaller firms seem to lack the necessary managerial capabilities to effectively combine different EV mechanisms (Gautam and Markey, 2017; Gilman, Raby and Pyman, 2015). This results in confusing messages and stressful situations for employees, which in turn reduces their potential for innovation.

Overall, our findings show that the effect of single EV mechanisms on firm innovation is generally positive in small and medium firms. However, the relationships are often more nuanced than what is generally proposed by the existing literature. This reinforces the need for future HRM and EV research to consider SMEs as a heterogeneous category. Our study shows that small and medium firms differ in terms of their ability to exploit the potential of the intersections between different EV mechanisms. In particular, medium firms derive higher benefits than small firms in combining and balancing EV mechanisms with different levels of formalization (e.g. verbal and indirect mechanisms). However, they also suffer from an excessive level of formalization in employees' involvement in the innovation process (e.g. through written and indirect voice). This is consistent with recent literature showing that in medium firms, formality and informality are part of a single span that needs to be managed and properly balanced (Marlow, Taylor and Thompson, 2010). We suggest future studies to adopt these theoretical lenses to explore how EV takes shape in these contexts. In this sense, our

study contributes to the development of the field by highlighting the need to develop new classifications of EV mechanisms that may better capture the role of formality/informality in SMEs.

Limitations and future research

This study has several limitations. First, the sample is cross-sectional, and thus prevents us from making causal inferences. This general problem is common to most HRM research (Jiang and Messersmith, 2018), and was partially mitigated by the large number of observations in our sample. Second, consistent with the literature (e.g. Anzola-Román, Bayona-Sáez and García-Marco, 2018; Arvanitis, Seliger and Stucki, 2016), we evaluated SMEs' propensity to innovate based on the presence of innovations within a given period, rather than the intensity within an organization. Future EV research could take a longitudinal approach, capture the intensity of innovations and adopt more comprehensive measures to test the robustness of our findings. Next, with regard to EV variables, we differ from most existing SME literature, which mainly measures the simple presence of practices (Harney and Alkhalaf, 2020), by adopting a weighted indexing approach that allows the measurement of the EV mechanism by the specificities of each country and size groups (small and medium firms). However, our measures do not capture the quality (e.g. the level of trust and justice that characterizes the voice process; see Kougiannou, Dundon and Wilkinson, 2020) and the content of voice arrangements (e.g. complaining or grievance versus suggestions for improvement; see Bacon and Hoque, 2005; Shipton *et al.*, 2019). Thus, while we contribute to a better understanding of the impact of EV mechanisms, we cannot empirically demonstrate the process ('how') through which different EV mechanisms affect firm innovation. This is an important area of development for research on EV, especially in smaller organizational contexts where qualitative literature shows that there might be disparities between EV practices reported by owners/managers (i.e. practices that they declare to be used) and those actually in use in the company (Gilman, Raby and Pyman, 2015).

The distinction between verbal and written mechanisms we adopted represents a promising line of inquiry for future literature on direct EV in SMEs. Future research could also usefully reflect

on new ways to categorize indirect voice. For example, we know very little about informal mechanisms adopted for the management of the relationships between the owner-managers and employees' representatives, and how they affect the outcomes of the overall EV system adopted. Thus, together with more systematic inclusion of indirect EV in the analytical models adopted by studies on EV in SMEs, future literature should propose new conceptualizations of EV that are able to better capture and understand the unique nature of employment relationships in those contexts.

Finally, this study took place within the European context, which is a distinctive context for analysing EV because of its specific historical traditions, cultural orientations and institutional settings (Brewster, Croucher and Prosser, 2019). In this regard, careful consideration should be given to the generalizability of our findings to other areas, such as the USA or Asian countries. Comparative studies among different cultural and institutional contexts are needed for a more complete understanding of EV in small and medium firms.

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