

The role of HRM in the innovation of performance measurement and management systems: a multiple case study in SMEs

HRM and
PMMM

589

Alberto Sardi and Enrico Sorano

Department of Management, University of Turin, Torino, Italy

Patrizia Garengo

Department of Industrial Engineering, University of Padova, Padova, Italy, and

Alberto Ferraris

Department of Management, University of Turin, Torino, Italy and

Laboratory for International and Regional Economics,

Graduate School of Economics and Management, Ural Federal University,

Ekaterinburg, Russian Federation

Received 14 March 2020

Revised 7 May 2020

17 May 2020

18 May 2020

Accepted 18 May 2020

Abstract

Purpose – Literature identifies the key relevance of human resource management (HRM) in the creation of an organisational performance measurement and management system, while, in practice, small and medium-sized enterprises (SMEs) continue to prioritise financial and operational aspects. This study aims to identify the main characteristics that typify an advanced performance measurement and management system in SMEs, according to the literature dedicated to performance measurement and HRM.

Design/methodology/approach – Through a multiple-case study methodology, the research deeply investigates four European SMEs. Empirical data were collected through interviews, company documents and direct observations. Then, within- and cross-case analysis were implemented to analyse the data.

Findings – In designing organisational performance measurement and management systems in SMEs, HRM emerges as essential in supporting the enhancement of the maturity of performance measurement and the improvement of performance management. Through a framework based on the relevant literature, this research identifies three conceptual propositions that highlight the main characteristics that typify advanced performance measurement and management systems in SMEs.

Research limitations/implications – The research identifies a conceptual framework suitable to investigate empirically the role of HRM in developing performance measurement and management systems at SMEs, and it lays the foundation for future broader empirical studies in this field.

Originality/value – This paper underlines HRM as an important driver in the creation of organisational performance measurement and management systems. Moreover, it suggests some key characteristics that such a system should develop to be effective in the target enterprises.

Keywords Human resource management, HRM, Performance measurement, Performance management, Performance measurement and management system, SMEs

Paper type Research paper

Introduction

The literature on human resource management (HRM) and innovation highlights the strategic contributions of HRM in terms of new product development, creativity and talent management (Seeck and Diehl, 2017; Smith, 2018; Stokes *et al.*, 2016, 2019). These contributions underline the importance of a “complementary nature” between them, allowing organisations to innovate through an approach focused exclusively on HRM practices (Strobel and Kratzer, 2017; Thursfield and Grayley, 2016). However, this approach seems questionable and reductive due to the complex nature of an organisation. Firstly, research reveals differences from one organisation to another, underlining the need to deeply examine



Employee Relations: The
International Journal
Vol. 43 No. 2, 2021
pp. 589-606

© Emerald Publishing Limited
0142-5455

DOI 10.1108/ER-03-2020-0101

each context of analysis. For instance, there are significant differences between public versus private, large versus small and medium-sized enterprises (SMEs) and service versus manufacturing firms (Garengo *et al.*, 2005). Secondly, research indicates a trend towards multidisciplinary, dynamic and holistic approaches (Bititci *et al.*, 2012; Sardi and Sorano, 2019; Seeck and Diehl, 2017). This scenario includes many challenges when fostering organisational innovation (Shipton *et al.*, 2017). Notably, previous literature seeks a deeper investigation through empirical and multidisciplinary research into SMEs (Li *et al.*, 2019; Strobel and Kratzer, 2017).

SMEs face a great challenge in using their human resources to foster organisational innovation and, consequently, achieve better performance for the respective company (Arunprasad, 2017). Managers of SMEs must understand how to practically organise their human resources or to implement innovation-oriented practices when they aim to pursue innovation within their organisation. Managers should, thus, be able to use HRM as a true leveraging tool (Curado, 2018). For example, HRM is recognised as a major intangible asset for innovating an organisational performance measurement and management system (PMMS) (Bourne *et al.*, 2013; Kaplan, 2012; Kaplan and Norton, 2004, 2005). Though helpful in moving towards a holistic and customised approach, HRM has not enough undergone sufficient investigation to improve knowledge on how to design a PMMS, especially in SMEs (Bititci, 2015; Garengo and Biazzo, 2012; Sardi *et al.*, 2018; Stanton and Nankervis, 2011). This shortcoming is reflected in the fact that, frequently, the significant challenge for SMEs is the development of a PMMS that people want to use (Bititci, 2015). Literature on HRM and innovation has recently expanded through empirical studies; however, further empirical contributions are necessary to improve knowledge about how to develop an organisational PMMS, with particular connections to SMEs.

To address these gaps, this study investigates the main characteristics, according to the literature examining HRM and performance measurement, that typify an advanced PMMS through a multiple-case study of SMEs (Santoro *et al.*, 2019). It sheds light on the relevance of effective implementation of HRM in the PMMSs at SMEs.

The paper is organised as follows. Firstly, the authors review the literature to identify a conceptual framework for studying PMMS characteristics. Secondly, this article illustrates the research methodology used to collect and analyse empirical data from a group of SMEs. Thirdly, it reveals the results of case studies and reports the predominant findings, outlining three conceptual propositions. The last section summarises the main contributions, limitations, and future opportunities.

Literature background

Scholars consider implementation of a PMMS essential for improving performance, regardless of the size of an organisation (Melnyk *et al.*, 2014; Nudurupati *et al.*, 2016). However, SMEs rarely develop a PMMS owing to the lack of human resources, managerial skills and financial resources (Garengo, 2009; Garengo and Sharma, 2014), especially the latter, preventing the adoption of sufficient holistic and balanced PMMS models such as balanced scorecard and performance prism (Kaplan and Norton, 1992; Neely and Adams, 2001). Human resources are not seen as a strategic factor for SMEs (Melo and Machado, 2013; Jafari-Sadeghi *et al.*, 2020); instead, these businesses rely mainly on financial and operational aspects rather than intangible aspects, such as innovation and research and development (Bititci *et al.*, 2012; Garengo and Biazzo, 2013). A major intangible asset for PMMS improvement is HRM (Bourne *et al.*, 2013; Kaplan, 2012; Kaplan and Norton, 2004, 2005); however, few studies have focused on improving knowledge about how to design a useful PMMS (Bititci, 2015; Sardi *et al.*, 2018).

To begin, the authors defined two main research topics, in other words, HRM and PMMS. Human resources refer to the human capital controlled by the enterprise through a direct

employment relationship (Barney and Wright, 1998). HRM maximises employee performance to achieve the employer's strategic objectives (Wood, 1999). Performance measurement covers what enterprises measure, which includes activities such as developing metrics; setting targets; collecting, analysing and reporting performance information; and interpreting and assessing performance differentials (Smith and Bititci, 2017). Performance management encompasses how enterprises use performance measurement, which includes learning, communicating and continuously improving performance (Franco-Santos *et al.*, 2012; Smith and Bititci, 2017). The balance between measurement and management should lead to an efficient PMMS (Smith and Bititci, 2017). The use of this system is recognised as one of the main managerial supports for providing feedback to employees on the outcome of actions reflecting the procedures used to implement business strategy (Bititci *et al.*, 1997; Ittner and Larcker, 2003).

Literature recognises HRM as a key discipline contributing to the development of a holistic PMMS (Bourne *et al.*, 2013; Pavlov *et al.*, 2017). The literature covering performance measurement and HRM can be found in a large and growing number of publications and journals. This literature is mainly focused on HRM, with little emphasis placed on the role of HRM in developing an organisational PMMS (Bourne *et al.*, 2013). Performance measurement literature recognises HRM as a source of sustainable competitive advantage to support the development of a PMMS and suggests communication and interaction with HRM (Bourne *et al.*, 2013; Kaplan, 2012; Kaplan and Norton, 2004, 2005); however, HRM rarely supports the development and design of an organisational PMMS. Rather, it is oriented towards developing an HRM system (e.g. performance appraisal system or evaluation system) instead of developing an organisational PMMS. Sometimes, HRM supports the definition of key performance indicators and measures in an organisational PMMS, but it is rarely involved in developing a PMMS, especially in SMEs.

This scenario seems contradictory, given that a significant amount of research underlines the impact of a PMMS on employees. For instance, Franco-Santos *et al.* (2012) stated that an efficient PMMS affects employees' behaviour, motivation and social relations, resulting in improved human relations concerning teams and functions. Bititci (2015) and Melnyk *et al.* (2014) demonstrated that a well-designed PMMS increases employee engagement and interaction. Nudurupati *et al.* (2016) stated that this system also impacts employee learning. Although the literature recognises the impact of a PMMS on employees, HRM is rarely considered when designing a PMMS (Bourne *et al.*, 2013; Kaplan, 2012; Stanton and Nankervis, 2011), especially as regards SMEs (Ates *et al.*, 2013).

Scholars highlight the widespread use of a holistic PMMS in multinational companies and the limited use of a holistic PMMS in SMEs (Bititci *et al.*, 2012; Garengo, 2009). This is usually attributed to the poor managerial skills and lack of personnel at SMEs (Garengo *et al.*, 2005). This infrequent use of a PMMS at SMEs leads to the acquisition of little performance knowledge in those companies. This highlights poor implementation of PMMS development (Bititci, 2015; Garengo and Biazzo, 2012).

Recent studies of SMEs describe issues with the use of management control and a PMMS (Pešalj *et al.*, 2018) or relationships between knowledge management and a PMMS to support sustainable business development (Cardoni *et al.*, 2020; Manville *et al.*, 2019). Cardoni *et al.* (2020) demonstrate that SMEs are often characterised by unstructured knowledge management approaches and limited implementation of a PMMS (Cardoni *et al.*, 2020). Other studies reveal that research focusing on traditional family-owned SMEs is insufficient in comparison to the key roles these businesses play in a nation's economy; for example, 92% of all companies in the German economy are family-owned (Barbe *et al.*, 2020). Research indicates their economic relevance, but there have been limited studies on management control and performance measurement and management innovation in SMEs. These companies still prefer traditional performance indicators (Barbe *et al.*, 2020).

Although HRM should contribute significantly to organisational effectiveness – which is expressed in terms of productivity, return on investment, competitiveness and ultimately, profitability (Bell *et al.*, 2009; Stanton and Nankervis, 2011) – not enough studies investigate the role of HRM in developing an organisational PMMS. Therefore, a need for empirical studies concerning this topic in SMEs is clear.

In light of this literature background, this research aims to identify the main characteristics a PMMS should have in SMEs, according to the study of both literature and managerial practices related to HRM and performance measurement. Consequently, this deep empirical study analyses these characteristics in small and medium enterprises.

Conceptual framework

To describe the characteristics of a PMMS, the authors used an effective and recent conceptual framework for the performance measurement field proposed by Bititci (2015) and subsequently used in other studies (Sardi *et al.*, 2018; Smith and Bititci, 2017). It considered measurement and management as two separate but interdependent processes of a performance system. The performance measurement and performance management processes reveal some characteristics depending on the level of performance measurement maturity and the degree of democratic and participative performance management. According to this separate but interdependent vision, the authors adopted this framework to rationalise the main characteristics of an organisational PMMS described in the literature on performance measurement and HRM.

Performance measurement (*y*-axis) covers the characteristics typical of performance measurement, proving that a system based on employee development and growth is much more effective than that focused only on financial and operational results (Dewettinck and van Dijk, 2013). Employee development and growth measurements promote positive and proactive individual behaviour (Ferris *et al.*, 2008). As suggested by Nudurupati *et al.* (2016), performance practices should deliver transparent, easily accessible, real-time measurements through the visual approach (Bititci, 2015; Bourne *et al.*, 2016). For example, performance practices should match transparent performance measurement to reward, motivate and identify strategic objectives (Fabi *et al.*, 2009; Nohria *et al.*, 2008). Where supported by specific technological tools, such practices provide transparent, easily accessible measurements (Chang *et al.*, 2013; Sardi and Garengo, 2015). They also support effective self-measurement and self-evaluation. Thanks to technology, SMEs can implement continuous measurement tools, resulting in feedback and improved relationships among employees, customers and suppliers (Dewettinck and van Dijk, 2013; Massingham *et al.*, 2011). These characteristics have also been identified in the process of competent measurement and management. Research reveals that this process can be supported by tools of information technology (e.g. social media, enterprise social networking), which favour real-time data collection and self-monitoring of activity reports (Sardi *et al.*, 2018). The self-management of employee competence through innovative technological tools encourages the adoption of key performance indicators to control competencies.

These innovative aids permit the customisation of individual performance measurements and provide useful learning parameters to evaluate employee skills, knowledge and abilities, as well as facilitate subsequent specific training. This process can become a source of sustainable competitive advantage (Hatch and Dyer, 2004; Sardi *et al.*, 2018).

HRM literature highlights that one-third of organisations use multi-source feedback systems. However, the main challenges in the application of this measurement tool are the communication efforts necessary before and after implementation and the inherent difficulty in giving and receiving feedback (Brutus *et al.*, 2006; Kagaari *et al.*, 2010; Morgan *et al.*, 2005).

Organisations that have developed this tool likely enjoy a competitive advantage. In-depth research has suggested the application of 360-degree feedback assessments to understand

systematic rating effects across rather hierarchical perspectives, thereby effectively developing leadership in global contexts (Kossek *et al.*, 2017).

Performance management (*x*-axis) covers the characteristics typical of performance management, suggesting that performance management should provide for the continuous sharing of knowledge (Wang and Noe, 2010) to develop and transform individual competencies into enterprise-specific skills, knowledge and abilities (Bhatti *et al.*, 2020; DeNisi and Smith, 2014; Fong *et al.*, 2011; Ployhart and Moliterno, 2011). Knowledge should be shared both vertically and horizontally (Davison *et al.*, 2014), promoting who knows what and who knows whom (Majchrzak *et al.*, 2013). Performance management should facilitate employee collaboration in developing new open projects and ideas (Bititci, 2015) to favour the well-being of the overall enterprise (Khoreva and Wechtler, 2018). These practices encourage sharing performance information with internal and external networks (suppliers, customers and business partners). They expand conversation about performance through implementation of challenges and fun situations. Performance management that is based on happiness, human relations and creativity improves people's learning and positive behaviour (McKenna *et al.*, 2011). Although traditional performance management continues to dwell on the cognitive aspects without considering people's emotions, HRM practices reveal how some technology aids – e.g. chats and social networking – can impact the emotional area, resulting in better performance (Eppler and Platts, 2009). Scholars point to emotional benefits deriving from effective use of some visual aids (Nudurupati *et al.*, 2016). People's motivation remains one of the key points in the use of a PMMS, the latter being oriented towards autonomy, challenge and humour, which ensures democratic and participative performance management (Smith and Bititci, 2017). In what is branded “high-involvement innovation”, brainstorming is encouraged to generate ideas that provide the seeds of change for an organisation (Bessant, 2003). However, to achieve this result, performance management must be perceived as fair and just (DeNisi and Smith, 2014; Denis and Murphy, 2017). Perceptions of justice have become an important part of later models of performance management, and this is suggested as an important area for research in the future.

This approach may increase trust at the enterprise level, reduce opportunistic behaviour and produce higher performance (Cho and Poister, 2013). SMEs should increase performance management transparency, establish open channels of communication and promote company-wide learning; they should also establish fair accountability and responsibility of measures for individuals and teams, to maintain employees' trust and motivation and to promote self-performance management (Ferris *et al.*, 2008; Ployhart and Moliterno, 2011). Employees' attitudes can move from grudging compliance to high commitment (Smith, 2018; Thompson, 2013) thanks to an efficient PMMS (Bititci, 2015).

Literature also suggests that business outcomes – such as productivity, product and service quality, employee competence and flexibility – should be factored into designing a PMMS (Stanton and Nankervis, 2011). It highlights the key importance of the employee–line manager relationship in performance management, as well as the value of the horizontal alignment with all HRM processes (Bamber *et al.*, 2017; Nankervis *et al.*, 2012; Stanton and Nankervis, 2011).

To rationalise the main characteristics typical of a PMMS according to the literature on performance measurement and HRM, the authors applied the conceptual framework, as illustrated in Figure 1.

Methodology

The authors carried out a qualitative study using the multiple-case study methodology (Yin, 2018). This is an empirical investigation of a contemporary phenomenon in its real context,

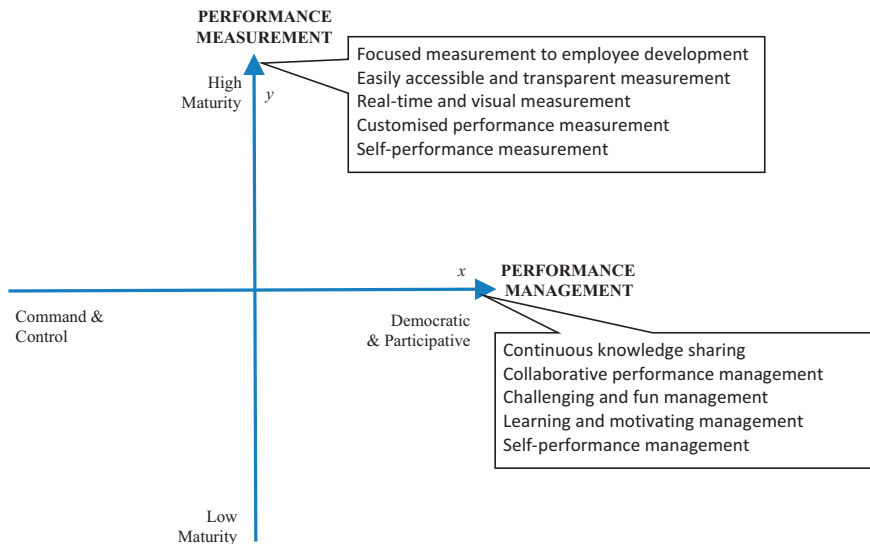


Figure 1. Conceptual framework with characteristics that typify a PMMS (Bititci, 2015; Sardi *et al.*, 2018; Smith and Bititci, 2017)

especially when the boundaries and context are not clear, relying on multiple sources of evidence (Yin, 2018). As highlighted by Benbasat *et al.* (1987, p. 371), the case study methodology “examines a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or a few entities (people, groups, or organisations)”. Moreover, with this method, the phenomenon can be studied in its natural setting, thereby allowing better understanding of the nature of the phenomenon and permitting exploratory investigations where the variables are not clearly understood (Benbasat *et al.*, 1987; Eisenhardt and Graebner, 2007; Yin, 2018).

The main steps adopted in this research were the selection of case studies, data collection and analysis.

Firstly, the authors defined the features of the research population from which the case studies were drawn, as suggested by other similar studies (Garengo and Sharma, 2014; Jardioui *et al.*, 2019; Santoro *et al.*, 2019). The involved enterprises were selected based on the following:

- (1) Their size as small and medium-size businesses. According to the European Union (EU) criteria, SMEs have 50 to 249 employees, annual turnover not exceeding €50m and headquarters in Europe (Ulrich, 2000).
- (2) Their concentration on manufacturing. Service industries were excluded because PMMSs can differ (Garengo *et al.*, 2005).
- (3) Their outstanding performance with respect to the sector in which they operate (Bititci *et al.*, 2013).
- (4) Their implementation of an advanced PMMS; in other words, businesses having a basic PMMS were not considered (Bourne *et al.*, 2002; Garengo, 2009). According to Garengo’s classification (2009):
 - A basic PMMS does not detect internal and external changes, the data collection frequency is undefined and the data do not describe the company’s needs.

- An advanced PMMS detects the internal changes, and the data collection frequency is based on the company's needs. Performance measurement and management activities are partially integrated with other primary organisational managerial systems. The PMMS also communicates with users.

Within these criteria, four companies were selected; the authors had already established links to access data at these companies (Yin, 2018). To ensure anonymity, the selected firms were named A1, B2, C3 and D4 (Table 1).

Secondly, a large amount of information was collected. Two researchers visited each SME to interview the chief executive officer, director, control managers and human resources managers. In particular, they collected the data from three sources (Yin, 2018):

- (1) semi-structured interviews with a cross-section of employees from both senior and middle management (decision-makers);
- (2) company documents such as reports, visual charts, organisational charts and process maps gathered from throughout the organisation; and
- (3) direct observations of use of the PMMS by the authors, who already had experience working with the case organisations in various capacities.

As per Yin's (2018) recommendation, triangulation of data is important to strengthen their validity. As a result, all three sources of data collection were used as a means of triangulating the data. The identified framework (Figure 1) was the basis for developing the data collection protocol that was followed by all researchers during the data collection process. Interviews were recorded electronically, whereas documents consisted of photographs or copies.

Thirdly, the authors analysed data in three ways. To begin, the authors categorised the main information about each SME, including turnover, number of employees, country, company profile, milestones and PMMS typology (see case analyses in Table 1). Subsequently, two researchers assessed and compared the PMMS of each company by cross-case analysis according to the main characteristics identified in the literature review (see cross-case analysis in Table 2). Then, they assessed the maturity of characteristics identified during the literature review using the scale 0 (no characteristics indicated) to 5 (characteristics fully portrayed) (Table 2) (Bititci *et al.*, 2015; Smith and Bititci, 2017). Each case was validated with at least five key informants. Management capabilities are distinguished as unique and distinctive processes that emerge from path-dependent histories of individual organisations (Schreyögg and Kliesch-Eberl, 2007; Teece *et al.*, 2016). They have unique evolutionary paths shaped by learning mechanisms (Eisenhardt and Martin, 2000).

Findings

After implementing a basic PMMS in the 2000s, the investigated SMEs innovated and improved their systems, moving forward with the adoption of an advanced PMMS, which enabled them to collect, analyse and report internal changes to suit specific requirements (Table 1). Initially, performance data were accessible mainly to owners, top management officers and control supervisors. These basic PMMSs were oriented to collect, analyse and report information without specifying the frequency, method and purpose. The data collection frequency was undefined, and they did not describe the company's needs. The main information collected was focused mainly on economic measures. These basic PMMSs rarely detected the internal and external changes. A few years after this first implementation, the SMEs developed and implemented advanced PMMSs.

Firm A1 had a PMMS with an easily accessible and transparent performance measurement, which allowed real-time and visual measurement. Firm A1 used Salesforce

Firm A1		Turnover €16m, employees 110
<i>Profile</i> <i>Worldwide leader in surface treatment of all surfaces</i>		
Milestones	1950s	Started by two brothers producing household waxes and detergents
	1970s	Specialized in professional floor care products
	2010s	Became a leader in surface treatment
PMMS typology	2000s	Basic PMMS. Performance reporting service in place, but not structured and supported by efficient information system
	2015	Advanced PMMS. To project a holistic PMMS, it aimed to provide a PMMS closer to business needs, dedicating adequate financial and human resources
Firm B2		Turnover €9m, employees 55
<i>Profile</i> <i>Production and marketing of industrial woodworking machines</i>		
Milestones	1980s	Started by two brothers marketing woodworking machinery
	1990	Started a small production of machines for furniture
	2010s	Became a supplier of major furniture manufacturers
	2018	Became a business partner of famous brands
PMMS typology	2000	Basic PMMS, used only to report, collect and analyse main financial information
	2009	Advanced PMMS. Implemented the first simple PMMS, mainly focusing on customer relationship Facilitated communication of performance data between employees and sales force using mobile and technological tools. Method and frequency of data gathering based on company needs; people accessed it almost daily
	2018	Developed its PMMS, based on cloud technology
Firm C3		Turnover €29m, employees 170
<i>Profile</i> <i>Innovative brand of furniture design</i>		
Milestones	1900s	Started by a woodwork craftsman
	1950s	Production of bedroom furniture and other furniture
	1980s	Production of living room furniture
	2005	Changed to a joint-stock company
PMMS typology	2000	Basic PMMS, to collect, analyse, and report information without specifying the frequency, method and purpose
	2012	Advanced PMMS, to gather data by method and frequency according to company needs, especially of financial, sales, and production functions. Management communicates performance data weekly
Firm D4		Turnover €45m, employees 220
<i>Profile</i> <i>Production of semi-finished iron and metal items and civil engineering and industrial constructions</i>		
Milestones	1980	Started by two construction companies
	1990s	Became a supplier of public companies
	2005	Also became a provider of project management services
PMMS typology	2005	Basic PMMS. To use the basic system, focused mainly on economic measures to assess performance
	2015	Advanced PMMS, to adopt a new management system and social business system to collect and analyse data in real time using collaboration management tools focused mainly on operational indicators to improve production

Table 1.
Within-case analysis of
SMEs and PMMS
typology

software to post and comment on performance information. It also allowed the sharing of knowledge with various sources. This system favoured employee engagement through the use of mobile tools, communities and intelligent insights.

Table 2.
Cross-case analysis of
four SMEs

Processes	Characteristics	A1	B2	C3	D4	AvarageScore
Performance measurement	Focused measurement to employee development	2	0	1	1	1.00
	Easily accessible and transparent measurement	5	5	3	5	4.50
	Real-time and visual measurement	3	4	3	4	3.50
	Customised performance measurement	3	4	3	4	3.50
	Self-performance measurement	3	3	4	3	3.25
		16	16	15	17	
Performance management	Continuous knowledge sharing	5	3	3	4	3.75
	Collaborative performance management	4	4	4	4	4.00
	Challenging and fun management	2	2	3	2	2.25
	Learning and motivating management	3	3	3	3	3.00
	Self-performance management	3	4	3	4	3.50
		18	17	16	18	

Note(s): 0 never; 1 rarely; 2 occasionally; 3 sometimes; 4 often; 5 always

Firm B2 improved its PMMS through management information systems developed on-site. Its system allowed the collection of information and its sharing in real time with other employees. The system favoured customised performance measurement and supported self-measurement and management of its own activities. Furthermore, it connected performance measurement and management through online chat support to favour the sharing and discussion of information.

Firm C3 also adopted a chat tool (e.g. Messenger, WhatsApp) to communicate some of its performance information. To do this, the company used free-licence managerial software to share performance information among employees and engage them in a conversation about performance. Performance measurement was based on the performance collection and analysis through the managerial software and application (e.g. SAP Business Objects, Inaz platform). These tools favour characteristics identified in the literature review.

Firm D4 used social tools such as Microsoft Office 365 to rapidly disseminate performance information throughout its network. By this manner, the company allowed employees to interact and talk about performance data. They could share and comment upon the information in their device.

In developing their PMMSs, the four investigated SMEs followed similar evolutionary paths. As indicated below, cross-case analysis describes the main characteristics of the organisational PMMS of each company (Table 2).

The main characteristics typical of a PMMS were identified, although, in many cases, to a much lesser extent (Table 2). For instance, the PMMSs were rarely focused on employee development and a challenging and fun management system. They rarely expanded conversations about performance through the implementation of challenges and fun situations, although companies knew that performance management based on human relations, happiness and creativity improves employees' learning and positive behaviour.

These PMMSs were based on transparent, real-time and visual measurement. They highlighted performance information in an easily accessible, transparent way but also through the adoption of technological tools. They allowed customisation of the measurements supporting people to be free, encouraging self-measurement. The case studies indicate that the PMMS was supported by graphs, charts and visual indicators, which were often shared using technological tools.

These were supported by technology for measuring and managing some performance information. For example, enterprise A1 used a chat platform to comment and share performance information. In some cases, technological tools were used to support employee development and knowledge through comments, sharing and posts about new ideas,

initiatives or events. Enterprise C3 also adopted Messenger or WhatsApp groups to engage people in conversations about performance. This innovative use of technology is a new way for the sharing of knowledge and the management of relationships, which moves a company towards a high-maturity performance measurement. Additionally, it allows for an informal engagement of performance management, thereby leading to a greater attachment to work.

Although these technological tools were rarely adopted by all employees, people were beginning to use them in more departments. In some cases, the technological tools also supported the employees' development and knowledge, as comments were shared and ideas, initiatives or events were posted. They encouraged increased awareness regarding performance measurement. The PMMS provided a virtual platform where people could also share performance information. The adoption of these tools allowed easier real-time data capture, leading to major self-management and, consequently, to democratic and participative performance management. These tools also supported the self-management of intangible assets more accurately and objectively than a traditional approach.

Cross-case analysis reveals that an advanced PMMS partially displays the characteristics seen in the HRM and performance measurement literature. It describes a trend towards a high-maturity performance measurement as well as a democratic and participative performance management (Figure 2).

Discussion and propositions development

Using a qualitative methodology, the authors investigated four SMEs. The investigated case studies moved from basic PMMSs to advanced PMMSs based on easily accessible and

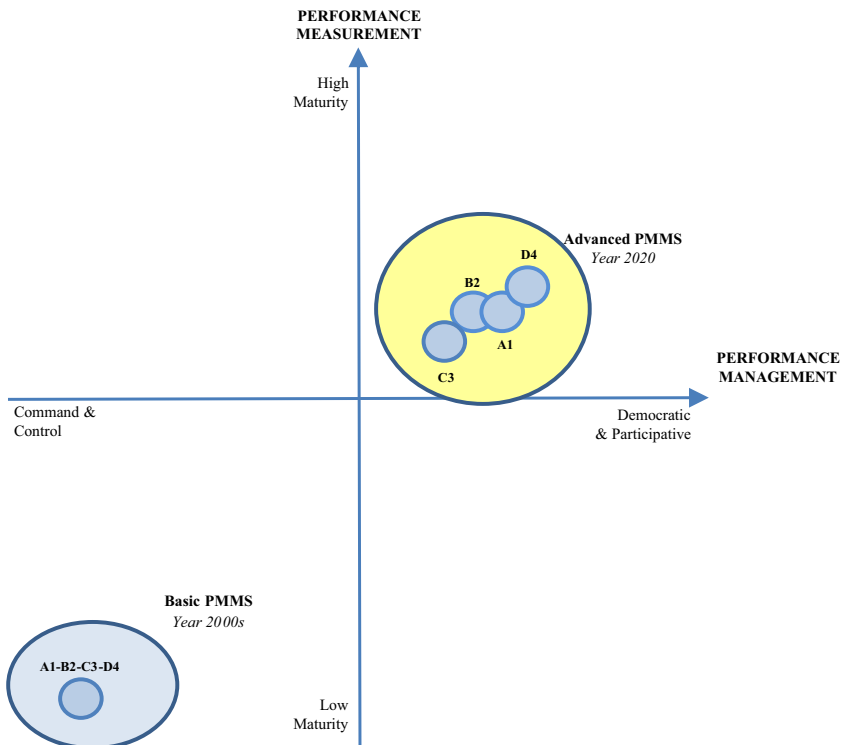


Figure 2. Conceptual framework of SMEs investigated

transparent, real-time and visual performance measurement as well as customised performance measurement. They also highlighted characteristics such as continuous knowledge sharing and collaborative performance management.

Moving from these findings, the authors developed three conceptual propositions to explain the organisational PMMS according to the literature on HRM and performance measurement.

In SMEs, one of the main performance paradoxes is attributed to two factors. On the one hand, SMEs sought to understand how to organise HRM when they promote innovation within their organisations (Curado, 2018). On the other hand, few SMEs consider HRM as a key factor in improving performance. This poor consideration may be a result of the organisational culture, poor financial resources and little managerial knowledge (Ates *et al.*, 2013; Jardioui *et al.*, 2019).

To address this paradox, the literature outlines the key role played by holistic, multidisciplinary and approaches in providing an integrated view with other organisational processes (Bititci, 2015; Sardi *et al.*, 2018). The results of this research reveal PMMSs based on transparent, real-time and visual measurement (Bourne *et al.*, 2016; Nudurupati and Bititci, 2005). The results prove that the use of transparent, real-time and visual measurements such as tables, charts and visual indicators, supported by technological tools, lead to more democratic and participative performance management. The use of effective visual aids results in cognitive and affective benefits, which is a strong requirement according to the HRM and performance measurement literature (Bititci, 2015; Ferris *et al.*, 2008). For example, effective visual aids improve the process of learning. The real-time visual approach enhances emotional aspects, promoting personal commitment and improving performance, as suggested by the literature (Bititci *et al.*, 2015; Bourne *et al.*, 2016; Nudurupati *et al.*, 2016).

Although scholars highlight the emotional benefits deriving from an effective use of social tools, these are often ignored in the performance management field (Nudurupati *et al.*, 2016). The first conceptual proposition emerged from these results is as follows:

P1. Adoption of real-time and visual performance measurements have an impact on democratic and participative performance management.

Current theoretical views describe resilience as an emerged topic linked to adaptability, well-being and organisational performance (Stokes *et al.*, 2019). Literature and practices have developed many insights into resilience. They have a propensity to conceptualise resilience as being associated with macro-situations; however, recent literature demonstrates the opportunity of reconceptualising and appreciating resilience every day. This implies a need to see resistance as normative rather than automatically negatively (Kossek and Perrigino, 2016; Stokes *et al.*, 2019). This theoretical view is well explained by this research. The PMMSs analysed reveal easily accessible and transparent performance measurements, which favour self-performance management. Furthermore, they respond to an actual challenge through a system to engage people (Bardoel *et al.*, 2014; Kossek and Perrigino, 2016; Lappalainen *et al.*, 2019). By the adoption of appropriate software and technological applications, companies create a PMMS where employees manage their continuous performance. The use of this software offers the opportunity for customised performance measurement. The second conceptual proposition, which emerged from these results, is as follows:

P2. Easily accessible and customised performance measurements enhance self-performance management.

Literature on HRM and innovation indicates the positive impact of HRM on new product development, creativity or talent management (Seeck and Diehl, 2017; Smith, 2018; Thursfield and Grayley, 2016). Further positive impacts can be seen through various theoretical and

practical lenses in SMEs, which may address practical innovation of numerous internal and external organisational factors to face current competitive environments (Shipton *et al.*, 2017). Through the results of this research, the authors reveal integrated empirical data on PMMSs. They demonstrate that performance management based on continuous knowledge sharing and a collaborative approach impacts the measurement of performance maturity. The findings highlight the platforms to promote innovation in performance management. They favour the sharing of ideas, projects or activities and encourage chatting, collaboration and engagement on performance, thereby benefitting relationships, knowledge sharing and open projects. This typology of performance management favours employee collaboration in developing new projects and ideas. The third conceptual proposition to emerge from these results is as follows:

P3. Continuous knowledge sharing and collaborative performance management encourage a high-maturity performance measurement.

Following up on these propositions, organisations should be directed towards the top right quadrant of the conceptual framework. SMEs should favour the full maturity of a PMMS and also know how to efficiently design an organisational PMMS.

From a theoretical perspective, this research includes an important contribution to a thus far lightly explored topic. Through a conceptual framework based on HRM and performance measurement literature, the research highlights the main PMMS characteristics adopted by manufacturing SMEs. The findings provide a clear direction for how to design a holistic PMMS in SMEs.

This study reveals the positive contributions of HRM in implementing an organisational PMMS in SMEs. It contributes to the literature through an interdisciplinary study, with particular attention at SMEs describing the characteristics of the PMMSs that are actually used by the investigated SMEs (Li *et al.*, 2019; Shipton *et al.*, 2017; Strobel and Kratzer, 2017).

From a managerial perspective, the research indicates the main characteristics of PMMS adopted in SMEs. Hence, a hypothetical intervention on PMMS should consider HRM to improving the maturity of performance measurement and the degree of democracy and participative of performance management. SMEs that successfully use these characteristics are oriented towards the effective implementation of HRM in designing an organisational PMMS.

Finally, having demonstrated the complex nature of the relationship between performance measurement and management, the key research implication is that HRM is an important factor that should be considered when designing a PMMS to favour that relationship.

Conclusions

The nature of the workplace is changing, and organisations are looking for continuous innovation to elicit better performance from their employees (Smith, 2018). On the one hand, companies require more commitment, productivity and creativity from their employees; on the other hand, they must offer an “attractive environment” to achieve their own objectives in terms of innovation. The literature on HRM and innovation needs further contributions when considering the many challenges faced by SMEs in addressing innovation at their companies. One of the main challenges is the design of an innovative organisational PMMS. As recently confirmed, HRM plays a key role in a holistic and balanced PMMS (Bititci *et al.*, 2012; Bourne *et al.*, 2013, 2018; Pavlov *et al.*, 2017). However, SMEs rarely consider HRM in their performance system.

To support this lack, the authors reviewed four SMEs to investigate the main PMMS characteristics in SMEs, according to the literature on HRM and performance measurement.

Two fundamental aspects emerged. Firstly, SMEs have adopted several characteristics when creating a balanced PMMS, i.e. democratic, and participative in performance measurement and management. Secondly, the conceptual propositions highlight that a PMMS is based on real-time and visual measurement leading to democratic and participative performance management. Moreover, they indicate that easily accessible and customised performance measurement enhances self-performance management and continuous knowledge sharing, while collaborative performance management encourages high-maturity performance measurement.

As with all research, this study has a main limitation. It examined only four case studies in the EU. There is opportunity for future research to obtain a more in-depth understanding of the PMMS characteristics as well as a quantitative study of the aforementioned processes (e.g. Ferraris *et al.*, 2018). It may be of wide interest to compare these results with an adequate pool of SMEs located in various geographical areas, underlining similarities and differences related to institutional contexts and cultures. In essence, this paper may be considered a springboard for further research of this thus far lightly explored topic.

References

- Arunprasad, P. (2017), "Inevitable knowledge strategy: a paradigm shift in strategic HRM practices to augment firm's performance", *Employee Relations*, Vol. 39 No. 5, pp. 753-774.
- Ates, A., Garengo, P., Cocca, P. and Bititci, U.S. (2013), "The development of SME managerial practice for effective performance management", *Journal of Small Business and Enterprise Development*, Vol. 20 No. 1, pp. 28-54.
- Bamber, G.J., Bartram, T. and Stanton, P. (2017), "HRM and workplace innovations: formulating research questions", *Personnel Review*, Vol. 46 No. 7, pp. 1216-1227.
- Barbe, O., Britzelmaier, B., List, F. and Andraschko, L. (2020), "Key financial performance indicators in German family firms: findings of an empirical study", *International Journal of Business and Globalisation*, Vol. 24 No. 1, pp. 105-122.
- Bardoel, E.A., Pettit, T.M., De Cieri, H. and McMillan, L. (2014), "Employee resilience: an emerging challenge for HRM", *Asia Pacific Journal of Human Resources*, Vol. 52 No. 3, pp. 279-297.
- Barney, J.B. and Wright, P.M. (1998), "On becoming a strategic partner: the role of human resources in gaining competitive advantage", *Human Resource Management*, Vol. 37 No. 1, pp. 31-46.
- Bell, J., Hoque, Z. and Fowler, C. (2009), "Performance management, budgeting, and legitimacy-based change in educational organisations", *Journal of Accounting and Organizational Change*, Vol. 5 No. 2, pp. 168-196.
- Benbasat, I., Goldstein, D.K. and Mead, M. (1987), "The case research strategy in studies of information systems", *MIS Quarterly*, Vol. 11 No. 3, pp. 369-386.
- Bessant, J. (2003), *High-Involvement Innovation: Building and Sustaining Competitive Advantage Through Continuous Change*, John Wiley & Sons, New York, NY.
- Bhatti, S.H., Zakariya, R., Vrontis, D., Santoro, G. and Christofi, M. (2020), "High-performance work systems, innovation and knowledge sharing: an empirical analysis in the context of project-based organizations", *Employee Relations*, doi: [10.1108/ER-10-2019-0403](https://doi.org/10.1108/ER-10-2019-0403).
- Bititci, U.S. (2015), *Managing Business Performance: The Science and the Art*, Wiley Blackwell, Edinburgh.
- Bititci, U.S., Carrie, A.S. and Mcdevitt, L. (1997), "Integrated performance measurement systems: a development guide", *International Journal of Operations and Production Management*, Vol. 17 No. 5, pp. 522-534.
- Bititci, U.S., Garengo, P., Dörfler, V. and Nudurupati, S. (2012), "Performance measurement: challenges for tomorrow", *International Journal of Management Reviews*, Vol. 14 No. 3, pp. 305-327.

- Bititci, U.S., Firat, S.U.O. and Garengo, P. (2013), "How to compare performances of firms operating in different sectors?", *Production Planning and Control*, Vol. 24 No. 12, pp. 1032-1049.
- Bititci, U.S., Garengo, P., Ates, A. and Nudurupati, S.S. (2015), "Value of maturity models in performance measurement", *International Journal of Production Research*, Vol. 53 No. 10, pp. 3062-3085.
- Bourne, M., Neely, A., Platts, K. and Mills, J. (2002), "The success and failure of performance measurement initiatives: perceptions of participating managers", *International Journal of Operations and Production Management*, Vol. 22 No. 11, pp. 1288-1310.
- Bourne, M., Pavlov, A., Franco-Santos, M., Lucianetti, L. and Mura, M. (2013), "Generating organisational performance: the contributing effects of performance measurement and human resource management practices", *International Journal of Operations and Production Management*, Vol. 33 No. 11, pp. 1599-1622.
- Bourne, M., Melnyk, S.A. and Bititci, U.S. (2016), "Impact of visual performance management systems on the performance management practices of organisations", *International Journal of Production Research*, Vol. 54 No. 6, pp. 1571-1593.
- Bourne, M., Franco-Santos, M., Micheli, P. and Pavlov, A. (2018), "Performance measurement and management: a system of systems perspective", *International Journal of Production Research*, Vol. 56 No. 8, pp. 1-12.
- Brutus, S., Derayeh, M., Fletcher, C., Bailey, C., Velazquez, P., Shi, K., Simon, C. and Labath, V. (2006), "Internationalization of multi-source feedback systems: a six-country exploratory analysis of 360-degree feedback", *International Journal of Human Resource Management*, Vol. 17 No. 11, pp. 1888-1906.
- Cardoni, A., Zanin, F., Corazza, G. and Paradisi, A. (2020), "Knowledge management and performance measurement systems for SMEs' economic sustainability", *Sustainability*, Vol. 12 No. 7, p. 2594.
- Chang, S., Gong, Y., Way, S.A. and Jia, L. (2013), "Flexibility-oriented HRM systems, absorptive capacity, and market responsiveness and firm innovativeness", *Journal of Management*, Vol. 39 No. 7, pp. 1924-1951.
- Cho, Y.J. and Poister, T.H. (2013), "Human resource management practices and trust in public organizations", *Public Management Review*, Vol. 15 No. 6, pp. 816-838.
- Curado, C. (2018), "Human resource management contribution to innovation in small and medium-sized enterprises: a mixed methods approach", *Creativity and Innovation Management*, Vol. 27 No. 1, pp. 79-90.
- Davison, R.M., Ou, C.X.J., Martinsons, M.G., Zhao, A.Y. and Du, R. (2014), "The communicative ecology of Web 2.0 at work: social networking in the workspace", *Journal of the Association for Information Science and Technology*, Vol. 65 No. 10, pp. 2035-2047.
- Denisi, A.S. and Murphy, K.R. (2017), "Performance appraisal and performance management: 100 years of progress?", *Journal of Applied Psychology*, Vol. 102 No. 3, pp. 421-433.
- DeNisi, A. and Smith, C.E. (2014), "Performance appraisal, performance management and firm-level performance: a review, a proposed model and new directions for future research", *The Academy of Management Annals*, Vol. 8 No. 1, pp. 127-179.
- Dewettinck, K. and van Dijk, H. (2013), "Linking Belgian employee performance management system characteristics with performance management system effectiveness: exploring the mediating role of fairness", *International Journal of Human Resource Management*, Vol. 24 No. 4, pp. 806-825.
- Eisenhardt, K.M. and Graebner, M.E. (2007), "Theory building from cases: opportunities and challenges", *Academy of Management Journal*, Vol. 50 No. 1, pp. 25-32.
- Eisenhardt, K.M. and Martin, J.A. (2000), "Dynamic capabilities: what are they?", *Strategic Management Journal*, Vol. 21 Nos 10/11, pp. 1105-1121.

- Eppler, M.J. and Platts, K.W. (2009), "Visual strategizing", *Long Range Planning*, Vol. 42 No. 1, pp. 42-74.
- Fabi, B., Raymond, L. and Lacoursière, R. (2009), "Strategic alignment of HRM practices in manufacturing SMEs: a Gestalts perspective", *Journal of Small Business and Enterprise Development*, Vol. 16 No. 1, pp. 7-25.
- Ferraris, A., Monge, F. and Mueller, J. (2018), "Ambidextrous IT capabilities and business process performance: an empirical analysis", *Business Process Management Journal*, Vol. 24 No. 5, pp. 1077-1090.
- Ferris, G.R., Munyon, T.P., Basik, K. and Buckley, M.R. (2008), "The performance evaluation context: social, emotional, cognitive, political, and relationship components", *Human Resource Management Review*, Vol. 18 No. 3, pp. 146-163.
- Fong, C., Ooi, K., Tan, B., Lee, V. and Chong, A.Y. (2011), "HRM practices and knowledge sharing: an empirical study", *International Journal of Manpower*, Vol. 32 No. 5, pp. 704-723.
- Franco-Santos, M., Lucianetti, L. and Bourne, M. (2012), "Contemporary performance measurement systems: a review of their consequences and a framework for research", *Management Accounting Research*, Vol. 23 No. 2, pp. 79-119.
- Garengo, P. (2009), "A performance measurement system for SMEs taking part in Quality Award Programmes", *Total Quality Management*, Vol. 20 No. 1, pp. 91-105.
- Garengo, P. and Biazzo, S. (2012), "Unveiling strategy in SMEs through balanced scorecard implementation: a circular methodology", *Total Quality Management and Business Excellence*, Vol. 23 No. 1, pp. 79-102.
- Garengo, P. and Biazzo, S. (2013), "From ISO quality standards to an integrated management system: an implementation process in SME", *Total Quality Management and Business Excellence*, Vol. 24 No. 3, pp. 310-335.
- Garengo, P. and Sharma, M.K. (2014), "The Management of Operations Performance measurement system contingency factors: a cross analysis of Italian and Indian SMEs", *Production Planning and Control*, Vol. 25 No. 3, pp. 220-240.
- Garengo, P., Biazzo, S. and Bititci, U.S. (2005), "Performance measurement systems in SMEs: a review for a research agenda", *International Journal of Management Reviews*, Vol. 7 No. 1, pp. 25-47.
- Hatch, N.W. and Dyer, J.H. (2004), "Human capital and learning as a source of sustainable competitive advantage", *Strategic Management Journal*, Vol. 25 No. 12, pp. 1155-1178.
- Ittner, C.D. and Larcker, D.F. (2003), "Coming up short on nonfinancial performance measurement", *Harvard Business Review*, Vol. 81 No. 11, pp. 88-95.
- Jafari-Sadeghi, V., Dutta, D.K., Ferraris, A. and Del Giudice, M. (2020), "Internationalisation business processes in an under-supported policy contexts: evidence from Italian SMEs", *Business Process Management Journal*, doi: [10.1108/BPMJ-03-2019-0141](https://doi.org/10.1108/BPMJ-03-2019-0141).
- Jardioui, M., Garengo, P. and El Alami, S. (2019), "How organizational culture influences performance measurement systems in SMEs", *International Journal of Productivity and Performance Management*, Vol. 69 No. 2, pp. 217-235.
- Kagaari, J., Munene, J.C. and Ntayi, J.M. (2010), "Performance management practices, employee attitudes and managed performance", *International Journal of Educational Management*, Vol. 24 No. 6, pp. 507-530.
- Kaplan, R.S. (2012), "The balanced scorecard: comments on balanced scorecard commentaries", *Journal of Accounting and Organizational Change*, Vol. 8 No. 4, pp. 539-545.
- Kaplan, R.S. and Norton, D.P. (1992), "The balanced scorecard—measures that drive performance", *Harvard Business Review*, Vol. 70 No. 1, pp. 71-79.
- Kaplan, R.S. and Norton, D.P. (2004), "Measuring the strategic readiness of intangible assets", *Harvard Business Review*, Vol. 82 No. 2, pp. 52-63+121.

- Kaplan, R.S. and Norton, D.P. (2005), "The balanced scorecard: measures that drive performance", *Harvard Business Review*, Vol. 83 Nos 7/8, pp. 172-180+194.
- Khoreva, V. and Wechtler, H. (2018), "HR practices and employee performance: the mediating role of well-being", *Employee Relations*, Vol. 40 No. 2, pp. 227-243.
- Kossek, E.E. and Perrigino, M.B. (2016), "Resilience: a review using a grounded integrated occupational approach", *The Academy of Management Annals*, Vol. 10 No. 1, pp. 729-797.
- Kossek, E.E., Huang, J.L., Piszczek, M.M., Fleenor, J.W. and Ruderman, M. (2017), "Rating expatriate leader effectiveness in multisource feedback systems: cultural distance and hierarchical effects", *Human Resource Management*, Vol. 56 No. 1, pp. 151-172.
- Lappalainen, P., Saunila, M., Ukko, J., Rantala, T. and Rantanen, H. (2019), "Managing performance through employee attributes: implications for employee engagement", *International Journal of Productivity and Performance Management*, doi: [10.1108/IJPPM-10-2018-0356](https://doi.org/10.1108/IJPPM-10-2018-0356).
- Li, S., Rees, C.J. and Branine, M. (2019), "Employees' perceptions of human resource management practices and employee outcomes: empirical evidence from small and medium-sized enterprises in China", *Employee Relations*, Vol. 41 No. 6, pp. 1419-1433.
- Majchrzak, A., Wagner, C. and Yates, D. (2013), "The impact of shaping on knowledge reuse for organizational improvement with Wikis", *MIS Quarterly: Management Information Systems*, Vol. 37 No. 2, pp. 455-469.
- Manville, G., Karakas, F., Polkinghorne, M. and Petford, N. (2019), "Supporting open innovation with the use of a balanced scorecard approach: a study on deep smarts and effective knowledge transfer to SMEs", *Production Planning and Control*, Vol. 30 Nos 10/12, pp. 842-853.
- Massingham, P., Nguyen, T.N.Q. and Massingham, R. (2011), "Using 360 degree peer review to validate self-reporting in human capital measurement", *Journal of Intellectual Capital*, Vol. 12 No. 1, pp. 43-74.
- McKenna, S., Richardson, J. and Manroop, L. (2011), "Alternative paradigms and the study and practice of performance management and evaluation", *Human Resource Management Review*, Vol. 21 No. 2, pp. 148-157.
- Melnyk, S.A., Bititci, U.S., Platts, K., Tobias, J. and Andersen, B. (2014), "Is performance measurement and management fit for the future?", *Management Accounting Research*, Vol. 25 No. 2, pp. 173-186.
- Melo, P.R.N. and Machado, C.F. (2013), "Human resource management in small and medium enterprises in Portugal: rhetoric or reality?", *International Journal of Entrepreneurship and Small Business*, Vol. 20 No. 1, pp. 117-134.
- Morgan, A., Cannan, K. and Cullinane, J. (2005), "360° Feedback: a critical enquiry", *Personnel Review*, Vol. 34 No. 6, pp. 663-680.
- Nankervis, A.R., Stanton, P. and Foley, P. (2012), "Exploring the rhetoric and reality of performance management systems and organisational effectiveness - evidence from Australia", *Research and Practice in Human Resource Management*, Vol. 20 No. 1, pp. 40-56.
- Neely, A. and Adams, C. (2001), "The performance prism perspective", *Journal of Cost Management*, Vol. 15 No. 1, pp. 7-15.
- Nohria, N., Groysberg, B. and Lee, L. (2008), "Employee Motivation: a powerful new model", *Harvard Business Review*, Vol. 86 Nos 7/8, pp. 78-84.
- Nudurupati, S.S. and Bititci, U.S. (2005), "Human aspects of IT-supported performance measurement system", *Integrating Human Aspects in Production Management*, Springer, Berlin, DE, pp. 17-29.
- Nudurupati, S.S., Tebboune, S. and Hardman, J. (2016), "Contemporary performance measurement and management (PMM) in digital economies", *Production Planning and Control*, Vol. 27 No. 3, pp. 226-235.

- Pavlov, A., Mura, M., Franco-Santos, M. and Bourne, M. (2017), "Modelling the impact of performance management practices on firm performance: interaction with human resource management practices", *Production Planning and Control*, Vol. 28 No. 5, pp. 431-443.
- Pešalj, B., Pavlov, A. and Micheli, P. (2018), "The use of management control and performance measurement systems in SMEs: a levers of control perspective", *International Journal of Operations and Production Management*, Vol. 38 No. 11, pp. 2169-2191.
- Ployhart, R. and Moliterno, T. (2011), "Emergence of the human capital resource: a multi-level model", *Academy of Management Review*, Vol. 36 No. 1, pp. 127-150.
- Santoro, G., Ferraris, A. and Winteler, D.J. (2019), "Open innovation practices and related internal dynamics: case studies of Italian ICT SMEs", *EuroMed Journal of Business*, Vol. 14 No. 1, pp. 47-61.
- Sardi, A. and Garengo, P. (2015), "Performance management in innovative SMEs: the key role of the social media", *18th Toulon-Verona Conference Excellence in Services*, pp. 509-526.
- Sardi, A. and Sorano, E. (2019), "Dynamic performance management: an approach for managing the common goods", *Sustainability*, Vol. 11 No. 22, p. 6435.
- Sardi, A., Garengo, P. and Bititci, U.S. (2018), "Measurement and management of competences by enterprise social networking", *International Journal of Productivity and Performance Management*, Vol. 68 No. 1, pp. 109-126.
- Schreyögg, G. and Kliesch-Eberl, M. (2007), "How dynamic can organizational capabilities be? Towards a dual-process model of capability dynamization", *Strategic Management Journal*, Vol. 28 No. 9, pp. 913-933.
- Seeck, H. and Diehl, M.R. (2017), "A literature review on HRM and innovation-taking stock and future directions", *International Journal of Human Resource Management*, Vol. 28 No. 6, pp. 913-944.
- Shipton, H., Sparrow, P., Budhwar, P. and Brown, A. (2017), "HRM and innovation: looking across levels", *Human Resource Management Journal*, Vol. 27 No. 2, pp. 246-263.
- Smith, M.K. (2018), "High-involvement innovation: views from frontline service workers and managers", *Employee Relations*, Vol. 40 No. 2, pp. 208-226.
- Smith, M. and Bititci, U.S. (2017), "Interplay between performance measurement and management, employee engagement and performance", *International Journal of Operations and Production Management*, Vol. 37 No. 9, pp. 1207-1228.
- Stanton, P. and Nankervis, A. (2011), "Linking strategic HRM, performance management and organizational effectiveness: perceptions of managers in Singapore", *Asia Pacific Business Review*, Vol. 17 No. 1, pp. 67-84.
- Stokes, P., Liu, Y., Smith, S., Leidner, S., Moore, N. and Rowland, C. (2016), "Managing talent across advanced and emerging economies: HR issues and challenges in a Sino-German strategic collaboration", *International Journal of Human Resource Management*, Vol. 27 No. 20, pp. 2310-2338.
- Stokes, P., Smith, S., Wall, T., Moore, N., Rowland, C., Ward, T. and Cronshaw, S. (2019), "Resilience and the (micro-)dynamics of organizational ambidexterity: implications for strategic HRM", *International Journal of Human Resource Management*, Vol. 30 No. 8, pp. 1287-1322.
- Strobel, N. and Kratzer, J. (2017), "Obstacles to innovation for SMEs: evidence from Germany", *International Journal of Innovation Management*, Vol. 21 No. 3, pp. 1-28.
- Teece, D., Peteraf, M. and Leih, S. (2016), "Dynamic capabilities and organizational agility: risk, uncertainty, and strategy in the innovation economy", *California Management Review*, Vol. 58 No. 4, pp. 13-35.
- Thompson, P. (2013), "Financialization and the workplace: extending and applying the disconnected capitalism thesis", *Work, Employment and Society*, Vol. 27 No. 3, pp. 472-488.

- Thursfield, D. and Grayley, K. (2016), "Exploring performance management in four UK trade unions", *Employee Relations*, Vol. 38 No. 5, pp. 789-804.
- Ulrich, L. (2000), "Small and medium-sized enterprises – delimitation and the European definition in the area of industrial business", *European Business Review*, Vol. 12 No. 5, pp. 261-264.
- Wang, S. and Noe, R.A. (2010), "Knowledge sharing: a review and directions for future research", *Human Resource Management Review*, Vol. 20 No. 2, pp. 115-131.
- Wood, S. (1999), "Human resource management and performance", *International Journal of Management Reviews*, Vol. 1 No. 4, pp. 367-413.
- Yin, R. (2018), *Case Study Research: Design and Methods*, 6th ed., Sage, Los Angeles, CA.

About the authors

Alberto Sardi is a Postdoc at the Department of Management, University of Turin. He holds a PhD in Management Engineering, University of Padua. Currently, his research interest is on innovative performance management in organizations, with particular attention to the development of innovative techniques for design, implementation and use of performance measurement systems. In particular, he looks toward innovative and dynamic approaches in the performance measurement area.

Enrico Sorano is a Professor of Administration and Control, Business Management and Public Administration at the University of Turin, Department of Management. He is a Member of the Academia of Business Administration "Sidrea." His research interests are in the field of dynamic performance management, performance measurement and control systems in public and private organizations. He is currently responsible for some research projects on public organizations regarding the risk management in the healthcare system and the control system in local government. He is a Co-founder of the Smart Commons Lab.

Patrizia Garengo is an Associate Professor of Performance Management and Economics and Business Management at the University of Padua. She holds a PhD in Business Management and Industrial Engineering, University of Padua (Italy), and she is a Visiting Researcher at the Center for Strategic Manufacturing (DMEM), Strathclyde University. Her research interests include organizational development and performance measurement systems, with particular attention to small and medium-sized enterprises (SMEs). To date, she has published over 70 papers in international journals and conferences on performance measurement.

Alberto Ferraris, PhD in Business and Management, is currently working as a Senior Researcher at the University of Turin – Department of Management. He obtained the qualification of Associate Professor at the National Scientific Evaluation (ASN) in Italy in 2017. He is an active Member and Research Fellow of the Laboratory for International and Regional Economics, Graduate School of Economics and Management, Ural Federal University (Russia), and he is a Fellow (F-EMAB) of the EuroMed Research Business Institute. He is the author of many academic and scientific articles published on international journals (e.g. *International Journal of Human Resource Management*), and he is on the Editorial Board and serves as Guest Editor for special issues in several prestigious international journals (e.g. *Journal of International Management*). During the past years, he got several international awards such as the "2015 Emerald/EMRBI Business Research Award for Emerging Researchers" and the "Best Reviewer Award" for different conferences as well as for *Journal of Intellectual Capital* (2018). Alberto Ferraris is the corresponding author and can be contacted at: alberto.ferraris@unito.it

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgroupublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com