

## **HRM in Entrepreneurial Firms: a Systematic Review and Research Agenda**

### **ABSTRACT**

This review aims at synthesizing and assessing the literature on human resource management (HRM) in entrepreneurial firms. Our review over the time period 2004-2020 is relevant as entrepreneurial firms have a central role in the economy and are important for technological advancement and employment. Furthermore, managing entrepreneurial firms differs significantly from managing established firms. Using a systematic review method, we develop a framework of HRM in entrepreneurial firms, in which we present the current state of the literature, accounting for antecedents, outcomes, and the organizational context. Importantly, we also offer a compelling research agenda for future work on HRM in entrepreneurial firms.

### **Keywords:**

Entrepreneurship; entrepreneurial firm; human resource management; HRM

## 1. Introduction

*"Your ability to attract, evaluate, and forge strong working relationships with co-founders, early employees, and investors often mean the difference between failure and success."*

– **Clara Shih, Co-founder of Hearsay Systems**

*"The one real superpower hire that I encourage all of you to think about is a VP of HR, VP of People, VP of Vibe, whatever new age terminology you want for it."*

– **Fred Stevens Smith, Founder and CEO of Rainforest QA**

Entrepreneurs such as Clara Shih and Fred Stevens Smith are aware of the value and importance of employees, and by extension human resource management (HRM), for firm performance and survival. In line with the interest and attention of practitioners, the management literature has dedicated considerable time and effort to the study of HRM. This attention is motivated by the crucial role HRM plays for driving positive employee attitudes and ultimately firm performance (Delaney & Huselid, 1996; Huselid, 1995), competitiveness, and the creation of a sustainable competitive advantage (Barney & Wright, 1997; Collins & Clark, 2003). Following this attention, researchers have published literature reviews on HRM (Boon *et al.*, 2019; Jackson *et al.*, 2014) and meta-analyses on the effect of HRM on firm performance (Combs *et al.*, 2006; Jiang *et al.*, 2012).

However, most reviews have typically focused on HRM in established firms, and the literature has so far provided substantially less insight into what we know about HRM in entrepreneurial firms, i.e., *young and/or small firms* (e.g., Zott & Amit, 2007). In particular, whereas scholars have shown a positive relationship between HRM and human capital development (Jiang *et al.*, 2012), we still know substantially less about the specificities of this relationship in entrepreneurial firms. Yet, multiple scholars have emphasized the importance and value of human capital in entrepreneurial firms (e.g., DeSantola & Gulati, 2017; Marvel *et al.*,

2016; Unger *et al.*, 2011), as well as how HRM in entrepreneurial firms differs substantially from HRM in larger established organizations (Rocha, 2018; Rocha & Praag, 2020; Sauermann, 2018).

As Burton and colleagues (2019: 1051) note, “entrepreneurship scholars have largely ignored employment-related topics, and employment scholars have largely ignored entrepreneurship-related topics”. This is surprising as entrepreneurial firms are important drivers of economic growth, prosperity, and innovation (Langlois, 2007; Shane & Venkataraman, 2000; Van Praag & Versloot, 2007). Particularly, one of the sets of challenges entrepreneurs are confronted with are “*all those activities associated with the management of people in firms*” (Boxall and Purcell, 2008: 1). Scholars have devoted some attention to this topic, as is witnessed by multiple special issues and reviews in the early 2000s (Cardon & Stevens, 2004; Katz *et al.*, 2000; Tansky & Heneman, 2003). These seminal works were followed by a steady increase of research on this topic. However, there are still quite a few areas we know little about, and existing work in this area has not been synthesized in many years.

Synthesizing this work, in particular, is important because the nature of entrepreneurial firms differs greatly from that of established companies, implying that traditional theories, methods and frameworks cannot simply be transferred to these firms (Barber *et al.*, 1999; Cardon & Stevens, 2004; Cassell *et al.*, 2002; Heneman *et al.*, 2000; Zott & Amit, 2007). This is because entrepreneurs usually have limited resources at their disposal (Aldrich & Auster, 1986), mostly adopt an informal management approach (Hornsby & Kuratko, 2003), and operate in uncertain and dynamic environments (Navis & Glynn, 2010). In such circumstances, human capital is often one of the main assets, making HRM even more important for the performance and success of entrepreneurial firms than of established firms (Burton *et al.*, 2019). Furthermore, people who work in entrepreneurial firms are a distinct group of individuals that are both different from entrepreneurs

and different from employees in established firms (Block *et al.*, 2018; Sauermann, 2018: 3). Consequently, the HRM approach that fits entrepreneurial employees and the entrepreneurial context in which they work is likely different from that in established firms (Hornsby & Kuratko, 2003).

In this review, we provide a number of contributions to the literature. First, we contribute to the entrepreneurship literature by presenting a comprehensive review of studies conducted since Cardon and Stevens (2004) published their literature review on this topic. Since then, scholars have continued to unravel a crucial aspect of founding and managing an entrepreneurial firm, namely that of HRM, making our review relevant and timely. By providing this foundational review that synthesizes the research done to date, as well as a discussion of future research opportunities, we hope to encourage and guide new research endeavors. Moreover, our endeavor coincides with recent calls for new research on HRM in an entrepreneurial context. For instance, Shepherd *et al.* (2019) call for more research on how decisions regarding HRM are made prior to and after business founding. Clough *et al.* (2018) call for a better understanding of how employees and the human capital they represent can be optimally mobilized. Furthermore, Wiklund *et al.* (2019) encourage the study of research questions with impact that can provide insights into phenomena “*entrepreneurs deeply care about*” (2019: 427), which includes how to properly recruit, motivate, retain, and otherwise manage their employees. Second, we add to the HRM literature. As noted by Jiang and Messersmith (2018), research on entrepreneurial firms is important as it helps to understand different aspects of HRM such as antecedents or causality. In our framework, we present an extensive overview of the antecedents and outcomes of HRM in entrepreneurial firms as well as multiple opportunities for scholars to further develop this field. Moreover, HRM scholars (Beer *et al.*, 2015; Farndale & Paauwe, 2018; Farndale *et al.*, 2017) have called for a more

prominent acknowledgement of context in studying HRM, as context strongly influences the effectiveness of HRM. In our review, we map HRM in entrepreneurial firms, a context typified by uncertainty and ambiguity, limited resources, and innovativeness. We also respond to the increasing interest in coalescing the field of entrepreneurship and HRM (Burton *et al.*, 2019), by discussing different perspectives used to approach HRM in entrepreneurial firms.

## **2. Delineating Entrepreneurial Firms**

Over the years there has been considerable debate on the definition of entrepreneurship and by extension entrepreneurial firms (e.g., Shane, 2012; Shane & Venkataraman, 2000). A review of entrepreneurship research indicates distinct ways to conceptualize entrepreneurial firms, ranging from quantifiable measures (e.g., size or age) to more conceptual characteristics (e.g., resource positions or management team characteristics) (Anderson *et al.*, 2019; Alvarez & Barney, 2004; Block *et al.*, 2018; Blevins & Ragozzino, 2018; Langlois, 2007; Nyström, 2021; Sauermann, 2018). This lack of a clear and consensual definition illustrates the inconsistency in scholars' view of what constitutes an entrepreneurial firm.

In this study, we use a definition that is as inclusive as possible. In doing so, we unite two mainstream definitions of the entrepreneurial firm. First, Zott and Amit (2007: 182) conceptualize entrepreneurial firms as 'young organizations that have the potential of attaining significant size and profitability.' According to this definition, entrepreneurial firms are depicted as young and small, with the potential to grow (Golann, 2008; Katila *et al.*, 2012; Miller & Friesen, 1982). Second, Sharma and Chrisman (1999: 17) define entrepreneurial firms as 'new organizations created by an individual or group of individuals.' While these two definitions share some commonalities, there are also some differences. Both definitions indicate that entrepreneurial firms are young and/or small. This implies that entrepreneurial firms face challenges linked to resource

deficiency, lack of legitimacy (Acs & Audretsch, 1988; Stinchcombe, 1965) and lack of formal routines (Bruderl & Schlusser, 1990). However, both definitions differ in that Zott and Amit (2007) highlight growth potential as a distinctive criterion for entrepreneurial firms, whereas Sharma and Chrisman (1999) emphasize the presence of an individual or group of individuals who have created the firm.

Integrating these definitions, we define entrepreneurial firms *as young and/or small firms, that may or may not have growth potential and are created by an individual or a group of individuals*. In line with previous literature reviews (Klotz *et al.*, 2014; Pelz, 2019), we chose not to use any arbitrarily defined cut-off points based on size or age of firms to determine the inclusion of papers, but instead, in line with Li *et al.* (2020), we consider a study for inclusion if the authors define the firms in their study as ‘young firms’, ‘new firms’, ‘small firms’ and/or ‘entrepreneurial firms’.

### **3. Delineating Human Resource Management**

Similar to the entrepreneurship literature, there are numerous definitions and operationalizations of HRM (Ostroff & Bowen, 2000; Peccei & Van De Voorde, 2019). While some studies have considered individual HRM practices such as employee training and development (e.g., Bode *et al.*, 2015; Chang & Chin, 2018), others have studied sets or combinations of HRM practices (e.g., Shin & Konrad, 2017; Van De Voorde & Beijer, 2015), which is referred to as an HRM system (Boon *et al.*, 2019) or as HRM (e.g., Peccei & Van De Voorde, 2019). Since both foci on HRM provide complimentary insights (Wright & Boswell, 2002), and as we aim at being as inclusive as possible, we incorporate studies that focus on multiple sets or systems of HRM practices, as well as on individual practices, hereby including formal as well as informal HRM practices and systems.

#### **4. The study of HRM specifically in entrepreneurial firms**

The context of entrepreneurship is unique in how HRM is conducted, which warrants a specific focus on HRM in entrepreneurial firms. This uniqueness of HRM in entrepreneurial firms stems from four primary factors: resource scarcity, environmental uncertainty, HRM informality, and employee distinctiveness. First, young and/or small firms lack resources that are typically taken for granted in established firms (Aldrich & Auster, 1986), such as financial slack to weather market downturns or competition (Hannan & Freeman, 1984; Ranger-Moore, 1997), time slack to focus on HRM issues, organizational legitimacy (Williamson, 2000; Leung, *et al.*, 2006), and dedicated HR staff (Arthur, 1995; Cardon & Tolchinsky, 2006). Second, the environments in which small and/or new firms operate are typically full of uncertainty and risk, in which entrepreneurs are developing an unproven product or service and often are creating new markets (Navis & Glynn, 2010). Third, as a result of those two factors, HRM practices in entrepreneurial firms are typically informal (Hornsby & Kuratko, 2003) and developed reactively rather than proactively or systematically (Leung, 2003). This is often also caused by the fact that these firms are run by one entrepreneur or a small entrepreneurial team, engaging in a wide diversity of activities (Astebro & Thompson, 2011; Mathias & Williams, 2018). Fourth, given the distinct environments, organizational structures, and resource scarcity of entrepreneurial firms, employees who choose to work for such firms are distinctive from those who work for large established firms (Block *et al.*, 2018; Sauermann, 2018). For example, such employees have different motives and incentives than those who prefer to work for large established firms (Amit *et al.*, 2001; Astebro & Thompson, 2011; Cohen & Sauermann, 2007; Sauermann, 2018). As such, the HRM practices that exist and that work effectively for employees in the entrepreneurial context are likely different from those in established firms (Hornsby & Kuratko, 2003) and traditional theories, methods and frameworks

cannot simply be transferred to these firms (Barber *et al.*, 1999; Cardon & Stevens, 2004; Cassell *et al.*, 2002; Heneman *et al.*, 2000; Zott & Amit, 2007). Instead, HRM in entrepreneurial firms requires specific focus.

## 5. Method

We conducted a systematic literature search (Tranfield *et al.*, 2003) by pursuing the following steps (for full description: see Appendix, Table A). First, we selected a broad range of keywords as we wanted our initial sample to be as complete as possible (Appendix, Table B). For entrepreneurial firms, we searched for terms addressing the different types of entrepreneurial firms, such as “new firm”, “young firm” or “small firm”. Likewise, we created a list of keywords related to HRM. In line with our focus on both individual HRM practices and HRM systems, we included keywords such as “HR practice” (or the specific practices, such as “recruitment” and “training”) and “HR system”. We also searched for keywords related to general HRM, such as “human resource management” or “employment practice”. Since the last review on this topic was published in 2004, we set the time span from January 2004 until December 2020. Once identified using these search terms, we assessed whether each paper should be included by reading and categorizing it. We started with an initial set of 1,100<sup>1</sup> papers and retained 105 papers for inclusion (see References with an asterisk). Papers were excluded for several reasons. First, in line with other reviews (e.g., Cao & Shi, 2020; Grégoire *et al.*, 2011; Shepherd *et al.*, 2015), we excluded conference proceedings, editorials, and reviews from our analysis. Second, we excluded papers studying HRM

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<sup>1</sup> Out of interest, and following advice by one of the reviewers, we replaced our keywords for HRM by “marketing” and “finance” respectively. The first search resulted in 1,247 articles, the second in 1,181 articles. If we, along the same lines, replace our keywords in Table B (Appendix) for HRM by “human resource\*”, this results in 532 articles. This exploratory analysis indicates that the cross section of entrepreneurship and HRM has attracted quite some attention, but probably not as much as the cross sections of entrepreneurship and finance and marketing respectively.



in firms other than entrepreneurial firms, such as subsidiaries or holdings. Third, we also excluded papers that refer to HRM but do not study it such as studies on employee attitudes.

We then began the analysis of our refined sample of 105 papers. We coded each paper according to different elements of interest, such as dependent variables, type of research, number of observations, sample country, etc. Papers in our final sample were published in a wide variety of management and entrepreneurship journals, with the highest publication numbers for *International Journal of Human Resource Management*, *International Small Business Journal*, *Journal of Small Business Management*, *Human Resource Management*, *Small Business Economics*, and *Journal of Business Venturing*, which provides an indication of the quality of our data set (see Figure 1). Next, we aggregated all studies and findings to create a framework of HRM in entrepreneurial firms. The papers in our sample either dealt with the antecedents of HRM adoption (49%) or its outcomes (51%) (see Figure 2a). Our coding also revealed the most frequently studied HRM practices, namely recruitment (22%), compensation (18%), and training (19%), and HRM systems, namely high-performance work systems, also known as HPWS (31%). In addition, some scholars focused on the implementation of such practices and systems (10%) (see Figure 2b). We present a summarizing table in the Appendix (Table C), presenting the findings of each paper, categorized according to the key elements in our framework (namely main level of analysis, research orientation, and approach).

– *Insert Figure 1 here* –

– *Insert Figures 2a and 2b here* –

Furthermore, we leveraged bibliometric techniques to map this field of study. Bibliometric analyses make use of bibliographic data (e.g., abstracts, authors, titles, and keywords) to illustrate

the scientific activity and more importantly the intellectual structure of a specific topic or field of research (De Bakker *et al.*, 2017; Markouilli *et al.*, 2017; Wales *et al.*, 2021). Specifically, we used bibliometric analysis in order to identify the most influential papers in this field, and to understand how papers relate to each other. We extracted bibliographic data on our final set of articles and used this data as input in VOSviewer (Marescaux *et al.*, 2020; Van Eck & Waltman, 2010). We first used bibliographic coupling, i.e., the number of references two articles have in common, to group the articles in our sample. This method builds on the assumption that documents sharing the same references show intellectual convergence or thus have similar content (Kessler, 1963). This method yielded four clusters (indicated by different colors), where clusters represent papers with overlap in their reference list. The colored lines indicate that two papers share references, whereas the size of the circles indicate the strength of the references shared. Moreover, the closer the circles are located, the stronger they are related based upon bibliographic coupling or thus the more they cite the same publications. Figure 3 shows that the clusters around Kotey *et al.* (2005) and Messersmith *et al.* (2010) have the highest bibliographic coupling strength, both having a different focus. In particular, the green cluster contains papers mostly focusing on the antecedents of HRM adoption (e.g., industry or size) in entrepreneurial firms, whereas the red cluster groups papers paying more explicit attention to the intricacies and nature (e.g., networks or survival) of entrepreneurial firms. In line with these findings, the clusters and the relative distance between these clusters show that, next to convergence, there is also some fragmentation in the field. Second, we used citation mapping, i.e., which papers cite each other, or thus the direct citation links between articles, to identify which articles are most influential within our final set. This method indicates how publications are directly related. Figure 4 illustrates that the five most influential papers are Kotey *et al.* (2005, 2007), Messersmith *et al.* (2010), Rauch *et al.* (2005), and Bacon and Hoque

(2005). These papers have the strongest citation strength and can therefore be perceived as some of the most influential in this field.

– *Insert Figure 3 here* –

– *Insert Figure 4 here* –

## **6. Results**

In what follows, we first discuss how research on HRM in entrepreneurial firms has evolved since 2004. Second, we propose an overarching framework in which we organize extant research on HRM in entrepreneurial firms. Third, we use this framework to offer avenues for future research.

### ***6.1 Overview of research 2004 – 2020***

In line with other reviews on HRM (e.g., Jackson *et al.*, 2014; Steffensen *et al.*, 2019), we categorize studies according to their level of analysis (i.e., context, firm, individual) and focus (i.e., antecedents versus outcomes). In what follows, we discuss the state of the literature as summarized in Table 1. Particularly, we first discuss the antecedents of HRM adoption at the three levels of analysis, and subsequently provide insights into studies into the outcomes of HRM, which have however only focused on two levels of analysis, namely the firm and individual level. For detailed findings per paper, we refer to the Appendix, Table C.

– *Insert Table 1 here* –

### **Contextual antecedents of HRM adoption**

Contextual factors play an important role in the adoption of HRM in entrepreneurial firms. In particular, our review shows three types of institutional pressures, namely pressure by institutional bodies, industries and markets, and economic conditions. First, entrepreneurial firms

active in a highly institutionalized environment (i.e., the presence of strong institutional bodies such as coercive networks and strict labor legislation) are more likely to engage in HRM adoption to comply with these institutional pressures (Bacon & Hoque, 2005; Doherty & Norton, 2014; Mankelow, 2008). Second, industry and markets are a source of variance in HRM adoption among entrepreneurial firms. Particularly, scholars argue that being active in highly international markets positively affects the likelihood of adopting HRM (Barrett, 2015; Burhan *et al.*, 2020; Castany, 2010; Gilman & Edwards, 2008; Khavul *et al.*, 2010; Psychogios *et al.*, 2016; Tsai, 2010). Likewise, Peetz *et al.* (2017) show that entrepreneurial firms often imitate staffing practices of more established firms in the market in order to be perceived as legitimate. Third, economic conditions are also important. For example, entrepreneurial firms are more likely to invest in HRM practices, particularly in training, in times of talent shortage (Barrett, 2015). Furthermore, Lai *et al.* (2016) found that entrepreneurial firms are less eager to change their HRM approach during economic bad weather. These findings support the acknowledgement of the importance of the organization's external environment or context next to the internal one in both entrepreneurship and HRM literatures (Jackson *et al.*, 2014; Shepherd *et al.*, 2020). In particular, entrepreneurship scholars argue that the creation of new ventures is partly influenced by their context. External forces such as government support or highly competitive industries have an impact on the core characteristics of a new venture, such as firm innovativeness or firm resources (Shepherd *et al.*, 2020). In this light, our review suggests that the external context (i.e., including government, economic or industry forces) also affects HRM adoption in important ways.

### **Firm-level antecedents of HRM adoption**

Based on our analysis, we identify two sets of firm-level antecedents that affect the adoption of HRM in entrepreneurial firms.

A first category of influential factors are firm demographics, namely firm size and growth, which are frequently studied together. Size is one of the most studied determinants of HRM adoption. In particular, entrepreneurial firms that grow in terms of size, assets or revenue increasingly adopt a wider range of HRM practices (e.g., training or incentive schemes) (Dahl & Klepper, 2015; Kotey & Folker, 2007; Kotey & Slade, 2005; Mayson & Barrett, 2006; Storey *et al.*, 2010; Van de Woestyne *et al.*, 2010). This is due to the increased complexity that entrepreneurial firms face when they are growing. Small and/or new entrepreneurial firms with more centralized decision-making (i.e., confined to the entrepreneurs) are less in need of systems and procedures to manage employees as they can rely on the close interaction and limited distance between them and their employees. When the entrepreneurial firm is growing, however, often more employees are needed as well as HRM practices or systems to support and coordinate the work of these employees to achieve daily and strategic objectives (Desantola & Gulati, 2017). In addition, when growing, entrepreneurs tend to introduce and emphasize only individual HRM practices, such as recruitment, instead of a set of HRM practices. Hence, size has an important role in shaping the adoption of HRM in entrepreneurial firms. Furthermore, Harney and Dundon (2006) note that size per se does not determine HRM but rather mediates the effect of other antecedents (e.g., market position or unionization, both contextual antecedents) on HRM.

Both the findings on firm size and firm growth also fit within the broader literature of entrepreneurial firm growth. Scholars (Desantola & Gulati, 2017; Eisenmann & Wagonfeld, 2012) show that one of the challenges of firm growth lies in the synchronization between internal organizing and organizational growth (also called ‘scaling’). In particular, being able to attend to the increased scope of activities as well as the replication of scale necessitates changes in internal organizing, such as the adoption of HRM practices (e.g., incentive schemes or job clarity), to

overcome these growth challenges. Along these lines, Van de Woestyne *et al.* (2010) argue that growing firms increasingly recognize the strategic value of HRM to reach long-term organizational goals.

A second category of firm-level antecedents influencing HRM adoption in entrepreneurial firms is the availability and type of firm resources. For example, studies suggest that financial resource limitations not only restrict the adoption of more advanced strategic HRM systems (e.g., high-performance work practices) but also the number of individual HRM practices adopted (e.g., training practices) (Balogh *et al.*, 2020; Bengtsson & Hand, 2013; Kroon *et al.*, 2013; Schenk, 2017; Studdard & Darby, 2008; Yi & Xu, 2019). Similarly, Yoo *et al.* (2016) argue that, if the entrepreneur (or TMT) has too much work and too little time, time becomes as valuable as financial resources, and entrepreneurs are more inclined to hire employees, which may in turn result in HRM adoption. Studies also point to the influence of the entrepreneurial firm's human resource pool on HRM adoption. In particular, entrepreneurial firms that employ highly skilled employees adopt more formal and advanced HRM practices (e.g., high-performance work practices) to attract, motivate, and retain these employees (Balogh *et al.*, 2020; Wu *et al.*, 2014).

In summary, whereas firm size and growth and the corresponding increase in complexity, just as time limitations and human resources are drivers of HRM adoption, the lack of financial resources tends to have the reversed impact, namely impeding the adoption of HRM.

### **Individual-level antecedents of HRM adoption**

Entrepreneurial firms are led by one or more entrepreneurs who wear multiple hats and carry out multiple roles (Astebro & Thompson, 2011; Mathias & Williams, 2018). Consequently, characteristics of the entrepreneur, such as education, social capital, or HR philosophy, also have

a substantial impact on HRM adoption. For example, Fairlie and Miranda (2017) suggest that highly educated entrepreneurs are more likely to hire their first employee early in the firm's existence and more likely to pay higher wages (Baptista, Lima, & Preto, 2013). Similarly, more experienced and educated entrepreneurs are likely to detect an HRM problem more easily as they have better insights into the possibilities and consequences of HRM adoption (Baptista *et al.*, 2013; Barrett & Meyer, 2010; Hubner & Baum, 2018; Nyström & Elvung, 2014; Tocher & Rutherford, 2009). These findings show that the entrepreneur's prior experience and educational background influence the adopted organizational design (which includes HRM adoption; Greenwood & Miller, 2010; Burton *et al.*, 2019) of entrepreneurial firms. As such, these findings complement prior entrepreneurship research, which has assessed the impact of experience and education for a range of other outcomes, such as firm survival and obtaining external financing (Marvel *et al.*, 2016; Unger *et al.*, 2011). Additionally, Leung *et al.* (2006) and Zolin *et al.* (2011) suggest that entrepreneurs mostly rely on their personal and business network, i.e., their social capital, to identify and attract employees. Accordingly, they base their hiring decisions in the first place on their intuition, followed by the fit between the entrepreneurial firm's needs and goals and the applicant (Leung *et al.*, 2006; Zolin *et al.*, 2011). The importance of individual-level antecedents to firm HRM adoption in entrepreneurial firms is unique, as in large established firms, specific human capital of CEOs or managers does not typically impact the specific HRM practices or systems that are adopted.

### **Firm-level outcomes of HRM**

In studying the relationship between HRM and performance of entrepreneurial firms (e.g., Li *et al.*, 2006; Chadwick *et al.*, 2016; Sels *et al.*, 2006b), scholars have applied multiple operationalizations of firm performance. For entrepreneurial firms, these include financial

performance measures such as profitability or liquidity ratios (e.g., Faems *et al.*, 2006; Sels *et al.*, 2006a), innovation performance measures such as innovative output or new product introductions (Andries & Czartnitzki, 2014; Do & Shipton, 2019; Li *et al.*, 2006; Messersmith & Guthrie, 2010; Schmelter *et al.*, 2010), market performance measures such as sales or market growth (e.g., Altinay *et al.*, 2008; Chadwick *et al.*, 2016), and employment-related measures such as employee growth or labor productivity (De Grip & Sieben, 2009; Klaas *et al.*, 2005). In line with HRM reviews in established firms (Paauwe, 2009; Van de Voorde *et al.*, 2012), our review indicates that there is a positive relationship between HRM in entrepreneurial firms and these performance measures. For example, entrepreneurial firms are more likely to experience higher financial performance and labor productivity when they have adopted formal HRM practices (Lai *et al.*, 2017). Another illustration of this positive relationship is that HRM is linked to a higher level of innovation in entrepreneurial firms (Messersmith & Guthrie, 2010). As an exception to the predominantly positive view on the impact of HRM, De Grip and Sieben (2009) suggest that HRM mostly benefits employees, as they receive higher wages, and to a lesser extent the firm itself, as the direct impact on firm performance is often limited.

Previous research also points to the positive impact of HRM on firm survival (Chadwick *et al.*, 2016; Messersmith, Patel, & Crawford, 2018). Specifically, Messersmith *et al.* (2018) propose that certain HRM incentives, such as flexible work schedules or paid vacation, increase the odds of firm survival. Similarly, Chadwick *et al.* (2016) show that having an HR executive positively affects post-IPO firm survival of entrepreneurial firms. Taken together, this body of work indicates that HRM is critical for both the performance and survival of entrepreneurial firms.

### **Individual-level outcomes of HRM**



Prior research has mainly focused on understanding the impact of HRM on employees. For example, Pajo *et al.* (2010) found that entrepreneurial firms that provide their employees with training and development opportunities reduce their turnover intentions. Dessie and Ademe (2017) argue that introducing training practices enhances creativity and innovative behavior among employees in entrepreneurial firms. Moreover, Bryson and White (2019) suggest that formal HRM practices first disturb the intrinsic motivation of employees, but the adoption of a particular type of formal HRM practices, namely high-performance work practices (i.e., HRM practices aimed at developing employee skills and abilities and creating opportunities for employees to contribute (Jiang & Liu, 2015; Posthuma *et al.*, 2013)), can restore motivation among employees. As such, Bryson and White (2019) show that entrepreneurial firms' investment in HRM generates U-shaped returns in terms of employee motivation.

## **6.2 Future research and framework**

As our review shows, research at the intersection of HRM and entrepreneurship has continued to develop in important ways since Cardon and Stevens' review (2004). Specifically, while the Cardon and Stevens review focused on studies identifying practices and systems in entrepreneurial firms and the impact of such practices and systems on firm outcomes, our review indicates a continued interest in these subjects, alongside an interest in understanding the antecedents of HRM adoption. Particularly, while the 2004 review already identified many studies that found a positive relationship between HRM and firm performance, more research since then has largely confirmed this finding, however for many different performance outcomes, including those particularly important for entrepreneurial firms such as innovative performance (e.g., Sauermann, 2018). Furthermore, we observe that some of the topics that the 2004 review identified as remaining questions still have not been addressed, such as for instance retention and

development of employees, the transition of employees to owners, how HRM practices change over time and organizational development, and the optimal balance of informal and formal HRM. As we articulate our future research recommendations, we take these unaddressed topics into consideration. Furthermore, we propose a number of contemporary topics that were not prominent at the time of the 2004 review, such as high-performance work systems, joiners, the impact of the gig economy, communities of inquiry, and entrepreneurial ecosystems.

As we considered the research published on the topic of HRM in entrepreneurial firms since 2004, we inductively generated a summarizing framework (see Figure 5). This framework offers a visual representation of what we currently know and also presents an outline for future research. Specifically, in line with the general HRM literature, over the past decades, scholars have offered new insights into the antecedents and outcomes of HRM adoption in entrepreneurial firms and have, as such, further advanced our understanding of this transdisciplinary topic. However, as the full lines in Figure 5 indicate, there is a wide range of important topics that remain unaddressed and which are particularly relevant. Building on the research discussed above, we discuss research gaps and questions we find most pressing. We present these topics and specific research questions for future research in Table 2, indicating whether these topics and questions are predominantly focused at the context, firm or individual level, and pointing to the positioning of these topics in our research framework in Figure 5. These suggestions for future research are indicated with dashed lines in Figure 5 and discussed in what follows. In this discussion, we particularly focus on topics that offer significant room for theoretical advancement and that also may lead to important practical insights..

– *Insert Figure 5 here* –

– *Insert Table 2 here* –

## **Future research at the context level**

At the contextual level, our review points to the predominant interest in the influence of institutional pressures as determinants of HRM adoption in entrepreneurial firms. While the study of institutional pressures on HRM adoption in entrepreneurial firms is new since 2004 and important, studies to date have taken a rather static perspective. In Table 2, we therefore first provide research questions which may be relevant for approaching the dynamic nature of such institutional pressures, and which may complement prior insights into the role of context for HRM adoption. A first important direction relates to evolutions in the labor market and economy. Barber *et al.* (1999) argue that scholars should treat the labor market of entrepreneurial firms differently from that of established firms because the hiring processes, available resources, and applicant's preferences differ significantly. Future researchers can take the specificities of the entrepreneurial firm labor market into account and examine how they impact HRM adoption in entrepreneurial firms. For example, future research can study how entrepreneurs deal with labor scarcity, which has been referred to as “the war for talent”. To what extent do they struggle harder than established firms, which can rely on their employer brand and brand reputation (Theurer *et al.*, 2018), to find the right employees? Does this war for talent influence the speed with which entrepreneurial firms adopt new HRM practices? And how does the shortage in the job market affect the incentive packages offered, or the value proposition entrepreneurial firms offer to potential candidates, especially as compared to established firms (such as by promoting the independence and responsibility that are typically higher in entrepreneurial firms (e.g., Sauermann, 2018)? Furthermore, future research can consider how evolutions in the labor market affect HRM in entrepreneurial firms over time. This is particularly relevant as the arrival of digital natives in the labor market, the gig economy, and the expansion of flexible work arrangements may be

revolutionary opportunities for entrepreneurial firms that have a continuously changing need for employees (Van de Woestyne *et al.*, 2010). Along the same lines, future research can investigate to what extent entrepreneurial firms can benefit from employing multiple generations or should be aware of generational differences. While generational inclusivity is likely to be present in established firms with larger workforces, new and/or small firms have fewer employees and rely on informal recruiting methods, such as recruiting friends and peers, making their generational inclusivity less likely. It could be that entrepreneurial firms led by young founders, who tend to hire peers (Leung *et al.*, 2006), may benefit from having more senior employees onboard as they have more work experience and hence could be better aware of HR and/or market needs. However, it is commonly recognized that, for example, Generation X prefers a stable and secure position (Bencsik, Horvath-Csikos, & Juhasz., 2016; Twenge, 2010), making entrepreneurial firms not the most attractive employer for them. In this light, it seems likely that entrepreneurial firms' labor market is becoming increasingly dominated by certain generations such as Gen Y or Gen Z. Scholars can study these different generations, as well as other aspects of the labor market and the impact of generational differences on the choice, process and speed of adopting HRM for entrepreneurial firms. This is crucial given that human resources are the core resource of entrepreneurial firms (e.g., Baron, 2000; Cassell *et al.*, 2002).

Second, our review indicates that prior studies that have looked into the role of context, have mainly considered the distal context, for instance by considering markets, industries and economic conditions. We suggest that much is to be gained from focusing on the more proximate context of the entrepreneurial firm. Specifically, we call for future research to study the influence of an entrepreneurial firm's community of inquiry (i.e., a body of potential stakeholders, such as investors, competitors, or customers, that offer feedback on an entrepreneurial opportunity and the

legitimacy of this opportunity; Shepherd *et al.*, 2020). Stakeholders may influence the choice and timing of HRM adoption. For example, what influence do external investors have on the timing of HRM adoption or specific practices adopted? Next to this, future research could study the role of the entrepreneurial ecosystem (Stam & van de Ven, 2019) that the firm is embedded in on HRM adoption. For example, a strong local ecosystem may support a stronger or larger group of gig employees that can be called upon as needed by entrepreneurial firms. While established firms can also utilize a strong local eco-system, entrepreneurial firms can particularly benefit from more flexible work arrangements given their challenges with supporting fixed financial resources as well as more dynamic labor needs (Cardon & Tolchinsky, 2006). Gaining more insight into the role and value of the community of inquiry and the entrepreneurial ecosystem can further deepen our understanding of the impact of the proximate context on HRM adoption.

Third, our review indicates that context has mainly been considered as an antecedent of HRM adoption. Following Welter (2011), we call for future work considering the social, institutional and societal contextualization of entrepreneurship, and urge future research to consider contextual factors as contingencies under which HRM may (or may not) lead to outcomes at the firm or individual level. For instance, it is highly likely that what forms a successful recruitment and remuneration policy in one society, geographical region, or industry is not necessarily successful in others. Future research can assess the impact of culture, rules and norms of a context on HRM and its implications.

### **Future research at the firm level**

Our review shows that research on the role of entrepreneurial firm characteristics is limited as most research has been dedicated to a narrow set of firm characteristics such as firm size and growth and how these affect HRM adoption. We see great potential in future research into the role

of other firm-level antecedents for HRM adoption. Furthermore, we call for future studies to take a process perspective into HRM adoption, and to focus on understanding informal HRM, which is of particular relevance to entrepreneurial firms. Finally, we make a number of suggestions into definitions, conceptualizations and generalization of studies on HRM in entrepreneurial firms. These elements are developed in Table 2 and expanded on below.

A first interesting avenue for future research relates to the HRM decision-making process. Most entrepreneurial firms are led by an entrepreneurial team and hence managerial decisions are made by multiple decision-makers. However, little is known about this decision-making process. For example, how do entrepreneurs decide which practices are more valuable or essential to adopt? Is HRM adoption a team decision or does one of the founders take the lead? Which other organizational members affect HRM decisions? Which founder biases or personality traits affect HRM adoption? Are there particular firm events or catalysts that trigger the decision to introduce HRM or expand HRM practices? Altogether, research uncovering the decision-making process of HRM adoption can make important contributions to the entrepreneurship literature. Current research on entrepreneurial decision-making mostly focuses on decisions related to entrepreneurial entry and exit, opportunity assessment, and characteristics of entrepreneurial decision-makers (Shepherd *et al.*, 2015), yet a lot remains to be uncovered when it comes to decisions regarding aspects of opportunity exploitation, such as building an organizational structure or introducing HRM.

A second area of firm-level research relates to HRM processes. To date, there are no papers that examine what HRM processes – the manner and activities through which HRM practices and systems are implemented by organizations (Steffensen *et al.*, 2019) – take place and how HRM is implemented in entrepreneurial firms. Yet, HRM processes are crucial for employees to understand

their role in the organization (Gilbert *et al.*, 2015). Therefore, the manner in which HRM is implemented in entrepreneurial firms merits specific attention. For example, it can help us better understand how an entrepreneurial firm may successfully scale or change HRM over time or across stages of organizational development. To our knowledge, we still have surprisingly little understanding of how entrepreneurs manage HRM during organizational growth or how they transition between different HRM approaches (e.g., from informal to formal practices). As organizations grow, they seek internal methods and structures to tackle growth pains such as communication problems, coordination problems, disengaged employees, or the loss of informality (DeSantola & Gulati, 2017). HRM systems such as high-performance work systems have been proposed as a solution to these issues (Kim *et al.*, 2018). However, we know little about how, when and why entrepreneurs implement such HRM systems. For example, how do entrepreneurs comfort their employees during the transition to a new organizational context? How do they create support and acceptance among the employees with regards to new HRM practices or system? Does implementation of some HRM practices lead to detrimental outcomes such as loss of key employees or drastic changes in culture of the firm? Are early joiners particularly impacted (perhaps negatively) by formalization of HRM practices? Indeed, changing and adapting HRM practices and systems is a challenging process that may evoke negative reactions among employees (Cardon & Stevens, 2004). Future research can study what factors evoke such negative reactions or whether the initial founders' HRM approach can become a legacy that can hinder or spur HRM change (e.g., Baron & Hannan, 2005).

Third, future research can focus on the concept of 'informal HRM', including how to define informal HRM and to understand how this informality affects HRM processes. In particular, while formal HRM is defined as 'prescribed practices as approved in the HRM literature' or 'documented

and standardized procedures, roles and specializations as well as the use of specialists' (Kotey & Slade, 2005: 17), the concept of informal HRM, inherently part of the entrepreneurial firm context (Mayson & Barrett, 2006), is still vague (Hendry *et al.*, 1991). For example, to what extent does 'informal' refer to the 'casual, friendly' nature versus the 'unwritten, ad hoc' nature of how entrepreneurs deal with HRM? What form does informal HRM take in the entrepreneurship context? Specifically, the majority of entrepreneurial firms may not have official accounts and descriptions of how HRM is adopted, and may instead rely on informal HRM practices, e.g., based on trust and their personal connections, without documenting or perhaps even realizing they are using such practices. Alternatively, some entrepreneurial firms do have formal accounts of their HRM practices (e.g., records) but use an informal approach to implementing them. Moreover, several scholars argue that, as an entrepreneurial firm evolves and grows, the nature of HRM shifts from informal to formal. However, we know extremely little about how this transition takes place. Given the large differences in HRM between entrepreneurial and established firms, it is important that we understand how entrepreneurial firms that ultimately become established firms transition their HRM along the way. Other particularly relevant questions relate to the impact of informal HRM. For instance, what is the impact of implementing informal HRM on the corresponding individual and firm-level outcomes? Going forward, scholars can create more clarity with regards to the term 'informal', and what practices it entails. Researchers can focus on how entrepreneurs deal with the informal nature of HRM, such as how entrepreneurial firms are affected by friendship ties between entrepreneurs and their employees (Leung, 2003; Zolin *et al.*, 2006), how close ties affect the interaction between the entrepreneur and employee, and whether such friendship ties prevent or stimulate HRM adoption.



A fourth avenue of future research at the firm level relates to the studied organizational outcomes of HRM. Extant research has focused on general firm performance indicators such as financial and market performance and firm performance. However, only little research has examined the impact of HRM on specific entrepreneurial outcomes. For example, what is the effect of HRM on venture capital attraction? Are venture capital providers more eager to invest in an entrepreneurial firm if that firm has invested in HRM, perhaps with HRM adoption seen as a signal of an entrepreneurial firm's professionalization? Or would such HRM adoption instead be perceived as problematic, perhaps reflecting rigidity or too-early investment in organizational structure? In addition to studies into entrepreneurial outcomes such as venture capital investment, it can be interesting to examine the role of HRM for other entrepreneurial outcomes such as the identification and development of entrepreneurial opportunities, as well as speed to market.

Fifth, scholars can also focus on the influence of *definitional choices* on future research outcomes. As mentioned in the introduction, definitions and conceptualizations of entrepreneurial firms abound. We suggest that this field of research may benefit from studies that pay specific attention to this definitional twilight zone. For example, future scholars can start focusing on HRM in particular subcategories of entrepreneurial firms, such as new firms or growth-oriented start-ups, high-tech firms, or lifestyle businesses. Additionally, future research can offer more understanding of the generalizability of research outcomes. Is this definitional fragmentation an inhibitor of the advancement of this field of study? Or can we generalize evidence on HRM in a particular type of entrepreneurial firms to all entrepreneurial firms?

### **Future research at the individual level**

Our review indicates that research at the individual level mostly focused on the characteristics of entrepreneurs as antecedents of HRM adoption and the impact of HRM on

employee outcomes (such as commitment or motivation). We identify two particularly relevant directions for future research (see Table 2).

First, people who join early-stage entrepreneurial firms (hereafter: ‘joiners’) are a distinct group of employees. Roach and Sauermann (2015) argue that employees join entrepreneurial firms for reasons other than monetary returns. Instead, they wish to have impact and autonomy and therefore are willing to work in a more dynamic, uncertain context. We are convinced that broadening our view on joiners can lead to important insights. For example, understanding of what drives and motivates joiners is relevant to fully comprehend the outcomes of HRM practices, but also to get practical insights into how to recruit, attract, and retain them. In this regard, two types of HRM practices are particularly interesting, namely compensation and promotional practices, two understudied topics in entrepreneurial firms. While Cardon and Stevens (2004) called for more research on compensation practices in entrepreneurial firms, few scholars took interest in this topic (e.g., Boudreaux, 2020 or Messersmith *et al.*, 2018). This is surprising for two reasons. On the one hand, compensation practices are crucial to attract and retain skilled joiners. As mentioned by Roach and Sauermann (2015), this type of employee is driven by non-financial values and motives (Baron & Hannan, 2002) and as such may expect or value different remuneration means. On the other hand, entrepreneurial firms have less means to provide competitive benefits to their joiners due to their lack of resources. Therefore, we need to uncover which nonpecuniary benefits joiners highly value that have a positive impact on joiners’ behavior and actions, including their retention. Additionally, scholars can focus on the career paths joiners follow as well as on the promotional paths adopted in entrepreneurial firms. For example, which joiners become part of the entrepreneurial team? What is the impact of promotion within entrepreneurial firms? To what extent does promoting joiners lead to the introduction of hierarchy and new roles, or HRM

formalization? Scholars can also examine how entrepreneurial firms are affected by the loss of a key joiner and how HRM (e.g., feedback practices or performance reviews) can prevent or stimulate this decision. For example, what is the impact of losing a key employee to a competitor? And, why and when do joiners leave the entrepreneurial firm? How can joiners be retained during the firm's growth and potential formalization? In summary, focusing on joiners and what drives and motivates them could help us better understand why particular HRM practices may be more effective than others, and also offer relevant practical insights.

A second fruitful area for future research at the individual level relates to the chain of underlying individual-level mechanisms that explain the relationship between HRM and its outcomes (Boxall *et al.*, 2007; Nishii & Wright, 2007). To date, there is still insufficient understanding of the black box through which HRM influences and affects organizational and individual outcomes (Nishii & Wright, 2007; Van de Voorde *et al.*, 2012). In the future, scholars can study individual-level mediating mechanisms relevant in the volatile, uncertain context of entrepreneurial firms, e.g., psychological safety or intrinsic motivation, that help us understand how HRM affects entrepreneurial outcomes. Furthermore, scholars can focus on specific individual elements and their interaction with context or firm elements, such as uncertainty or role ambiguity, inherent to working in an entrepreneurial firm, to determine the combined effects and potentially rich mechanisms through which such effects occur.

## **Methodologies**

The research agenda that we propose requires specific methodological approaches. Current studies mostly utilize survey or qualitative research methods. In addition to these traditional methodological approaches, we identify three methodologies that may be particularly relevant for studying research questions focused on HRM in entrepreneurial firms, namely multilevel studies,

process studies, and experiments. First, research on HRM in entrepreneurial firms is mostly single-level. However, as Hitt *et al.* (2007) argue, studies with a single-level perspective do not encompass the multilevel dynamics surrounding management-related phenomena. Many of the phenomena we advance as future research topics are multi-level in nature: entrepreneurs and employees of entrepreneurial firms are embedded in their firms which are in turn embedded in their context. By studying HRM through multilevel designs, scholars may start to reveal dynamic relationships taking place between the different levels.

Second, future research can focus on temporal dynamics in terms of HRM adoption and its antecedents and consequences. Indeed, the mechanisms through which HRM initially is adopted and evolves, how it affects employees, and eventually how this influences firm outcomes remain a black box. Through the adoption of longitudinal, case-based designs, researchers can open up this black box. In particular, qualitative research designs that make use of ethnographic methods or participant observation are particularly interesting to study how different aspects of the HRM process unfold over time. Even though these processes require significant time investments (Jiang *et al.*, 2019), they can add to our understanding of HRM adoption in entrepreneurial firms by providing rich descriptions of the context, firm, and individual mechanisms that relate to HRM, along with their timing, and ultimately their effectiveness.

Finally, the use of experimental designs, such as conjoint analysis or randomized experiments, may improve our understanding of HRM in entrepreneurial firms. As Williams *et al.* (2019) mention, experiments in entrepreneurship research are rare but can potentially create greater insights concerning causal relationships and enhance practical relevance of studies. Moreover, Stevenson *et al.* (2020) suggest that experiments in an entrepreneurial context can be helpful to extend, question, or test theories from various scholarly fields of interest, such as organization

theory. The use of experiments can be of particular interest when considering decision-making and motives of entrepreneurs and employees (e.g., Holland & Shepherd, 2013; Schade & Burmeister, 2009), which are important aspects of the HRM process. For example, how do entrepreneurs decide upon their approach to HRM in the different stages of the startup process? What are the motives for employees to join entrepreneurial firms? What makes employees decide to stay or leave entrepreneurial firms? Which people are more or less attracted to the value proposition these firms make to their employees and which signals enhance (or undermine) the organizational attractiveness of entrepreneurial firms to potential employees? These are all important questions that can be examined through experimental research.

## **7. Conclusion**

Over the past twenty years, scholars have made a lot of progress advancing our understanding of HRM in entrepreneurial firms, but there is still a lot to be learned. In this study, we synthesized extant research, proposed an overarching framework to help organize that research, and offered several areas of inquiry and specific questions for future research on HRM in entrepreneurial firms, as well as methodological recommendations for pursuing such questions. We encourage more research in this important domain.

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## Appendix

<b>1. Research objectives</b>		
<ul style="list-style-type: none"> <li>- To map extant literature on the use of HRM in entrepreneurial firms</li> <li>- To propose an agenda for future research, including research topics and questions</li> </ul>		
<b>2. Conceptual boundaries</b>		
<ul style="list-style-type: none"> <li>- ‘Young organizations that have the potential of attaining significant size and profitability’ (Zott and Amit, 2007)</li> <li>- ‘New organizations created by an individual or group of individuals’ (Sharman and Chrisman, 1999)</li> <li>- HRM practices and systems</li> </ul>		
<b>3. Inclusion criteria</b>		
ISI Web of Science Management, Business, and Applied Psychology	January 2004 – December 2020	Combination of entrepreneurship-related and HRM-related keywords
<b>4. Exclusion criteria</b>		
<ul style="list-style-type: none"> <li>- Conference proceedings, editorials and reviews</li> <li>- Papers studying HRM in established firms</li> <li>- Papers focusing on employee behavior or attitudes without studying HRM</li> </ul>		

Table A: Research procedure based on Tranfield et al. (2003)

Keywords	Search terms
Entrepreneurial firm	<p>"young firm\$", "new firm\$", "emerging firm\$", "new business*", "emerging business*", "young business*"</p> <p>"emerging organi?ation\$", "young business*", "new organi?ation\$", "entrepreneurial firm\$", "entrepreneurial venture\$"</p> <p>"small business*", "small firm\$"</p>
Human resource management	<p>"Human resource\$", "Human resource management", HRM, "Strategic human resource management", "International human resource management"</p> <p>"HR practice\$", "HR system\$", "HR configuration\$", "Employment practice\$", "Employment system\$", "employment relationship\$", "Work system\$", "Work practice\$", Employee\$</p>
Staffing	Recruit*, Staff*, Select*,
Training and development	Train*, mentor*, "talent management", "career management", "human resource development", HRD, assess*
Compensation	Reward*, compensat*, motivat*, benefit*
Performance	"Performance management", perform*
Organizational change	"organi?ational change"
Labor relations	Union\$, Unioni?ation\$
<p>Each search string was a combination of keywords linked to entrepreneurial firms and keywords linked to HRM.  E.g., TS= ("Small business*" OR "small firm\$") AND TS= (Recruit* or Staff* or Select*)</p>	
<p>Extra information: ? is to allow for –s and –z in the middle of a word, \$ is either for no extra letter or one extra letter (e.g., system\$ returns system and systems).  * is used to allow for multiple extra letters (e.g., ventur* returns ventures, venturing, ...).</p>	

*Table B: Overview of search terms and keywords*

MAIN LEVEL OF ANALYSIS	RESEARCH ORIENTATION	APPROACH	AUTHORS	KEY FINDINGS
Context	Antecedents	Quantitative	Bacon & Hoque (2005)	The uptake of HRM practices in entrepreneurial firms is largely related to the presence of large customers and trade unions. Moreover, the skill level of the employees is positively related to the adoption of HRM practices.
			Barrett (2015)	Legislative requirements and the industry context is related to the adoption of training practices in entrepreneurial firms.
			Burhan <i>et al.</i> (2020)	The industry in which an entrepreneurial firm is active is related to the level of formality of the adopted HRM practices.
			Castany (2010)	Entrepreneurial firms are more likely to adopt formal training practices when they are active in the high-tech industry and when they compete in international markets.
			Khavul <i>et al.</i> (2010)	Entrepreneurial firms active in countries with strong regulations or that are economically developed are more likely to invest in HRM practices. Likewise, entrepreneurial firms with a strong international network or led by experienced entrepreneurs are more likely to adopt HRM practices.
			Lai <i>et al.</i> (2016)	Entrepreneurial firms are less likely to change HRM practices during economic downturn, such as freezing recruitment or training, but are more likely to lower wages temporarily.
			Peetz <i>et al.</i> (2017)	Young firms copy the HRM practices of more established firms that they perceive to be successful and more legitimate. Still, these firms are often less unionized and more casualized.
			Psychogios <i>et al.</i> (2016)	Entrepreneurial firms in manufacturing (in contrast to retail and services), that operate internationally, and that are larger, are more likely to introduce formal HRM.
		Qualitative	Doherty & Norton (2014)	Labor regulations, large customers and the respective industry are three drivers linked to the adoption of HRM practices.
			Gilman & Edwards (2008)	Entrepreneurial firms similar in nature are more likely to adopt different HRM practices depending on their network and the market situation they are in.
			Mankelow (2008)	HRM in entrepreneurial firms is market-driven, instead of socially-driven, as entrepreneurs comply with local legislation and copy other firms.
			Tsai (2010)	Entrepreneurial firms in the same industry are more likely to adopt similar HRM practices and as such introduce a homogenous industry standard.
			Balogh <i>et al.</i> (2020)	Entrepreneurial firms employing a workforce with a strong network and a tacit skill set are more likely to adopt compensation incentives.
			Barrett & Mayson (2007)	Entrepreneurial firms with a growth mindset are more likely to adopt formal HRM practices.
Firm	Antecedents	Quantitative	Bartram (2005)	Entrepreneurial firms are more likely to have informal HRM practices in place. Yet, regardless of firm size, entrepreneurs have similar views and beliefs regarding the resource allocation and value of HRM.
			Bengtsson & Hand (2013)	Venture capital-controlled entrepreneurial firms are more likely to adopt formal remuneration practices such as cash and equity incentives, compared to founder-controlled entrepreneurial firms.
			Colombo <i>et al.</i> (2014)	Entrepreneurial firms with family ownership are less likely to hire or fire employees as a response to a change in sales.

	Dahl & Klepper (2015)	The wages paid by entrepreneurial firms are influenced by the firm growth, size, and experience of the entrepreneurial team.
	Dorner <i>et al.</i> , 2017	Entrepreneurial firms with an academic background that are actively going to market with their product pay a wage premium to their employees.
	Kerr <i>et al.</i> (2007)	High-performance work practices have a positive effect on the performance of entrepreneurial firms. More importantly, the presence of an HRM manager leads to the adoption of high-performance work practices.
	Kotey & Folker (2007)	The adoption of formal HRM practices is positively linked to the size and growth of entrepreneurial firms. This effect is less profound in family-owned entrepreneurial firms.
	Kotey & Slade (2005)	Growing entrepreneurial firms increasingly adopt formal HRM practices, such as hierarchical structures, more formalized processes and more documentation.
	Kroon <i>et al.</i> (2013)	Depending on their resources and strategy, entrepreneurial firms adopt bundles of high-performance work practices.
	Schenk (2017)	Time and resource poverty influence the adoption of HRM practices in entrepreneurial firms. Furthermore, critical HRM practices such as staffing are formalized first.
	Storey <i>et al.</i> (2010)	Growing entrepreneurial firms are more likely to adopt formal HRM practices. Job quality is reported as highest among small entrepreneurial firms.
	Studdard & Darby (2008)	The better the quality of the relationship entrepreneurial firms have with an incubator, the more knowledge on HRM they acquire.
	Verreynne <i>et al.</i> (2011)	Employees, compared to the entrepreneur, give a more positive rating to the adopted HRM practices in better performing entrepreneurial firms.
	Wiesner <i>et al.</i> (2007)	The adoption of high-performance work practices is limited to moderate in entrepreneurial firms.
	Wiesner & Innes (2010)	The adoption of HRM practices in entrepreneurial firms has increased since begin 2000s.
	Wu <i>et al.</i> (2014)	The adoption of high-performance work practices is larger in start-ups with highly skilled workers and when the entrepreneurs receive HRM advice via their network. In contrast to other studies, HRM adoption was not linked to the presence of large customers or high market competition.
	Wyatt <i>et al.</i> (2010)	By applying a 'best-practice' methodology, entrepreneurial firms may introduce selection tools that enable to distinguish between high-and low-performing candidates.
	Yi & Xu (2019)	Conditions at founding (i.e., resources and the entrepreneur's industry experience and education) have an impact on the employee benefits offered in the following years. Conversely, the entrepreneur's start-up experience only has limited impact in the first year and has a negative impact on some offered benefits in the long run.
	Yoo <i>et al.</i> (2016)	The decision to hire a first employee depends on the entrepreneurial firm's cash position and is driven by the amount of available time the entrepreneur gains by hiring this first employee.
<b>Qualitative</b>	Dietz <i>et al.</i> (2006)	A discussion of the adoption and evolution of formal HRM practices in entrepreneurial firms is offered.
	Harney & Dundon (2006)	HRM in entrepreneurial firms is characterized by informality and its emergent nature. Moreover, it is the result of an interplay between internal and external dynamics.
	Heilmann <i>et al.</i> (2018)	Many entrepreneurial firms copy larger firms and adopt more traditional HRM practices. However, entrepreneurial firms that adopt agile HRM practices do so in line with their cultural needs.



			Van de Woestyne <i>et al.</i> (2010)	During firm growth, HRM shifts from an operational focus on people to a strategic focus on procedures, requiring entrepreneurs to find a balance between formalization and coaching.
		<b>Conceptual</b>	Bryant & Allen (2009)	A model of the human resource architecture in entrepreneurial firms, centered around boundary, resources, intentionality, and exchange is presented.
			Jack <i>et al.</i> (2006)	An organizational culture of individualism and informality, influenced by the entrepreneurs, affects HRM practices such as performance management, training and development, or others.
			Marlow (2006)	A debate on the appropriateness to talk about ‘HRM’ when talking about managing people in entrepreneurial firms is offered.
			Mayson & Barrett (2006)	A discourse on the informal nature of HRM in entrepreneurial firms from a practical and scientific point of view is presented.
<b>Individual</b>	<b>Antecedents</b>	<b>Quantitative</b>	Baptista <i>et al.</i> (2013)	Highly experienced and educated entrepreneurs pay higher wages and are more likely to attract skilled workers.
			Barrett & Meyer (2010)	Entrepreneurs in growing entrepreneurial firms with long tenure are more likely to perceive HRM as problematic.
			Fairlie & Miranda (2017)	The background of the entrepreneur; i.e., education, experience, ethnicity, and gender, is associated with hiring a first employee sooner.
			Ho <i>et al.</i> (2010)	The interaction between the entrepreneur and their context (i.e., their network or advisors) are the foundation of HRM systems in entrepreneurial firms.
			Klaas <i>et al.</i> (2012)	Entrepreneurs that more highly value HRM and perceive it to be effective are more likely to adopt high-performance work practices. Moreover, this relation is positively moderated by the presence of an external HRM expert.
			Leung <i>et al.</i> (2012)	HRM quality is influenced by the entrepreneurial team’s characteristics, such as shared organizational experience and functional diversity.
			Nyström & Elvung (2014)	Entrepreneurs pay a wage penalty to labor market entrants due to the higher uncertainty and risk inherent to working in an entrepreneurial firm.
			Tocher & Rutherford (2009)	Entrepreneurs with more experience and more education, or larger firms, are more likely to experience acute HRM problems, whereas entrepreneurs in high-performing firms are less likely to perceive such problems.
			Zolin <i>et al.</i> (2011)	Hiring employees with whom entrepreneurs have strong ties enhances role modification but reduces the ease of laying off these employees.
		<b>Qualitative</b>	Hubner & Baum (2018)	Entrepreneurs focus on their employees’ competencies and interests, on the situational conditions and requirements, and on their network when developing HRM practices.
			Leung <i>et al.</i> (2006)	Entrepreneurs rely on different network strategies to find and acquire human resources and shift strategy depending on the development stage. Moreover, they rely on strong personal ties to attract talent with similar values.
<b>Firm</b>	<b>Outcomes</b>	<b>Quantitative</b>	Allen <i>et al.</i> (2013)	HRM practices emphasizing affective commitment are positively related to revenue growth and perceived performance. This relationship is mediated by employee turnover and employee involvement.
			Andries & Czarnitzki (2014)	HRM practices emphasizing employee involvement are positively related to innovation performance.
			Boudreaux (2020)	Entrepreneurial firms providing stability benefits (e.g., healthcare and retirement plans) have lower exit rates and higher odds of earning profits. On the contrary, offering flexibility benefits (e.g., bonus pay and stock ownership) has no effect on exit rates, but increases the odds of earning profits.

Chadwick <i>et al.</i> (2013)	The effect of formal HRM systems (i.e., high-investment HRM systems) on labor productivity in entrepreneurial firms is influenced by the entrepreneurial firm's strategy and resources as well as the industry in which the firm is active.
Chadwick <i>et al.</i> (2016)	Hiring an HRM manager is positively linked to post-IPO firm survival.
Coad <i>et al.</i> (2017)	Entrepreneurial firms that hire their first employee are more likely to experience an increase in sales outcomes the following years. Moreover, highly educated entrepreneurs will hire their first employee sooner.
De Grip & Sieben (2009)	Formal HRM practices do not significantly benefit productivity in entrepreneurial micro firms. In particular, only employees benefit from these formal HRM practices as they receive higher remuneration.
De Winne & Sels (2010)	Innovation performance in entrepreneurial firms benefits from a combination of attracting highly skilled employees and investing in HRM practices.
Do & Shipton (2019)	High-performance work systems have a positive influence on innovation performance in entrepreneurial firms. Moreover, this relationship is mediated by employee innovative behavior.
Faems <i>et al.</i> (2006)	The effect of individual HRM practices and HRM domains on an entrepreneurial firm's financial health is limited.
Greer <i>et al.</i> (2016)	Both staffing practices oriented towards growth or imitated from larger firms are positively linked to perceived firm performance. Moreover, the entrepreneur's perceived strategic importance of HRM positively moderates these relationships.
Irwin <i>et al.</i> (2018)	Outsourcing some HRM practices (e.g., staffing) only has a small mediating role in the relationship between entrepreneurial orientation and entrepreneurial firm performance.
Jennings <i>et al.</i> (2009)	The relationship between novelty of the HRM practices and labor productivity in entrepreneurial firms is curvilinear (U-shaped). Coherent HRM practices have a positive effect on labor productivity.
Klaas <i>et al.</i> (2005)	The use of professional-employer organizations by entrepreneurial firms is positively related to perceived HR outcomes.
Koski <i>et al.</i> (2009)	Entrepreneurial firms with HRM practices aimed at employee participation show higher levels of innovation.
Lai <i>et al.</i> (2017)	There is a positive effect between formal HRM practices and entrepreneurial firm's financial performance and labor productivity. Moreover, this positive effect is higher in entrepreneurial firms with low job satisfaction.
Li <i>et al.</i> (2006)	HRM practices such as training, autonomy and non-pecuniary motivation are positively related to innovation performance in entrepreneurial firms.
McClean & Collins (2019)	Adopting high-commitment work practices and guidance by a charismatic leader are positively linked to firm performance and negatively linked to employee turnover.
Messersmith & Guthrie (2010)	High-performance work practices are positively linked to innovation and sales growth. No support was found for the mediating effect of voluntary turnover.
Messersmith & Wales (2011)	Firm growth as a result of an entrepreneurial orientation in entrepreneurial firms depends on the extent to which a high-performance work system is adopted.
Messersmith <i>et al.</i> (2018)	Employee benefits such as paid sick leave, health insurance and flexible work increase the survival chances of entrepreneurial firms. However, there is no effect of benefits such as stock ownership or learning budget.

Moser <i>et al.</i> (2017)	Employer attributes such as salaries, benefits and good working conditions have a positive effect on the attractiveness of entrepreneurial firms.
O'Donohue & Torugsa (2015)	Green HRM (i.e., HRM aligned with social and sustainability goals) is a valuable enabler of environmental action as it positively moderates the link between environmental management and financial performance in entrepreneurial firms.
Patel & Cardon (2010)	HRM practices have a positive effect on labor productivity and explain the effect of product-market competition on labor productivity, especially in case the entrepreneurial firm has a group culture.
Patel & Conklin (2012)	Group culture has a positive effect on the link between high-performance work systems and labor productivity. Employee retention mediates this relation in case of strong group culture.
Rauch & Hatak (2016)	HRM practices focused on skills, motivations and opportunities are positively related to firm performance. These practices are especially important in the case of young entrepreneurial firms, in a context of strict labor regulations or firms active in high-tech industries.
Rauch <i>et al.</i> (2005)	Formal HRM practices such as training, participatory decision-making and communication have a positive effect on employment growth and can be perceived as a long-term investment in labor efficiency.
Rodrigues & Raposo (2011)	There is a positive relationship between knowledge-sharing HRM systems and firm performance.
Saridakis <i>et al.</i> (2017)	High-performance work practices are positively related to firm performance. This link is stronger when these practices are bundled and mutually reinforcing.
Schmelter <i>et al.</i> (2010)	HRM practices such as selection, training, benefits are positively linked to corporate entrepreneurship in entrepreneurial firms.
Sels <i>et al.</i> (2006a)	A higher HRM intensity (reached by introducing more HRM practices) has a positive impact on labor productivity, but this effect is compensated for by the cost-increasing effect of HRM adoption. Overall, there is a positive effect of HRM intensity on profitability.
Sels <i>et al.</i> (2006b)	The use of high-performance work practices in entrepreneurial firms has a positive effect on firm productivity but this effect is mostly offset by the cost-increasing effect of the adoption of high-performance work practices.
Shahzad <i>et al.</i> (2019)	High-performance work practices are positively linked to innovation performance in entrepreneurial firms.
Sheehan (2014)	The use of formal HRM practices in entrepreneurial firms is positively linked to enhanced competitive advantage.
Todorović <i>et al.</i> (2020)	Revenue growth is positively linked to providing employees additional (non-)material compensation.
Voss & Brettel (2014)	The effect of control systems on entrepreneurial firm performance is stronger when the firm emphasizes HRM practices.
Wang <i>et al.</i> (2018)	The variety of pay-for-performance practices is positively linked to firm performance and this relation is fully mediated by employee participation.
Wu <i>et al.</i> (2015)	High-performance work systems are positively linked to increased labor productivity in entrepreneurial firms, but not to increased financial performance.
Zheng <i>et al.</i> (2006)	HRM practices are positively related to entrepreneurial firm performance through an increase in affective commitment.
Zheng <i>et al.</i> (2009)	The adoption of HRM practices such as benefits, performance evaluation and training is associated with better firm performance and increased HRM outcomes.

		<b>Qualitative</b>	Altinay <i>et al.</i> (2008)	Training and recruitment through formal channels are positively linked to sales growth in entrepreneurial firms. Context (available workforce and competition) is related to the adoption of these practices.
			Castrogiovanni <i>et al.</i> (2011)	HRM practices focused on feedback and communication or aimed at establishing internal relationships contribute to the implementation of a 'corporate entrepreneurship' strategy.
		<b>Conceptual</b>	Kesting <i>et al.</i> (2011)	A discourse on the role of HRM and network collaboration for enhancing firm performance in entrepreneurial firms is offered.
			Mazzei <i>et al.</i> (2016)	A conceptual development on how high-performance work practices can promote and enhance innovation in entrepreneurial firms is offered.
<b>Individual</b>	<b>Outcomes</b>	<b>Quantitative</b>	Bayo-Moriones & Larraza-Kintana (2009)	Profit-sharing plans have a positive impact on affective commitment of employees. This relation is strongest in very small entrepreneurial firms and in a context of low employee participation.
			Belsito & Reutzel (2019)	The formalization of performance appraisal practices is positively related to the employees' trust in leadership.
			Bryson & White (2019)	The return of formal HRM adoption is U-shaped, meaning that the introduction of formal HRM initially disturbs employee motivation, but this can be restored if high-performance work practices are introduced.
			Cox <i>et al.</i> (2009)	Informal employee participation and involvement practices have a positive effect on affective commitment and institutional embeddedness of employees.
			Pajo <i>et al.</i> (2010)	Employees encouraged to participate in training and development activities are more engaged and are less likely to leave their employer. This relation is explained by the organizational support and job satisfaction they experience.
			Tomczyk <i>et al.</i> (2013)	The entrepreneur's values do not relate to the number of employee benefits offered. Entrepreneur's values and the total number of benefits are positively linked to firm performance.
			Saridakis <i>et al.</i> (2013)	Job satisfaction moderates the positive effect between formal HRM practices and affective commitment.
		<b>Qualitative</b>	Dessie & Ademe (2017)	Training aimed at creative thinking and motivation is positively linked to innovative behavior of employees.
			Jebali & Meschitti (2020)	Employees are more likely to exhibit more innovative behavior if they actively engage in formally structured training practices. Moreover, the entrepreneur has a central role in safekeeping the process, without leading it.

Table C: Descriptive summary of key findings, categorized according to main level of analysis, research orientation and approach

## Figures

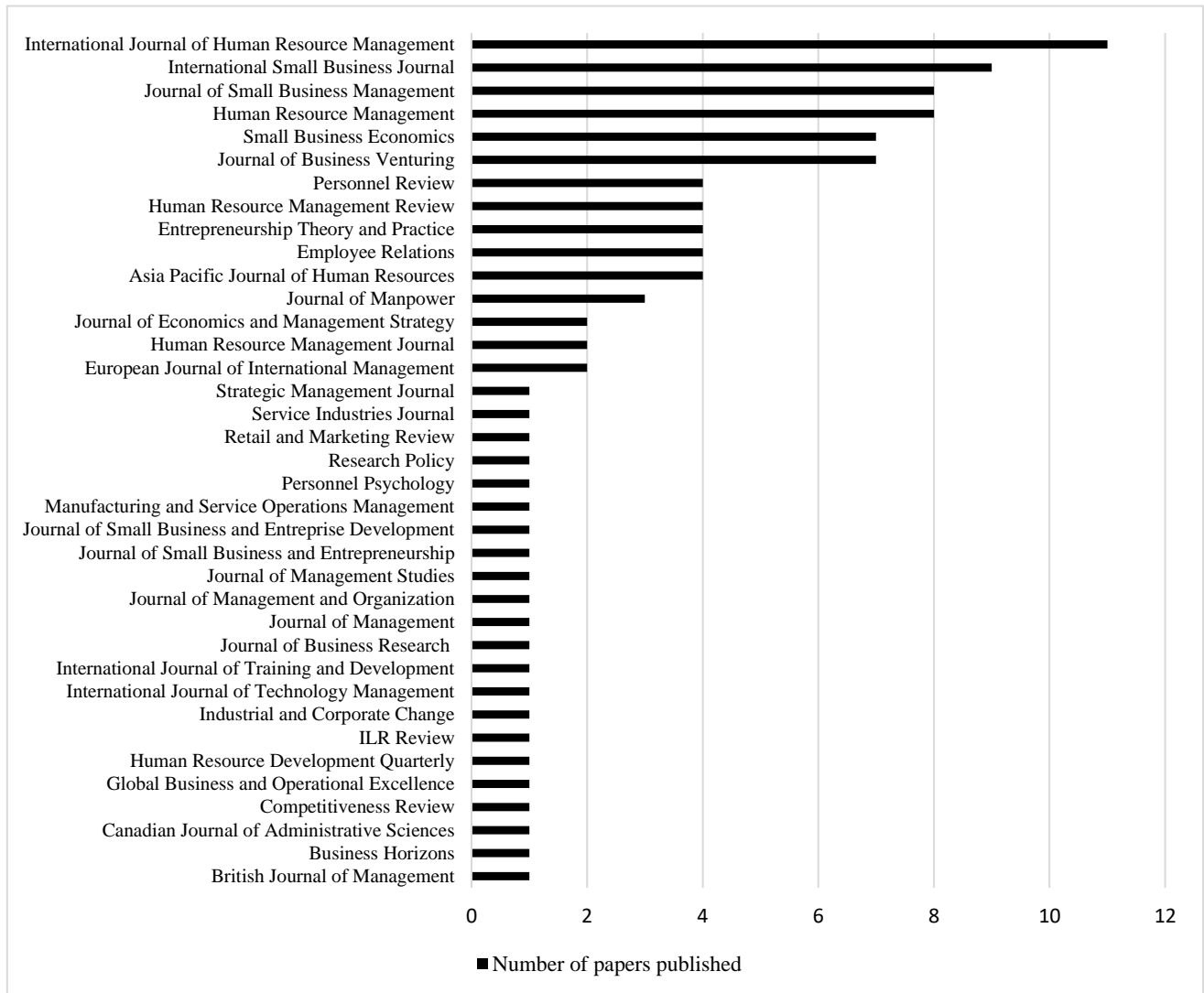


Figure 1: Distribution of papers per journal

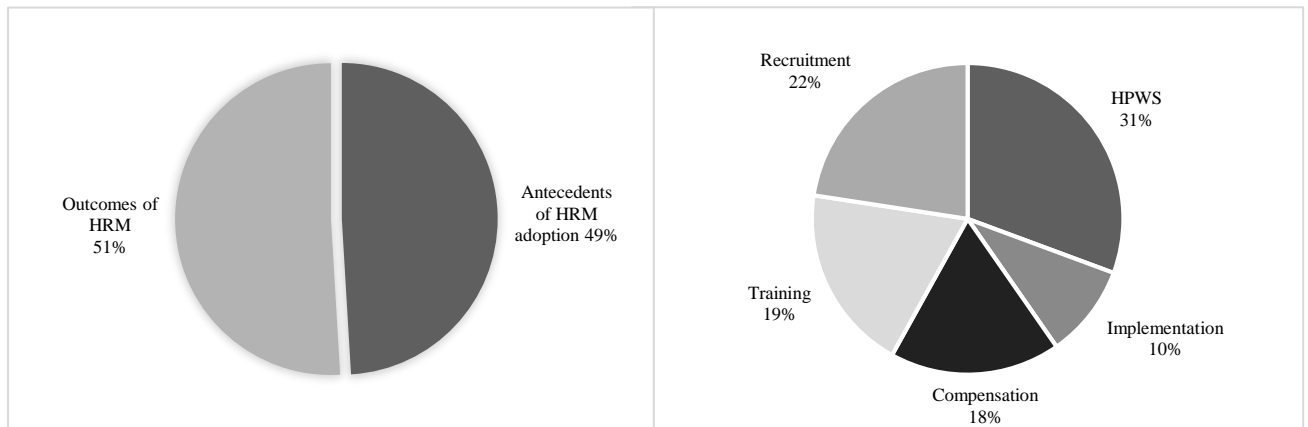


Figure 2a and 2b: Descriptive results: distribution of studies on antecedents and outcomes (a) and most-studied HRM practices and systems (b)

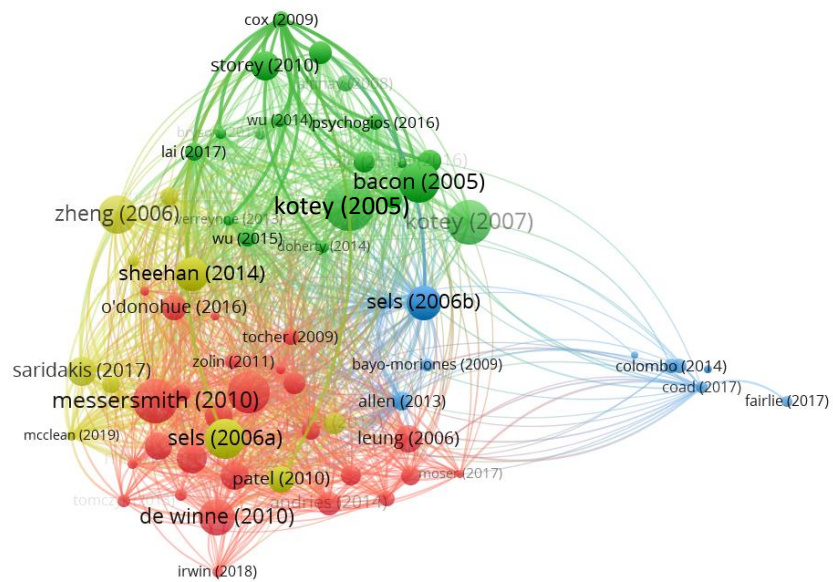


Figure 3: Bibliographic coupling network

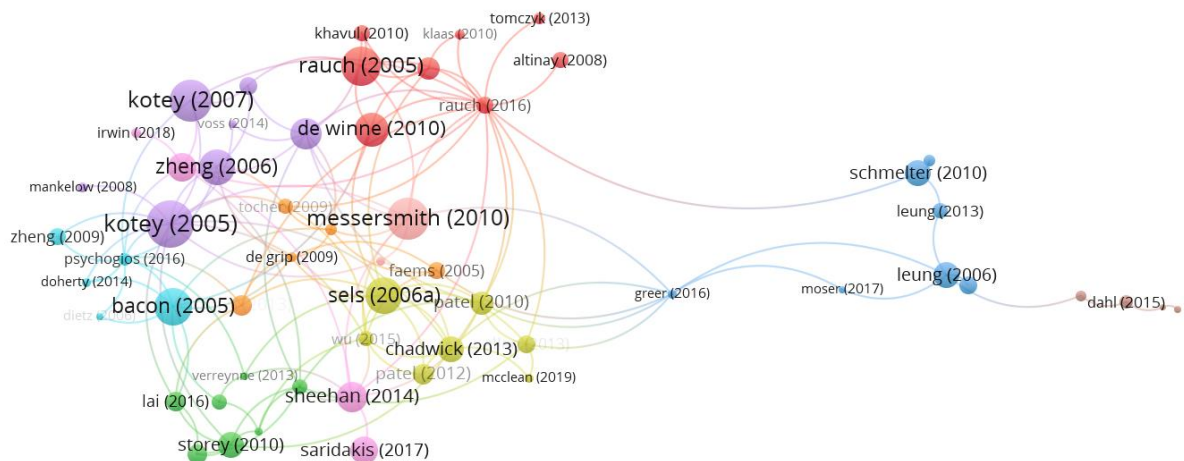


Figure 4: Paper citation network

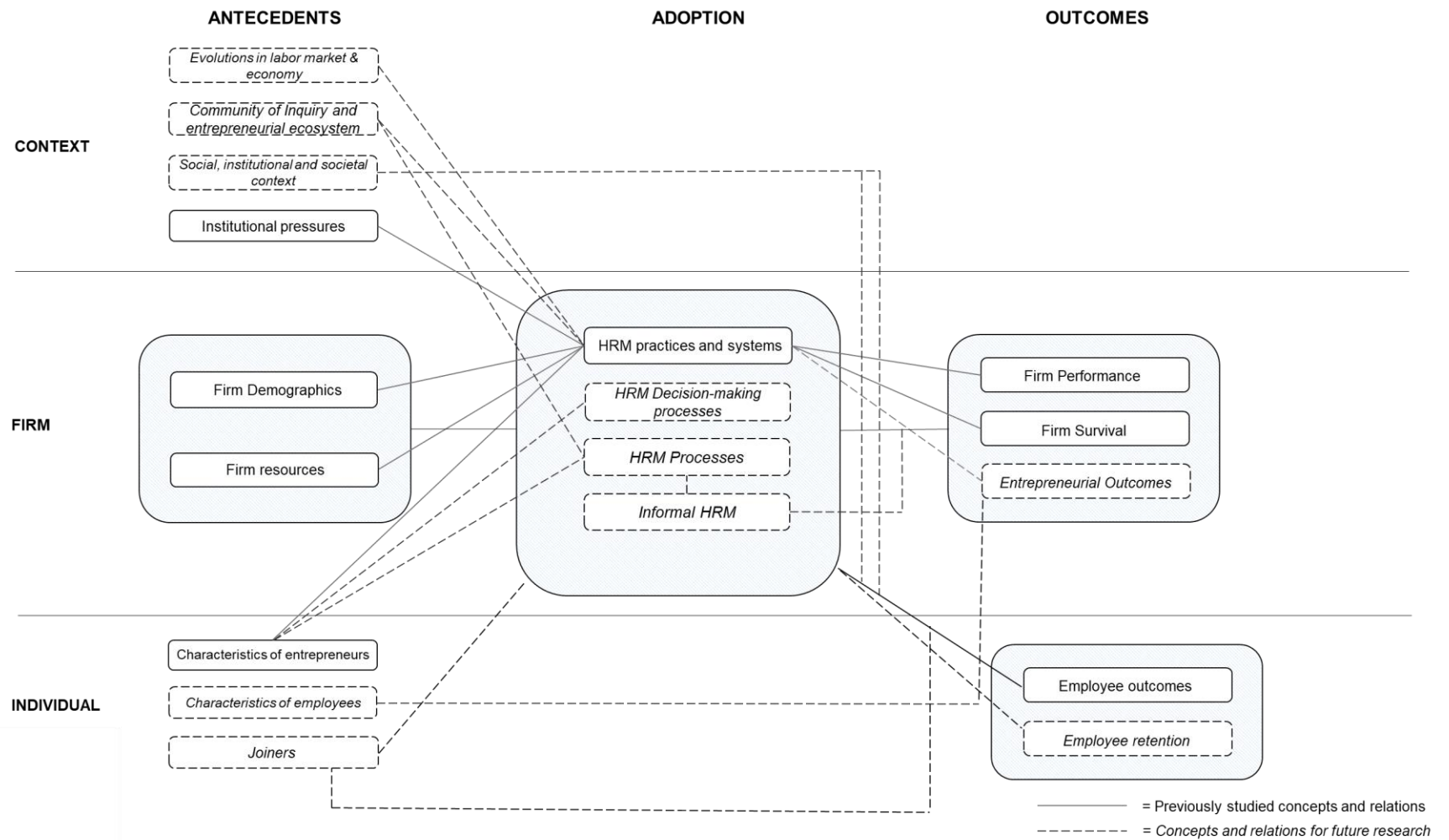


Figure 5: Framework of current and future research

## Tables

LEVEL	ANTECEDENTS OF HRM	OUTCOMES OF HRM
<b>Context</b>	<ul style="list-style-type: none"> <li>Studies on the effects of <b>institutional pressures</b>, namely: <i>Institutional bodies</i>: Bacon &amp; Hoque, 2005; Doherty &amp; Norton, 2014</li> <li><i>Industry and markets</i>: Bacon &amp; Hoque, 2005; Barrett, 2015; Burhan <i>et al.</i>, 2020; Castany, 2010; Doherty &amp; Norton, 2014; Gilman &amp; Edwards, 2008; Khavul <i>et al.</i>, 2010; Mankelow, 2008; Peetz <i>et al.</i>, 2017; Psychogios <i>et al.</i>, 2016; Tsai, 2010</li> <li><i>Economic conditions</i>: Barrett, 2015; Lai <i>et al.</i>, 2016</li> </ul>	
<b>Firm</b>	<ul style="list-style-type: none"> <li>Studies on <b>firm demographics</b>, namely <i>size and growth</i>: Barrett &amp; Mayson, 2007; Bartram, 2005; Dahl &amp; Klepper, 2015; Dörner <i>et al.</i>, 2017; Harney &amp; Dundon, 2006; Kerr <i>et al.</i>, 2007; Kotey &amp; Folker, 2007; Kotey &amp; Slade, 2005; Marlow, 2006; Mayson &amp; Barrett, 2006; Storey <i>et al.</i>, 2010; Van de Woestyne <i>et al.</i>, 2010; Verreynne <i>et al.</i>, 2011; Wyatt <i>et al.</i>, 2010</li> <li>Studies on <b>firm resources</b>: Balogh <i>et al.</i>, 2020; Bengtsson &amp; Hand, 2013; Bryant &amp; Allen, 2009; Colombo <i>et al.</i>, 2014; Dietz <i>et al.</i>, 2006; Heilmann <i>et al.</i>, 2018; Jack <i>et al.</i>, 2006; Kroon <i>et al.</i>, 2013; Schenk, 2017; Studdard &amp; Darby, 2008; Wiesner &amp; Innes, 2010; Wiesner <i>et al.</i>, 2007; Wu <i>et al.</i>, 2014; Yi &amp; Xu, 2019; Yoo <i>et al.</i>, 2016</li> </ul>	<ul style="list-style-type: none"> <li>Studies on <b>firm performance</b>, measured by: <i>Financial performance</i>: Faems <i>et al.</i>, 2006; O'Donohue &amp; Torugsa, 2015; Rodrigues &amp; Raposo, 2011; Saridakis <i>et al.</i>, 2017; Sels <i>et al.</i>, 2006a; Sels <i>et al.</i>, 2006b; Voss &amp; Brettel, 2014</li> <li><i>Innovation performance</i>: Andries &amp; Czarnitzki, 2014; Castrogiovanni <i>et al.</i>, 2011; De Winne &amp; Sels, 2010; Do &amp; Shipton, 2019; Kesting <i>et al.</i>, 2011; Koski <i>et al.</i>, 2009; Li <i>et al.</i>, 2006; Mazzei <i>et al.</i>, 2016; Messersmith &amp; Guthrie, 2010; Schmelter <i>et al.</i>, 2010; Shahzad <i>et al.</i>, 2019</li> <li><i>Market performance</i>: Allen <i>et al.</i>, 2013; Altinay <i>et al.</i>, 2008; Boudreaux, 2020; Coad <i>et al.</i>, 2017; Greer <i>et al.</i>, 2016; Irwin <i>et al.</i>, 2018; Lai <i>et al.</i>, 2017; Sheehan, 2014; Todorović <i>et al.</i>, 2020; Wang <i>et al.</i>, 2018; Zheng <i>et al.</i>, 2006; Zheng <i>et al.</i>, 2009</li> <li><i>Employment and labor productivity</i>: Chadwick <i>et al.</i>, 2013; De Grip &amp; Sieben, 2009; Jennings <i>et al.</i>, 2009; Klaas <i>et al.</i>, 2005; McClean &amp; Collins, 2019; Messersmith &amp; Wales, 2011; Moser <i>et al.</i>, 2017; Patel &amp; Cardon, 2010; Patel &amp; Conklin, 2012; Rauch &amp; Hatak, 2016; Rauch <i>et al.</i>, 2005; Schnabel <i>et al.</i>, 2011; Wu <i>et al.</i>, 2015</li> <li>Studies on firm <b>survival</b>: Chadwick <i>et al.</i>, 2016; Messersmith <i>et al.</i>, 2018</li> </ul>
<b>Individual</b>	<ul style="list-style-type: none"> <li>Studies on the <b>characteristics of the entrepreneur</b>: Baptista <i>et al.</i>, 2013; Barrett &amp; Meyer, 2010; Fairlie &amp; Miranda, 2017; Ho <i>et al.</i>, 2010; Hubner &amp; Baum, 2018; Klaas <i>et al.</i>, 2012; Leung <i>et al.</i>, 2006; Leung <i>et al.</i>, 2012; Nyström &amp; Elvung, 2014; Tocher &amp; Rutherford, 2009; Zolin <i>et al.</i>, 2011</li> </ul>	<ul style="list-style-type: none"> <li>Studies on <b>employee outcomes</b>: Bayo-Moriones <i>et al.</i>, 2009; Belsito &amp; Reutzel, 2019; Bryson &amp; White, 2019; Cox <i>et al.</i>, 2009; Dessie &amp; Ademe, 2017; Jebali &amp; Meschitti, 2020; Pajo <i>et al.</i>, 2010; Saridakis <i>et al.</i>, 2013; Tomczyk <i>et al.</i>, 2013</li> </ul>

Table 1: Categorization of papers. Each study is mentioned in the topic that best represents the study.



RESEARCH DIRECTIONS	RESEARCH ORIENTATION IN FRAMEWORK	RESEARCH QUESTIONS
<b>Main level of analysis: CONTEXT</b>		
Evolutions in labor market and economy	Antecedents	- How does labor scarcity affect HRM in entrepreneurial firms?
	Antecedents	- What contextual shocks and catalysts (i.e., exogenous influences) push entrepreneurs towards the introduction of HRM?
	Antecedents	- Are fads like the gig economy and flexible work arrangements a solution for entrepreneurial firms to recruit employees?
	Antecedents	- To what extent do generational differences in entrepreneurial firms impact HRM adoption?
Community of inquiry and entrepreneurial ecosystem	Antecedents	- What role does the community of inquiry have in the choice of HRM in entrepreneurial firms?
	Antecedents	- What is the effect of the entrepreneurial firms' local embeddedness in the entrepreneurial eco-system on HRM?
Social, institutional and societal context	Outcomes	- How does context affect the impact of HRM adoption on firm or individual outcomes?
<b>Main level of analysis: FIRM</b>		
HRM decision-making processes	Antecedents	- What are the catalysts that drive the decision to adopt HRM in entrepreneurial firms?
	Antecedents	- Which organizational members have an influence on the decision-making process related to HRM in entrepreneurial firms?
	Antecedents	- To what extent do founder biases or personality traits influence the content and process of HRM?
HRM processes	Adoption	- How do entrepreneurs change HRM to match the changing and uncertain organizational context?
	Adoption	- How do entrepreneurs scale their HRM approach during organizational growth?
	Outcomes	- Does implementation of HRM practices have positive or negative implications for employees?
Informal HRM	Adoption	- What does informal HRM mean in an entrepreneurial context?
	Adoption	- What processes foster entrepreneurial firms to transition from informal to formal HRM?
	Adoption	- What is the role of informality in the HRM processes in entrepreneurial firms?
	Outcomes	- To what extent does informality influence the impact of HRM on individual and organizational outcomes?
Entrepreneurial outcomes	Outcomes	- What is the effect of HRM on performance indicators (e.g., speed to market or venture capital attraction) particularly relevant in entrepreneurial firms?
	Outcomes	- To what extent does HRM play a role in the identification and exploitation of entrepreneurial opportunities?
Definitional choices	Outcomes	- Are research outcomes on HRM generalizable over different conceptualizations of entrepreneurial firms?
	Outcomes	- To what extent are the findings on the HRM-performance link in one type of entrepreneurial firm generalizable to all entrepreneurial firms?
<b>Main level of analysis: INDIVIDUAL</b>		
Joiners	Antecedents	- What is the impact of joiners on the emergence of HRM? Does their arrival evoke the need for HRM?
	Adoption	- What HRM practices are used by entrepreneurs to identify key joiners?
	Outcomes	- What is the role of joiners' expectations and motives in the HRM-employee outcomes linkage?
	Outcomes	- What HRM practices can reduce retention of joiners?
HRM mechanisms	Outcomes	- Which individual-level mechanisms (e.g., psychological safety) explain the effect of HRM on entrepreneurial outcomes?
	Outcomes	- To what extent is the interaction between HRM and employee outcomes influenced by characteristics inherent to the entrepreneurial firm and its content, such as uncertainty or role ambiguity?

Table 2: Presentation of a future research agenda and research questions