

Performance Management Systems in Micro, Small, and Medium Enterprises: Lessons learned from Times of Uncertainty

Laura Broccardo^{1*}, *Elisa Balleio*^{*}, *Edoardo Crocco*^{*},
Daniele Giordino^{*}

Received: 21 November 2023

Accepted: 15 September 2024

Abstract

The rising popularity of performance management systems (PMSs) as a means of navigating the uncertain competitive landscape shaped by the ongoing impact of the COVID-19 pandemic and the recent economic crises and armed conflicts is a well-documented phenomenon in the field of managerial studies. A substantial body of research has been dedicated to examining the role of PMSs in facilitating decision-making processes, strategy implementation, and management efficiency within large organizations. However, a clear discrepancy exists between theoretical and practical perspectives on the implementation and utilization of PMSs in medium, small, and micro-enterprises. This article relies on 26 in-depth interviews with entrepreneurs and accountants involved in performance assessment in medium, small and micro-enterprises in Italy. The results demonstrate that the unprecedented levels of uncertainty brought about by the advent of the COVID-19 and the subsequent periods of economic crisis have stimulated a more intense and comprehensive use of PMSs among medium and small enterprises. In contrast, micro-enterprises have not been affected in their reconsideration of performance monitoring. This work aims to provide scholars, managers, financial advisors, and consultants with a more precise overview of PMS in small and micro enterprises. It also strives to complement the limited number of studies on this topic by providing valuable theoretical and practical implications that both scholars and practitioners can leverage. Additionally, future research avenues are provided.

Keywords: Performance management systems, MSMEs, Small and micro enterprises, Multiple case study, Micro business.

* University of Torino, Department of Management "Valter Cantino". Corresponding author: edoardo.crocco@unito.it

1. Introduction

The current economic, political, and health crises have increased market risk and volatility, endangering economies and organizations worldwide (Norreklit & Cinquini, 2024). In this regard, it is crucial for businesses to implement strategies that effectively mitigate the effects of economic uncertainty and market volatility (Malodia et al., 2023). Consequently, it is expected that companies will have a clear understanding of their goals, be aware of the most effective ways to achieve them, and, most importantly, be able to monitor their progress toward said goals efficiently (Cheng & Humphreys, 2016). In light of the aforementioned factors, it is unsurprising that performance measurement systems (PMSs) have gained prominence in recent years as a means of navigating the heightened levels of uncertainty that have emerged in the wake of pandemics, wars, and economic crises.

Having PMSs that support organizational stability in uncertain times is crucial for Micro, Small, and Medium Enterprises (MSMEs) (Alattar, 2009). This is due to their small size, limited financial resources, and lack of specialized knowledge, which make MSMEs more vulnerable to market uncertainty (Klein & Todesco, 2021). However, while PMSs are widely used among large organizations, MSMEs often need help to implement them effectively (Biondi et al., 2017). In fact, despite several studies proving the effectiveness of PMSs in enhancing decision-making processes (DMP), strategy implementation, and management efficiency, a few factors are limiting the PMSs diffusion among MSMEs (Garengo et al., 2007). Scholars have attempted to map these obstacles, highlighting the lack of human and financial resources (Heinicke, 2018; Taylor & Taylor, 2014), the scarce formalization of processes (Alattar et al., 2009), and misunderstandings of their benefits, as the main barriers to PMS implementation among MSMEs.

While PMSs have received significant attention from academics over the past decade, more consistency between theory and practice is needed regarding MSMEs (Cardoni et al., 2023; Lavia-López & Hiebl, 2015). More empirical evidence that considers the unique characteristics of MSMEs is needed to bridge the gap between theory and practice when it comes to the formulation and use of PMSs amid smaller enterprises (Aljuhmani et al., 2022; Laitinen & Kadak, 2018). The literature suggests that there has been insufficient research, empirically and theoretically, into the use and effectiveness of performance measurement systems in MSMEs (Heinicke, 2018; Hiebl et al., 2013) and, more importantly, into the differences between MSMEs and larger organizations when it comes to PMSs implementation (Laitinen & Kadak, 2018).

Additionally, there needs to be more consistency between theory and practice regarding PMS in MSMEs amid uncertainty. Conceptually, PMSs and uncertainty have been explored through various theoretical lenses throughout the years. For instance, contingency and institutional theory have often been applied when investigating the effects of uncertainty in the external environment and how such turbulence might lead to structural organizational changes. However, some changes emerge between the two approaches, as contingency theory focuses more on the individual organization's rationality. In contrast, institutional theory emphasizes collective rationality the most. Given the lack of theoretical foundations in the SME literature, the current research frames its findings in the context of Grounded theory for the sake of flexibility. An iterative process of triangulating the available scientific production, the current state of the art in terms of policy, and the findings of the current investigation have allowed the researchers to address the gaps mentioned below.

More precisely, Aljuhmani et al. (2022) called for research to analyze how uncertainty has affected the implementation and shape of PMSs in MSMEs. Further, more research is needed to understand what "lessons learned" MSMEs can draw from uncertainty and the pandemic (Laitinen & Kadak, 2019). Overall, research needs to account for the significant differences between MSMEs and large companies, leading to inefficient PMS practices in MSMEs (Laitinen & Kadak, 2018). Thus, this study aims to investigate how PMSs usage in MSMEs is impacted by strategic uncertainty. With the above in mind, we pose the following research question (RQ):

RQ1: How does uncertainty affect MSMEs' PMSs?

To answer this question, data from 26 Italian MSMEs were collected. A qualitative investigation was carried out through semi-structured interviews with multiple actors from different companies. The information gathered has been used to advance our understanding of the potential impacts of uncertainty situations on MSMEs' PMSs. The following reasons led to special attention being paid to Italian MSMEs. First, MSMEs comprise most of the Italian context (Giordino et al., 2024). Second, in Italy and Europe, MSMEs are the economy's primary engine (Grant Thornton, 2021). Furthermore, the objective of this investigation is to address the aforementioned research gaps that underscore the necessity for empirical research on MSMEs (Laitinen & Kadak, 2019).

Our study features both theoretical and practical implications. From a theoretical perspective, our empirical investigation bridges relevant research

gaps found amid PMSs literature (Henri, 2006; Hasbolah et al., 2018) and MSMEs literature (Aljuhmani et al., 2022; Laitinen & Kadak, 2018), thus tightening the gap between theory and practice. Additionally, our research has important implications for management practices. Given the rising levels of uncertainty that characterize the modern competitive landscape, it is crucial for MSMEs to understand how PMSs work, how they can be tailored to their company's needs, and how they can reflect external uncertainties to optimize their functionality. In other words, we investigate how and whether uncertainty fosters MSMEs' efficient performance measurement that can act as the optimal solution to combat external challenges.

The remainder of this paper is structured as follows. Section 2 provides a synthesis of the extant literature on the chosen topic. Section 3 presents the research design and the process of qualitative coding used to interpret the data gathered from our empirical investigation. Section 4 highlights the present study's findings, while Section 5 discusses them. Conclusions, implications, and directions for future research are outlined in Section 6.

2. Literature review

2.1 Performance Management Systems in MSMEs

PMSs are strictly connected to a company's strategic goals, allowing constant monitoring and information gathering (Neely et al., 2000). They have grown in relevance throughout the past decade (Bititci et al., 2015; Jardioui et al., 2019) as companies have progressively intensified their use in response to the increased environmental uncertainty. However, while scientific production on PMSs has increased throughout the past two decades, studies have mainly focused on large organizations (Manville, 2007). Notwithstanding numerous calls for further research, only a handful of contributions have investigated MSMEs specifically from this perspective (Heinicke, 2018).

In comparing small and large companies, scholars have historically agreed that environmental uncertainty is one of the most relevant discrepancies, as MSMEs tend to face more significant external uncertainty in their environment (Welsh & White, 1981). In order to manage said uncertainty, PMSs should support small businesses and provide them with a real-time monitoring tool to aid them in their decision-making processes (Garengo et al., 2005). However, one relevant study (Ates et al., 2013) found that MSMEs are too oriented to the short term instead of the long term, and the

main required improvements are related to developing communication, vision, and managerial activities. Moreover, while initially Kaplan and Norton identified several possible obstacles to PMS implementation, including the inability to apply vision and long-term strategy, lack of alignment between the strategy and individual goals, and an excessive focus on short-term results, Garengo et al. (2005) expanded up on their findings in a few meaningful ways. First, it stresses the importance of information technology as an enabler for PMSs. Second, it highlights the need for MSMEs to continuously improve their strategic positioning to survive an increasingly competitive landscape in which they operate.

As Heinicke (2018) highlighted recently, the specifics of MSMEs have yet to be fully understood in PMS literature, as factors such as firm size, ownership, and organizational culture inclined to favor management control, promoted by both entrepreneurs and employees, and environmental variables, such as competition (Sgrò et al., 2020), might have a significant impact on their use. This is particularly relevant in the current context, where systems are required to be dynamic and flexible in order to respond to environmental uncertainty while also being sufficiently structured to facilitate action planning. In contrast, PMS literature has gained increased attention from scholars throughout the past decades, as academics have criticized the excessive focus on internal and historical financial measures, calling for a shift towards multidimensionality and dynamism offered by PMSs (Jardioui et al., 2019). Current concerns in PMS literature include MSMEs' growing complexity and susceptibility to variations in managerial culture and management systems (Rojas-Lema et al., 2022).

Delving deeper into the questions that remain unanswered on the topic of PMSs amid MSMEs, scholars agree on the peculiarities of MSMEs compared to larger corporations (Heinicke, 2018), thus prompting the need for research to emphasize their specifics more. In fact, Rojas-Lema et al. (2022) stress how, while scholars have a solid understanding of factors influencing PMS practices in MSMEs, there is still a considerable need for research to explore the motivations behind PMS use, their implementation, and how they adapt to external contingencies.

2.2 Performance Management Systems in Times of Uncertainty

The correlation between uncertainty and the use of PMS has been a topic of discussion for accounting scholars throughout the years. Generally speaking, through the lens of information processing theory, scholars agree that higher

levels of uncertainty lead to a more formalized and intense use of performance measurement techniques (Rawashdeh & Al-Namah, 2017). While some argue that uncertainty leads to a more intense use of financial information and measures (Gosselin, 2005), others argue that uncertainty leads to more non-financial information being used (Bastian & Muchlish, 2012). Regardless of the above considerations, scholars almost unanimously agree that times of uncertainty lead to adopting a greater variety of measures. However, the debate is far from conclusive (Broccardo, 2014), as most of the contributions refer to times prior to the COVID-19 pandemic, which has arguably been an unprecedented event regarding the uncertainty it caused.

Environmental uncertainty has progressively become a significant factor while managing an MSME, especially in recent times characterized by global conflicts, climate change, pandemics, and world hunger (Laitinen & Kadak, 2019). Furthermore, unprecedented events such as the COVID-19 pandemic also hold potential for growth and innovation, as MSMEs are forced to enhance their responsiveness and optimize all processes in response to external hardships. Nevertheless, scholars still need to explore this mechanism fully (Laitinen & Kadak, 2019). For instance, Aljuhmani et al. (2022) call for future research to investigate how economic austerity in the aftermath of the global pandemic has shaped current and future PMSs. While scholars have investigated the influence of environmental uncertainty on control mechanisms and PMS since the 1980s (Otley, 1980), recent technological developments and unprecedented levels of complexity shown in today's landscape would benefit from further analyses (Franco-Santos & Otley, 2018). The above is especially relevant in the context of micro-enterprises, as research exploring their peculiarities is currently lacking. Among the few contributions exploring the adoption of PMSs among micro-enterprises, Kamble et al. (2018) find technology to be a significant barrier to the adoption of such tools and stress the lack of budget as well as financial constraints as the main reasons for micro enterprises' struggle to keep up with the advances in control systems.

More broadly, MSMEs differ significantly from larger enterprises in tackling environmental uncertainties (Garengo et al., 2005). Throughout the decades, scholars have often agreed upon the fact that MSMEs face more significant external uncertainty compared to larger enterprises (Hudson et al., 2001; Garengo et al., 2005; Lombani et al., 2016), also considering that they are suppliers of large companies, and they are influenced by large companies' changes (Doshi ad Desai, 2014). The above is exacerbated by MSMEs having limited resources, especially in terms of time, capital, and skills, compared to large companies (Vachani, 2005). Consequently, however, some

studies have noted how MSMEs' flat structures and higher flexibility potentially allow them to adopt PMSs more easily in uncertain contexts, thus posing the question of whether or not the COVID-19 pandemic has positively impacted the implementation and use of PMSs amid smaller enterprises (Franco-Santos & Otley, 2018). For instance, Aljuhmani et al. (2022) called for exploratory research to analyze how recent times of uncertainty have affected the design of PMSs amid MSMEs, especially in the dawn of COVID-19.

3. Research method

3.1. Data collection

The present study aims to gather empirical data on how uncertainty situations affect PMSs in MSMEs. Due to the exploratory nature of our research (Patton, 1990), we deemed a qualitative multiple-case study approach the most appropriate to explore the topic under consideration. A multiple case study research design allows researchers to delve deeper into the phenomenon being investigated, thus being the ideal choice when attempting to synthesize new theoretical and managerial knowledge, especially when delving into a stream of literature yet to be fully explored.

We have drawn on best practices in qualitative research to develop our research protocol with transparency, replicability, and academic rigor in mind. Twenty-six interviews were conducted and gathered from twenty-six distinct MSMEs operating in Italy. More specifically, we deemed Italy the ideal setting for our research for two reasons. First, Italy has a high concentration of MSMEs, which are crucial components of the national economy (Giordino et al., 2024). Second, Italy is among the countries that have suffered the most significant effects of the COVID-19 pandemic, thus constituting the ideal scenario to investigate and understand how crises and profound uncertainty have affected PMSs in recent years.

The authors applied the following selection criteria typical of purposeful sampling methodologies. First, companies had to fall within the MSMEs category defined by the European Commission. In other words, we specifically looked for companies with less than 250 people and with a turnover lower than € 50 million or a balance sheet total lower than € 43 million (European Commission, 2003). Second, companies had to be at least four years old to ensure they have experienced significant levels of uncertainty tied to COVID-19 and recent global economic developments while surviving both.

The above selection criterion helped us investigate uncertainty's effects on PMSs. Finally, either the company's founders or highly knowledgeable individuals in the organizational structure had to agree to a series of in-depth semi-structured interviews during the data collection phase (Eisenhardt & Graebner, 2007). Having set the above criteria to match our research objectives, we identified twenty-six distinct MSMEs willing to partake in our study. We first emailed the companies to verify their availability and set a viable interview time frame. Table 1 features an in-depth description of the respondents, while Table 2 shows the interview breakdown.

Table 1 – The companies selected for the in-depth-analysis

Firm	Size	Employees (2023)	Business sector	Annual turnover (2023) - €
AGR_1	Micro	3	Agriculture	232.504
DEN_1	Micro	3	Dentist	127.436
FUR_1	Small	25	Interior design	6.827.636
HAI_1	Micro	2	Hairdresser	219.276
HAI_2	Micro	3	Hairdresser	125.036
ICT_1	Small	11	IT	2.692.324
ICT_2	Micro	7	IT	347.766
ICT_3	Medium	101	IT	16.824.461
LAW_1	Micro	2	Legal	288.700
MAN_1	Small	11	Manufacturing	2.930.745
MAN_2	Small	11	Manufacturing	3.202.935
REE_1	Micro	4	Real estate	82.290
RES_1	Micro	7	Food & Beverage	626.638
RES_2	Micro	8	Food & Beverage	1.610.102
RES_3	Micro	5	Food & Beverage	240.982
RES_4	Medium	58	Food & Beverage	12.949.609
RES_5	Small	28	Food & Beverage	2.089.463
SER_1	Medium	170	Services	16.525.067
SPT_1	Micro	9	Sport	65.900
SPT_2	Micro	9	Sport	858.006
SUP_1	Small	10	Supermarket	2.580.445
TAX_1	Small	14	Chartered Accountant	2.885.832
TEX_1	Micro	5	Textile	740.726
TEX_2	Micro	5	Textile	1.189.857
TEX_3	Micro	2	Textile	65.702
TEX_4	Medium	61	Textile	10.450.629

Source: authors' own elaboration

Table 2 – Interview breakdown

Performance Management Systems in Small and Micro enterprises

Firm	Interviewee position	Gender	Date	Duration
AGR_1	Owner	M	13/04/2023	47:03
DEN_1	Accountant	F	14/04/2023	54:24
FUR_1	Owner	M	19/04/2023	1:12:34
HAI_1	Owner	F	15/04/2023	59:57
HAI_2	Owner	F	20/04/2023	1:01:25
ICT_1	Owner – CEO	M	14/04/2023	1:05:11
ICT_2	Owner – CEO	M	14/04/2023	1:07:00
ICT_3	Accountant	M	30/07/2024	59:45
LAW_1	Owner	M	17/04/2023	1:04:55
MAN_1	Owner	M	04/05/2023	1:06:53
MAN_2	Accountant	F	04/05/2023	1:01:16
REE_1	Owner	M	14/04/2023	55:22
RES_1	Owner	F	25/04/2023	58:41
RES_2	Owner	M	25/04/2023	1:02:20
RES_3	Owner	M	04/05/2023	56:45
RES_4	General Manager	M	25/07/2024	48:23
RES_5	Accountant	F	25/07/2024	1:03:24
SER_1	Owner	M	25/07/2024	1:05:33
SPT_1	Owner	M	14/04/2023	1:12:08
SPT_2	Owner	M	14/04/2023	1:01:17
SUP_1	Owner	M	09/07/2024	1:06:25
TAX_1	Owner	F	13/04/2023	1:04:22
TEX_1	Owner – CFO	M	13/04/2023	1:10:23
TEX_2	Owner – CTO	M	13/04/2023	48:58
TEX_3	Owner	M	17/04/2023	1:15:27
TEX_4	Accountant	F	30/07/2024	1:15:20

Source: authors' own elaboration

While the core set of interviews took place in April and May 2023, we conducted other interviews in July 2024. When possible, interviews were repeated over time, involved more than one respondent per company, and stopped once we reached theoretical saturation (Glaser & Strauss, 1967; Strauss & Corbin, 1994).

We emphasized establishing communicative validity (Kvale, 1995) and ensuring respondents were prepared to discuss the main topic. We provided them with core PMS definitions and a few empirical examples to ensure they understood the concept. The discussion centered on the following questions: *"How does performance measurement work within your company? What performance factors do you consider? How are they monitored? Do you set goals?"* *"Were situations of uncertainty such as the pandemic and the recent global crises a stimulus to monitor company performance more precisely?"*

In other words, has uncertainty led you to monitor indicators you did not consider before?"

Interviews lasted between 47 to 75 minutes, with an average duration of roughly 60 minutes. The authors asked every respondent to agree to interviews being recorded electronically. While the authors could not obtain permission to record every interview due to privacy concerns shown by the respondents, the interviews were still transcribed and accurately translated into English.

3.2. Data analysis

The data analysis process was carried out in three main phases based on the Gioia coding protocol (Gioia et al., 2013). First-order concepts were identified in the first stage through an open coding procedure (Strauss & Corbin, 1998). Next, we investigated whether there were emerging and recurring themes relating to the PMSs in times of uncertainty. Finally, data was put back together by making connections between categories. As suggested by Strauss and Corbin's (1998) axial coding method, twenty-nine 1st-order concepts were identified.

Then, the second stage involved identifying second-order themes, aiming to explain and describe the first-order concepts (Gioia et al., 2013). Then, as suggested by Fernandez-Vidal et al. (2022), we developed a thematic framework within related conceptual categories. Table 3 provides an example of the data used to create the framework mentioned above.

Table 3 – Representative quotations to support the interpretation of 2nd order themes

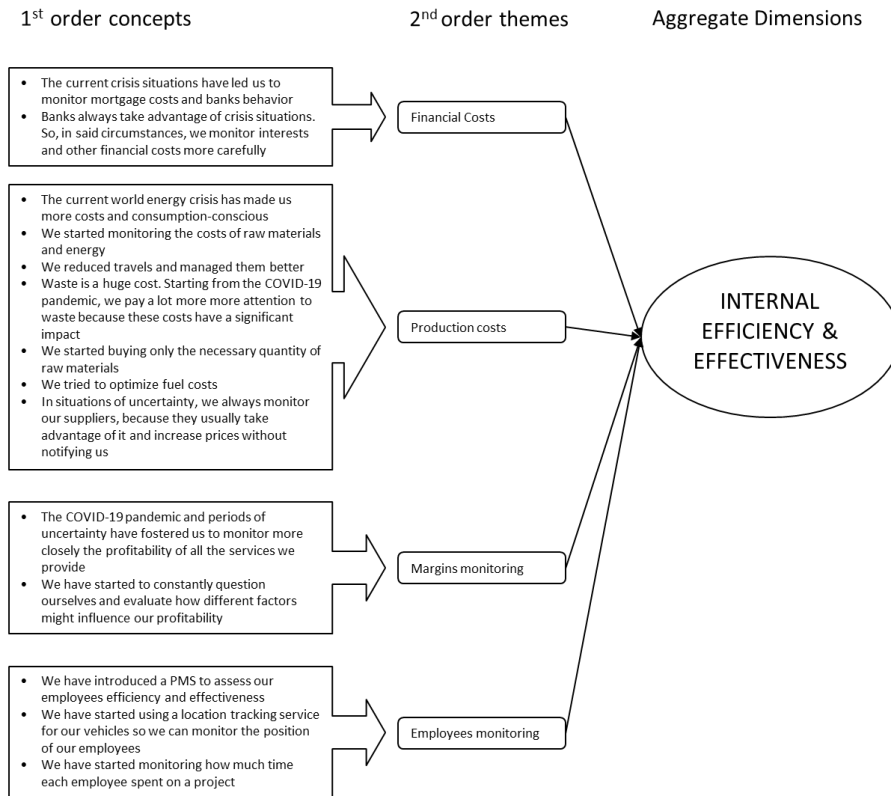
Aggregate dimensions	2 nd order themes	Quotations
Internal efficiency and effectiveness	Financial Costs	“Uncertainty situations always have an impact on mortgage costs, and therefore, we usually monitor interests and other financial costs in order to see if banks are playing games with us by applying interest percentages that perhaps are not yet in force” (ICT_1)
	Production costs	“Situations of uncertainty have stimulated us a lot. The energy crisis has made us more cautious about energy consumption” (RES_4) “We have started to monitor energy and raw material costs. Previously, we used to buy more fabric than needed, but now we only buy what is necessary (we are more careful). Also, we try to optimize shipping costs (as they tend to increase randomly)”. (FUR_1)
	Employees monitoring	“We have introduced a system to measure people’s performance so we can monitor our employees effectively and efficiently. We also use location tracking services for our vehicles so that we can monitor the position of our employees during their service hours” (SER_1) “We started asking team leaders to insert on our ERP systems data related to our employees’ performance, so we can constantly monitor it” (RES_4)
External actors’ solvency	Customers’ solvency	“We have introduced systems to monitor our customers. These include indicators we did not consider before the COVID-19 pandemic, such as our customers’ solvency. So, the pandemic and the following crises made us monitor other performance indicators” (ICT_1)
	Suppliers’ solvency	“The pandemic and the subsequent uncertainty situations fostered us to closely monitor the financial situation of our local suppliers closely, to avoid unexpected raw-materials shortages” (RES_4)
Micro enterprises	Controls externalization	“Both in uncertain and normal situations, I delegate these controls to a chartered accountant. If I start checking these things myself, I will no longer be a hairdresser but an accountant” (HAI_2)”.
	Reliance on personal experience	“We are from an older generation. We know what we do. We rely on our expertise because it works” (RES_1)

Source: authors' own elaboration

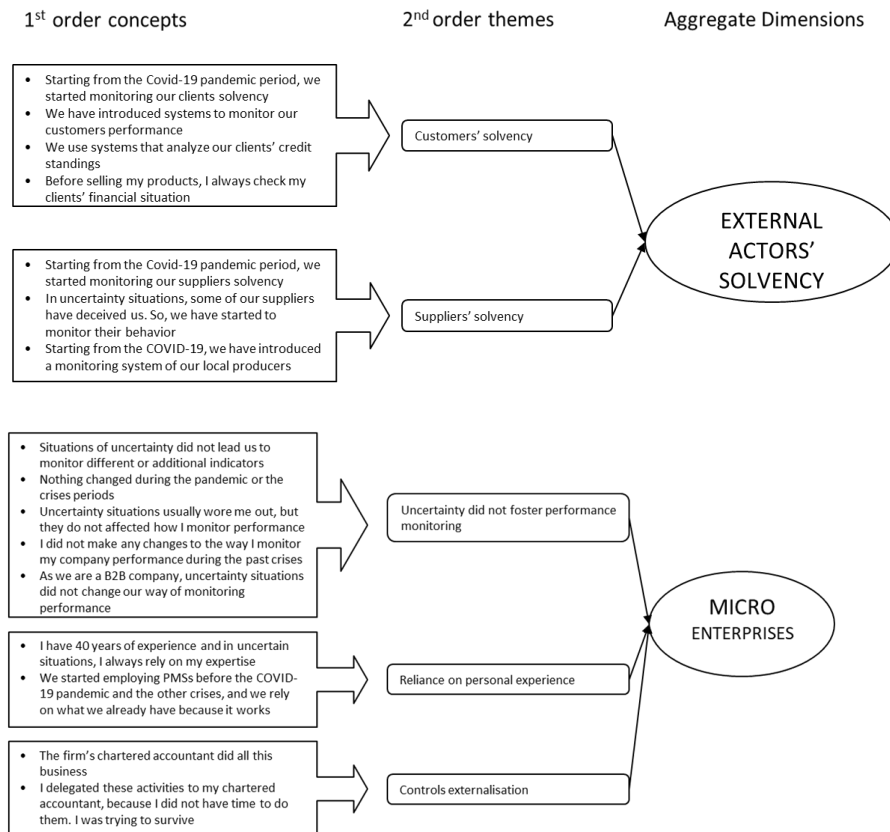
4. Findings

Based on the thematic analysis we have carried out, we could better understand the influence of situations of uncertainty on PMSs in MSMEs, thus addressing our RQ. Three aggregate dimensions, namely, “*Internal efficiency and effectiveness*,” “*External actors solvency*,” and “*Micro enterprises*,” and several sub-themes emerged from the analysis of the interviews and secondary data after performing the multi-step coding process. The resulting framework is illustrated in Figure 1.

Figure 1 – Data structure (Gioia et al., 2012)



Performance Management Systems in Small and Micro enterprises



Source: authors' own elaboration

With the aim of providing a more comprehensive understanding of these dimensions, which summarize the evidence presented in our study, a detailed description of each is presented below. The first two subsections are dedicated to the impact of uncertainty situations on PMS in SMEs, while the third one concerns micro enterprises.

4.1 Internal efficiency and effectiveness

Our data analysis reveals that uncertainty situations do have an impact on SMEs' PMSs. More specifically, in such situations, SMEs tend to monitor

their internal efficiency and effectiveness with greater attention to costs - both financial and production expenses – margins, and employee performance. Indeed, the COVID-19 pandemic and the recent crises have had a profound impact on cost management, which has become a paramount concern for businesses. As the owner of a furniture firm reported:

“We have started to monitor the costs of energy and raw materials. Before the pandemic, we used to buy more fabric than necessary; now, we only purchase what we need”.

[FUR_1 The Owner]

As a result, during times of uncertainty, SMEs focus more on cutting costs as much as possible to try to survive. Production cost monitoring also allows them to reduce waste, both in terms of raw materials, energy, and fuel consumption. To deal with production costs monitoring, in some cases, our interviews stressed the importance of controlling their suppliers' behavior to avoid unexpected cost increases or frauds. As reported by the accountant of a textile company:

“During times of uncertainty, I check raw materials and energy prices daily. Unfortunately, suppliers usually take advantage of such situations and increase prices without notifying us”.

[TEX_4 The Accountant]

Another element of increasing importance for SMEs in times of uncertainty is that of financial costs. Our analysis reports a loss of trust in banks and financial institutions during crisis periods, resulting in heightened scrutiny and continuous monitoring of interest rates and other financial expenses.

“Uncertainty situations always have an impact on mortgage costs, and therefore, we usually monitor interests and other financial costs in order to see if banks are playing games with us by applying interest percentages that perhaps are not yet in force.”

[ICT_1 the CEO]

Linked to this need for cost monitoring, our data reveals that uncertainty fosters SMEs to monitor their performance in terms of margins, thus checking the overall profitability of the products or services they provide. This turns out to be crucial for making decisions during times of uncertainty. In some cases, indeed, assessing a product/service's profitability made firms prioritize it over others to guarantee more chances of survival, as reported by

the owner of a service company:

"The COVID-19 pandemic fostered us to analyze new opportunities and the profitability of our services. Sanitization was our most profitable service, so we prioritized it over the others to try to survive."

[SER_1 the Owner]

The fourth dimension of internal efficiency and effectiveness monitoring is related to employee performance assessment. As reported by all of our respondents, effective time management is of paramount importance, particularly in situations of uncertainty. Consequently, SMEs entrepreneurs report an increase in employee monitoring during periods of crisis, both formally and informally.

In conclusion, uncertainty exerts an influence on PMSs in SMEs, whereby it fosters internal efficiency and effectiveness monitoring. This encompasses the monitoring of margins and the implementation of rigorous cost management strategies with regard to both production and financial expenses. This is achieved through the vigilant oversight of suppliers' and banks' behavior, with the aim of avoiding unexpected cost increases or frauds. Additionally, there is an increase in scrutiny of workers' performance.

4.2 External actors' solvency

According to our data analysis, uncertainty situations foster SMEs to monitor not only their internal performance but also external stakeholders, such as clients and suppliers. In an environment characterized by uncertainty and financial challenges, our interviewees emphasized the importance of continuously evaluating the financial position of their customers and suppliers, particularly in terms of solvency. With regard to the solvency of customers, all entrepreneurs indicated the necessity for their receivables to become liquid in a relatively short time frame in order to be able to meet their financial obligations. This objective can be accomplished through the implementation of two distinct types of PMSs. On the one hand, entrepreneurs check their customers' financial situation before selling them a product or a service, as explained by the owner of a software house:

"During the pandemic, before selling my products, I always checked my clients' financial situation to know if they could pay me back. If their situation were not ok, I decided not to sell them anything."

[ICT_1 The Owner]

On the other hand, entrepreneurs reported a continuous assessment of their clients' solvency both during the production time and after the product or service handover. For instance:

"We have used systems that analyze our clients' credit standings to know if we would have been able to get our money back and in how much time. You never know in uncertain situations. You have to be prepared".

[ICT_3 The Accountant]

The second dimension of the external actors' monitoring pertains to the solvency of suppliers. Similarly, as was observed with regard to customers and banks, our interviewees indicated a decline in confidence in external stakeholders, resulting in more rigorous and continuous monitoring. Indeed, entrepreneurs seek to guarantee the dependability and resilience of their supply chains, thereby preventing unforeseen shortages of raw materials and the potential adverse effects on their operations that could result from supplier insolvency. As explained by the accountant of a food and beverage company:

"We have introduced a system to assess the financial performance of our local suppliers. We cannot afford to deal with raw materials shortages in the food production sector. We must ensure our suppliers are financially stable to provide us with what we need".

[RES_5 The Accountant]

4.3 Micro enterprises (MEs)

In contrast to the findings regarding SMEs, our data analysis indicates that uncertainty did not impact MEs' PMSs and did not motivate businesses to monitor their performance more assiduously. For instance, as reported by a hairdresser:

"Uncertainty situations usually wore me out, but they did not affect how I monitor performance."

[HAI_1 The Owner]

And the CEO of a textile company:

"I did not change how I monitor my company performance during the past crises."

[TEX_2 The CEO]

Indeed, the majority of MEs entrepreneurs continued to manage their activities in a manner consistent with their previous practices, relying heavily on their experience. As elucidated by the owner of an agricultural firm:

"I have 40 years of experience, and I always rely on my expertise in uncertain situations. I cannot invent anything new".

[AGR_1 The Owner]

Moreover, the majority of MEs entrepreneurs indicated that they rely heavily on the expertise of their chartered accountants for performance measurement. Indeed, the majority of MEs interviewees indicated a preference for delegating performance assessments to their chartered accountants, citing a lack of both time and financial expertise as the primary reasons for this decision. As reported by a restaurant owner:

"Outsourcing the performance control process is cheaper than having it inside the company. We prefer delegating these activities to a chartered accountant rather than hiring employees because it is less expensive, and in situations of uncertainty, we have to cut costs".

[RES_1 The Owner]

5. Discussion

Our investigation was meant to explore the influence of uncertainty on MSMEs PMSs. In doing so, we answered the RQ we posed in the first section of the present manuscript. Our analysis shows different results, heavily influenced by the company's dimension (Heinicke, 2018; Hiebl et al., 2013). On the one hand, we found that uncertainty influences the practice of PMSs in small and medium-sized companies, as we find how changes in the external environment and its volatility have led to an overall increase in attention put to performance measurements. Our findings align with those of previous research (Rawashdeh & Al-Namah, 2017; Gosselin, 2005; Bastian & Muchlish, 2012), which indicates a heightened utilization of both financial and non-financial metrics to monitor the company's overall performance. With regard to financial performance, it is evident that solvency has emerged as a significant concern for SMEs owners operating in an uncertain environment.

These individuals actively monitor their clients' capacity to provide adequate remuneration for the services or goods they offer. This finding contributes to the existing literature and offers further insights into the financial indicators that small and medium-sized companies prioritize during periods of uncertainty.

In terms of non-financial measures, there is a notable shift towards heightened scrutiny of cost control and optimization strategies within the context of small and medium-sized enterprises. Such attention typically results in the implementation of additional indicators for monitoring and evaluation, all of which pertain to the company's effectiveness and efficiency. In the context of uncertainty, cost control efforts tend to prioritize either production costs or costs related to employees. This underscores the significance of productivity and time management in optimizing the resources available to small or medium-sized companies.

However, regarding micro-enterprises, uncertainty has not been a strong enough factor to motivate business owners to adopt PMSs. Understandably, a few respondents mentioned outsourcing their control and performance measurement processes, for instance, to external financial advisors. Their main concern was the lack of time (Alattar et al., 2009) and business literacy (Rojas-Lema et al., 2022), so they found outsourcing more congruent with their business strategy. This implication is quite notable for management accounting research, as it delves into a partially unexplored dilemma regarding externalizing processes about control. Thus far, larger companies value the independence of their advisors and management accountants, as it guarantees the reduction of bias in their decisions. Nevertheless, the question of whether control should be externalized among MEs remains unresolved. Our study indicates that smaller companies often rely on external chartered accountants, but it also raises concerns about the long-term suitability of this approach and the profitability of outsourcing a strategic process for MEs.

In a broader sense, our findings indicate that uncertainty has significantly heightened attention towards cost control and PMSs in general, thereby reinforcing prior research which posits that crises often result in a more rigorous and attentive deployment of management control systems. In addition to the heightened levels of attention, we observe that MSMEs are now assessing performance metrics that were previously not subject to active consideration. Our findings contribute to the existing management control literature by suggesting an updated approach to examining the shaping of PMSs and by corroborating the assumption that PMSs are tailored to align with a company's specific needs (Sgrò et al., 2020). Indeed, our findings underscore the distinctive nature of MSMEs in navigating uncertainty. Each respondent offered

a unique perspective on how they had overcome periods of turbulence. In other words, the impact of uncertainty cannot be generalized with regard to MSMEs, as it is contingent upon contextual factors such as the sector in which they operate. In this regard, we observe a more volatile and customized approach to performance measurement in comparison to larger companies, which further contributes to the existing literature discussing the differences between the two (Hudson et al., 2001).

Overall, the unprecedented uncertainty brought about by COVID-19 has stimulated the interest of SMEs in performance measurement. Conversely, the same level of stimulus was not achieved with regard to micro-sized enterprises. The impact of uncertainty has affected both the design of PMSs, with a plethora of additional indicators being added in response to the higher degrees of volatility in the competitive environment, and the use of such systems, with owners highlighting a more intense interest in making use of the data and information obtained from such systems. Our findings contribute to the scientific literature on the relationship between uncertainty and PMSs by providing evidence from an unprecedented situation characterized by high volatility, as was the case of the COVID-19 pandemic. Among the several takeaways we have listed above, there is reason to believe that the uncertainty caused by the pandemic has reduced the gap between industry and academia. This is evidenced by the fact that more companies are now looking into performance measurement practices in an attempt to either adopt them or to better utilize them to their fullest potential.

In conclusion, our findings bridge several gaps found in PMS literature, offering both practical and theoretical implications. From a theoretical perspective, our study contributes to the growing body of research on PMS by shedding light on their use among smaller companies, which have been largely neglected by previous research on the topic (Aljuhmani et al., 2022; Cardoni et al., 2023; Laitinen & Kadak, 2018; Lavia -López & Hiebl, 2015). Furthermore, our work corroborated the assumption that uncertainty is a significant factor to weigh in when managing a MSME (Hudson et al., 2001; Garengo et al., 2005; Lombani et al., 2016). However, it also demonstrates that the impact of uncertainty varies depending on the sector in which the company operates. Additionally, our study sheds light on the externalization of performance measurement, as several respondents mentioned that they would rather outsource their control processes to financial advisors rather than take care of them themselves. From a theoretical perspective, the above is an interesting line of research that could further expand the field of PMSs, specifically by looking at the extent to which externalizing control benefits companies and what potential drawbacks can be found in said practice.

From a practical perspective, our study provides valuable insights to both practitioners and managers as to what PMS are, how they can be implemented, and what lessons have been learned from times of extensive uncertainty. Our empirical evidence suggests that PMSs can be tailored around the company's needs; thus, they can be adopted regardless of its dimensions and scope. In other words, our study has shown how PMSs are not exclusive to large enterprises, whether formally or informally. Instead, they can aid smaller companies in monitoring their progress and achieving their goals. Additionally, our study strives to be of interest to financial advisors and consultants as well, as it evidenced a significant need for companies to have accessible, easy-to-use systems tailored to their needs. Service providers could consider working with MSMEs owners to develop customized solutions to aid them in measuring their performance in a way that is accessible and easy to understand.

6. Conclusions

The present paper aims to provide an analysis of PMSs in MSMEs. In this way, the manuscript makes a contribution to the ongoing debate surrounding the adoption of PMSs and the impact of the current level of uncertainty, namely that created by the pandemic, on measurement mechanisms. The empirical evidence corroborates the importance that small enterprises place on solvency levels and cost optimization during periods of uncertainty. Nevertheless, the findings also indicated that micro-enterprises are less inclined to reconsider their performance monitoring practices. While this research offers valuable insights into the field of PMS in small and micro-enterprises, it is essential to acknowledge that no study is without limitations.

One potential limitation of this study is the relatively small sample size, despite the efforts made to recruit a large number of companies. Moreover, to ensure cultural homogeneity (Fernandez-Vidal et al., 2022) and circumvent potential cultural biases (Pelzang & Hutchinson, 2018), we elected to conduct interviews exclusively with Italian companies. These two factors may restrict the applicability of our findings to other contexts. Secondly, as is the case with all qualitative studies, our research is based on subjective data and may be influenced by the authors' own biases and perspectives. We have attempted to mitigate this through the implementation of rigorous data collection and analysis procedures. However, it is possible that our interpretations of the data may not have been entirely objective. Additionally, we examined the views and perceptions of company owners, accountants, and

other employees, and their perspectives may not be entirely objective. As suggested by Fernandez-Vidal et al. (2022), this has been mitigated by considering themes discussed by several respondents and evaluating our conclusions with several interviewees. However, this does not imply that the results are necessarily validated.

Notwithstanding the aforementioned limitations, it is the authors' hope that this work will serve as a foundation for future research. In light of the growing interest in this field, we believe there are several avenues for further research, which still presents some research gaps. First, the authors recommend that researchers replicate this study in different contexts to enhance its generalizability. Therefore, future research should adopt a cross-cultural approach to ascertain whether cultural factors exert an influence on PMS in MSMEs and microenterprises. Further research is required to analyse the phenomenon of management control externalisation in the context of MSMEs (i.e. in relation to financial advisors), as this remains an unexplored field. It would also be beneficial for scholars to investigate whether externalizing control benefits companies and what potential drawbacks can be found in said practice. Thirdly, while our study focuses on the implementation of PMS in MSMEs, future research could examine the impact of PMS implementation on corporate performance from several points of view, such as financial performance, innovation, and employee satisfaction.

References

- Alattar, J.M., Kouhy, R., Innes, J. (2009), Management accounting information in micro-enterprises in Gaza, *Journal of Accounting & Organizational Change*, 5(1), pp. 81–107. Doi: 10.1108/18325910910932223.
- Aljuhmani, H.Y. et al. (2022), Strategic stances and organizational performance: Are Strategic Performance Measurement Systems the missing link?, *Asia-Pacific Journal of Business Administration* [Preprint]. Doi: 10.1108/apjba-09-2021-0445.
- Ates, A., Garengo, P., Cocca, P., Bititci, U. (2013), The development of SME managerial practice for effective performance management, *Journal of small business and enterprise development*, 20(1), pp. 28-54.
- Bastian, E., Muchlish, M. (2012), Perceived Environment Uncertainty, Business Strategy, Performance Measurement Systems and Organizational Performance, *Procedia - Social and Behavioral Sciences* (Vol. 65, pp. 787–792). Elsevier BV. Doi: 10.1016/j.sbspro.2012.11.200.
- Biondi, L., Gulluscio, C., Rossi, A., & D'Alessio, L. (2017), Accounting costs without a cost accounting system: the case of a small Italian winery of excellence, *Piccola Impresa Small Business*, (3). Doi: 10.14596/pisb.283.
- Bititci, U., Cocca, P., Ates, A. (2015), Impact of visual performance management systems on

- the performance management practices of organisations. In *International Journal of Production Research* (Vol. 54, Issue 6, pp. 1571–1593). Informa UK Limited. Doi: 10.1080/00207543.2015.1005770
- Broccardo, L. (2014), Management accounting system in Italian SMEs: some evidences and implications. *Advances in management and applied economics*, 4(4), 1-16.
- Cardoni, A., Hiebl, M., Paradisi, A. (2023), Management accounting implementation in MSMEs: A Structured Literature Review, *Management Control*, 2023/2 Suppl, pp. 189–214.
- Doshi, J.A., Desai, D.A. (2019), Measurement system analysis for continuous quality improvement in automobile MSMEs: multiple case study, *Total Quality Management & Business Excellence*, 30(5-6), pp. 626-640.
- Eisenhardt, K.M., Graebner, M.E. (2007), Theory Building from Cases: Opportunities and Challenges. *The Academy of Management Journal*, 50(1), pp. 25–32.
<http://www.jstor.org/stable/20159839>
- Fernandez-Vidal, J. *et al.* (2022), ‘Managing digital transformation: The view from the top’, *Journal of Business Research*, 152, pp. 29–41. Doi:10.1016/j.jbusres.2022.07.020.
- Franco-Santos, M., Otley, D. (2018) ‘Reviewing and theorizing the unintended consequences of Performance Management Systems’, *International Journal of Management Reviews*, 20(3), pp. 696–730. Doi:10.1111/ijmr.12183.
- Garengo, P., Bititci, U., Bernardi, G., Biazzo, S. (2007), La misurazione delle prestazioni nelle piccole e medie imprese, *Piccola Impresa Small Business*, (2).
Doi.org/10.14596/pisb.114.
- Garengo, P., Biazzo, S., Bititci, U.S. (2005), Performance measurement systems in MSMEs: A review for a research agenda. In *International Journal of Management Reviews* (Vol. 7, Issue 1, pp. 25–47). Wiley. Doi: 10.1111/j.1468-2370.2005.00105.x
- Gioia, D.A., Corley, K.G., Hamilton, A.L. (2012), ‘Seeking qualitative rigor in inductive research’, *Organizational Research Methods*, 16(1), pp. 15–31.
Doi:10.1177/1094428112452151.
- Giordino, D., Troise, C., Vanhaverbeke, W., Culasso, F. (2024), Stakeholder engagement processes for the made in Italy small- and medium-sized enterprises: Value co-creation in the stakeholder network. *Business Ethics, the Environment & Responsibility*.
Doi: 10.1111/beer.12696.
- Glaser, B.G., Strauss, A.L. (1967), *The discovery of grounded theory: Strategies for qualitative research*.
- Gosselin, M. (2005), An empirical study of performance measurement in manufacturing firms. In Z. Radnor (Ed.), *International Journal of Productivity and Performance Management* (Vol. 54, Issue 5/6, pp. 419–437). Emerald. Doi: 10.1108/17410400510604566.
- Hasbolah, F., Mohd Alwi, N., Sani Mohamad, M.H. (2018), ‘Institutionalization of Performance Management System in a Malaysian local government from the perspective of New Institutional Sociology’, *Jurnal Akuntansi dan Keuangan Indonesia*, 15(2), pp. 180–201.
Doi:10.21002/jaki.2018.10.
- Heinicke, A. (2018), Performance measurement systems in small and medium-sized enterprises and family firms: a systematic literature review, In *Journal of Management Control* (Vol. 28, Issue 4, pp. 457–502), Springer Science and Business Media LLC. Doi: 10.1007/s00187-017-0254-9
- Henri, J.-F. (2006), ‘Organizational culture and Performance Measurement Systems’, *Accounting, Organizations and Society*, 31(1), pp. 77–103. Doi:10.1016/j.aos.2004.10.003.

- Hiebl, M.R.W., Feldbauer-Durstmüller, B., Duller, C. (2013), The changing role of management accounting in the transition from a family business to a non-family business. *Journal of Accounting & Organizational Change*, 9(2), pp. 119–154.
Doi: 10.1108/18325911311325933.
- Hudson, M., Smart, A., Bourne, M. (2001), ‘Theory and practice in SME Performance Measurement Systems’, *International Journal of Operations & Production Management*, 21(8), pp. 1096–1115. Doi:10.1108/eum000000005587.
- Jardioui, M., Garengo, P., El Alami, S. (2019), How organizational culture influences performance measurement systems in MSMEs. In *International Journal of Productivity and Performance Management* (Vol. 69, Issue 2, pp. 217–235). Emerald.
Doi: 10.1108/ijppm-10-2018-0363.
- Kamble, S.S., Gunasekaran, A., Sharma, R. (2018), Analysis of the driving and dependence power of barriers to adopt industry 4.0 in Indian manufacturing industry. In *Computers in Industry* (Vol. 101, pp. 107–119). Elsevier BV. Doi: 10.1016/j.compind.2018.06.004.
- Kvale, S. (1995), ‘The social construction of validity’, *Qualitative Inquiry*, 1(1), pp. 19–40.
Doi:10.1177/107780049500100103.
- Laitinen, E. K., Kadak, T. (2018), Does the company size affect performance management system? PMSs in small, medium-sized, and large companies. *International Journal of Management & Enterprise Development*, 17(3), 281.
Doi: 10.1504/ijmed.2018.10014496.
- Lavia López, O., & Hiebl, M. R. W. (2015). Management accounting in small and medium-sized enterprises: Current knowledge and avenues for further research, *Journal of Management Accounting Research*, 27(1), 81–119. Doi: 10.2308/jmar-50915.
- Lombani, M., Sofian, S. and Baroto, M.B. (2016) ‘Balanced scorecard implementation in MSMEs: Addressing the moderating role of environmental uncertainty’, *Global Business and Organizational Excellence*, 35(3), pp. 58–66. Doi:10.1002/joe.21671.
- Malodia, S., Mishra, M., Fait, M., Papa, A., Dezi, L. (2023), To digit or to head? Designing digital transformation journey of SMEs among digital self-efficacy and professional leadership. *Journal of Business Research*, 157(113547), 113547.
Doi: 10.1016/j.jbusres.2022.113547.
- Manville, G. (2007), Implementing a balanced scorecard framework in a not for profit SME. In *International Journal of Productivity and Performance Management* (Vol. 56, Issue 2, pp. 162–169). Emerald. Doi: 10.1108/17410400710722653.
- Neely, A., Mills, J., Platts, K., Richards, H., Gregory, M., Bourne, M., Kennerley, M. (2000), Performance measurement system design: developing and testing a process-based approach. *International Journal of Operations & Production Management*, 20(10), pp. 1119–1145. Doi:10.1108/01443570010343708.
- Norrekliit, H., & Cinquini, L. (2024). Performance measurement for a better future. In *MANAGEMENT CONTROL* (Issue 1, pp. 15–38). Franco Angeli. Doi: 10.3280/maco2024-001002
- Otley, D.T. (1980) ‘The contingency theory of management accounting: Achievement and Prognosis’, *Accounting, Organizations and Society*, 5(4), pp. 413–428.
Doi:10.1016/0361-3682(80)90040-9.
- Patton, M. (1990). *Qualitative Evaluation and Research Methods*. Beverly Hills, CA: Sage.
- Pelzang, R. and Hutchinson, A.M. (2018) ‘Establishing Cultural Integrity in qualitative research’, *International Journal of Qualitative Methods*, 17(1), p. 160940691774970.
Doi:10.1177/1609406917749702.

Laura Broccardo, Elisa Ballesio, Edoardo Crocco, Daniele Giordino

- Rawashdeh, A. and Al-namlah, L. (2017), Factors influencing electronic data interchange adoption among small and medium enterprises in Saudi Arabia, *Asian Journal of Business and Accounting*, Vol. 10 No. 2, pp. 253-280.
- Rojas-Lema, X., Alfaro-Saiz, J.-J., Rodríguez-Rodríguez, R., & Verdecho, M.-J. (2020). Performance measurement in MSMEs: systematic literature review and research directions. In *Total Quality Management & Business Excellence* (Vol. 32, Issues 15–16, pp. 1803–1828). <https://doi.org/10.1080/14783363.2020.1774357>
- Sgrò, F., Palazzi, F., Ciambotti, M., & Gelsomini, L. (2020). Factors promoting and hindering the adoption of management accounting tools. Evidence from Italian manufacturing MSMEs. *Management Control*, (2020/Suppl. 1).
- Strauss, A. L., & Corbin, J. M. (1998), *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). Thousand Oaks: SAGE Publications Inc.
- Strauss, A., Corbin, J. (1994), *Grounded theory methodology: An overview*. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage Publications.
- Taylor, A., Taylor, M. (2014), Factors influencing effective implementation of performance measurement systems in small and medium-sized enterprises and large firms: a perspective from Contingency Theory. *International Journal of Production Research*, 52(3), 847–866. Doi:10.1080/00207543.2013.842023.
- Vachani, S. (2005), 'Problems of foreign subsidiaries of MSMEs compared with large companies', *International Business Review*, 14(4), pp. 415–439. Doi: 10.1016/j.ibusrev.2005.03.002.
- Welsh, J.A., White, J.F. (1981), *Converging on characteristics of entrepreneurs*, in Vesper, K.H.(ed.), *Frontiers of Entrepreneurship Research*. Wellesley, MA: Babson Centre for Entrepreneurial Studies.
- Yin, R. (2014), *Case study research: Design and methods*. (5th Edition). Sage Publications.