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Micro-firms way to succeed: How owners manage people

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ABSTRACT

This study explores the configurations of people management practices in micro-firms and their relation with entrepreneurial orientation and firm performance in a four-year window. Based on the ability-, motivation- and opportunity-focused practices framework, we identify configurations of HRM practices used in micro-firms and, in conjugation with entrepreneurial orientation, how they affect employee growth and net income. We analyzed data collected from 114 micro-firm owners combined with firm objective performance measures using Multiple Correspondence Analysis and Cluster Analysis. Results show a taxonomy of three configurations of HRM practices associated with different entrepreneurial orientation strategic postures in micro-firms: "Financial centric HRM practices", "Operations centric HRM practices", and "People centric HRM practices". We assume that configurational methods can help uncover the complexity of the interplay between HRM practices and strategic postures on micro-firm performance. This study contributes to the literature in micro-firms by revealing effective people-related managerial practices on performance.

1. Introduction

Micro-firms employ fewer than ten workers, have up to two million Euros in sales (European Commission, 2020), and are the most abundant category of firms worldwide (90.6%) and in the European Union (92.6%; OECD, 2019). The creation of new technological or digital products or services (from low-tech to high-tech) contributed to the exponential growth in the number of micro-firms created (OECD, 2021; Eurostat, 2020). While some may have a high growth perspective, in the early days, micro-firms operate at a margin with no or few employees and low returns (Bögenhold & Fachinger, 2007).

Micro and small businesses are well-differentiated in Europe based on size categories, annual sales revenue, and asset criteria[1]. Beyond the statistics, micro and small firms are also different in several management aspects: (a) in micro-firms, decision making is concentrated in the owner-managers because there is rarely a need to appoint a non-owner as a manager; (b) the owner-manager of a micro-firm typically works at both the managerial and operational levels, and there is no separation in these functions; (c) decision making by micro-firms owner-manager is complex and results from the interaction of the individual, social and economic context; and (d) micro-firms owner-managers follow an informal management style, utilizing the information they have informally gathered during their professional activities, interaction with customers, and the observation of other peers, leading to no or low managerial planning, cost analysis, marketing research or formal HRM practices (Greenbank, 2000).

While micro-firms are prominent in the entrepreneurial ecosystem, compared with scholarly work in small, medium, and large firms, micro-firms have received much less attention (Short & Gray, 2018), leaving significant holes in our understanding of the reasons for their shorter survival period (Wee & Chua, 2013) and unique growth challenges (Reid, 1995; Heshmati, 2001). One reason that may explain growth challenges in micro-firms is people management processes and practices. Human capital is critical for the success of new ventures (Marvel

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[1] Small businesses employ <50 persons and whose annual turnover or annual balance sheet total does not exceed 10 million euros and medium sized businesses employ <250 persons and either have an annual turnover that does not exceed 50 million euros, or an annual balance sheet not exceeding 43 million euros (European Commission, 2015).

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et al., 2016; Hornsby & Kuratko, 1990) and more so when it comes to micro-firms because only a few employees contribute to create value for the business. While we know about the effect of the owner characteristics (Kelly et al., 2020; Crespo et al., 2021), management of competition (Granata et al., 2018), or strategic practices and decision-making (Kearney et al., 2019; Liberman-Yaconi et al., 2010) on performance rates, first and foremost, micro-firms need to hire and retain people if they want to grow strategically. As Richard Branson said, "*a big business starts small*", and understanding how micro-firms strategically yet informally define their people management practices is critical to enhancing their capabilities and ensuring long-term survival and growth (Bendickson et al., 2017). However, how micro-firms recruit, hire, train, motivate or reward people (that is, their human resources management – HRM – practices, e.g., Pfeffer, 2005) and their effect on their performance are still largely unknown. This study explores HRM practices in micro-firms from the Enterprise Resource Planning selling sector and their impact on performance growth four years later.

The human resources systems and practices in entrepreneurial ventures significantly impact up and downstream organizational performance (Katz & Welbourne, 2002; Cardon & Stevens, 2004). While much of our knowledge in HRM topics in large firms may also apply to new ventures (e.g., Rauch & Hatak, 2016), micro-firms are different from small businesses due to their liability of newness and smallness (Stinchcombe, 1965) and decision-making processes (Liberman-Yaconi et al., 2010), which brings additional difficulties in recruiting and retaining employees (Williamson et al., 2002). Such HR systems and practices are often informal (Markman & Baron, 2003) due to the financial and time constraints to create, implement, and maintain people (Patel & Cardon, 2010; Short & Gray, 2018). Compared with small or medium firms, micro-firms have disadvantages in hiring and retaining people. These include lack of financial capital and slack, absence of power to negotiate commercial transactions, difficulties accessing new markets, and limited operational capacity. However, the strength of micro-firms lies in the entrepreneur and workers' specialized knowledge and organizational capabilities. The values and skills of the owner, and core workers are usually the dominant values and abilities of the firm (De Jong & Vermeulen, 2006), which are especially important for defining, developing, and implementing an entrepreneurial strategy.

The impact of people management practices on firm performance is not accurately represented by the single effect of one HRM practice or by a linear dependency but is best expressed by configurations of practices (Bello-Pintado, 2015) which act as bundles influencing employees and ultimately affect firm performance (e.g., Jiang et al., 2012). As micro-firms are embedded in an uncertain context (Lichtenstein, 1999) that entails complex causalities (McKelvey, 2004), these characteristics are outspread to owners and employees, who perceive incentive systems for recruiting, training, and retaining people in a codependent way. In addition, micro-entrepreneurs are likely to use holistic reasoning (Magnussen & Torestad, 1993; Muñoz & Dimov, 2015; Obschonka et al., 2013) and consider the interdependent interplay of personal and organizational factors to arrive at decisions on how to manage people in their micro-firms.

Also, the effect of people management practices in micro-firm performance are not best captured in a cross-sectional research design because measuring the impact on performance requires a longitudinal approach or a time delay (see Hiltrop, 1996 for a broader discussion on the impact of HRM on organizational performance). In addition, classical linear methods as multiple regression analysis and structural equation require normality assumption and assume linear relationships between variables. However, the context of micro-firms lacks linearity or predictability (Reid, 1995), especially in technological industries, as they are immersed in a turbulent environment, uncertainty, and constant change (Liberman-Yaconi et al., 2010). Thus, while linear methods are valuable for testing hypotheses about presumed causal relationships underlying entrepreneurship, they leave important shortcomings in our understanding of many complexities of micro-firm, such as those related to the influence of people management practices and EO on performance. Therefore, to capture the complexities of how configurations of HRM practices impact micro-firm performance, in this study, we used a multivariate method that accounts for the relationships between variables in a holistic interdependent approach. Thus, instead of focusing on the effect of single practices on micro-firm performance through linear analytical tools, the complexity and interdependence of bundles of HRM practices in different micro-firms' performance outcomes are better captured with a relational grid.

Micro-firms' performance is also much permeable to the strategic posture adopted by the owner or CEO. In the context of micro-firms, entrepreneurial orientation (EO) (that is, how entrepreneurial is a firm across different levels, Wales et al., 2020) is particularly important because this strategic posture will help businesses to be innovative, proactive in exploring new opportunities and markets, and deal with risk (Rauch et al., 2009) which is especially relevant for the survival of micro-firms. In line with the role of owner-manager in the micro-firm context (Jaouen & Lasch, 2015), EO in a micro-firm typically emanates from the CEO or owner, who defines this strategic posture and best leverages its outcomes (Covin & Slevin, 1989). Literature has consistently shown that EO has a positive and significant relation with different performance measures, such as business growth, in small and medium-sized companies (e.g., Wolff et al., 2015). While prior work in EO in large, medium, and small firms is quite abundant (e.g., Wales, 2016 for a review and Anderson et al., 2020 for a critical review on the EO-performance link), we do not know much yet about EO in the context of micro-firms. EO is particularly relevant for HRM practices (e.g., Marvel et al., 2016) because the owner will decide their people management practices in line with such a strategic posture. Therefore, as we investigate the relationship between people management practices in micro-firm performance growth, we also consider the interplay of EO.

This study makes two contributions to the literature. First, we contribute to the entrepreneurship literature on the role of human resources in performance (Baron, 2003; Cardon & Stevens, 2004) by investigating configurations of HRM practices in conjunction with EO and their effect on micro-firms' performance. This is relevant because attracting, selecting, training, and retaining employees are critical activities for most micro-firms, but these high-performance work systems are often lacking (Bendickson et al., 2017). Rather than focusing on micro-firms, an overrepresented type of venture, prior work on human resources management and entrepreneurial orientation has shown their benefits for medium and large firms (e.g., Alonso & Kok, 2020; Rauch et al., 2009). We add to this discussion by considering the ability-, motivation- and opportunity- focused practices framework (e.g., Jiang et al., 2012; Meuer, 2017; Bello-Pintado & Garcés-Galdeano, 2019) as a model to define a taxonomy that offers a richer empirical understanding of configurations of people management practices adopted in micro-firms. The taxonomy reveals three configurations of HRM practices associated with unique EO levels, and the interplay between both is related to growth in terms of the number of employees and net income in a four-year window. Second, we contribute to recent work that encourages addressing the complexities of entrepreneurship using configurational methods (e.g., Douglas et al., 2020; Santos et al., 2020), which may be able to better capture the realities and singularities of creating, managing, and growing new businesses. Using an inductive data analysis strategy including multiple correspondence analysis and cluster analysis, we capture the complexity of the configurations of HRM practices adopted by micro-firms, in conjunction with their entrepreneurial orientation, and provide additional clarity on how this interplay shapes growth in micro-firms. In doing so, we answer the call from Rauch and Hatak (2016, p. 500), who encouraged "developing HR management taxonomies that are tied to the context of SME" and the need to develop specific micro-level typologies in entrepreneurship (Jaouen & Lash, 2015).

2. Literature review

2.1. HRM practices and their relation to venture performance

Human resources management (HRM) refers to practices aiming at the human capital of a venture and how they contribute to its performance (Huselid et al., 1997). These practices comprise interrelated activities and processes to attract, develop, and maintain people (Lado & Wilson, 1994). The seminal work of Huselid (1995) in HRM practices identified two categories of practices: the first relates to *employee skills and organizational structures*, such as information-sharing programs, job analysis, training, and testing before hiring; and the second relates to *employee motivation*, including performance appraisal, incentive pay for performance and promotion based on merit. Both categories significantly impact several performance indicators, namely employee turnover, productivity, and corporate financial performance (Huselid, 1995).

However, because bundles of HRM practices are more accurate in explaining the complexity of people management practices in organizations and their effect on performance rather than single practices (Jiang et al., 2012; Bello-Pintado, 2015), research has also been moving toward a bundle view of HRM practices. This is based on the perspective that to engage employees in their work thoroughly, people management systems should provide employees with the abilities they need, should motivate them by looking to fulfill their needs, and enable them with the opportunity to do their jobs in an interesting way (Jiang et al., 2012; Meuer, 2017). Specifically, ability-, motivation- and opportunity-focused practices (Appelbaum et al., 2000; Bello-Pintado & Garcés-Galdeano, 2019) (or skill-, motivation-, and empowerment-enhancing practices, Jiang et al., 2012; Subramony, 2009) might be more effective to explain the relationship between bundles of HRM practices and firm performance. The practices associated with enhancing employees' ability are recruitment, selection, training, and development. The practices related to motivation include incentives, recognition, pay for performance, group bonuses, and job security. Finally, empowerment or opportunity-enhancing HR practices integrate information sharing, job participation, self-directed work teams, and other employee involvement (Subramony, 2009; Jiang et al., 2012; Meuer, 2017; Appelbaum et al., 2000).

A *meta*-analysis on the effect of people management practices and SME performance found that empowerment-enhancing HR practices (e.g., employee participation and involvement in decision making) were significant for SMEs' performance (Rauch & Hatak, 2016). Motivation-enhancing practices (incentives and rewards) are also relevant for young firms to attract employees, and skill-enhancing practices have a more meaningful impact on small firms' performance than on medium-sized firms (Rauch & Hatak, 2016). In small-sized family firms, ability and opportunity bundles of people management practices have a more significant impact on performance, whereas a motivation-oriented bundle of practices is more effective for performance in non-family firms (Bello-Pintado & Garcés-Galdeano, 2019).

As all businesses start with a small number of employees, frameworks developed to explain HRM in small and medium firms might be, at least, partially applicable to micro-firms. However, the role of informality in entrepreneurship (Hayton, 2003) and the context of micro-firms is likely to explain the idiosyncratic nature of configurations of people management practices. This means that not all of the single practices found as relevant for other types of firms may be meaningful for micro-firms and that the configurations of practices emerging in micro-firms are likely to be different. Thus, we frame our exploration of configurations of HRM practices in micro-firms in the ability-, motivation- and opportunity-focused practices model (Jiang et al., 2012; Bello-Pintado & Garcés-Galdeano, 2019).

In addition, we put forward that the different configurations of people management practices are likely to differ in their relation to performance in micro-firms, specifically when considering growth in terms of the number of employees and net income. We expand on this below in two ways. First, while prior work showed that HRM practices are positively associated with SME performance (e.g., Irwin et al., 2018; Viitala et al., 2020; Heilmann et al., 2020), the informality of micro-firms and their volatility in performance rates suggests that the configurations of HRM practices will display distinctive patterns with different performance indicators. Second, there is a hierarchy and complementarity between bundles of practices, and their effect on performance is complex and nonlinear (Meuer, 2017; Bello-Pintado, 2015; Jiang et al., 2012). Net income and employee growths are two distinct indicators of micro-firms performance (e.g., Smith, 1999; Lukason et al., 2016), and strategies and processes to promote each other may differ. Employment growth is connected to people management practices: they are both about people in their workplace (Rauch et al., 2005). Micro-firms that want to capture more human capital will probably invest in their employees through configurations of HRM practices. If they only want to increase sales or grow net income, they could use other strategies instead of people management (Rauch et al., 2005). Thus, the configurations of practices associated with growth in the number of employees will likely be different from those configurations of HRM practices related to growth in net income in micro-firms.

2.2. Entrepreneurial orientation in micro firms

Entrepreneurial orientation (EO) is a strategic posture involving a willingness to innovate market offerings, take risks to test new and uncertain products, services, and markets, and be more proactive than competitors toward new marketplace opportunities (Covin & Slevin, 1989). EO captures an entrepreneurial inclination in the firm's activities and strategic behaviors (Covin & Wales, 2012; Hoskisson et al., 2011; Rauch et al., 2009) that can account for variance in performance (Rauch et al., 2009; Wiklund & Shepherd, 2011), especially in smaller firms (e.g., Pratono & Mahmood, 2015; Núñez-Pomar et al., 2016). Freeman and Soete's (1997) saying - "not to innovate is to die" — remains valid and relevant for micro-firms.

We propose that EO can also be a mechanism through which configurations of HRM practices relate to micro-firms performance (e.g., Schmelter et al., 2010; Rauch & Hatak, 2016). People management practices interact with EO in predicting firm sales growth among young firms (Messersmith & Wales, 2013), and human resources information management is a mechanism in the relationship between EO and small and medium firm performance (Rodrigues & Raposo, 2011). Adopters of EO are bold and aggressive in pursuing opportunities and take on risky initiatives with prospective performance returns (Covin & Slevin, 1989). They thus are likely to be strategic in their perspective on human capital. Accordingly, we anticipate that owners of micro-firms with a strong proclivity toward EO are prone to engage in high-intensity levels in the ability-, motivation- and opportunity-focused configurations of HRM practices. On the contrary, CEO or owners of micro-firms with a little proclivity towards EO will likely adopt a lower level of intensity in their configurations of practices. Therefore, the combined effect of configurations of HRM practices with a distinct proclivity towards EO is likely to affect the performance of micro-firms differently.

3. Method

3.1. Sample

A sample of 114 micro-entrepreneurs with ventures operating in the Enterprise Resource Planning business sector in Portugal participated in this study. The ERP industry is specialized in software systems providing integrated solutions for several business functions operating in the digital economy. Participants were recruited from the three major databases of ERP firms based on three inclusion criteria: active business on the market for three or more years; three or more employees; and availability of financial performance for four consecutive years (2016,

2017, 2018, and 2019). Most of the respondents are men (83.3%) with ages ranging from 25 to 75 years old ($M = 44.9$; $SD = 9.9$ years old), with undergraduate and graduate education (46.5% bachelor's degrees and 14.9% have a graduate degree) and 88.6% affirmed to intend to increase the number of employees or expand to other locations.

The average number of employees in the micro-businesses included in our sample increased by approximately one by the end of the fourth year (2019), and average financial net results raised until the third year, decreasing slightly in the last year. Specifically, the average number of employees increased significantly from the first to second year (M_{2016}=4.70, SD_{2016}=0.26 and M_{2017}=5.17, SD_{2017}=0.26, respectively, $t(113)$=-3.85, $p<0.001$), and between the second and third years (M_{2016}=5.17, SD_{2016}=0.26 and M_{2017}=5.61, SD_{2017}=0.27, respectively, $t(113)$ = -3.96, $p<0.001$). While the net income per employee (measured in 1000€) also increased during these years, there was a significant profit growth only between the two initial years (M_{2016}=2303.19, SD_{2016}=418.25 and M_{2017}=1498.55, SD_{2017}=436.19, respectively, $t(113)$=-2.02, p=0.05).

3.2. Data collection and measures

We combined primary and secondary data sources. Primary data were collected with surveys among micro-entrepreneurs by the lead researcher in 2016. Secondary data on performance came from the Company data from the Bureau van Dijk (sabi database, n.d.), which compiles the official performance data provided by the companies to the national Ministry of Finance. We retrieved data on the number of employees and net income for each micro-firm in 2016, 2017, 2018, and 2019.

People Management Practices were analyzed based on the 13 practices of managing people (Pfeffer, 2005) (see Table 1 for a list of the practices). Micro-entrepreneurs were asked to rate how frequently they have been using 13 HRM practices in their firms (see the list in Table 1) on a three-point scale: 1=practices non-existent or very low, 2=practices used at an intermediate level; 3=practices in high usage in their firm.

Entrepreneurial orientation was measured using the Covin and Slevin (1989) scale (Rauch et al., 2009). This scale is activity-based and includes items addressing the strategic vision for being competitive, assertive, aggressively creative, and seeking to be an early adopter and trailblazer compared to competitors, providing a comprehensive assessment of a firm's EO (Covin & Miller, 2014). Participants answered to what extent they agreed with each of the nine statements on a seven-point scale ranging from 1 (*totally disagree*) to 7 (*totally agree*). The entrepreneurial orientation scale has three dimensions: innovativeness, proactiveness and risk-taking (α=0.75, α=0.77, α=0.81, respectively). The dimensions of EO usually show high intercorrelations with each other (Bhuian et al., 2005; Richard et al., 2004; Tan & Tan, 2005), and in our sample, correlations were also all positive and significant (r=0.29 to r=0.41). Covin and Slevin (1989) argued that EO represents a unidimensional construct, and consistent with the majority of studies in the area (Rauch et al., 2009), we summed the items to create a single, unitary EO measure, in line with prior studies (e.g., Walter et al., 2006; Wiklund & Shepherd, 2003).

Objective Performance Measures were measured with two indicators: employee growth and net income between 2016 and 2019 (Huselid, 1995) retrieved from the SABI database. *Employee growth* was measured by the difference in the number of employees in 2019 and 2016. Employee growth ranged from −6 to 22 employees (M=0.80; SD=3.55). *Net income growth* was measured by the net income difference (in euros) reported in 2019 and 2016. Net income ranged from −221,011 euros to 159,207 euros (M=2243.96; SD=42988.52). Net income is a suitable performance indicator for our sample because some firms sell hardware more intensively than others, which increases sales but may not correspond to actual income.

Table 1
Descriptive statistics and correlation matrix.

	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. HRM1 – Employment security	2.70	0.46															
2. HRM2 – Selectivity in recruitment	2.70	0.46	0.01														
3. HRM3 – High wages	2.18	0.38	0.25**	0.06													
4. HRM4 – Incentive pay	2.47	0.77	0.18*	0.06	0.26**												
5. HRM5 – Wage amplitude	1.07	0.26	−0.05	−0.04	0.07	−0.04											
6. HRM6 – Training and skill development	2.91	0.29	0.01	0.07	0.07	0.08	−0.04										
7. HRM7 – Cross-utilisation and cross-training	2.91	0.29	−0.07	0.21**	0.06	−0.01	0.09	0.45***									
8. HRM8 – Information sharing	2.88	0.33	−0.12	0.23**	0.04	0.00	0.00	0.16	0.45***								
9. HRM9 – Participation and empowerment	2.32	0.61	0.25**	0.14	0.10	0.23*	0.03	0.28***	0.26**	0.11							
10. HRM10 – Self-managed teams	2.36	0.65	0.04	0.06	−0.08	0.06	−0.15	0.07	−0.07	0.04	0.11						
11. HRM11 – Promotion from within	1.86	0.48	0.08	0.18*	0.09	0.21*	0.15	−0.03	0.04	−0.04	−0.09	0.16					
12. HRM12 – Symbolic egalitarianism	2.85	0.35	0.07	0.13	0.05	−0.11	−0.08	0.05	0.23*	0.01	0.17	0.02	−0.08				
13. HRM13 – Employee ownership	1.23	0.57	0.23**	0.07	0.06	0.16	0.01	−0.09	−0.09	−0.08	0.22*	−0.06	0.05	0.04			
14. Entrepreneurial orientation	4.65	0.90	0.03	0.14	0.13	0.26**	−0.03	0.06	0.26**	0.19*	0.19*	−0.01	0.11	0.01	0.12		
15. Employee growth[a]	2.11	0.64	0.14	−0.04	0.25**	0.11	−0.05	−0.15	−0.15	0.02	0.07	0.10	−0.07	0.16	0.18	0.05	
16. Net Income growth[a]	2.02	0.37	−0.01	−0.16	−0.16	−0.05	−0.21*	0.02	−0.07	0.03	−0.12	−0.04	−0.08	−0.10	−0.07	0.03	0.03

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.
[a] Three categories: 1 = low (mean minus half absolute deviation), 2 = medium (all in between), and 3 = high (mean plus half absolute deviation).

3.3. Data analysis procedure

To uncover the configurations of HRM practices in micro-firms and the relationship with performance, we used a series of Multiple Correspondence Analysis (MCA) models. MCA is a nonlinear multivariate method used to study the relationships between multiple categorical variables (Greenacre & Blasius, 2006; Hoffman & Franke, 1986; Hoffman & de Leeuw, 1992; Carvalho, 2017). Like standard principal component analysis, MCA defines new dimensions (orthogonal axes) that explain part of the total variance and reduce the multidimensionality of the input data. All input variables are used to define these dimensions, and discrimination measures (and contributions) are calculated for each variable. The most relevant input variables for each dimension are the ones that had the highest discrimination values (i.e., highest explained variance). MCA provides a graphical display of the associations between all the multiple categories into a subspace with the minimum number of dimensions (axes or factors) possible, in particular, bidimensional graphs (See Fig. 1) (Hoffman & de Leeuw, 1992). MCA also identifies configurations from the geometric proximity of the categories in the factorial plane, considering the most relevant associations between categories (e.g., Greenacre, 2007). The variables of choice to perform the MCA focus on the research question and variables that are likely to be related to the performance of micro-firms. Because the MCA shows profiles present within the sample, adding variables that may not be essential to answer the research question (such as venture age, for example) will interfere with the profile configuration, as those variables will be confounding to the essential profiles. Typically, the MCA does not include the types of variables (e.g., Costa et al., 2016; Dabić et al., 2021a) unless the research question or theoretical framing justifies their inclusion. Thus, not including controls became a theoretical and a methodological necessity in this paper.

As multiple correspondence analysis requires all variables to be ordinal or nominal, we recoded all interval-level measures into categorical variables (de Geer, 1993a, 1993b; Greenacre & Blasius, 2006; Heiser & Meulman, 1994). HRM practices were measured in three categories: *1*=non-existing or low usage; *2*=medium usage; *3*=high usage. Entrepreneurial orientation was recoded into three levels: *1*=low (mean minus half SD), *2*=medium (all in between) and *3*=high (mean plus half SD). Growth in the number of employees and net income were also recoded into categorical values. Because both objective performance measures displayed a significant dispersion, we used the median and the mean absolute deviation to compute the categorical levels: *1*=low (mean minus half absolute deviation), *2*=medium (all in between), and *3*=high (mean plus half absolute deviation) following the recommendations from Leys et al. (2013).

Next, cluster analysis with object scores resulting from the two dimensions of the MCA was used to classify subjects into groups and provide additional evidence to the profiles identified in the MCA. Cluster analysis defines homogeneous subject profiles based on the MCA dimensions assuming that they have substantive coherence. First, we conducted a Hierarchical Cluster Analysis (HCA) using the Ward method to minimize the within-cluster differences (Hair et al., 2019). Next, we tested a three-clustering solution and analyzed the dendrogram to validate its appropriateness in explaining the data.

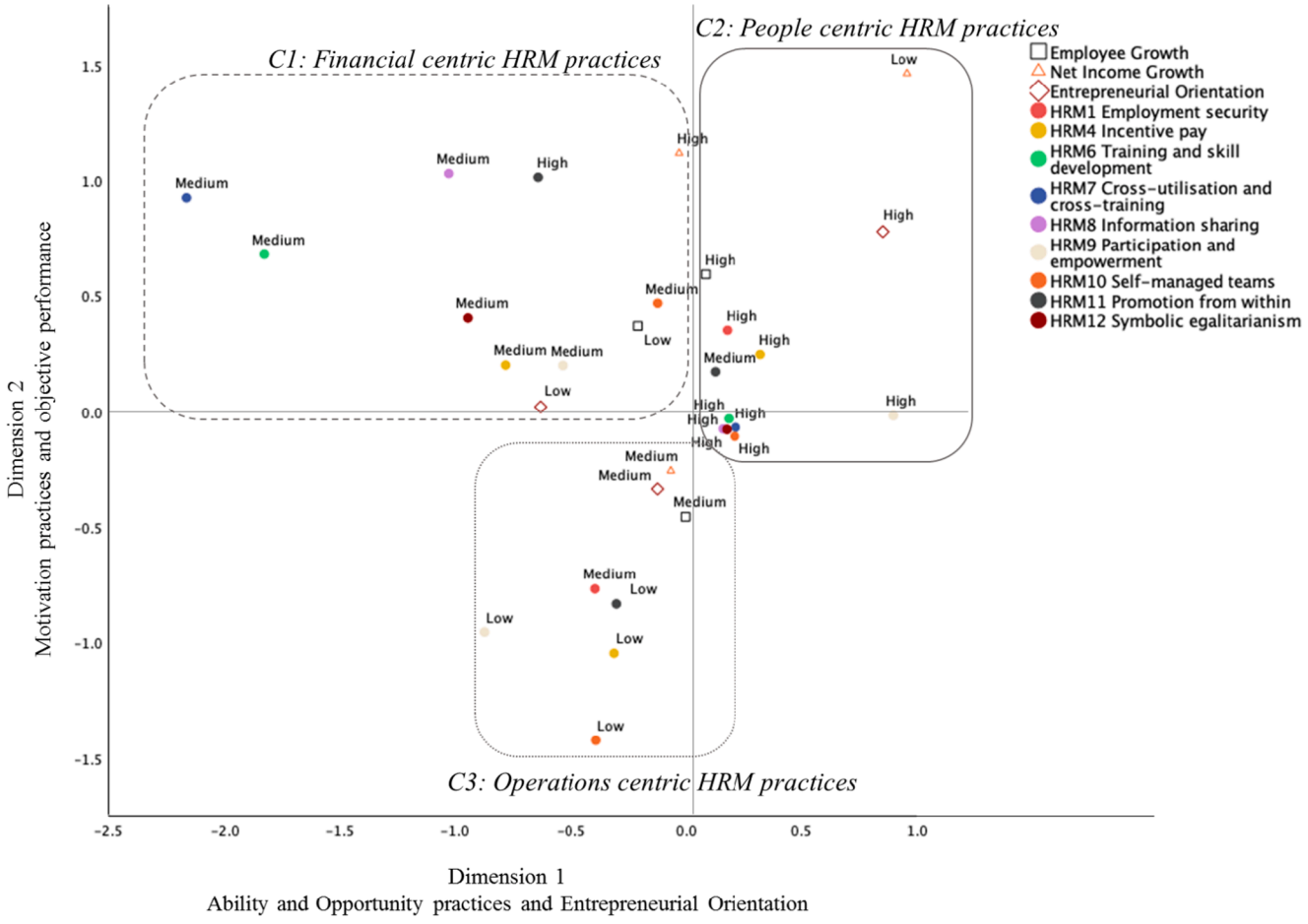

Fig. 1. Joint category plot of the explored variable categories: Taxonomic structure of practices of HRM and entrepreneurial orientation in the performance of micro-firms.

4. Results

Table 1 shows the means, standard deviations, and correlations between the study variables.

4.1. Configurations of HRM practices in Micro-firms

In the first MCA we included only the HRM practices variables. The first and second dimensions presented inertia of 0.18 and 0.15. The variables with higher discrimination (Table 2) in Dimension 1 include the following practices: cross-utilization and cross-training ($Discrimination_{HMR7}$=0.53); developing people through training and skill development ($Discrimination_{HMR6}$=0.39), and participation and empowerment ($Discrimination_{HMR9}$=0.36); information sharing ($Discrimination_{HMR8}$=0.22) and symbolic egalitarianism ($Discrimination_{HMR12}$=0.13). We named Dimension 1 as *Ability and opportunity practices* according to the literature. The variables with higher discrimination in Dimension 2 include the following practices: incentive pay ($Discrimination_{HMR4}$=0.38), employment security ($Discrimination_{HMR1}$=0.33), and promotion ($Discrimination_{HMR11}$=0.26), and self-management teams ($Discrimination_{HMR10}$=0.26). In line with the literature, we named Dimension 2 as *Motivation practices.*

Selectivity in recruitment (HRM2), high wages (HRM3), and symbolic egalitarianism (HRM12) did not discriminate in either of the dimensions. Also, employee ownership (HMR13) and wage amplitude (HRM5) were not common practices among these micro-firms (93% of the micro-entrepreneurs report not using wage amplitude, and 82.4% also report not using employee ownership), so they were both also not a discriminative issue to consider. Thus, we did not find support for selectivity in recruitment, high wages, wage amplitude, and employee ownership in the context of the micro-firms in our sample. Accordingly, we excluded these practices from the subsequent analysis.

4.2. HRM practices in micro-firms, entrepreneurial orientation, and performance

In the second MCA analysis, and to uncover the profiles of practices in micro-firms associated with entrepreneurial orientation and objective performance, we included in the model the categorical variables referring to entrepreneurial orientation, employee growth, and net income growth between 2016 and 2019. In doing so, we uncover how the previously identified dimensions of HRM practices are related to EO and performance indicators in micro-firms.

Table 3 shows the discrimination values for each variable in dimensions 1 and 2. The first and second dimensions presented inertia of 0.18 and 0.17. The cut-off value used to identify the variables that most discriminate in each dimension was inertia. For Dimension 1, the largest discrimination measure is participation and empowerment ($Discrimination_{HRM9}$=0.51), followed by cross-utilization and cross-training ($Discrimination_{HRM7}$=0.43), training and skill development ($Discrimination_{HRM6}$=0.31), information sharing ($Discrimination_{HRM8}$=0.15) and symbolic egalitarianism ($Discrimination_{HRM12}$=0.14). These are the practices identified in the previous model, which indicates robustness in our data. Entrepreneurial orientation discriminates more in Dimension 1 ($Discrimination_{EO}$=0.21), which is associated with ability and opportunity practices. Dimension 1 was relabeled as "Ability and opportunity practices and entrepreneurial orientation" based on these results.

Self-managed teams ($Discrimination_{HRM10}$=0.29), employment security ($Discrimination_{HRM1}$=0.25), incentive pay ($Discrimination_{HRM4}$=0.22), and promotion from within ($Discrimination_{HRM11}$=0.20) are practices that discriminate the most on dimension 2, following the same pattern as found in the previous model. Both objective performance measures also discriminate more in dimension 2: net income growth ($Discrimination_{Net\ Income\ Growh}$=0.26) and employee growth ($Discrimination_{Employee\ Growh}$=0.23). Thus, we relabeled Dimension 2 as "*Motivation practices and performance growth*".

Table 4 shows the coordinates of the categorical levels of each variable associated with dimension 1 (see the top part of Table 4), which allows us to establish associations and contrasts between categories (below and above the origin point). Above the origin point for dimension 1 there is a group of micro-firms that score high in all practices associated with this dimension: training and skill development (coordinate high $_{HRM6}$=0.19), cross-utilization and cross-training (coordinate high $_{HRM7}$=0.21), information sharing (coordinate high $_{HRM8}$=0.16), participation and empowerment (coordinate high $_{HRM9}$=0.89), and symbolic egalitarianism (coordinate high $_{HRM12}$=0.18). These micro-firms also display high levels of entrepreneurial orientation (coordinate high $_{EO}$=0.85).

This group contrasts with a set of micro-firms that are below the origin point along dimension 1. These firms report medium training and skill development (coordinate medium $_{HRM6}$=-1.83), cross-utilization and cross-training (coordinate medium $_{HRM7}$=-2.17), information sharing (coordinate medium $_{HRM8}$=-1.03), medium and low participation and empowerment (coordinate medium $_{HRM9}$=-0.54; coordinate low $_{HRM9}$=-0.87), and medium symbolic egalitarianism (coordinate medium $_{HRM12}$=-0.94). These micro-firms adopt a strategic posture typical of low or medium entrepreneurial orientation (coordinate low $_{EO}$=-0.63; coordinate medium $_{EO}$=-0.13).

Table 2
Discrimination measures and contribution of the variables in dimension 1 and 2 – First MCA model.

	Dimension 1		Dimension 2	
	Discrimination Measures	Contribution (%)	Discrimination Measures	Contribution (%)
HRM1 – Employment security	0.03	1.0	**0.33**	16.9
HRM2 – Selectivity in recruitment	*0.13*	5.4	0.05	2.4
HRM3 – High wages	0.10	4.1	**0.16**	8.0
HRM4 – Incentive pay	0.10	3.9	**0.38**	19.5
HRM5 – Wage amplitude	0.00	0.0	0.02	1.2
HRM6 – Training and skill development	**0.39**	16.6	0.03	1.5
HRM7 – Cross-utilisation and cross-training	**0.54**	22.5	0.05	2.4
HRM8 – Information sharing	**0.22**	9.4	0.06	3.0
HRM9 – Participation and empowerment	**0.36**	15	*0.11*	5.8
HRM10 – Self-managed teams	0.03	1.1	**0.26**	13.2
HRM11 – Promotion from within	0.02	0.8	**0.26**	13.2
HRM12 – Symbolic egalitarianism	*0.13*	5.7	0.03	1.5
HRM13 – Employee ownership	**0.34**	14.5	**0.22**	11.4
Total	2.37	100.0	1.94	100.0
Inertia	0.18		0.15	

Note: The cut-off value used to identify the variables that most discriminate was inertia (i.e., the average of the discrimination measures for each dimension). The values in bold are above inertia for each dimension and the values in italic are relatively close to the cut-off value. *Dimension* 1 – Ability and opportunity practices; *Dimension 2* – Motivation practices.

Table 3
Discrimination measures and contribution of the variables in dimension 1 and 2 – Second MCA model.

	Dimension 1		Dimension 2	
	Discrimination Measures	Contribution (%)	Discrimination Measures	Contribution (%)
HRM1 – Employment security	0.07	3.0	**0.25**	12.5
HRM4 – Incentive pay	**0.19**	8.9	**0.22**	11.0
HRM6 – Training and skill development	**0.31**	14.4	0.04	2.0
HRM7 – Cross-utilisation and cross-training	**0.43**	20.1	0.08	3.8
HRM8 – Information sharing	*0.15*	6.7	0.13	6.5
HRM9 – Participation and empowerment	**0.51**	23.5	0.09	4.5
HRM10 – Self-managed teams	0.04	1.9	**0.29**	14.3
HRM11 – Promotion from within	0.05	2.3	**0.20**	10.1
HRM12 – Symbolic egalitarianism	*0.14*	6.7	0.03	1.3
Entrepreneurial Orientation	**0.21**	9.8	**0.19**	9.4
Employee Growth	0.01	0.4	**0.23**	11.6
Net Income Growth	0.05	2.3	**0.26**	13.0
Total	2.15	100.0	2.03	100.0
Inertia	0.18		0.17	

Note: The cut-off value used to identify the variables that most discriminate was inertia (i.e., the average of the discrimination measures for each dimension). The values in bold are above inertia for each dimension and the values in italic are relatively close to the cut-off value. *Dimension* 1 – Ability and opportunity practices and entrepreneurial orientation; *Dimension 2* – Motivation practices and objective performance.

Table 4 (bottom part) shows the coordinates of the categorical level of each variable associated with dimension 2 (Motivation practices and performance growth), which also allows us to establish associations and contrasts between categories. A group of micro-firms is positioned below the origin point and report medium scores on employment security (coordinate medium $_{HRM1}$=-0.77), low incentive pay (coordinate low $_{HRM4}$=-1.04), low promotion from within (coordinate low $_{HRM11}$=-0.83), and low and high self-managed teams (coordinate low $_{HRM10}$=-1.42; coordinate high $_{HRM10}$=-0.11). These micro-firms report medium employee growth and new income growth between 2016 and 2019 (coordinate medium $_{employee\ growth}$=-0.45; coordinate medium $_{net\ income\ growth}$=-0.34).

In contrast, and above the origin point, there is a group of micro-firms who report high employment security (coordinate high $_{HRM1}$=0.35), medium and high incentive pay (coordinate medium $_{HRM4}$=0.20; coordinate high $_{HRM4}$=0.24), medium self-managed teams (coordinate Medium $_{HRM10}$=0.47), high and medium promotion from within (coordinate high $_{HRM11}$=1.01; coordinate medium $_{HRM11}$=0.17). These are firms that report both high and low employee growth (coordinate high $_{employee\ growth}$=0.59; coordinate low $_{employee\ growth}$=0.37), and high and low net income growth (coordinate high $_{net\ income\ growth}$=0.78; coordinate low $_{net\ income\ growth}$=0.02).

Fig. 1 presents the joint category plot of the categorical levels of each variable plotted on the two dimensions to define the groups of micro-firms that share similar characteristics. In this graph, objects with variable categories showing certain proximity share the values regarding variables captured by the two dimensions, thus defining profiles. Three contrasting profiles emerged based on the combination of the coordinates and contributions of each categorical level of the variables associated with dimensions 1 and 2.

4.3. Taxonomic structure of people management practices and entrepreneurial orientation in the performance of micro-firms

The non-hierarchical classification shows the repartition of the 114 micro-firms into three clusters. The obtained classifications comprise 29 micro-firms for the first cluster, 41 for the second, and 49 for the third. Each configuration includes an effective threshold higher than the statistical threshold of 10% (Evrard et al., 2009), with more than ten observations per cluster. To assess the statistical validity of the empirical taxonomy, analysis of variance (ANOVA) was used based on clustering variables. The ANOVA results (see Table 5) show significant discrimination of the 114 micro-firms into three clusters (significant at $p<0.001$). Both "Dimension 1" and "Dimension 2" are discriminating variables: $F_{Dimension1}=69.28$, $p<0.001$; $F_{Dimension2}=94.89$, $p<0.001$). The Scheffe pairwise comparison of means test was conducted based on the clustering variables to refine the analysis of the differences between the obtained clusters. The results show that the three configurations obtained are significantly different in both dimensions ($p<0.001$).

The taxonomy generated through hierarchical and non-hierarchical clustering analysis described three different configurations of profiles of people management practices in micro-firms, each associated with a strategic posture and with different performance outcomes (see Fig. 1 for the three clusters). These are labeled as follows: (Cluster 1) "Financial centric HRM practices," (Cluster 2) "Operations centric HRM practices," and (Cluster 3) "People-centric HRM practices." Each configuration can be characterized by a center or "prototype observation," defined by the average scores for each classification variable. Table 6 summarizes the identified three empirical configurations and interprets the obtained means for the categorical and clustering variables.

4.3.1. Cluster 1: "Financial centric HRM practices"

Cluster 1 is the least represented in the sample (24%) and comprises micro-firms adopting "Financial centric HRM practices". These micro-firms adopt a transactional approach in their configurations of practices based on high levels of internal promotion (HRM 11). Employees receive financial incentives based on performance and the firm's profit, showing that the HRM practices revolve around the market and the business's financial performance. There is no employment security, indicating that retaining talent and people is not a priority. In these micro-firms, people are managed from a financial perspective, focusing on the short-term, and have low levels of EO. They adopt a cautious strategic posture towards rejuvenating the market offerings, mitigate risks to try out new products, services, and markets, and restrain from exploring new marketplace opportunities due to their financial focus. The "Financial centric HRM practices" are associated with high growth in net income, in line with their financial emphasis, and reduced increase in the number of employees in a four year-window.

4.3.2. Cluster 2: "Operations centric HRM practices"

Cluster 2 comprises 35% of the micro-firms in our sample and represents those implementing "Operations centric HRM practices". This group of micro-firms does not adopt any of the ability and opportunity practices, except for low participation and empowerment, demonstrating that employees are not encouraged to have a voice in the organization. These micro-firms do not support the development of people; there is no training and professional development, and they adopt a transaction-based approach to managing people. The main focus is on controlling costs and guaranteeing the standard in the daily

Table 4
Coordinates and contributions of each category of the variables associated with Dimension 1 – "Ability and opportunity practices and entrepreneurial orientation" and with Dimension 2 – "Motivation practices and objective performance".

	Variable	Below origin point (<0)	Above origin point (>0)
Dimension 1 – Ability and Opportunity practices and Entrepreneurial Orientation	HRM6 – Training and skill development	Medium HRM6 (-1.83)*	High HRM6 (0.19)
	HRM7 – Cross-utilisation and cross-training	Medium HRM7 (-2.17) *	High HRM7 (0.21)
	HRM8 – Information sharing	Medium HRM8 (-1.03) *	High HRM8 (0.16)
	HRM9 – Participation and empowerment	Low HRM9 (-0.87)Medium HRM9 (-0.54) *	High HRM9 (0.89) *
	HRM12 – Symbolic egalitarianism	Medium HRM12 (-0.94) *	High HRM12 (0.18)
	Entrepreneurial Orientation	Low EO (-0.63)Medium EO (-0.13)	High EO (0.85) *
Dimension 2 - Motivation practices and objective performance	HRM1 – Employment security	Medium HMR1 (-0.77) *	High HMR1 (0.35) *
	HRM4 – Incentive pay	Low HMR4 (-1.04) *	Medium HRM4 (0.20) High HRM4 (0.24)
	HRM10 – Self-managed teams	Low HRM10 (-1.42) * High HRM10 (-0.11)	Medium HRM10 (0.47) *
	HRM11 – Promotion from within	Low HRM11 (-0.83) *	High HRM11 (1.01) Medium HRM11 (0.17)
	Employee Growth	Medium EG (-0.45) *	High EG (0.59) Low EG (0.37)
	Net Income Growth	Medium NIG (-0.34)	High NIG (0.78) * Low NIG (0.02)

Note: Underlined indicates the category that contributes the most in its variable (further away from the origin 0) - coordinates analysis. *Contributes above the medium point of contributions of each category (1/36 = 0.03) - Contribution analysis.

Table 5
Analysis of variance (ANOVA) and Post hoc comparisons between clusters.

Clustering variables		*Sum of squares*	*df*	*Average squares*	*F*
Dimension 1 – Ability and opportunity practices and entrepreneurial orientation	Between groups	66.06	2	33.03	69.28***
	Within groups	52.92	111	0.47	
Dimension 2 – Motivation practices and objective performance	Between groups	72.61	2	36.30	94.89***
	Within groups	42.47	111	0.38	
Multiple Comparisons – Scheffe comparisons		*Mean Difference*	*SE*	*95% Confidence Interval*	
Dimension 1 – Ability and opportunity practices and entrepreneurial orientation	C 1 – C 2	−0.85***	0.18	[-1.28; −0.43]	
	C 1 – C 3	−1.87***	0.16	[-2.27; −1.47]	
	C 2 – C 3	−1.01***	0.15	[-1.39; −0.64]	
Dimension 2 – Motivation practices and objective performance	C 1 – C 2	1.98***	0.15	[1.60; 2.36]	
	C 1 – C 3	0.52***	0.15	[0.16; 0.88]	
	C 2 – C 3	−1.46***	0.14	[-1.80; −1.13]	

*** $p < 0.001$.

operations of the micro-firm. The motivation-based practices are also adopted at a low level, showing a managerial perspective of the business, concerned with reducing the operating costs at the minimum. These micro-entrepreneurs assume a medium level of entrepreneurial orientation driven by the market and oriented to the business's survival. Human capital is not being developed and trained to create and implement bold innovations. These micro-firms report a medium level of growth in employees and net income in terms of performance.

4.3.3. *Cluster 3: "People-centric HRM practices"*

Cluster 3 is the most represented in our sample, comprising 41% of the micro-firms, and is typical of those micro-firms adopting "People-centric HRM practices". These micro-firms implement high levels of ability and opportunity practices, including promoting high training and skill development, cross-utilization and cross-training, information sharing, participation and empowerment, and symbolic egalitarianism. At the same time, they also adopt high motivation practices, like high employment security, incentive pay, and building self-managed teams. These micro-firms have a strong orientation towards people and their professional development. Assuming a logic of retaining people and human capital, they invest in the empowerment of employees. This emphasis on practices centered on the development of people reveals that these micro-firms have a long-term perspective. They are willing to have a slower net income growth because they are deliberately pursuing their human capital, which ultimately will be responsible for its long-term growth. These micro-firms have a high entrepreneurial orientation, and they focus on human capital to capitalize in innovativeness (creatively experimenting in R&D, introducing new products and services, engaging in R&D to improve technology), risk-taking (increasing debt, and pursuing high risk/return projects) and proactiveness (future oriented and opportunity focused).

5. Discussion

People management has received increased attention in the entrepreneurship literature (Baron, 2003; Cardon & Stevens, 2004) with a disproportional focus on small and medium-sized firms (for a literature review on SMEs, see Nolan & Garavan, 2016), leaving micro-firms relatively unknown. This paper highlights the complexities of the configurations of HRM practices and entrepreneurial orientation in micro-firms and their relationship with performance growth indicators. We adopted an inductive data analysis strategy to uncover such complexities, combining multiple correspondence analysis and cluster analysis to explore primary and secondary data on micro-firms. Our study builds on recent arguments that classical linear data analysis methods are not enough to understand the complexity of entrepreneurship (Santos et al., 2020) and uncovers the role of HRM practices and EO in the

Table 6
The identified three typologies of practices of HRM in micro-firms, entrepreneurial orientation and associated performance and their interpretation according to the categorical and clustering variables.

	Cluster 1 N = 29	Cluster 2 N = 41	Cluster 3 N = 49
	Financial centric HRM practices	Operations centric HRM practices	People centric HRM practices
Categorical Variables			
Dimension 1			
HRM6 – Training and skill development	Medium	–	High
HRM7 – Cross-utilisation and cross-training	Medium	–	High
HRM8 – Information sharing	Medium		High
HRM9 – Participation and empowerment	Medium	Low	High
HRM12 – Symbolic egalitarianism	Medium		High
Entrepreneurial Orientation	Low	Medium	High
Dimension 2			
HRM1 – Employment security		Medium	High
HRM4 – Incentive pay	Medium	Low	High
HRM10 – Self-managed teams	Medium	Low	High
HRM11 – Promotion from within	High	Low	Medium
Employee Growth	Low	Medium	High
Net Income Growth	High	Medium	Low

Note: Dimension 1 – Ability and opportunity practices and entrepreneurial orientation; Dimension 2 – Motivation practices and objective performance; "High", "medium" and "low" correspond to the categories of the measures used as described in the measures section.

performance of micro-firms (e.g., Schmelter et al., 2010; Rauch & Hatak, 2016). Our results revealed three different configurations of people management practices in micro-firms, comprising different intensities in the ability-, motivation- and opportunity-focused practices framework (Bello-Pintado & Garcés-Galdeano, 2019). Plus, according to our expectations, the configurations of HRM practices are associated with different levels of EO and, together, have a unique effect on growth in the number of employees and net income in micro-firms. We expand on this below.

Configurations of people management practices in micro-firms are fairly complex, and not all the previously identified practices in the context of small and medium firms are relevant for micro-firms. Specifically, selectivity in recruitment, high wages, wage amplitude, and employee ownership are practices that are not relevant in the context of micro-firms. The idiosyncratic characteristics of micro-firms may explain this: because of their small size in the number of employees, micro-firms do not have the necessary bandwidth to implement these practices that require more extended human capital.

Our taxonomy demonstrates that the emphasis on the configurations of HRM practices is aligned with the different levels of proclivity towards EO. When owners of micro-firms have a more aggressive strategic posture towards entrepreneurship, they also implement configurations of practices focusing on developing their human capital, and investing in people, as is the case of the micro-firms adopting "People-centric HRM practices". This is in line with the argument that startups with superior HRM work systems have higher growth and survival rates (Bendickson et al., 2017). On the contrary, micro-firms adopting "Financial centric HRM practices" adopt a perspective based on profit and financial performance, focusing on the business's short-term economic sustainability. In this type of micro-firms, the financial paradigm is also applied to people management, which is associated with low entrepreneurial orientations and high net income growth. As these micro-firms concentrate on getting the job done and are oriented towards profit, "Financial centric HRM practices" are not preoccupied with retaining their human capital. On the other hand, micro-firms adopting "Operations centric HRM practices" are primarily monitoring the costs, and they do not invest in the development of their human talent. Managing people in "Operations centric HRM practices" micro-firms is transactional, where employees are expected to devote their work to the micro-firm. Still, they lack promoting and supporting the professional development of their people.

The apparent paradox in the relationship of configurations of HRM practices with employee growth and net income growth may explain the success struggles of micro-firms. While "People-centric HRM practices" explain the growth in the number of employees because those micro-firms are "a good place to work", they are also associated with lower levels of net income growth because the sustainability of the business is dependent on human capital development. This is in line with Jaouen and Lasch's (2015) typology of micro-firms owners, which recognizes that some types of micro-firms do not want to grow and demonstrates the complexity of the link between micro-firms and economic growth (Mueller et al., 2008).

These results contribute to the entrepreneurship literature on the role of human resources in the performance of micro-firms (Baron, 2003; Cardon & Stevens, 2004) by providing a seminal approach on people management practices in micro-firms, different from those developed for SME's (Alonso & Kok, 2020; Rauch et al., 2009) and large businesses (Pfeffer, 2005). Specifically, the financial-, operations- and people-centric HRM practices adopted by micro-firms are aligned with distinctive EO levels. Their interplay is related to different growth in terms of the number of employees and net income in a four-year window. Micro-firms adopting "People-centric HRM practices" look for sustainability based on their human capital and have a strong entrepreneurial orientation. In contrast, micro-firms adopting "financial centric HRM practices" search for sustainability based on profit and have a low entrepreneurial orientation. Those micro-firms adopting "operations centric HRM practices" achieve sustainability based on efficient operations and are medium entrepreneurial orientation.

We also illustrate how configurational methods are relevant to exploring the complex relationships in entrepreneurship (e.g., Douglas et al., 2020; Santos et al., 2020), in line with the equifinality assumption that there are numerous organizational ways to succeed; that is, there is more than one' best way'. Micro-firms adopting financial-, operational- and people- centric HRM practices have a different trade-off on profit and human capital-oriented performance indicators and are related with a different strategic posture. Specifically, this inductive approach using configurational methods was able to capture the complexity of the interplay between people management practices and strategic posture defined and implemented by the owner or CEO of a micro-firm and its impact on micro-firm performance, whereas previously, the HRM practices – performance link was reduced to a linear perspective.

5.1. Practical implications, limitations, and future research

Our findings offer practical implications and highlight the complexities of managing people in the context of micro-firms. First, owners and CEOs of micro-firms need to recognize the role of people management practices and strategic posture on firm performance, contrasting with the one-sided perspective on performance. Recognizing the interplay between HRM practices and EO, owners of micro-firms should be aware of how their people and strategic-oriented decisions will influence

their firms' performance and their transition from micro- to small-firms. If micro-firms owners adopt a configuration similar to "financial centric HRM practices," it is likely that their micro-firms will have high net income growth, but they will be losing human capital. On the other side of the spectrum, if micro-firms owners adopt a configuration like "people-centric HRM practices," it is likely that their micro-firms will be able to retain talent and attract qualified workers. However, their net income growth will be more tenuous in the short term. Second, executive entrepreneurship education should also cover the role of people management practices in micro-firms by creating awareness of such configurations' idiosyncrasy. Oftentimes, how to manage people is one less explored topic in executive education. As demonstrated by our results, it has important implications for the strategic positioning of the business and its performance. Micro-firm owners must pay attention to their employees and reflect on the broader implications of their intellectual agility and leadership styles (e.g., Dabić et al., 2021b).

This study has limitations. First, we focus on only one business sector, limiting the generalization of our results. Future research should consider micro-firms in other industries and contexts and confirm the generalization of the pattern of the overarching results referring to the financial-, operations- and people- centric practices on micro-firm performance. Second, we used a predefined measure of HRM practices, which was developed for other types of firms, leaving unknown knowledge about specific people management practices that are potentially implemented in micro-firms. Future research should integrate a qualitative perspective to capture better micro-firms idiosyncrasy regarding their people management practices. Also, we recognize that these configurations of people management practices are not mutually exclusive and that the dynamic nature of the life cycle of new ventures integrates turns and shifts (Shepherd et al., 2020). Thus, while these three configurations of people management practices may co-exist in micro-firms at some point, these three configurations refer to their dominant emphasis. Future longitudinal work may want to explore the dynamic aspect of configurations of HRM practices and the role of different external or internal shocks on such changes. Third, we limited our criteria variables to employee growth and net income, leaving other performance measures unexplored. While it is advantageous to use objective firm performance measures over four years, other performance measures may include fundraising performance, employee turnover, or equity ownership.

5.2. Concluding note

In this article, we have formulated a taxonomy for managing people in micro-firms. Financial centric, operations centric, and people-centric HRM practices are related to different strategic postures towards entrepreneurship, and the interplay between both is related to variations in performance growth. Taken together, our taxonomy has made it clear that many implications of micro-firms depend on how people are recruited, hired, and retained. We hope that our article will inspire scholars and entrepreneurs to capitalize on the findings to make more informed strategic decisions for their startups.

CRediT authorship contribution statement

Ana Cláudia Rodrigues: Conceptualization, Data curation, Writing – Original draft, Investigation, Methodology. **Helena Carvalho:** Software, Formal analysis, Data curation. **António Caetano:** Writing – original draft, Supervision, Conceptualization. **Susana C. Santos:** Writing – Original draft, Writing - review & editing, Conceptualization.

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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