

The performance measurement and management practices empowered by coaching: an empirical investigation in SMEs and large organizations

Patrizia Garengo and Frida Betto

Abstract

Purpose – Recent studies on performance measurement and management (PMM) have emphasized the importance of adopting effective managerial practices to improve organizational performance in all-size companies. Similarly, research on coaching has highlighted its valuable role in improving managerial effectiveness and overall organizational outcomes. Despite the benefits of coaching, scholars and practitioners have identified the challenges associated with objectively measuring its impact. To address this gap, this paper aims to investigate the potential effects of coaching interventions in both small- and medium-sized enterprises (SMEs) and large organizations.

Design/methodology/approach – An exploratory survey was developed to identify the managerial practices most positively influenced by coaching and to examine the interrelationships among them. The survey was further validated by interviews with respondents.

Findings – The findings indicate that coaching contributes to the improvement of several PMM practices across all-size organizations, while certain practices appear to be particularly relevant to SMEs. These differences can be attributed to the managerial shortcomings often found in SMEs, which create a favorable context for coaching interventions. In particular, coaching facilitates improvements in areas where SMEs traditionally face challenges, such as the definition of objectives and definition of roles.

Originality/value – The paper highlights the crucial role of coaching in fostering managerial development while simultaneously enhancing organizational performance. Furthermore, the impact of coaching on PMM practices extends beyond the specific objectives defined for coaching projects. Coaching often generates unplanned indirect effects that positively influence PMM practices, thereby amplifying its overall contribution to performance improvement.

Keywords Coaching, Performance measurement, Performance management

Paper type Research paper



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1. Introduction

In recent years, research and practice in performance measurement have emphasized the need to move beyond the traditional managerial approach focused on control and authority over physical and human resources (Badu and Micheli, 2025; Mackenzie and Bititci, 2023). This need has driven organizations to rethink how they measure and manage performance, leading to fundamental changes in the structure of their control systems. Performance measurement systems left room for a balanced approach between performance measurement and management (PMM), defined as the management of cultural and behavioral routines that delineate how performance information is used to manage organizational performance (Smith and Bititci, 2017). In doing so, the size of the company is a key contingent factor to be

considered (Ates *et al.*, 2013; Kindström *et al.*, 2024; Nolan and Garavan, 2016). Garengo *et al.* (2005) recognized some key managerial characteristics of small and medium enterprises (SMEs) that make them different from larger organizations, obstructing PMM. Among the main shortcomings, they identified managerial culture, poor definition of managerial roles, lack of strategic planning and formalized decision-making processes, tacit and context-specific knowledge, learning processes based on learning-by-doing, lack of time for non-operational activities, poor internal communication (IC) and insufficient attention to HRM. In addition, large organizations often face challenges in communication and experience a low level of motivation (MOT), satisfaction and empowerment (EMP) that produces a negative impact on performance (Gadolin, 2014; Kalla, 2005; Lee, 2022). However, limited evidence is given to which PMM practices fit better in SMEs or in large organizations. This limitation is closely related to an insufficient understanding of how PMM practices influence each other to improve business performance.

In the field of performance measurement, leading and lagging indicators support organizations by guiding daily actions that influence long-term goals (leading indicators) and by assessing the effectiveness of those actions (lagging indicators). Although some studies have explored the use of leading and lagging practices, they focus either on performance management practices within the public sector (Wilkes, 2005) or on the role of performance management tools in enabling organizations to pursue both exploitation and exploration (Badu and Micheli, 2025). However, these studies do not investigate which PMM practices can be classified as leading or lagging following the intervention of an external agent, such as coaching.

Over the years, coaching has emerged as a valuable tool for enhancing managerial practices (Azizi *et al.*, 2023; Coimbra and Proença, 2022; Garengo and Betto, 2025; Gray *et al.*, 2011; Plotkina and Sri Ramalu, 2024), such as the professional and personal growth of individuals in leadership positions and MOT, feedback and the definition of objectives (OBJ). Nevertheless, despite the recognized importance of coaching interventions in improving such managerial practices, their role in improving business performance remains underdeveloped and additional studies are required (Peel, 2008; Ribeiro *et al.*, 2020). Researchers and practitioners, indeed, still claim a lack of clarity and agreement on the results of coaching interventions, their objective measurement and their impact on practices (Bartlett *et al.*, 2014; Betto and Garengo, 2024; De Haan and Duckworth, 2013).

Thus, by combining the need to empirically understand how SMEs and large organizations leverage PMM practices to improve performance with the need to demonstrate the effectiveness of coaching in enhancing performance, this research investigates SMEs and large organizations that have developed a coaching intervention aimed at improving managerial practices, including PMM practices.

In detail, the paper investigates the following research questions:

RQ1. What are the key PMM practices empowered by coaching in SMEs and large organizations?

RQ2. How are these PMM practices interrelated in SMEs and large organizations?

By answering the two research questions, the paper aims at (1) shedding light on the key PMM practices needed in SMEs and in large organizations and thus empowered by a coaching intervention; (2) making explicit how PMM practices influence each other to improve business performance and which of them are leading or lagging practices following the intervention of an external agent; (3) emphasizing the impact of coaching interventions by overcoming the traditional view of ROI.

The paper is structured as follows. Section 2 clarifies the complex interaction between PMM and coaching research and identifies a research framework capturing their interplay. Section 3 outlines the research methodology, followed by Section 4, which presents the findings. Finally, Section 5 discusses the main insights and draws conclusions.

2. Research background

The shift from the traditional assumptions about organizational control toward a more human-oriented approach – currently still unfolding in both SMEs and large organizations – was first caught in academia by several scholars (Pavlov and Micheli, 2022; Smith and Bititci, 2017). This human-oriented approach captures the organizational, team and individual dimensions within organizations. Unlike in the past, the organizational and individual dimensions must be interlinked through specific tools which enable performance improvement (Rompho, 2024).

Although the literature provides limited empirical research on management practices in SMEs, a few basic characteristics are widely recognized as distinguishing SMEs from large organizations (Taylor and Taylor, 2014). For instance, SMEs are deficient in leadership, communication, planning and assignment of responsibility in the management of the organization (Garengo, 2009). SME owners are often reluctant to expose their own weaknesses, such as limited managerial knowledge and therefore tend to defend these deficiencies with constraints in financial and human resources (Smith and Smith, 2007), increasing the likelihood of adopting a top-down command-and-control organizational culture (Ates *et al.*, 2013).

Nevertheless, contemporary changes in the business world are engendering novel opportunities for both SMEs and large organizations, thereby necessitating managerial growth (Naeem and Garengo, 2022; Nudurupati *et al.*, 2021). In this context, a shift toward a more balanced integration of the social and technical dimensions of control is required in all-sized organizations (Smith and Bititci, 2017). Smith and Bititci (2017) conceptualized technical control, i.e. performance measurement, as defined by measures, indicators, targets and information systems; and social control, i.e. performance management, as to how performance information should be used. While the technical dimension has traditionally dominated, recent research highlights the social dimension as a key driver of organizational and individual performance (Smith and Bititci, 2017). Accordingly, this approach enables organizations to improve business performance and foster employee engagement by strengthening communication, feedback and EMP (Kakkar *et al.*, 2020; Sharma *et al.*, 2022).

Previous research has conceptualized PMM practices either as “performance-generating practices”, such as goal deployment, communication and leadership (Bourne *et al.*, 2013) or as performance management practices, like selection of strategic goals, use of performance measures and targets and periodic review and performance evaluation (Pavlov *et al.*, 2017). In this domain, some scholars have identified the practices required to manage performance in all-sized organizations, such as the definition, planning and review of objectives, communication management, feedback provision and training (Bititci *et al.*, 2011); and others explored the SMEs contextual practices to manage performance such as employee development, feedback provision, coaching development and communication (Ates *et al.*, 2013).

Although the shortcomings of SMEs compared with large organizations have been frequently highlighted in the literature, only a limited number of studies explicitly compare the management practices that need to be most strengthened in large organizations versus SMEs. Indeed, while some authors (Bititci, 2015; Nudurupati *et al.*, 2021; Pavlov *et al.*, 2017) included both large organizations and SMEs in their sample, without examining the differences between them or tended to focus primarily on the management practices most significant for improving performance, without emphasizing differences related to organizational size. The situation is different for other studies (Ates *et al.*, 2013; Naeem and Garengo, 2022), which focused exclusively on one type of organizational dimension – SMEs or large organizations – and thus failed to highlight the managerial practices that characterize both SMEs and large firms. Unlike these studies, however, Bourne *et al.* (2013) highlighted how the organizational dimension influences performance practices. This influence does not affect the practices

themselves, but rather their implementation. For example, the communication of objectives occurs in both large- and small- and medium-sized enterprises: nevertheless, in large firms it is supported by regular meetings, feedback sessions, etc. are held, whereas in small firms these mechanisms are often absent.

Our contribution therefore also lies in providing empirical evidence on which practices are most necessary in SMEs and which in large firms to address their respective shortcomings.

Finally, more recently, [Tenakwah et al. \(2024\)](#) analyzed individual-level performance measurement and its relationship with organizational performance, confirming the role of feedback, goal setting, leadership support and participatory organizational culture in enhancing financial performance. Nevertheless, the interrelationships among PMM practices remain insufficiently explored. In exploring PMM practices, a key enabler is coaching ([Ates et al., 2013](#); [Bititci et al., 2011](#)).

Indeed, coaching interventions have been shown to enhance managerial practices ([Grant, 2014](#); [Theeboom et al., 2013](#); [Walker-Fraser, 2011](#)). [Feldman and Lankau \(2005\)](#) reviewed the coaching role in improving the effectiveness of executive work highlighting the connection between the individual and organizational goals and outcomes. Coaching intervention requires the clear role definition and the assignment of individual goals that must “always link and be subordinated” to strategic organizational objectives ([Ennis et al., 2008](#), p.23). Likewise, concerning coaching effectiveness, [Tooth et al. \(2013\)](#) identified benefits in key intrapersonal and interpersonal areas and [Athanasopoulou and Dopson \(2018\)](#) explored a range of positive outcomes for organizational development.

Moreover, scholars have shown the positive impact of coaching during daily activities by enhancing commitment, engagement, EMP and MOT ([Coimbra and Proença, 2022](#)) and supporting organizational changes by enhancing the OBJ, EMP, leadership and organizational climate (CLI) ([Grant, 2014](#)).

However, notwithstanding the presence of several overlapping practices and limited number of studies that have mentioned coaching within PMM research ([Ates et al., 2013](#)) or that have begun to bridge the coaching and PMM domains ([Garengo and Betto, 2025](#)), there is insufficient evidence establishing a clear link between coaching and PMM research. Therefore, the comparison between PMM and coaching practices shown in [Table 1](#) represents an original contribution of this study. Notably, several overlapping practices emerge across PMM and coaching research. It should be emphasized that this focuses on organizational-level PMM practices; individual-level studies are included only when their organizational impact is explicitly addressed.

Moving from [Table 1](#) and the PMM framework of [Smith and Bititci \(2017\)](#), a research framework has been defined ([Figure 1](#)).

As illustrated in [Figure 1](#), the gray box highlights the practices listed in [Table 1](#). Therefore, to answer the research questions, this study empirically investigates the effects of the coaching intervention on the 18 identified PMM practices, based on the assumption, widely supported in the literature, that these practices positively influence both organizational performance and employee engagement ([Naeem and Garengo, 2022](#); [Smith and Bititci, 2017](#)). Accordingly, the study adapts the research framework from [Smith and Bititci \(2017\)](#) and integrates the recent work of [Garengo and Betto \(2025\)](#), which relates this framework to coaching.

3. Materials and methods

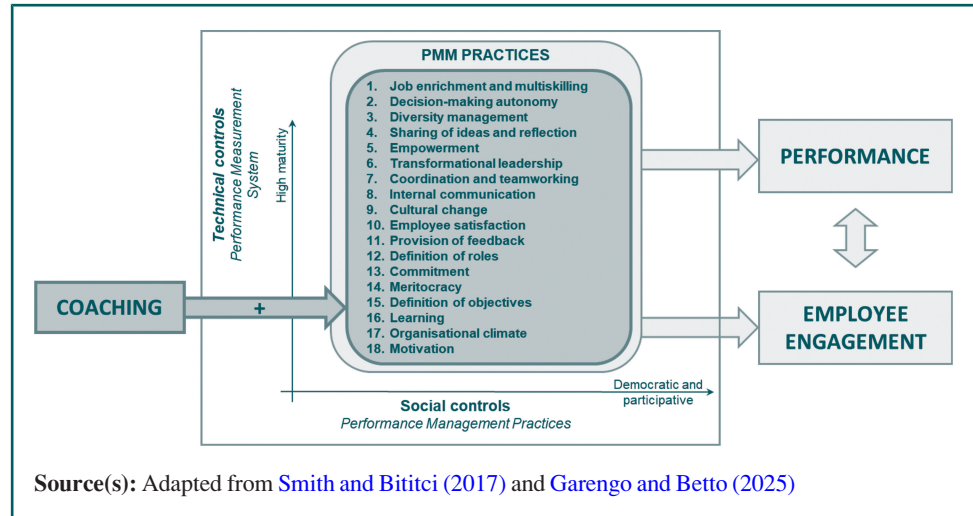
An exploratory methodology was adopted in line with the research questions. An exploratory survey was conducted to provide preliminary evidence of the relationship between PMM practices and coaching interventions ([Forza, 2002](#)). The results were subsequently validated

Table 1 The main managerial practices identified by the two research streams

Managerial practices	PMM research					Coaching research						
	<i>Bourne et al. (2013)</i>	<i>Ates et al. (2013)</i>	<i>Bititci et al. (2011)</i>	<i>Pavlov et al. (2017)</i>	<i>Smith and Bititci (2017)</i>	<i>Nudurupati et al. (2021)</i>	<i>Naeem and Garengo (2022)</i>	<i>Feldman and Lankau (2005)</i>	<i>Grant (2014)</i>	<i>Tooth et al. (2013)</i>	<i>Athanasopoulos and Dopson (2018)</i>	<i>Coimbra and Proença (2022)</i>
1. Job enrichment and multiskilling	x				x	x	x	x			x	
2. Decision-making autonomy					x	x		x	x			
3. Diversity management			x		x	x				x		
4. Sharing of ideas and reflection					x	x					x	
5. Empowerment		x	x			x		x	x		x	
6. Transformational leadership	x			x				x				
7. Coordination and teamworking			x								x	x
8. Internal communication	x	x	x		x	x		x			x	x
9. Cultural change			x									
10. Employee satisfaction	x							x	x			
11. Provision of feedback		x	x					x	x		x	x
12. Definition of roles											x	
13. Commitment	x		x	x				x		x		
14. Meritocracy		x			x			x				
15. Definition of objectives	x	x	x		x	x		x		x		x
16. Learning	x	x			x	x		x		x		
17. Organizational climate			x		x	x		x		x		
18. Motivation					x	x		x		x		x

Source(s): Authors' own work

Figure 1 The research framework



through one-to-one videoconferencing interviews using the same questionnaire. [Table 2](#) details the specific dimensions of the exploratory survey in the operations management field.

3.1 Research design

Identifying the PMM practices as the unit of analysis, data intended to be collected from coaches who had implemented a successful coaching project within an organization. To enhance the validity of the findings, multiple data collection methods were adopted. Therefore, the initial step in the data collection process entailed the administration of online questionnaires. Subsequently, the second phase concerned the videoconferencing interviews for data validation, during which the aforementioned questionnaires were re-administered to the respondents.

Finally, the data analysis revealed that 25 companies had significantly better performance than the others; therefore, we focused our attention on these organizations.

3.1.1 Selection criteria and design of the online questionnaire. The questionnaire was utilized to evaluate the enhancement in PMM practices following a coaching initiative that yielded outstanding outcomes, as evidenced by:

Table 2 Attributes of the exploratory survey of this research

<i>Dimensions</i>	<i>Exploratory survey requirements (Forza, 2002)</i>	<i>Empirical investigation: key characteristics</i>	<i>In-text references</i>
Unit of analysis	Clearly defined	PMM practices	Section 3.1
Respondents	Representative of the unit of analysis	Coaches	Section 3.2
Research hypotheses	Not necessary	–	–
Representativeness of sample frame	Approximation	Coaches who belong to coaching associations	Section 3.2
Representativeness of the sample	Not a criterion	AICP coaches	–
Sample size	Sufficient to include the range of the interest phenomena	About 700 coaches	Section 3.2
Pretest of questionnaire	With a subsample of the sample	With a group of AICP coaches	Section 3.3
Response rate	No minimum	No need for a minimum threshold	–
Mix of data collection methods	Multiple methods	Online questionnaire and videoconferencing for validation	Section 3.3

Source(s): Adapted from [Forza \(2002\)](#)

- Outstanding satisfaction of the commissioner in terms of how the project was managed and the results achieved.
- Perceived high impact on financial performance. As described in Section 2, since coaching interventions cannot be evaluated based on financial results, the perception of both the coach and the companies involved was considered.
- Improvement in at least three of the PMM practices.

Then, the questionnaire was designed. It aims at collecting information on company profiles, general information on the coaching project and the level of improvement of PMM practices attributed to coaching projects.

3.2 Sampling procedures

Consistent with the unit of analysis, the survey targeted coaches affiliated with the Italian Association of Professional Coaches (AICP), one of the leading coaching associations in Italy. This choice helps mitigate common misconceptions about the coaching role in the Italian context, while AICP provides practice guidelines without prescribing specific coaching models, thereby preserving member autonomy (AICP, 2022).

To ensure the reliability of the results, all AICP coaches were asked to respond to the questionnaire; therefore, the sample size consisted of more than 700 coaches. However, it is noteworthy that the number of coaches practicing business coaching within organizations in Italy is limited due to the recent diffusion of this type of coaching.

3.3 Data collection

3.3.1 Pretest of the questionnaire. The pilot test was designed to validate the questionnaire and review it through the support of the AICP research team that tested it. The team had two weeks to provide recommendations and suggestions.

Then, the questionnaire was finalized to make it easy to understand for coaches. The final version of the questionnaire is provided in [Appendix \(Figure A1\)](#).

3.3.2 Data collection methods. During the 2021 AICP annual meeting, the research team explained the content of the investigation and invited the coaches to signal their projects with outstanding performance. Then, AICP activated a widespread communication process toward all 700 members. The respondents evaluated, for each signaled successful project, the influence of coaching on PMM practices.

First, the questionnaires were uploaded online on the AICP website. This process took about four months. The questionnaire was released in January 2022 and data collection was completed in April 2022.

Second, data gathered through the online form was validated. The research group administered the same questionnaire to the respondents of the first step through videoconferencing. This took place between June and July 2022. The videoconferencing questionnaire administration lasted 45 min per each signaled case and was led by at least two researchers. All interviews were conducted in Italian, since all the respondents were Italian. The respondents were asked to assess once more the improvement in PMM practices by validating or reviewing the previous scores assigned. Respondents, indeed, incur a subjectivity error when they assign a score to the PMM practices, even if the error has been partially attenuated by the description of the meaning of values in the Likert scale (Likert, 1967).

Consequently, the respondents were driven by the research team in motivating the assigned scores for each PMM practice, especially when:

- Signaled organizations in which the number of PMM practices with a score ≥ 9 is greater than 75% of the mean value.

- Signaled organizations in which the number of PMM practices without scores is greater than 75% of the mean value.

Then, data from interviews were analyzed according to the questionnaires that each respondent previously filled in.

3.4 Analysis of data

The research team analyzed data collected through questionnaires to identify coaching-enabled PMM practices. Data collected through questionnaires were analyzed by calculating the mean, median, standard deviation and coefficient of variation for each PMM practice. The latter enables a comparison between the values of the PMM practices:

$$CV = \frac{\sigma_x}{|\bar{X}|} \quad (1)$$

where σ_x is the standard deviation of the vector x representing the values given to the i -th PMM practice and $|\bar{X}|$ is its mean value.

Then, after the descriptive analysis of the PMM practices, only those whose mean value is greater than 7 were selected for the subsequent analysis. The threshold value (i.e. ≥ 7) has been fixed because, in the Italian context, grades higher than 7 are generally valued as good, while grades lower than 6 are valued as insufficient (Argentin and Triventi, 2015).

Thus, the research group agreed that the main PMM practices empowered by coaching are those with a mean value ≥ 7 . According to the fixed threshold, the correlation analysis was performed. The Pearson correlation was evaluated and then presented in the symmetric matrix:

$$\rho_{XY} = \frac{\sigma_{XY}}{\sigma_X \sigma_Y} \quad (2)$$

where ρ_{XY} is the Pearson correlation, σ_{XY} is the covariance between practice x and practice y and σ_X and σ_Y are the standard deviation of practice x and practice y .

The values of ρ_{XY} are in the interval between -1 and 1 , where $\rho_{XY} < 0$ identifies two variables with a negative correlation, $\rho_{XY} > 0$ identifies two variables with a positive correlation and $\rho_{XY} = 0$ identifies two variables without a correlation. The relationship between two variables is generally considered strong when the ρ_{XY} value is greater than 0.7 .

The matrix that results after a correlation analysis is a correlation matrix, i.e. a symmetric matrix where $\rho_{ij} = \rho_{ji} \forall i, j$:

$$\begin{bmatrix} 1 & \rho_{21} & \rho_{31} \\ \rho_{12} & 1 & \rho_{32} \\ \rho_{13} & \rho_{23} & 1 \end{bmatrix} \quad (3)$$

4. Findings

The results reveal PMM practices improved by coaching interventions in both large organizations and SMEs (see the italic values in Table 3).

In SMEs, coaching empowers 11 PMM practices (mean values ≥ 7). It can be concluded that, achieving the highest mean value and the lowest coefficient of variation (CV); all coaches agree that Empowerment is the PMM practice most enhanced by coaching.

Unlike EMP, the coaches did not reach the same agreement level ($CV \geq 40\%$) about several practices with a mean score ≥ 7 ; during the interviews, a divergence of opinions emerged among the coaches regarding the efficacy of the implemented improvements to various

Table 3 Descriptive statistics of PMM practices enhanced by coaching

<i>PMM practices</i>	<i>Mean</i>	<i>Median</i>	<i>SD</i>	<i>CV (%)</i>
<i>PMM practices in SMEs</i>				
1. Empowerment	8.87	9	1.060	11.96
2. Definition of objectives	8.33	7	3.535	42.42
3. Definition of roles	8.20	8	2.610	31.82
4. Motivation	7.87	8	3.182	40.45
5. Organizational climate	7.67	8	1.922	25.07
6. Coordination and teamworking	7.67	8	2.764	36.05
7. Transformational leadership	7.67	6	3.309	43.17
8. Employee satisfaction	7.47	4	3.244	43.45
9. Internal communication	7.47	7	3.474	46.52
10. Sharing of ideas and reflection	7.27	8	1.740	23.95
11. Decision-making autonomy	7.07	7	2.380	33.69
12. Commitment	6.67	8	2.386	35.80
13. Job enrichment and multiskilling	6.67	3	2.833	42.50
14. Diversity management	5.73	8	2.604	45.42
15. Cultural change	5.33	8	3.352	62.86
16. Learning	4.73	6	3.515	74.25
17. Provision of feedback	3.33	9	3.177	95.32
18. Meritocracy	2.80	9	3.266	116.64
<i>PMM practices in large organizations</i>				
1. Empowerment	8.8	9	0.789	8.96
2. Internal communication	8.7	7.5	3.645	41.90
3. Coordination and teamworking	8.1	8	1.449	17.89
4. Motivation	7.9	9	0.823	10.42
5. Employees' satisfaction	7.8	2	2.885	36.98
6. Transformational leadership	7.8	5.5	3.529	45.25
7. Decision-making autonomy	7.6	9	2.658	34.98
8. Organizational climate	7.6	8	3.921	51.60
9. Definition of roles	6.30	8	3.302	52.40
10. Diversity management	5.8	5	3.273	56.43
11. Definition of objectives	5.40	8	1.197	22.17
12. Job enrichment and multiskilling	4.90	8	1.578	32.20
13. Provision of feedback	4.90	0	3.471	70.83
14. Sharing of ideas and reflection	4.70	6	3.695	78.62
15. Commitment	4.60	7.5	3.565	77.51
16. Learning	4.40	4	3.273	74.38
17. Cultural change	2.90	8.5	2.898	99.94
18. Meritocracy	2.4	9	4.033	168.05

Source(s): Authors' own work

practices, including IC. While some coaches expressed satisfaction with these enhancements, others expressed dissatisfaction with the perceived inadequacy of these improvements.

Regarding practices with a mean score < 7, CV is high since several respondents did not assign a score or did not provide evidence of improvement after their intervention.

Notably, the feedback provision, an integral component of coaching practice, demonstrated a persistently low score even after the implementation of the questionnaire via videoconferencing.

Regarding large organizations, coaching empowers eight PMM practices that, unlike SMEs, do not include OBJ, definition of roles (ROL) and sharing of ideas and reflection (ISH) (Table 3). While in SMEs they, respectively, achieved the second, third and tenth highest mean scores above 7, in large organizations they achieved the 11th, 9th and 14th positions, all below 7 (see Table 3). In addition to mean values, it is worth noting that the standard deviation for EMP and MOT is lower than 1. This indicates that nearly all coaches evaluated the two PMM practices within a consistent range of scores.

To answer the second research question, a correlation analysis was conducted, as shown in Table 4. For SMEs, Table 4 shows three notable correlations between PMM practices (see the italic values in Table 4 for SMEs). Using Table 4 as reference, OBJ is positively related to all the PMM practices with the mean value ≥ 7 (listed in Table 3), ISH is positively related to eight PMM practices and employee satisfaction (SAT) to the other seven PMM practices.

Given that the Pearson correlation value ≥ 0.7 indicates a strong positive relationship, looking at Table 4, coordination and teamworking (TW) is strongly correlated with IC and ISH; in turn, ISH shows strong correlations with both IC and OBJ. In addition, the organizational climate is highly related to employee satisfaction (see values in italics in Table 4 referred to SMEs).

Moving on to large organizations, Table 4 indicates that decision-making autonomy (AUT) is positively related to all PMM practices with a mean score ≥ 7 . In addition, MOT, CLI and SAT are positively related to six PMM practices (see italic values in Table 4 for large organizations). The highest correlation coefficients have been highlighted: organizational climate is strictly related to employee satisfaction (0.935), IC (0.796) and decision-making autonomy (0.705), while MOT is highly related to coordination and teamwork (0.711).

The analysis shows that, across both SMEs and large organizations, the practices most strongly correlated with others do not correspond to those with the highest scores of improvements in the questionnaire data (excluding the OBJ for SMEs).

This is specifically related to the objective of the coaching intervention; most of them focused on EMP, IC or coordination and teamworking. However, their positive relationship

Table 4 Correlation matrix of relationships between key PMM practices empowered by coaching in SMEs

PMM practices	EMP	TW	IC	ISH	SAT	ROL	MOT	AUT	OBJ	LEA	CLI
<i>SMEs</i>											
EMP	1										
TW	-0.069	1									
IC	-0.044	<i>0.923</i>	1								
ISH	-0.158	<i>0.845</i>	<i>0.748</i>	1							
SAT	0.488	0.304	0.230	0.311	1						
ROL	-0.256	-0.157	-0.108	0.181	-0.094	1					
MOT	0.388	-0.099	-0.076	-0.146	0.201	0.110	1				
AUT	-0.048	-0.091	-0.073	0.295	0.036	0.580	0.208	1			
OBJ	0.139	0.650	0.516	<i>0.754</i>	0.221	0.286	0.085	0.290	1		
LEA	-0.375	-0.057	-0.132	0.182	-0.113	0.607	-0.119	0.391	0.290	1	
CLI	0.358	0.279	0.112	0.177	<i>0.834</i>	-0.201	0.031	-0.140	0.130	-0.128	1
$\rho > 0$	4	5	5	8	7	5	5	5	10	4	6
<i>Large organizations</i>											
EMP	1										
TW	-0.272	1									
IC	-0.103	0.680	1								
ISH				1							
SAT	0.244	0.294	<i>0.833</i>		1						
ROL						1					
MOT	0.094	<i>0.711</i>	0.643		0.412		1				
AUT	0.554	0.360	0.582		<i>0.721</i>		0.447	1			
OBJ									1		
LEA	0.369	-0.392	-0.540		-0.164		-0.455	0.126		1	
CLI	0.147	0.274	<i>0.796</i>		<i>0.935</i>		0.451	<i>0.705</i>		-0.255	1
$\rho > 0$	5	5	5		6		6	7		2	6

Note(s): EMP = empowerment; TW = coordination and teamworking; IC = internal communication; ISH = sharing of ideas and reflection; SAT = employee satisfaction; ROL = definition of roles; MOT = motivation; AUT = decision-making autonomy; OBJ = definition of objectives; LEA = transformational leadership; CLI = organizational climate

Source(s): Authors' own work

with the other improved practices also contributed to their improvement. For instance, in SMEs an improvement in empowerment, coordination and teamworking and MOT is related to an increase in employee satisfaction. In large organizations, an improvement in empowerment, coordination and teamworking and IC is positively related to an increase in decision-making autonomy.

5. Discussion and conclusions

To answer the first research question, empowerment emerges as the PMM practice most improved by coaching, both in SMEs and large organizations. This result aligns with recent studies on employee performance that identify empowerment as one of the most effective practices to improve employee involvement and firm performance (Lin *et al.*, 2023). Furthermore, consistent with management control research, empowerment supports the shift away from the traditional management paradigm – characterized by command-and-control practices – toward participative management approaches (Lewis *et al.*, 2019; Smith and Bititci, 2017).

Moreover, to answer the first research question on the key PMM practices empowered by coaching in SMEs and large organizations, as shown in Table 3, coaching interventions in SMEs lead to improvements in the OBJ, the ROL and MOT. The rationale behind these results is supported by the literature. On the one hand, coaching research is encouraging scholars to substantiate the correlation between coaching and the achievement of individual and organizational objectives (Ennis *et al.*, 2008), and this study by revealing as key practices enhanced by coaching OBJ, ROL and MOT contribute to validating this relationship. On the other hand, as shown in Table 3, although the improvement in OBJ, ROL and MOT, coaching helps SMEs to address some of their managerial shortcomings (Garengo *et al.*, 2005; Peel, 2008; Smith and Smith, 2007; Taylor and Taylor, 2014), such as the lack of clearly defined managerial roles and objectives, along with limited capacity for teamwork and communication capabilities (Garengo, 2009; Garengo and Sharma, 2014).

In addition, one unexpected result emerges from the empirical analysis. The findings further suggest substantial enhancements in 11 PMM practices, fostered by coaching interventions, albeit with elevated CVs. Therefore, it is noteworthy that the impact of coaching in SMEs extends beyond the practices outlined above; while coaching has a wide positive impact on PMM practices in SMEs, there is some variability in how coaches perceive these improvements, indicating a lack of full consensus among them.

Unlike SMEs, the findings show that large organizations predominantly prioritize the development of a more restricted set of PMM practices (Tables 3 and 4 referring to large organizations). This is confirmed by previous literature, as large organizations generally exhibit a high maturity level in managerial practices, although they may still experience specific managerial shortcomings related to their size, such as IC challenges arising from their structural complexity associated with the organizational size (Gadolin, 2014; Kalla, 2005). Furthermore, according to past research, the high degree of formalization in management processes can have negative effects, as excessive formalization can undermine trust and commitment. Thus, in large organizations some workers often lack MOT, satisfaction and empowerment, which lead to low productivity, reduced performance and limited employee engagement (Lee, 2022).

In addressing the second research question, the findings confirm that the enhancement of some practices is positively correlated with the enhancement of others. The results differ from previous literature, in which leading and lagging practices have been analyzed in specific contexts, such as the public sector (Wilkes, 2005) or in relation to the role of performance management tools in enabling organizations to pursue both exploitation and exploration (Badu and Micheli, 2025). Instead, in this research study, using a metaphor based on lagging and leading indicators, these practices can be labeled as *lagging*

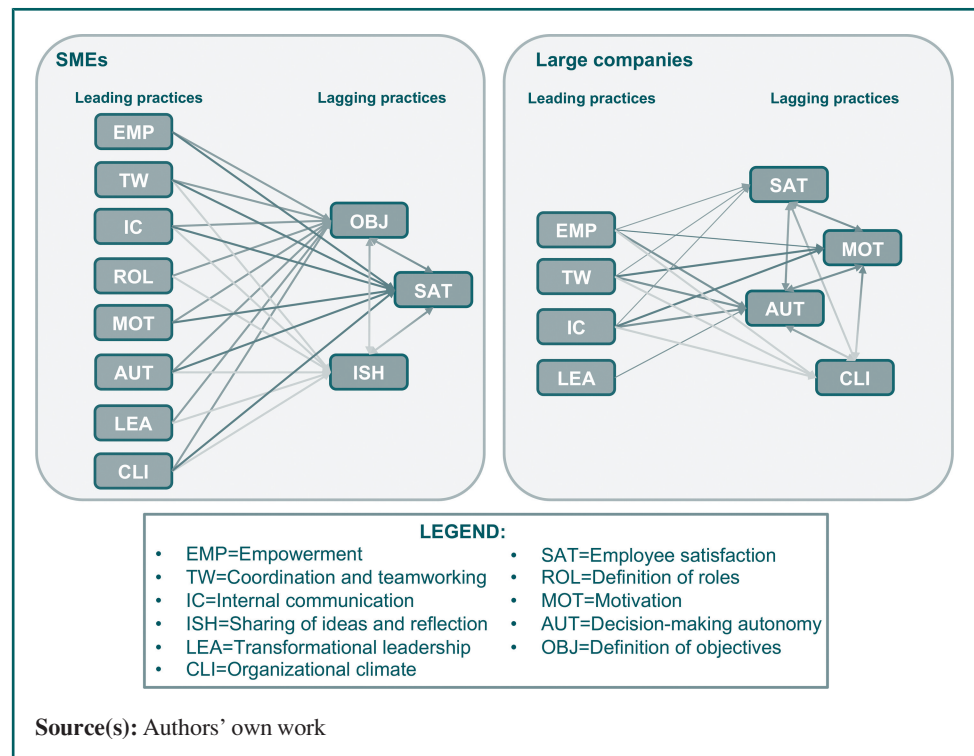
practices (see Figure 2, practices in blue), as they show improvement even without direct intervention. This improvement is due to the positive effects of other practices, which can be labeled as *leading practices* (see Figure 2, practices in green). Furthermore, Figure 2 provides evidence of the mutual relationships between lagging practices. For instance, in SMEs, an increase in ISH is related to an increase in both OBJ and SAT (Figure 2).

For SMEs, the most strongly correlated practices (i.e. lagging practices) are OBJ, ISH and SAT. This implies that improvements in the less correlated practices (i.e. leading practices), such as EMP, TW, IC, CLI, and transformational leadership (LEA), are closely linked to improvements in the other lagging practices i.e. OBJ, ISH and SAT.

In the same way, in large organizations, four leading practices can be identified, i.e. EMP, TW, IC and LEA. Thus, an improvement in one leading practice, such as employee satisfaction, positively influences the lagging practices, i.e. AUT, SAT, MOT and CLI.

Unlike previous research on PMM, the results confirm that coaching interventions on PMM practices generate unplanned indirect effects on other managerial practices in both SMEs and large organizations, beyond their specific objectives (Figure 2). Because the evaluation was conducted independently of the specific coaching objectives, the identified PMM practices are those showing the greatest improvement. However, this does not imply that coaching interventions were ineffective in improving PMM practices with the lowest improvement scores, nor that such practices were excluded from this study. Rather, some of the identified PMM practices may show a significantly greater improvement when they are explicitly defined as coaching objectives of the intervention. For example, Tables 3 and 4 show meritocracy as the practice least influenced by successful coaching projects, even if it reached a high median value (9) and the highest CVs. This indicates that, although coaching interventions seldom affect meritocracy, when they do, the resulting improvement can be substantial.

Figure 2 Leading and lagging practices in SMEs and large organizations



5.1 Contributions to the academic literature and managerial practice

By answering the research questions, the paper shed light on the key PMM practices enhanced by coaching in SMEs and large organizations as well as on the relationships between these practices. Moreover, it addresses some theoretical limitations emerging both from PMM research and coaching literature (Ribeiro *et al.*, 2020; Sherman and Freas, 2004).

Concerning PMM, the research, on the one hand, provides new insights and, on the other hand, is consistent with the previous findings in literature. Unlike previous studies, this work emphasized the key PMM practices enhanced by coaching and the differences in the prioritization of the practices between SMEs and large companies. Although large organizations tend to prioritize the development of a more limited set of PMM practices, as confirmed by the literature (Gadolin, 2014; Kalla, 2005), the specific PMM practices that are prioritized have not been previously investigated.

For SMEs, the findings confirm that these companies need to develop practices that enable them to overcome their managerial shortcomings (Garengo *et al.*, 2005; Peel, 2008; Smith and Smith, 2007; Taylor and Taylor, 2014). However, the study goes further by identifying which of these practices can be enhanced through coaching to address such shortcomings.

Finally, building on previous studies on leading and lagging indicators and practices, this research is the first to shed light on the leading and lagging PMM practices empowered by coaching in SMEs and large firms. This is of particular importance for both PMM and coaching research. Some PMM practices, such as the OBJ in SMEs and decision-making autonomy in large organizations, are influenced by improvement in the other practices. Therefore, by enhancing these related practices, they can also be improved indirectly.

Concerning research on coaching effectiveness, the study differs from previous studies based on ROI or other financial indicators and provides a new approach to the evaluation of coaching interventions and supports practitioners in understanding the potential impact of coaching, regardless of the specific objectives of coaching projects.

This research has the potential to contribute to practitioners, both coaches and managers. The classification of PMM practices identified supports managers and coaches in the practical assessment of the effects of coaching interventions enabling more effective resource allocation and better-informed business decisions regarding their implementation. Finally, coaches involved in these projects within organizations can prioritize the development of certain PMM practices depending on the organizational size of the companies.

5.2 Limitations of the study and future research avenues

The study has some limitations. First, the survey methodology is exploratory. Although the phenomenon under investigation is novel and a traditional survey approach is not adequate, the adopted methodology does not fully ensure the reliability and generalizability of the findings. Therefore, future research could implement a large-scale survey testing the results more broadly and to verify their generalizability.

Second, the study involves coaches affiliated with a single professional association of coaching based in Italy. On the one hand, this ensures a degree of consistency in the results; on the other side, it limits the findings to the Italian perspective of coaches belonging to the same association. Future research could examine coaching projects based in other countries and involve coaches affiliated with different coaching associations.

Finally, the correlation analysis reveals only the correlation between PMM practices but does not establish any causal relationships. Future research could use other statistical methods to highlight the causal relationships between PMM practices.

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Figure A1 The questionnaire administered to the coaches

Coach profile													
Name and Family name*													
E-mail address*													
*Mandatory													
Company name													
Industrial Sector*													
<i>*Italian Classification ATECO</i>													
<input type="checkbox"/>	A. Agriculture, forestry and fisheries				<input type="checkbox"/>	L. Real estate activities							
<input type="checkbox"/>	B. Mining of minerals from quarries and mines				<input type="checkbox"/>	M. Professional, scientific and technical activities							
<input type="checkbox"/>	C. Manufacturing				<input type="checkbox"/>	N. Rental, travel agencies, business support services							
<input type="checkbox"/>	D. Supply of electricity, gas, steam and air conditioning				<input type="checkbox"/>	O. Public administration and defense, compulsory social insurance							
<input type="checkbox"/>	E. Water supply; sewerage, waste management and sanitation activities				<input type="checkbox"/>	P. Education							
<input type="checkbox"/>	F. Construction				<input type="checkbox"/>	Q. Health and social care							
<input type="checkbox"/>	G. Wholesale and retail trade				<input type="checkbox"/>	R. Arts, sports, entertainment and recreation activities							
<input type="checkbox"/>	H. Transportation and logistics				<input type="checkbox"/>	S. Other service activities							
<input type="checkbox"/>	I. Accommodation and restaurant service activities				<input type="checkbox"/>	T. Activities of households and families as employers for domestic staff; production of undifferentiated goods and services for own use by households and families							
<input type="checkbox"/>	J. Communication and information services				<input type="checkbox"/>	U. Extraterritorial organizations and bodies							
<input type="checkbox"/>	K. Financial and insurance activities												
Company dimension													
<input type="checkbox"/>	Micro			<input type="checkbox"/>	Small			<input type="checkbox"/>	Medium		<input type="checkbox"/>	Large	
Objective(s) of the coaching project													
Duration of the coaching project in days													
[dd]													
Coaching project start date													
[dd/mm/yyyy]													
Coaching project start date													
[dd/mm/yyyy]													
Coach role within the company													
<input type="checkbox"/>	Internal				<input type="checkbox"/>	External							
Coaching typology													
<input type="checkbox"/>	Individual			<input type="checkbox"/>	Team			<input type="checkbox"/>	Both				
In Indicate the practices distinguishing the success of the project on a scale of 1 to 10													
<i>We ask you to assign a value on a scale of 1 to 10 to each practice.</i>													
<i>1 indicates that the practice did not characterize the success of the project at all;</i>													
<i>10 indicates that the practice fully characterized the success of the project.</i>													
<i>Please add, if you think appropriate, additional practices and attribute a value on a scale from 1 to 10.</i>													
	1	2	3	4	5	6	7	8	9	10			
Empowerment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Diversity management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Improve coordination and teamworking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Internal communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Sharing of ideas and reflection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Leadership skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Cultural change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Employees' satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Organisational climate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Provision of feedback	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Definition of roles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Commitment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Motivation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Meritocracy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Decision-making autonomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Job enrichment and multiskilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Definition of objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
(Indicate any other distinguishing practice)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

Source(s): Authors' own work

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