

The role of HR analytics to enable Strategic HR management in SMEs

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Abstract

Despite human resource (HR) management activities are increasingly recognized as crucial also for small and medium enterprises (SMEs), in the last decade the academic literature has mostly overlooked the difficulties experienced by these companies when dealing with the matter. Consequently, the objective of this study is to explore these difficulties and to understand how a data-driven approach enabled by HR analytics can help in overcoming them and establish a strategic approach to HR management in SMEs. In order to do so, a qualitative, multiple case study methodology will be applied. This approach will allow us to revitalize the academic discourse by incorporating the contemporary challenges and complexities encountered by SMEs when dealing with HR management, filling the void left by the stagnation of literature in the past decade. Furthermore, we will expand the HR analytics related literature by exploring its role also in SMEs.

Key words: *HR management; HR analytics; HR management activities; small companies; medium companies; SMEs, qualitative approach, multiple case study*

Framing of the research. *Italy is home to a substantial number of small and medium enterprises (SMEs) that form the backbone of its economy (Istituto Nazionale di Statistica 2023). These enterprises, often family-owned or characterized by close-knit communities (Matarazzo et al. 2021), typically exhibit peculiarities that distinguish them from their larger counterparts, such as limited resources, a familial organizational culture, and a close interdependence between business and personal relationships (Nigri and Di Stefano 2021)*

The profound shocks experienced globally in the past few years, including economic downturns and public health crises, have been even more pronounced in SMEs, amplifying the challenges faced by these enterprises (Miklian and Hoelscher 2022), due to the intricacies of their operations coupled with a higher degree of interdependence between business and personal relationships (Rubio-Andrés et al. 2022). This heightened turbulence has accentuated the critical role of human resource (HR) management in SMEs. With the increasing complexities and uncertainties in the business landscape, SMEs have been compelled to reassess their HR management strategies to effectively navigate through these challenges (Ottolenghi 2023). As a result, there has been a notable escalation in the emphasis placed on HR management practices within SMEs, highlighting the imperative for robust HR management frameworks tailored to the unique needs and constraints of these enterprises. Unlike larger organizations with dedicated HR departments, SMEs often grapple with limited HR expertise and financial constraints (Psychogios et al. 2016). Furthermore, these enterprises are notably lagging in the digitalization of HR management processes compared to their larger counterparts (Verma et al. 2021; Nicolás-Agustín et al. 2024). In SMEs, the responsibilities of HR management frequently fall on the shoulders of the owner / manager, a role that demands multifaceted competencies ranging from strategic HR planning to daily operational tasks. This dual role places a strain on the managerial capacity, potentially hindering the development of effective HR management strategies (Atkinson et al. 2022).

To address this issue, there is a growing recognition that HR analytics, defined as «a proactive and systematic process for ethically gathering, analyzing, communicating and using evidence-based HR research and analytical insights to help organizations achieve their strategic objectives» (Falletta and Combs, 2021, p. 54), can serve as a valuable tool for SMEs, providing insights and data-driven decision-making support in the absence of a dedicated (and strategic) HR function (Biea et al. 2023). Indeed, although until a few years ago, this tool was the prerogative of only a few companies - particularly, multinational corporations in the technology or financial sectors (Andersen 2017) - in recent years, its diffusion has significantly increased even in smaller-sized enterprises. This has been made possible by the evolution of technology, which, on one hand, has allowed for the automation of a considerable part of the process, making analytics more accessible even to individuals with limited expertise in data analysis (Arora et al. 2021). On the other hand, technology advancement has substantially reduced the costs associated with these solutions, a crucial aspect for SMEs often operating with limited resources. Providers of HR analytics technologies have also played their part by designing

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tailored solutions specifically addressing the needs of SMEs (e.g. Keka and People Matters 2023). The utilization of HR analytics in SMEs is particularly pertinent, given the limited expertise and time constraints typically faced by owners / managers (Atkinson et al. 2022). This tool can offer crucial advantages in enhancing decision-making processes related to HR management, compensating for the absence of specialized HR professionals.

Despite the burgeoning body of research in HR management, there exists a significant gap when it comes to investigating the intricacies of HR management within the context of SMEs. The current literature, though expanding, remains fragmented and variable, marked by a diversity of definitions, explanations, and methodological approaches (Harney and Alkhalaf 2021). This gap is further exacerbated when considering the myriad challenges and difficulties that SMEs encounter in the realm of HR management. While scholarly attention towards HR management in SMEs was relatively extensive during the 1990s and the initial years of the 21st century (e.g. Tocher and Rutherford 2009), there is a conspicuous absence of more recent studies that reflect the substantial changes these businesses have undergone in the last decade. The evolving landscape, characterized by global shocks and technological advancements, necessitates a contemporary understanding of HR management in SMEs. Adding to this lacuna, existing research on the topic has predominantly adopted the perspective of the owner/manager, overlooking the invaluable viewpoint of employees (Harney and Alkhalaf 2021). This is a noteworthy concern, especially given the assertion that employees in SMEs have been observed to be more 'discriminating' and 'diagnostic' compared to the owner / manager (Verreynne et al. 2013). Focusing solely on the owner / manager perspective limits the comprehensiveness of our understanding, potentially overlooking crucial nuances in the HR management dynamics within SMEs. Furthermore, despite these companies are increasingly relying on HR analytics to deal with their HR management practices, previous studies on the topic typically focused on large companies, as these typically present the most advanced HR analytics tools (Cayrat and Boxall 2022; Thakur et al. 2024).

Purpose of the paper. *In light of the research gaps that have been identified, the main objective of this paper is to provide a more comprehensive understanding of the multifaceted challenges and difficulties faced by SMEs when dealing with HR management. This will be done by adopting a holistic approach that considers a dual perspective, the first from the owner / manager and the second from the employees. Furthermore, our research endeavors to assess the role of HR analytics in assisting SMEs in navigating these challenges. Our study will thus try to answer the following research questions:*

RQ1: What are the main challenges and difficulties experienced by small and medium enterprises when dealing with human resource management?

RQ2: How can a data driven approach fostered by HR analytics help in overcoming these issues and foster a strategic approach to human resource management in small and medium enterprises?

Methodology. *To address the research questions formulated in this study, we will employ a qualitative method, adopting an exploratory multiple case study approach (Yin 2014; Sardi et al. 2020). Respondents will be selected through purposeful sampling in order to assure that they possess specific criteria relevant to the purpose of our study. To facilitate the recruitment process, we will collaborate with one of the largest Italian HR analytics technology providers, leveraging their network and resources to reach potential participants efficiently. Specifically, we will select small and medium Italian enterprises which have been implementing HR analytics in the last three years. In addition to respect the conditions to be defined as a small or medium enterprise (Loecher 2000), selected companies should be privately owned (thus excluding, for example, spin off companies from larger organizations, even if they should respect the abovementioned conditions). Companies will be included from a variety of sectors, growth stages (startups, established businesses, companies scaling up, etc.) and HR management maturity level (from a totally informal to more advanced infrastructures) to ensure that participants will provide diverse and relevant perspectives. Ideally, to assure a representative sample of participants, we would like to include at least 20 companies.*

Semi-structured interviews will be conducted with key organizational stakeholders, encompassing both the owners / managers and the employees. The Gioia method (Gioia et al. 2013) will guide the analysis of these interviews. To facilitate a comprehensive coding approach, all interviews will be transcribed in their entirety (Miles et al. 2014). The analytical process will involve a multi-step iterative approach, incorporating critical verification techniques such as cross-checking by different coders to enhance validity (Morse et al. 2002).

Results. *As the study is currently ongoing, the following discussion outlines the possible results that may be obtained by reflecting on those of previous research. Previous studies, such as Tocher and Rutherford (2009), have highlighted that SMEs commonly encounter challenges in attracting, developing, and retaining high-quality employees. This aligns with a broader understanding that SMEs face distinctive hurdles in their HR management practices.*

Typically, SMEs grapple with a range of difficulties in HR management, including resource constraints, limited expertise, and the inherent complexity of managing both business and personal relationships within the organization (Nigri and Di Stefano 2021). These challenges often manifest in the struggle to establish effective recruitment and retention strategies, provide comprehensive employee training and development, and implement robust performance management systems (Mendy 2021; Jones et al. 2024).

While these issues have been extensively examined in the existing literature, recent years may have witnessed the emergence of new challenges. Although scholarly attention towards HR management challenges and difficulties in SMEs appears to have slowed down, contemporary developments such as the emphasis on diversity and inclusion (Ravazzani et al. 2021), the growing importance of employee wellbeing (Pagán-Castaño et al. 2020), and the integration of innovative technologies like artificial intelligence could introduce novel complexities (Bica et al. 2023). The dynamic nature of the

business landscape suggests that these trends may significantly impact HR management practices in SMEs, necessitating a reevaluation of traditional challenges and the exploration of contemporary issues.

Against the backdrop of these challenges, the strategic adoption of HR analytics emerges as a potential catalyst for overcoming these hurdles. HR analytics offers a data-driven approach that can empower organizations to make informed decisions, optimize processes, and address longstanding challenges in a more efficient manner (Falletta and Combs 2021). Regarding talent acquisition and retention, HR analytics can provide valuable insights into recruitment trends, employee preferences, and turnover patterns (Di Prima et al. 2023). By leveraging predictive analytics, organizations can identify potential recruitment challenges, understand factors contributing to employee attrition, and tailor strategies to attract and retain the right talent (Yahia et al. 2021). HR analytics can also optimize training and development initiatives by identifying skill gaps, assessing the effectiveness of training programs, and providing real-time feedback. This data-driven approach allows organizations to prioritize training investments and ensure they align with business objectives (Di Prima and Ferraris 2023). For what concerns performance management, HR analytics may enable a more objective evaluation of employee performance, facilitating fair assessments and data-driven feedback (McCartney and Fu 2022). This can contribute to the development of personalized development plans and, ultimately, enhance overall organizational performance (Di Prima and Ferraris 2022). Finally, in the face of emerging challenges such as diversity and inclusion, employee wellbeing, and technological innovations, HR analytics can help organizations adopting a proactive approach. By analyzing data related to workforce diversity, employee satisfaction, and the impact of technological advancements, SMEs can tailor their HR strategies to meet evolving needs. For instance, predictive analytics can help forecast potential wellbeing issues, allowing organizations to implement proactive measures to support their employees (Gurusinghe et al. 2021).

Research limitations. *Despite its important contribution, this study is not exempt from limitations. First, as data will be exclusively collected in Italy, the findings may have limited generalizability to different cultural, economic, or institutional contexts. SMEs in other regions or countries may exhibit distinct characteristics that influence HR management practices and outcomes differently. Second, despite all necessary precautions will be taken, the accuracy and reliability of the data hinge on participants' willingness to provide honest and comprehensive responses. Response bias, where participants may provide socially desirable responses or withhold certain information, could impact the validity of the results. Third, qualitative analysis, such as the interpretation of semi-structured interviews, introduces an inherent subjectivity. The researcher's interpretation and coding process may influence the outcomes, potentially leading to biased conclusions.*

Managerial implications. *This study bears significant practical implications for practitioners and SMEs owners aspiring to refine their HR management practices. Initially, the meticulous identification and exploration of the primary challenges and difficulties confronting SMEs furnish practitioners with actionable insights. A comprehensive understanding of these challenges empowers practitioners to formulate targeted strategies, effectively surmounting obstacles and fostering a more efficient organizational environment. Secondly, the explication of HR analytics' role may serve as a catalyst for increasing the adoption of this sophisticated tool within SMEs. In fact, its usage may improve decision-making processes and organizational outcomes, with a positive impact for both the enterprise and the overall society, since SMEs constitutes the backbone of Italian economy.*

Originality of the paper. *This study will contribute significantly to the existing literature by shedding light on the role of HR management within the distinctive context of SMEs. First, by delving into the main difficulties faced by these enterprises, the study will reopen a crucial debate that witnessed its peak in the 90s and the first decade of the 21st century, yet experienced a notable decline in scholarly attention thereafter. The research will not only clarify the contemporary challenges but also introduces new findings, considering the emergence of novel complexities such as technological advancements, diversity and inclusion imperatives, and other evolving trends. Second, unlike a predominant focus on the viewpoint of owner / managers in most previous studies, this research takes a novel approach by incorporating the perspectives of employees. Recognizing the significance of both organizational leaders and staff in shaping HR management outcomes, this inclusive approach provides a more comprehensive understanding of the dynamics at play within SMEs. Third, this study stands out in the realm of HR analytics literature by shifting the focus from large enterprises to SMEs. While much of the existing research concentrates on the adoption and impact of HR analytics in larger organizations, this paper addresses a critical gap by exploring the utilization of HR analytics technology in the context of SMEs. By doing so, it offers unique insights into how these businesses leverage technology to enhance their HR management practices, bridging a significant knowledge void in the current academic landscape, ultimately expanding and enriching the existing literature on the topic.*

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