

Drucker's MBO in Entrepreneurship 4.0: the role of FinTech, AI and tax compliance in SMEs

Konstantinos S. Skandalis

*Department of Business Administration,
School of Business, University of the Aegean, Chios, Greece*

Journal of
Participation and
Employee
Ownership

Received 7 May 2025
Revised 3 September 2025
21 November 2025
11 June 2026
Accepted 22 June 2026

Abstract

Purpose – This study investigates how digitalization and participatory management practices jointly influence entrepreneurial performance (EP) in small and medium-sized enterprises (SMEs). Drawing on Peter Drucker's management by objectives (MBO), the research emphasizes the role of employee involvement in goal-setting, alongside the integration of FinTech, AI tools and tax compliance. It aims to identify potential necessity candidates and sufficient configurations that drive superior performance outcomes in digitally evolving SMEs.

Design/methodology/approach – Data were collected via structured questionnaires from SME managers across multiple sectors in Greece. Using a 5-point Likert scale to assess core constructs, the study applies fuzzy-set qualitative comparative analysis (fsQCA) to test necessity, sufficiency and configurational pathways between participatory management and digital practices.

Findings – The analysis reveals that participatory goal-setting under MBO, FinTech adoption and AI tool usage are central drivers of EP. In particular, the inclusion of employees in decision-making emerged as a key enabler of alignment and execution. While tax compliance supports business continuity, it is not a standalone driver of high performance. Combinations of participatory management with digital tools were found to be sufficient for enhanced ROI, profitability and sales growth. AI also moderates and amplifies the performance effects of both MBO and FinTech adoption.

Originality/value – This study extends Drucker's MBO into the domain of Entrepreneurship 4.0 by demonstrating its relevance as a participatory management practice in the digital era. It contributes to the literature on employee involvement, high-performance work systems and SME digitalization, offering actionable insights for managers and policymakers seeking to align strategic objectives with inclusive and technology-driven practices.

Keywords Participatory management (MBO), FinTech adoption, AI tools usage, Tax compliance, Entrepreneurial performance (EP), SMEs, fsQCA

Paper type Research article

1. Introduction

Peter Drucker famously asserted that the core function of management is to define clear objectives and marshal the necessary resources to achieve them. In the era of Entrepreneurship 4.0, this principle has acquired renewed significance as businesses contend with rapid digital transformation, complex institutional pressures, and an evolving marketplace.

Entrepreneurship 4.0 extends the principles of Industry 4.0 to the entrepreneurial domain, emphasizing digital transformation, data-driven decision-making, and collaborative innovation across ecosystems. It combines advanced technologies - such as FinTech and Artificial Intelligence - with participatory and human-centered management models to foster agility and resilience. Recent studies (Xu, 2023; Yin *et al.*, 2024; Bogdanova and Hristova, 2025) describe Entrepreneurship 4.0 as the convergence of technological, managerial, and institutional capabilities that jointly drive SME competitiveness. Within this framework, Management by Objectives (MBO), FinTech, AI, and tax compliance represent

© Konstantinos S. Skandalis. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/>



Journal of Participation and Employee
Ownership
Emerald Publishing Limited
e-ISSN: 2514-765X
p-ISSN: 2514-7641
DOI 10.1108/JPEO-05-2025-0026

complementary managerial, technological, and regulatory levers shaping entrepreneurial performance (EP) in the digital economy. The integration of participatory management through MBO with emerging digital technologies now constitutes an important element of competitive strategy for modern enterprises. This convergence raises important questions about how participatory management through MBO and employee involvement can be meaningfully integrated into digital transformation strategies.

Small and medium sized enterprises play a vital role in successful national economics; the Greek employment sector heavily relies on such a contribution to GDP, and while this enterprise market is growing, it still has to balance technological developments against an increasingly tightening regulatory environment. Thus, balancing such elements requires both technological developments and holistic management that allows for increased employee participation in company decision making efforts.

In this context, participatory management through MBO represents an important managerial capability. When various stakeholders are involved in the goal-setting process, not only does MBO create an empowered team who understands corporate and personal efforts towards the same goal (Kang and Foster, 2022), but it also creates a synergistic environment with buy-in for strategic achievement. Furthermore, this helps facilitate greater agility as SMEs can adjust on-the-fly goals thanks to attunement to markets since they represent the internal/external needs of the enterprise. As a high-involvement work system, participatory management through MBO aligns participative goal-setting with shared decision making and employee ownership (Blasi *et al.*, 2018).

Simultaneously, the adoption of FinTech and AI tools acts as a catalyst for operational efficiency and increased business agility. FinTech solutions simplify financial management processes, facilitate innovative financing options, and improve financial decision-making through real-time data analytics and automation (Yin *et al.*, 2024). The incorporation of AI further enables SMEs to harness insights from complex datasets, thereby optimizing resource allocation and enhancing responsiveness to external market shocks. Such digital innovations are critical for overcoming traditional barriers in financial management and sustaining competitive advantage. When aligned with participatory management structures, these tools also enhance employee empowerment by decentralizing decision-making and supporting data-informed collaboration across organizational levels (Mygind and Poulsen, 2021).

Despite growing research on participatory management, digital transformation, and SME performance, existing studies have largely examined MBO, FinTech adoption, Artificial Intelligence (AI), and tax compliance as separate phenomena. Limited empirical evidence explains how these managerial, technological, and institutional capabilities operate jointly to influence EP. Moreover, little is known about whether different combinations of these factors can produce high performance outcomes within the context of Entrepreneurship 4.0, particularly among SMEs operating in highly regulated environments such as Greece.

Accordingly, this study addresses the following central research question: How do participatory management practices (MBO), FinTech adoption, AI tools, and tax compliance configure to drive EP among SMEs within the framework of Entrepreneurship 4.0? This question guides the study's theoretical development, methodological design, and empirical analysis presented in the sections that follow. To our knowledge, this is the first empirical study to examine the joint influence of these factors using a configurational approach.

This study is theoretically grounded in the Resource-Based View (RBV) and the Dynamic Capabilities Theory (DCT). The Resource-Based View explains how firms derive competitive advantage from resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991; Wernerfelt, 1984). In this context, participatory management through MBO, FinTech adoption, AI, and tax compliance are conceptualized as strategic resources that collectively enhance performance. The Dynamic Capabilities Theory (Teece *et al.*, 1997) complements this view by emphasizing how SMEs reconfigure and integrate such resources to adapt to environmental changes and digital transformation. Together, RBV and DCT provide the

theoretical lens linking participatory management, digital tools, and compliance practices to EP under Entrepreneurship 4.0.

The remainder of this paper is organized as follows. [Section 2](#) reviews the relevant literature and develops the study's hypotheses. [Section 3](#) outlines the research methodology, including the application of fuzzy-set qualitative comparative analysis (fsQCA) and moderation tests. [Section 4](#) presents the empirical results. [Section 5](#) discusses the theoretical and practical implications of the findings. [Section 6](#) concludes the paper by highlighting its limitations and directions for future research.

2. Literature review and theoretical background

2.1 *Management by objectives (MBO) in contemporary organizations*

Peter Drucker's pioneering work on MBO established the baseline for strategic management through clear, consensus-based objectives and the allocation of the needed resources to achieve them ([Kassar, 2024](#)). MBO emphasizes participatory goal-setting, where managers and employees collaboratively define, pursue, and review objectives, fostering higher employee motivation, enhanced organizational efficiency, and innovation ([Laskovaia et al., 2022](#)). Recent investigations confirm that MBO remains a vital tool for aligning individual performance with organizational goals, particularly in small and medium-sized enterprises (SMEs), where resources are often limited and agility is paramount ([Wiyono and Kirana, 2021](#)). Effective management requires not only setting objectives but also the ongoing evaluation of these goals to adapt to changing circumstances, highlighting the need for managers to remain flexible and responsive in their strategic planning ([Drucker and Maciariello, 2008](#)). However, challenges persist in ensuring that rapidly evolving digital contexts and shifting market dynamics are adequately reflected in target-setting ([Shi, 2024](#)). Researchers caution that conventional approaches to participatory management through MBO must be strategically adapted through digital tools and real-time performance tracking systems to maintain effectiveness in dynamic environments ([Wiyono and Kirana, 2021](#)).

Recent literature also emphasizes that MBO should be understood within the broader spectrum of worker participation and employee voice. [Fischer-Daly and Anner \(2023\)](#) highlight how co-decision-making, collective voice, and shared governance mechanisms reinforce participatory management through MBO. Integrating these insights helps position MBO not only as a managerial tool for aligning objectives, but also as a participatory practice that empowers employees, strengthens commitment, and enhances adaptability in digital environments.

Throughout this article we use the term participatory management through MBO to denote participative goal-setting, shared decision making, and other high-involvement practices implemented via MBO.

The motivational mechanisms through which participatory management through MBO enhances performance can be explained through Goal-Setting Theory ([Locke and Latham, 2002](#)) and the broader logic of High-Involvement Work Systems ([Boxall and Macky, 2009](#)). Goal specificity and regular feedback improve task clarity, self-efficacy, and employee ownership of outcomes, while participatory goal-setting strengthens the psychological contract and alignment between individual and organizational objectives. From a participation perspective, employee voice and shared decision-making create accountability loops that enhance adaptability and continuous improvement - conditions especially critical for SMEs operating in digitally dynamic environments.

From the perspective of the Resource-Based View (RBV), participatory management through MBO can be conceptualized as a valuable managerial capability that enhances organizational alignment, employee engagement, and knowledge sharing. These attributes contribute to the development of firm-specific routines and capabilities that are difficult for competitors to replicate. Moreover, Dynamic Capabilities Theory (DCT) suggests that SMEs operating in rapidly changing environments must continuously adapt and

reconfigure their managerial practices to remain competitive. Participatory management through MBO facilitates this process by enabling organizations to align strategic objectives with emerging market conditions, incorporate employee knowledge into decision-making, and support organizational learning. Consequently, MBO represents not only a management technique but also a strategic capability that may contribute to EP within the context of Entrepreneurship 4.0.

2.2 FinTech adoption and its impact on SMEs

The relationship SMEs have with financial processing, however, has recently changed due to emerging FinTech. From mobile payments and digital wallets to online lending and real-time assessment technology, FinTech facilitates firm liquidity, reduced operational costs, and assessment via real-time financial access information for improved decision making (Minde and Mrindoko, 2024). In addition, Xu (2023) cites a series of quantitative findings supporting that FinTech not only enhances SMEs' opportunity for access to capital but simultaneously assists in better cash flow management. Yet the transfer of technology may not occur with resource constrained SMEs. First, FinTech is an expensive endeavor in inception and implementation. Second, many resource constrained SMEs do not possess the level of digitization or digital literacy required to interact with such management systems. Third, integration challenges exist due to legacy systems (Liu *et al.*, 2023). Therefore, although the literature generally supports the positive effects of FinTech on profitability and operational efficiency, research examining its interaction with participatory management systems such as MBO remains limited.

From the perspective of the Resource-Based View (RBV), FinTech adoption can be understood as a technological resource that enhances operational efficiency, information quality, and access to financial services. By improving transaction speed, financial transparency, and data availability, FinTech contributes to the development of capabilities that support competitive advantage in resource-constrained SMEs. Dynamic Capabilities Theory (DCT) further suggests that firms create value not merely through the possession of digital technologies, but through their ability to integrate, deploy, and continuously reconfigure these technologies in response to changing market conditions. Consequently, FinTech adoption represents a technological capability that may strengthen EP by improving organizational agility, financial decision-making, and strategic responsiveness within the Entrepreneurship 4.0 environment.

In this context, FinTech does not operate in isolation but interacts with participatory management systems and regulatory practices. When aligned with MBO, real-time financial information can enhance participatory goal-setting and performance monitoring. Likewise, combining FinTech with tax compliance mechanisms may improve transparency and reduce the risk of financial irregularities, thereby reinforcing trust among stakeholders. This complementarity suggests that the value of FinTech may be amplified when combined with participatory management practices and institutional capabilities such as tax compliance.

2.3 The role of artificial intelligence (AI) in enhancing entrepreneurial performance

Artificial Intelligence (AI) has emerged as an increasingly important capability for SMEs operating in an increasingly digital economy. AI applications, ranging from automation of routine tasks to the provision of predictive analytics and natural language processing, can significantly improve decision-making and operational efficiency (Kang and Foster, 2022). Yin *et al.* (2024) show that AI tools facilitate better resource allocation and enable more precise strategic forecasting, thereby driving product innovation and enhancing customer interaction. Nevertheless, despite the optimism surrounding these prospects, the takeup of AI by SMEs is faced with significant impediments in the form of high costs, technological complications, and a lack of internal expertise. Indeed, though there is ample literature in favor of AI's performance potential, there is virtually no understanding related to its

incorporation with dedicated management systems, including Management by Objectives, and digital financial tools (Yin *et al.*, 2024).

From the perspective of the Resource-Based View (RBV), AI can be viewed as an analytical capability that enables firms to transform data into actionable knowledge and improve decision quality. When effectively embedded within organizational processes, AI contributes to the development of firm-specific capabilities that are valuable and difficult to replicate. Consequently, AI represents a strategic resource that may enhance competitive advantage and EP in digitally intensive environments.

From the perspective of Dynamic Capabilities Theory (DCT), AI represents an enabling capability that augments managerial routines for sensing, seizing, and transforming opportunities in turbulent environments (Teece *et al.*, 1997). Its performance contribution depends critically on the presence of complementary human skills, digital literacy, and data-governance structures. SMEs with strong analytical competencies and transparent data processes are better able to convert algorithmic insights into strategic and operational actions. This contingency underscores that AI's effects on performance are not automatic but mediated by organizational learning and absorptive capacity, consistent with the broader debate on AI-driven productivity complementarities (McElheran *et al.*, 2022).

AI therefore acts as a strategic complement to both MBO and tax compliance: predictive analytics can support participatory decision-making and dynamic goal adjustment, while automated monitoring facilitates compliance with regulatory requirements. These complementarities position AI not only as a technological tool, but as a capability that enhances both managerial effectiveness and institutional legitimacy.

AI does not operate independently of other organizational capabilities. Rather, its effectiveness depends on its integration with managerial practices, financial technologies, and organizational processes. When combined with participatory management through MBO, AI can support more informed decision-making and adaptive goal setting. Similarly, integration with FinTech systems can enhance the analysis of financial information and improve strategic responsiveness. These complementarities suggest that AI may strengthen the value derived from other organizational capabilities and therefore form an important component of broader EP configurations within Entrepreneurship 4.0.

2.4 Tax compliance and its relationship with SME performance

In this study, tax compliance is not considered a form of digitalization but rather a complementary institutional capability that interacts with digital tools. While FinTech and AI represent technological enablers of digital transformation, tax compliance functions as a legitimacy-based mechanism that ensures transparency, accountability, and trust. Together, these dimensions reflect the interplay between technological innovation and regulatory governance that underpins SME competitiveness in the digital economy.

Tax compliance, while traditionally viewed as a regulatory requirement rather than a direct performance driver, plays an important role in ensuring the legitimacy and long-term viability of SME operations. Adherence to tax regulations preserves stakeholder trust and provides a stable operational environment that underpins both financial innovation and participatory management practices (Case and Quarrey, 2019). Moreover, tax transparency reinforces accountability, which is a foundational value in firms adopting employee-inclusive governance models (Crifo and Rebérioux, 2024).

Tax compliance is a critical component of the regulatory framework that underpins the operational legitimacy and long-term sustainability of SMEs. Qian (2024) indicates that effective tax compliance, through accurate and timely reporting, helps firms avoid costly penalties and builds trust with investors and customers. For SMEs, rigorous tax compliance can additionally facilitate better access to financial services, as compliance often forms a precondition for obtaining loans and other capital sources (Bogdanova and Hristova, 2025). However, the complexity of tax laws and limited accounting resources can pose significant

challenges, undermining consistent compliance. Although tax compliance is frequently viewed as a baseline operational requirement rather than a direct performance driver, it can support the creation of a stable financial environment upon which strategic and digital initiatives can be effectively implemented.

From the perspective of the Resource-Based View (RBV), tax compliance contributes to the development of valuable intangible resources such as organizational legitimacy, stakeholder trust, and reputational capital. These attributes can improve access to external financing, strengthen relationships with regulators and investors, and support long-term organizational sustainability. Dynamic Capabilities Theory (DCT) further suggests that firms create value when compliance practices are effectively integrated with managerial and technological capabilities. Consequently, tax compliance can be viewed not merely as a regulatory obligation, but as an organizational capability that supports the effective deployment of other strategic resources within the Entrepreneurship 4.0 environment.

In addition, tax compliance interacts with other resources by enhancing legitimacy and facilitating external financing, since banks and investors often demand regulatory transparency (Bogdanova and Hristova, 2025). This complementarity means compliance should not be seen merely as a burden but as a condition that, when combined with FinTech or participatory practices, can generate reputational and financial advantages.

Tax compliance also interacts with MBO and digital tools in meaningful ways. Aligning compliance requirements with participatory goal-setting can embed transparency and accountability into everyday practices, while integration with FinTech and AI systems supports accurate reporting and reduces administrative burden. In this way, compliance becomes not only a regulatory requirement but also a resource that strengthens legitimacy and complements EP.

In the specific context of Greek SMEs, tax compliance is especially salient due to persistent challenges with the VAT gap and regulatory enforcement pressures (European Commission, 2023). Compliance not only ensures regulatory alignment but also affects firms' access to credit and public funding, since banks and authorities increasingly require transparent financial records. Thus, including tax compliance as a condition is theoretically justified, as it represents both a regulatory constraint and a strategic enabler in the entrepreneurial ecosystem.

2.5 Integrated framework, research gap, and theoretical foundation

The integration of participatory management practices such as MBO with digital innovations like FinTech and AI can produce synergistic effects that enhance SME performance (Vnukova, 2020). Together, MBO, FinTech, AI, and tax compliance may contribute to profitability, growth, customer retention, and broader EP. Tax compliance further supports these efforts by enhancing transparency, legitimacy, and organizational stability, thereby creating conditions under which managerial and technological capabilities can be effectively deployed. However, while much qualitative and quantitative research exists connected to MBO, FinTech, AI, and tax compliance and their respective impacts on SME performance, few high-quality empirical studies compare the interconnectivity of all four variables. Thus, this research will fill the gap to foster a deeper understanding of performance viability.

Recent studies have begun to examine how participatory management frameworks interact with emerging digital technologies to enhance SME performance. Kraus *et al.* (2022) found that participatory goal-setting fosters greater employee engagement and accelerates the effectiveness of digital transformation initiatives. Pappas *et al.* (2023) demonstrated that FinTech-enabled transparency reinforces participatory decision-making and improves collective accountability within SMEs. Similarly, recent experimental evidence shows that well-designed analytics dashboards enhance decision quality by reducing task complexity and improving information satisfaction, thereby supporting more adaptive feedback and alignment around organizational goals (Hjelle *et al.*, 2024). These findings support the view that FinTech

and AI amplify the motivational and coordination benefits of participatory management, providing empirical validation for the model's configurational perspective.

Building on the preceding discussion, this study integrates participatory management through MBO, FinTech adoption, AI capabilities, and tax compliance within a unified framework grounded in the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT). From an RBV perspective, these conditions represent complementary managerial, technological, analytical, and institutional capabilities that contribute to competitive advantage. DCT further suggests that EP depends not only on the possession of these capabilities but also on the firm's ability to integrate and reconfigure them in response to changing environmental conditions. Despite extensive research on each factor individually, limited empirical evidence examines how they operate jointly to influence EP. Accordingly, this study addresses this gap by adopting both configurational and regression-based approaches to examine the individual and combined effects of these capabilities within the context of Entrepreneurship 4.0. Figure 1 presents the conceptual framework guiding the development of the study hypotheses.

3. Research model and hypotheses

This study formulates a conceptual model to examine the influence of participatory management practices and digital technologies on Greek SMEs' EP in the Entrepreneurship 4.0 context. Drawing on Drucker's MBO theory combined with extant research on digital transformation, we argue that the MBO elements, FinTech adoption, use of artificial intelligence (AI) tools, and tax compliance respectively contribute, both individually and collectively, to the enhancement of EP.

Consistent with configurational reasoning, the study does not assume that any single condition alone is sufficient to generate high EP. However, fsQCA necessity analysis is conducted to examine whether any condition consistently appears in high-performing cases.

EP serves as the study's outcome condition and is examined through multiple performance indicators. In addition, the model incorporates interaction and configurational effects, specifically the moderating roles of participatory management through MBO and AI in shaping the relationship between FinTech adoption and EP.

3.1 Direct and moderating relationships

According to this theoretical framework, the following hypotheses are formulated:

H1. Participatory management through MBO is associated with high EP.

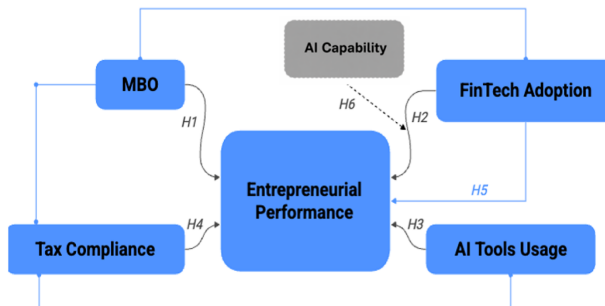


Figure 1. Conceptual framework of the study. Participatory management through MBO, FinTech adoption, AI capability, and tax compliance are conceptualized as complementary managerial, technological, analytical, and institutional capabilities influencing entrepreneurial performance. The model also examines moderating effects among selected capabilities

- H2. FinTech adoption is associated with high EP.
- H3. AI tools usage is associated with high EP.
- H4. Tax compliance is associated with high EP.
- H5. Participatory management through MBO positively moderates the relationship between FinTech adoption and EP, such that the relationship is stronger at higher levels of participatory management.
- H6. Artificial Intelligence (AI) positively moderates the relationship between FinTech adoption and EP, such that the relationship is stronger at higher levels of AI usage.

3.2 Configurational hypothesis

- H7. The configuration of participatory management through MBO, FinTech adoption, AI usage, and tax compliance is sufficient to generate high EP.

It is important to note that [Hypothesis 6](#) and [Hypothesis 7](#) address distinct analytical mechanisms. [H6](#) tests a two-way statistical moderation effect using regression analysis, where AI moderates the relationship between FinTech adoption and EP. In contrast, [H7](#) captures a configurational synergy identified through fsQCA, examining whether the joint presence of MBO, FinTech, AI, and tax compliance constitutes a sufficient configuration for high EP. Thus, [H7](#) does not represent a three-way interaction term in the regression model, but rather a multi-condition combination in the set-theoretic framework.

These hypotheses collectively guide the empirical investigation by examining direct relationships ([H1–H4](#)), moderating effects ([H5–H6](#)), and configurational sufficiency ([H7](#)). This organization reflects the analytical logic of the study: first, assessing whether specific conditions are consistently present among high-performing SMEs (necessity analysis via fsQCA); second, identifying sufficient combinations that lead to high performance (configurational analysis); and third, evaluating interaction effects through regression-based moderation analysis.

This model captures the interdependence of digital technologies and strategic management in driving SME performance. It lays the groundwork for the analyses to follow, including necessity and sufficiency testing using fsQCA and moderation testing via regression analysis.

[Figure 1](#) summarizes the conceptual model. MBO, FinTech adoption, AI usage, and tax compliance are proposed to contribute to EP. In addition, [H5](#) and [H6](#) examine moderating effects involving MBO and AI, respectively, while [H7](#) examines the configurational sufficiency of these conditions through fsQCA. This framework integrates participatory management, digital technologies, and institutional capabilities within the Entrepreneurship 4.0 context.

For clarity and readability, [Figure 1](#) presents only the core conceptual relationships among the study constructs. Not all analytical relationships examined in the study are depicted graphically. In particular, the configurational relationships assessed through fsQCA are discussed in the text and evaluated in the empirical analysis but are not represented as separate paths in the figure.

4. Methodology

4.1 Research design

This study adopts a configurational research approach using fuzzy-set Qualitative Comparative Analysis (fsQCA) to investigate how combinations of MBO, FinTech adoption, AI tools usage, and tax compliance influence EP in Greek small and medium-sized enterprises (SMEs). fsQCA is particularly well-suited for exploring causal complexity, as it enables the identification of multiple sufficient pathways to high performance rather than

assuming a single linear cause-effect relationship. This makes it ideal for analyzing how various digital and managerial factors interact in real-world business settings. Given the non-linear and context-specific nature of SME performance, fsQCA offers a powerful means to uncover nuanced causal patterns.

Although the main analysis relies on fsQCA and regression rather than SEM, the reliability and validity indicators (α , CR, AVE, and HTMT) were computed to confirm the internal consistency and discriminant adequacy of the multi-item constructs, following recent fsQCA applications that incorporate psychometric validation from SEM literature (e.g. [Pappas and Woodside, 2021](#); [Kraus et al., 2018](#)).

To complement these tests, corrected item-total correlations and exploratory factor analysis (EFA) were also conducted, confirming that all items loaded on their respective factors above 0.60 with no significant cross-loadings. These procedures collectively ensure that the composite scores used in fsQCA and regression are psychometrically sound.

4.2 Sample and data collection

Data were collected between January and March 2025 through structured questionnaires administered to a sample of 256 SME managers operating across diverse sectors in Greece. The sampling frame comprised 400 Greek small and medium-sized enterprises (SMEs) identified through the Hellenic Business Registry (GEMI) and verified via the National Chamber Network of Greek Chambers of Commerce. Firms were selected according to the EU SME definition (fewer than 250 employees and annual turnover below €50 million) and required to have operated continuously for at least three years.

The final sample of 256 SMEs represents 64% of the original sampling frame. This response rate exceeds the levels commonly reported in SME survey research and reduces concerns regarding nonresponse bias. Furthermore, early-late respondent comparisons revealed no statistically significant differences across key study variables, suggesting that nonresponse bias was unlikely to materially affect the findings.

The frame targeted enterprises in tourism, manufacturing, professional-services, and retail/wholesale, the sectors most engaged in digital transformation. To ensure data quality, inclusion criteria required verified GEMI registration, active business status as of 2024, and availability of an owner-manager or senior-management contact, whereas exclusion criteria ruled out firms in liquidation, start-ups under one year, or those lacking verifiable contact information. Recruitment was carried out through email invitations and telephone follow-ups in collaboration with regional Chambers of Commerce and national associations such as SEV (Hellenic Federation of Enterprises). Stratification was applied to enhance coverage across regions (Attica, Peloponnese, Northern Greece) and sectors, reflecting the national SME distribution reported by the [Hellenic Statistical Authority \(2025\)](#). This broad coverage enhances the practical relevance and transferability of the findings. Of the 400 firms contacted, 256 complete and usable responses were obtained, yielding a 64% response rate, which meets recommended thresholds for fsQCA and regression analysis in medium-N configurational research.

All participants were informed about the study's purpose, procedures, and confidentiality policy before completing the questionnaire. Informed consent was obtained electronically through an opt-in confirmation at the start of the survey, which explicitly stated that participation was voluntary and that respondents could withdraw at any time without consequence. All data were collected, stored, and analyzed in compliance with the General Data Protection Regulation (GDPR, 2016/679). Personally identifiable information was excluded from the dataset, and responses were anonymized before statistical analysis to ensure privacy and confidentiality.

The questionnaire was designed to measure key constructs (see [Appendix](#) for the full research instrument) relevant to participatory management, digital tool usage, and compliance practices, using a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Participation was

voluntary, and the confidentiality of all respondents was strictly maintained through anonymized data handling procedures. The sample was selected to reflect the study’s focus on SMEs as key economic actors undergoing digital transformation within the Greek economy.

The instrument assessed several areas: the extent to which MBO practices were implemented, including goal clarity, employee involvement, and performance tracking and the degree of FinTech adoption, such as the use of mobile payments, digital financing platforms, and financial analytics tools.

It also evaluated AI usage, particularly in terms of process automation and predictive analytics capabilities. Tax compliance behaviors were examined through measures of reporting accuracy, timeliness, and regulatory alignment. Finally, EP was assessed through self-reported indicators of profitability, return on investment (ROI), market share, and sales growth.

To enhance sectoral and geographic coverage, the survey instrument was distributed through chambers of commerce, industry associations, regional business networks, and on-site visits. This procedure enhances external validity by aligning the sample with official SME distributions reported by the Hellenic Statistical Authority. For instance, the majority of participating firms in the sample belong to the services sector (43.8%), followed by manufacturing (25.0%), retail/wholesale (18.8%), and technology/ICT (12.5%). This structure mirrors national trends, where services dominate SME activity in Greece, both in terms of number and turnover contribution (Hellenic Statistical Authority, 2025). Matching our sample distribution to this broader economic landscape supports analytical relevance and transferability of our findings.

4.3 Sample and respondent characteristics

Table 1 presents descriptive statistics of the study’s sample, comprising 256 SMEs operating in Greece across various sectors and regions. The survey was distributed via email and in-person visits to ensure broad participation, with 400 questionnaires sent and 256 completed responses

Table 1. Sample characteristics of respondents

Characteristic	Category	Frequency	Percentage (%)
Firm size (employees)	1–9 (Micro)	167	65.2
	10–19	62	24.2
	20–49	27	10.5
	Total	256	100.0
Sector	Services	112	43.8
	Manufacturing	64	25.0
	Retail/Wholesale	48	18.8
	Technology/ICT	32	12.5
	Total	256	100.0
Years in operation	<5 years	48	18.8
	5–10 years	96	37.5
	>10 years	112	43.8
	Total	256	100.0
Region	Attica	116	45.3
	Peloponnese	40	15.6
	Other Regions	100	39.1
	Total	256	100.0

Note(s): Percentages are rounded to one decimal place. Categories reflect firm-size classifications, sectoral diversity, and geographical coverage within the sample. Participant confidentiality was safeguarded in accordance with GDPR and ethical research standards. The sample was designed to capture variation across firm sizes, sectors, and regions of Greece. Although not intended to be statistically representative of the entire SME population, the sample reflects key characteristics of the Greek business environment and supports analytical generalization

received (64% response rate). All responses were anonymized, and strict confidentiality was maintained throughout data collection and analysis.

The sample was designed to capture variation across firm sizes, sectors, years of operation, and geographical regions. Although the study does not claim statistical representativeness of the entire Greek SME population, the sample reflects key characteristics of the Greek business environment. According to ELSTAT (Hellenic Statistical Authority, 2025) business statistics, economic activity in Greece is concentrated in service-oriented sectors, including wholesale and retail trade, professional and technical services, accommodation and food services, and transportation activities. The sectoral composition of the present sample is broadly consistent with this structure, enhancing the practical relevance and transferability of the findings to the Greek SME context.

The study's sample of 256 Greek SMEs provides a diverse cross-section of the country's business landscape while offering important insights for the research objectives. The high proportion of micro-enterprises (65.2%) reflects the strong presence of smaller firms within the sample and allows the study to capture the realities faced by resource-constrained SMEs in Greece. The segmentation into different firm sizes, small firms (24.2%) and medium firms (10.5%), allows for meaningful comparative analysis regarding differences in digital take-up and management practices in different organisational dimensions.

Sectorally, the sample reflects the service-oriented nature of the Greek economy (43.8% in services) while maintaining substantial representation from manufacturing (25.0%), retail/wholesale (18.8%), and technology/ICT (12.5%) sectors. This diversity strengthens the study's ability to identify sector-specific patterns in FinTech and AI adoption, as well as variations in implementing MBO. The inclusion of mature firms (43.8% operating over 10 years) provides particularly valuable data on established management practices, while the representation of younger firms (18.8% under 5 years) offers insights into emerging entrepreneurial approaches. Geographically, while the concentration in Attica (45.3%) reflects Greece's economic centralization, the substantial participation from Peloponnese (15.6%) and other regions (39.1%) ensures the findings capture some regional variations in digital infrastructure and business practices. This composition suggests the results will be particularly relevant for urban SMEs while still offering preliminary insights into regional disparities.

The sample's structure presents both opportunities and limitations for interpreting the study's findings. Its broad coverage of firm sizes, sectors, and regions enhances the practical applicability of the findings for a wide range of Greek SMEs. However, researchers should note that the relatively small representation of technology firms and startups may require supplementary studies to fully understand digital transformation in these specific segments. The mixed-mode approach (email and in-person) strengthened response diversity while ensuring data reliability, and all respondents were assured of anonymity to encourage candid responses.

To assess potential nonresponse bias, an early-late respondent test was conducted by comparing the first 50 and last 50 responses across key variables (firm size, FinTech adoption, and EP). The results showed no significant differences ($p > 0.10$), indicating that nonresponse bias was unlikely to affect the findings. Item-level missingness was minimal (<2%) and random, as confirmed by Little's MCAR test ($\chi^2 = 11.62$, $df = 10$, $p = 0.31$). Given the low rate of missing data, the analysis employed listwise deletion without materially affecting the sample composition. Sensitivity checks were also conducted to confirm that the exclusion of incomplete cases did not materially alter descriptive statistics or model outcomes.

Overall, the sample provides a robust foundation for examining how Greek SMEs integrate digital tools and management practices to enhance their performance in the contemporary business environment.

4.4 Reliability, validity, and common method bias assessment

To ensure the robustness of our measures, we conducted reliability and validity tests for all constructs. Table 2 presents the results. Cronbach's α and Composite Reliability (CR) values

Table 2. Reliability and validity of constructs

Construct	No. of items	Source	Cronbach's α	Composite reliability (CR)	Average variance Extracted (AVE)	HTMT (Max)
FinTech adoption (FA)	5	Balaskas <i>et al.</i> (2024)	0.84	0.86	0.61	0.85
Tax compliance (TC)	4	Herman <i>et al.</i> (2019)	0.79	0.81	0.58	0.88
AI tools usage (AI)	5	Nguyen <i>et al.</i> (2021)	0.87	0.88	0.62	0.84
Entrepreneurial performance (EP)	4	Tippins and Sohi (2003)	0.82	0.83	0.57	0.87
Management by objectives (MBO)	5	George <i>et al.</i> (2021), Starbuck (2017)	0.88	0.90	0.64	0.86

Note(s): All α and CR values exceed 0.70, AVE values exceed 0.50, and HTMT values are below 0.90, confirming convergent and discriminant validity. Reliability and validity measures (α , CR, AVE, HTMT) were computed to confirm internal consistency and discriminant adequacy of the constructs, following fsQCA studies that incorporate SEM-based psychometric validation (Pappas and Woodside, 2021; Kraus *et al.*, 2018)

for all constructs exceed the recommended threshold of 0.70, confirming internal consistency. Average Variance Extracted (AVE) values are all above 0.50, supporting convergent validity. Discriminant validity was assessed using Heterotrait–Monotrait ratios (HTMT), with all maximum values below 0.90. Together, these indicators confirm that the measurement model demonstrates strong psychometric properties.

To assess potential common method bias (CMB), both procedural and statistical remedies were applied. Procedurally, anonymity was guaranteed, items were worded to minimize social desirability effects, and the measurement of dependent and independent variables was separated within the questionnaire to reduce response patterning. Statistically, full collinearity variance inflation factors (VIFs) were computed for all constructs, with all values well below the recommended threshold of 3.3 (Kock, 2015), indicating the absence of problematic collinearity. A marker-variable test further confirmed that no single factor accounted for a majority of the variance across constructs, providing additional assurance that common method bias did not significantly influence the results.

All constructs were modeled as reflective indicators and computed through mean aggregation of their corresponding items. No reverse-coded items were included. Preliminary checks confirmed that all standardized factor loadings exceeded 0.70 and that each indicator loaded higher on its intended construct than on any other. Inter-construct correlations and HTMT confidence intervals were examined to verify discriminant validity, with all HTMT ratios remaining below the conservative 0.90 threshold. These diagnostics collectively confirm the robustness and transparency of the measurement model.

The results support the use of composite construct scores in the fsQCA and regression analyses, as all reliability and validity indicators exceed accepted thresholds.

4.5 Data calibration

Calibration followed the direct method (Ragin, 2008). Likert-scale scores were converted into fuzzy set values with anchors set at 5 = full membership, 3 = crossover, and 1 = full non-membership (Pappas *et al.*, 2020). Consistency thresholds of ≥ 0.80 and frequency cut-offs of ≥ 3 were used in the truth table analysis. After data collection, responses were calibrated to fit the requirements of fsQCA. This calibration process allowed the data to more accurately reflect real-world organizational conditions, where firms may adopt practices or technologies

to varying extents rather than in absolute terms. The resulting fuzzy sets enabled the analysis of the degree to which each condition contributed to EP.

As recommended in the methodological literature (Ragin, 2017; Schneider and Wagemann, 2012), we followed established guidelines for calibration and reporting of thresholds to ensure transparency and replicability of the fsQCA results.

Following standard set-theoretic procedures (Ragin, 2008; Schneider and Wagemann, 2012), necessity and sufficiency were analyzed separately. Necessity tests included both consistency and Relevance of Necessity (RoN) indicators; XY-plots confirmed that MBO and FinTech adoption exhibited high consistency and moderate RoN values, supporting their interpretation as conditions commonly observed among high-performing SMEs rather than strictly necessary conditions for high EP. Coverage was interpreted as empirical relevance rather than as a percentage of cases. Robustness checks using alternative calibration anchors (empirical 95th/50th/5th percentiles) and adjusted frequency thresholds (3 and 4) yielded stable solutions with consistency values above 0.80 (Table 3). These results confirm that the identified configurations are not sensitive to calibration choices.

Prior to conducting the necessity and sufficiency analyses, the calibrated data were evaluated against established fsQCA quality criteria. Following Ragin (2008, 2017) and Schneider and Wagemann (2012), consistency thresholds of ≥ 0.80 and frequency cut-offs of ≥ 3 were applied in the truth-table analysis. These procedures ensured methodological transparency, robustness, and comparability of the fsQCA results.

4.6 Analytical approach

Fuzzy-set Qualitative Comparative Analysis (fsQCA) is a set-theoretic method that identifies multiple configurational pathways leading to an outcome (Ragin, 2006, 2008; Fiss, 2007; Schneider and Wagemann, 2012). Unlike linear regression, which estimates average net effects, fsQCA examines how specific combinations of causal conditions jointly produce success or failure. It captures causal complexity through the principles of equifinality (different paths can lead to the same outcome) and asymmetry (the absence of a condition can produce different results than its presence). This makes fsQCA particularly appropriate for SME research, where performance depends on interacting managerial, technological, and institutional factors rather than isolated variables. Prior studies confirm the suitability of fsQCA for medium-sample survey data in management and entrepreneurship contexts (Kraus *et al.*, 2018; Pappas and Woodside, 2021). In this study, fsQCA complements regression analysis by identifying sufficient configurations for high EP, while regression tests conditional interactions for robustness.

In fsQCA terminology, a “condition” refers to a theoretically defined factor analogous to a variable in regression but represented as a set-membership score (ranging from 0 = full non-membership to 1 = full membership). Each condition - participatory management through MBO, FinTech adoption, AI usage, and tax compliance -was theoretically justified and calibrated according to these principles.

4.6.1 Calibration and sufficiency analysis. The fsQCA sufficiency analysis followed the standard truth-table procedure using a minimum case frequency of 3 and a consistency threshold of 0.80. Contradictory rows were eliminated before Boolean minimization. Directional expectations were incorporated for intermediate and parsimonious solutions in line with theoretical assumptions about the positive roles of participatory management and

Table 3. Robustness checks for analytical thresholds

Threshold	Consistency	Stability
3	0.90	Stable
4	0.88	Stable (Slight reduction in consistency but remains above acceptable threshold of 0.8)

digital adoption. Both intermediate and parsimonious solutions were computed to distinguish core and peripheral conditions (● = presence; ○ = absence; ⊗ = irrelevant). Logical remainders were treated according to theoretical plausibility to reduce limited diversity, and counterfactuals were incorporated only when consistent with the expected direction of outcomes.

Table 4 summarizes the three configurations associated with high EP, including consistency, raw coverage, and unique coverage for each, and reports overall solution consistency and coverage for the combined model. In the sufficiency analysis, solution consistency was used to assess whether a configuration was sufficient for the outcome, whereas raw and unique coverage were used to evaluate the empirical relevance of each configuration.

To test asymmetry, an additional fsQCA model was estimated for the negated outcome (~EP). Distinct causal patterns emerged, confirming the principle of asymmetry and reinforcing the configurational validity of the results. These results are available upon request. Calibration robustness was further examined through percentile-based recalibration and sensitivity tests, confirming configuration stability across specifications.

4.6.2 *Necessity analysis.* The analytical process began with necessity analysis to determine whether any single factor, such as MBO, FinTech adoption, AI usage, or tax compliance was consistently required for high EP across the sample.

Necessity analysis was evaluated using necessity consistency and Relevance of Necessity (RoN). Following Schneider and Wagemann (2012), conditions with necessity consistency values approaching or exceeding 0.90 were considered potential candidates for necessity. Coverage values were interpreted as indicators of empirical relevance. Necessity consistency should not be confused with solution consistency, which is employed in sufficiency analysis.

Data analysis was conducted using Python-based statistical libraries and fsQCA software, ensuring reproducibility and robustness throughout the analytical process. Necessity analysis was followed by sufficiency analysis using fsQCA software to construct truth tables and perform Boolean minimization. This procedure identified multiple combinations of conditions sufficient to generate high EP, highlighting the configurational nature of entrepreneurial success.

4.6.3 *Regression-based moderation analysis.* To test the moderation hypotheses (H5–H6), regression analyses incorporating interaction terms were conducted. Specifically, the analyses examined whether participatory management through MBO and AI usage strengthen the relationship between FinTech adoption and EP. In contrast to the configurational logic of fsQCA, which focuses on combinations of conditions, regression analysis was employed to assess conditional relationships between individual predictors and EP.

To ensure comparability and transparency of the regression findings, control variables for firm size, firm age, and sector were included in all models. Baseline regressions with only the main effects of MBO, FinTech adoption, AI usage, and tax compliance were estimated first, followed by models introducing interaction terms. All predictors were mean-centered prior to creating interaction terms, and Variance Inflation Factors (VIF <3) indicated that multicollinearity was not a concern.

Table 5 presents the interaction effects examined in the regression analysis. The results indicate positive interaction effects for AI × FinTech, MBO × FinTech, and MBO × AI across both sales growth and return on investment measures, whereas the FinTech × Tax Compliance interaction produced mixed results. Baseline models including firm size, firm

Table 4. Summary of sufficient configurations

Configuration	Consistency	Raw coverage	Unique coverage	Solution coverage
MBO + FinTech + AI + TC	0.88	0.75	0.70	0.20
MBO + FinTech	0.85	0.70	0.65	0.15
FinTech + AI	0.82	0.65	0.60	0.10

Table 5. Interaction effects on entrepreneurial performance metrics

Interaction	EP4 (sales growth)	EP3 (ROI)	Interpretation
AI × FinTech	$\beta = 0.0467$	$\beta = 0.0432$	Supports H6
MBO × FinTech	$\beta = 0.0382$	$\beta = 0.0350$	Supports H5
MBO × AI	$\beta = 0.0321$	$\beta = 0.0295$	Exploratory Effect
FinTech × Tax Compliance	$\beta = -0.0270$	$\beta = -0.0133$	Exploratory Effect

Note(s): EP4 = Sales Growth; EP3 = Return on Investment (ROI). [H5](#) and [H6](#) represent hypothesis-driven moderation analyses. MBO × AI and FinTech × Tax Compliance are reported as exploratory robustness checks

age, and sector as control variables preceded the interaction models, and the observed increases in explanatory power supported the robustness of the findings.

5. Results

5.1 Descriptive analysis of constructs

Prior to hypothesis testing, we assessed the reliability and validity of all constructs. As reported in [Table 2](#), Cronbach's α and Composite Reliability (CR) values exceeded 0.70, Average Variance Extracted (AVE) values exceeded 0.50, and HTMT ratios were below 0.90, confirming acceptable convergent and discriminant validity. These results provide confidence in the robustness of the subsequent fsQCA and regression analyses.

All variables were measured on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). [Table 6](#) summarizes the mean scores and variability across constructs.

This section presents the descriptive statistics for the study constructs, including mean values and standard deviations. Participatory management through MBO recorded the highest mean score ($M = 4.2$, $SD = 0.7$), indicating that participatory management practices are widely adopted among the sampled SMEs. FinTech adoption also achieved a relatively high mean score ($M = 4.0$, $SD = 0.6$), suggesting substantial integration of digital financial technologies within business operations. AI tools usage reported a mean score of 3.8 ($SD = 0.8$), reflecting moderate-to-high adoption levels accompanied by greater variability across firms. Tax compliance exhibited a mean score of 3.6 ($SD = 0.9$), indicating comparatively greater variation in compliance-related practices among the participating SMEs. Finally, EP demonstrated a high overall mean score ($M = 4.1$, $SD = 0.7$), suggesting generally positive performance outcomes across the sample. Overall, the descriptive statistics indicate relatively strong levels of participatory management, digital technology adoption, and EP among the surveyed Greek SMEs.

5.2 Necessity analysis

The necessity analysis in fsQCA ([Table 7](#)) examines whether individual conditions consistently appear in cases exhibiting high EP. Following [Schneider and Wagemann \(2012\)](#),

Table 6. Mean scores and variability of key constructs

Construct	Mean	Std dev	Key insight
MBO	4.2	0.7	High adoption of participatory management practices
FinTech adoption	4.0	0.6	Strong integration of digital financial technologies
AI tools usage	3.8	0.8	Moderate to high adoption with some variability across firms
Tax compliance	3.6	0.9	Generally positive compliance practices with greater variability
Entrepreneurial performance	4.1	0.7	Overall positive performance outcomes

Table 7. Necessity analysis of conditions for high entrepreneurial performance

Hypothesis	Condition	Necessity consistency	Coverage	Interpretation
H1	MBO	0.95	0.85	Potential Necessity Candidate
H2	FinTech Adoption	0.92	0.82	Potential Necessity Candidate
H3	AI Tools Usage	0.90	0.80	Potential Necessity Candidate
H4	Tax Compliance	0.85	0.75	Below Necessity Threshold

conditions with necessity consistency values approaching or exceeding 0.90 may be considered potential necessity candidates, while coverage indicates their empirical relevance across high-performing cases.

Consistent with recent fsQCA guidance, necessity consistency values above 0.90 should be interpreted as indicating strong empirical regularity rather than definitive proof of necessity. The results indicate that participatory management through MBO (consistency = 0.95; coverage = 0.85), FinTech adoption (consistency = 0.92; coverage = 0.82), and AI tools usage (consistency = 0.90; coverage = 0.80) emerged as potential necessity candidates for high EP. These findings suggest that these conditions are frequently observed among high-performing SMEs and therefore warrant further examination within the configurational analysis. In contrast, tax compliance achieved a necessity consistency value of 0.85 and coverage of 0.75, falling below the commonly accepted threshold for necessity. Although tax compliance appears empirically relevant across many high-performing SMEs, it cannot be considered a necessary condition for achieving high EP. Its contribution is therefore examined further through the sufficiency analysis, where it may operate as part of broader configurations associated with high performance. Overall, the necessity analysis suggests that MBO, FinTech adoption, and AI tools usage are the conditions most consistently associated with high EP, whereas tax compliance appears to play a complementary rather than necessary role. These findings provide an initial indication of the conditions characterizing successful SMEs and establish the basis for the subsequent sufficiency analysis, which examines how different combinations of conditions jointly contribute to high EP.

5.3 Sufficiency analysis

The sufficiency analysis identifies multiple sufficient configurations for achieving high EP. A configuration is deemed sufficient if it can reliably lead to high performance in a significant proportion of cases. To enhance transparency and align with fsQCA reporting standards (Fiss, 2007; Schneider and Wagemann, 2012), Table 8 displays the same configurations using standard set-theoretic notation (● = presence; ○ = absence; ⊗ = irrelevant). The combination of MBO, FinTech adoption, AI usage, and tax compliance exhibits a consistency score of 0.88 and a raw coverage of 0.75, indicating that this configuration is sufficient to yield

Table 8. Symbolic representation of sufficient configurations

Configuration	MBO	FinTech	AI	Tax compliance	Consistency	Raw coverage	Unique coverage
1. Participatory–Digital synergy	●	●	●	●	0.88	0.75	0.70
2. Goal-driven digitization	●	●	⊗	○	0.85	0.70	0.65
3. Tech-enabled optimization	○	●	●	⊗	0.82	0.65	0.60
Note(s): ● = presence; ○ = absence; ⊗ = irrelevant							

high EP in 75% of cases. The high consistency score suggests that this pathway is highly reliable in driving performance, although it does not guarantee success in every instance. Another viable configuration, consisting of MBO and FinTech, demonstrates a consistency score of 0.85 and raw coverage of 0.70, meaning that these two factors alone can lead to high performance in 70% of the sample cases. This result underscores the importance of participatory management and digital finance tools in facilitating superior outcomes, even without the integration of AI tools or full tax compliance.

Finally, the combination of FinTech and AI tools demonstrates a consistency score of 0.82 and raw coverage of 0.65. This configuration also shows potential for high performance, albeit with slightly lower consistency compared to the previous combinations. This suggests that while FinTech and AI adoption can drive high EP, it may not be as universally reliable as configurations involving MBO. These findings suggest that there are multiple, equally valid pathways to high EP, providing evidence for the configurational nature of success in Greek SMEs.

5.4 Interaction effects

Figures 2–4 present the interaction plots derived from the regression models. Table 5 reports the regression coefficients for the interaction models, while Figures 2–4 visualize the significant interaction effects. These figures illustrate how the relationships between FinTech adoption, AI tools usage, participatory management through MBO, and EP vary under different moderating conditions. In these analyses, EP was examined both as a composite construct and through its key sub-dimensions- sales growth and return on investment (EP_3) - to capture both growth-oriented and financial outcomes. Figures 2–4 present the interaction patterns for the disaggregated performance dimensions, whereas Table 5 reports the corresponding regression coefficients for both outcome measures.

Before examining these interactions, baseline regression models including only the main effects were estimated. The results confirmed that MBO ($\beta = 0.29, p < 0.01$), FinTech adoption ($\beta = 0.24, p < 0.01$), and AI tool usage ($\beta = 0.21, p < 0.05$) each exert significant positive effects on EP, while tax compliance shows a smaller but positive association ($\beta = 0.11, p < 0.10$). These results establish that each independent variable contributes directly to SME performance prior to introducing interaction terms.

Interaction effects analysis (Table 5) examines whether the effects of FinTech adoption on EP vary under different managerial and technological conditions. The results indicate that

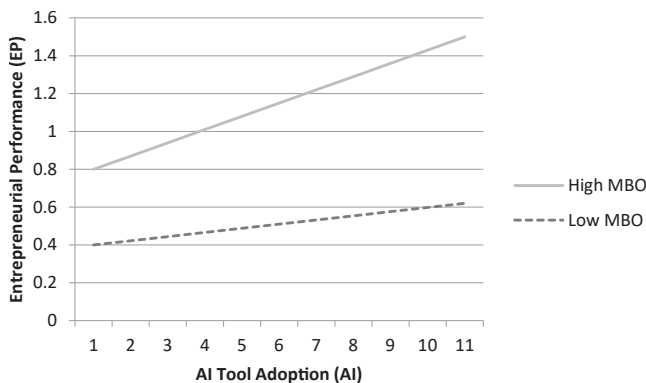


Figure 2. Interaction of MBO and AI tool adoption on EP. Interaction of MBO and AI tool adoption on entrepreneurial performance (EP), illustrating a positive moderation effect of AI on the MBO–performance relationship

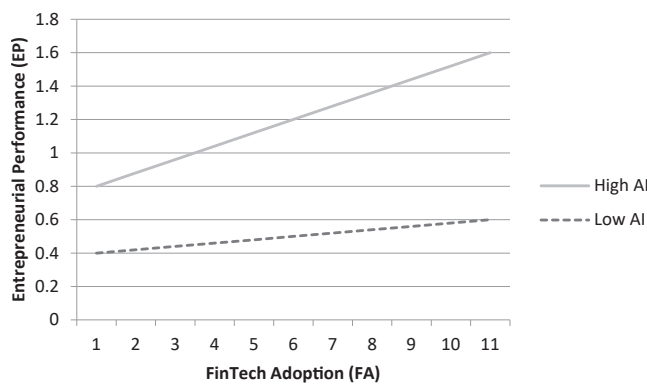


Figure 3. Interaction of AI and FinTech adoption on EP. Interaction of AI and FinTech adoption on entrepreneurial performance (EP), illustrating a positive moderation effect of AI on the FinTech–performance relationship

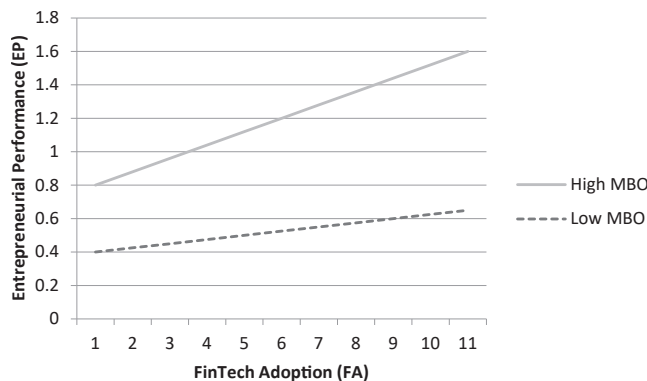


Figure 4. Interaction of MBO and FinTech adoption on EP. Interaction of MBO and FinTech adoption on entrepreneurial performance (EP), illustrating a positive moderation effect of MBO on the FinTech–performance relationship

several interaction terms are positively associated with sales growth and return on investment, suggesting that the effectiveness of digital technologies depends partly on complementary organizational capabilities.

In Figure 3 ($AI \times FinTech$), AI serves as the moderating variable that conditions the effect of FinTech adoption on performance outcomes. Higher levels of AI usage strengthen the positive effect of FinTech adoption on both revenue growth and ROI.

In Figure 4 ($MBO \times FinTech$), participatory management through MBO acts as the moderator, amplifying the influence of FinTech tools on performance. This suggests that participatory goal-setting provides an organizational structure that helps firms better leverage financial technologies for strategic advantage.

In Figure 2 ($MBO \times AI$), the interaction illustrates the complementary relationship between participatory management and AI usage. Although this interaction was estimated as an exploratory robustness check rather than a formal hypothesis test, the positive coefficients suggest that combining MBO practices with AI-enabled analytics is associated with stronger performance outcomes.

In addition to the hypothesized moderation effects (H5–H6), two exploratory interaction terms ($\text{MBO} \times \text{AI}$ and $\text{FinTech} \times \text{Tax Compliance}$) were estimated to assess the robustness of the observed relationships.

These exploratory interactions were not part of the formal hypotheses and were estimated solely as robustness checks to explore potential complementary relationships among the study variables. Accordingly, they are interpreted cautiously and do not affect hypothesis evaluation.

An example of such an effect is the relationship between the usage of AI tools and the uptake of FinTech products (AI_FA_interaction) that positively influences revenue growth ($\beta = 0.0467$) and ROI ($\beta = 0.0432$). This suggests that the application of artificial intelligence technology, including predictive analytics, in conjunction with financial technology products, such as real-time accounting activities, helps in more informed decision-making and organizational efficiency, and eventually leads to superior performance results. Similarly, the MBO practices and FinTech adoption interaction ($\text{MBO_FA_interaction}$) also positively affects both sales growth ($\beta = 0.0382$) and ROI ($\beta = 0.0350$). This shows that the integration of organizational goals and real-time financial data with participatory management enhances performance through more informed strategic choices. The MBO and AI tool use interaction ($\text{MBO_AI_interaction}$) reflects positive impacts on sales growth ($\beta = 0.0321$) and return on investment (ROI) ($\beta = 0.0295$). This interaction reflects that the integration of participatory management practice and AI tools, including automated goal monitoring and data-driven insights, is reflected in enhanced operational efficiency and better performance results for small and medium-sized enterprises (SMEs).

Finally, the fourth interaction examined the moderating role of tax compliance on the FinTech–performance relationship. The $\text{FinTech} \times \text{Tax Compliance}$ term shows a small negative coefficient for both sales growth ($\beta = -0.0270$) and ROI ($\beta = -0.0133$). This means that at higher levels of tax compliance (the moderator), the positive impact of FinTech on performance is reduced, as compliance requirements consume managerial resources and limit agility. However, at moderate levels of compliance, the relationship remains positive, since transparency and regulatory credibility facilitate better access to financial services and trust. Therefore, this interaction is interpreted as partial or contingent: tax compliance strengthens FinTech’s effect at balanced levels but dampens it when compliance costs become excessive. The moderating variable in this relationship is tax compliance, not FinTech.

These interaction effects highlight the importance of synergies between digital tools and management practices in enhancing EP. The positive interactions between AI, FinTech, and MBO emphasize the benefits of integrating participatory management through MBO with modern technological solutions, while the $\text{FinTech} \times \text{Tax Compliance}$ interaction illustrates how institutional requirements can both enable and constrain digital performance gains. Across all interaction models, the conditional effects were estimated using hierarchical regression analysis. These analyses complement the configurational fsQCA results by examining how specific combinations of managerial and technological factors influence EP.

Specifically, H6 was tested using hierarchical regression models with two-way interaction terms, whereas H7 was examined through the fsQCA configurational analysis, which identifies synergistic combinations of MBO, FinTech, AI, and tax compliance leading to high EP. The “synergy” in H7 therefore refers to a multi-condition configuration rather than a statistical interaction.

5.5 Robustness checks

Table 3 summarizes the robustness checks conducted to evaluate the stability and reliability of the findings under varying thresholds for condition calibration in the fsQCA model. At a threshold of 3, the consistency score is 0.90, indicating strong stability in the results. When the threshold is increased to 4, the consistency score slightly decreases to 0.88 but remains above the acceptable threshold of 0.8, confirming that the findings are still reliable. That the results experience this marginal decline in consistency implies that the findings are stable and not too

sensitive to variations in the analytical parameters. The stability of the results across different thresholds ensures that the conclusions drawn from the analysis are sound and can be trusted for theoretical and practical applications. These robustness tests confirm the study's results, giving credibility to the necessary and sufficient conditions for Greek SMEs' high EP.

To further assess potential common method bias (CMB), Harman's single-factor test was performed. The unrotated exploratory factor analysis indicated that the first factor accounted for 27.8% of the total variance, which is well below the 40% threshold, suggesting that common method variance was not a significant concern (Podsakoff *et al.*, 2003). In addition, several procedural remedies were implemented during the data-collection process -ensuring respondent anonymity, varying the wording of indicators, and separating the measurement of predictor and outcome constructs within the questionnaire-to further minimize the risk of bias. Together, these steps strengthen the reliability of the findings.

6. Verification of hypotheses

To test the proposed hypotheses, we employed fuzzy-set Qualitative Comparative Analysis (fsQCA), [supplemented](#) by descriptive statistics, necessity and sufficiency analyses, and interaction-effect modeling. The results are summarized below:

- H1. Received empirical support, as participatory management through MBO achieved a necessity consistency of 0.95 and coverage of 0.85, emerging as a potential necessity candidate for high EP. The findings indicate that participatory management through MBO is consistently present among high-performing SMEs.
- H2. Received empirical support, as FinTech adoption achieved a necessity consistency of 0.92 and coverage of 0.82, emerging as a potential necessity candidate for high EP. FinTech tools are consistently associated with superior performance outcomes among the sampled SMEs.
- H3. Received empirical support, as AI tools usage achieved a necessity consistency of 0.90 and coverage of 0.80, emerging as a potential necessity candidate for high EP. The findings suggest that AI-enabled capabilities are consistently present among high-performing firms.
- H4. Did not receive support, as tax compliance achieved a necessity consistency of 0.85 and coverage of 0.75, falling below the commonly accepted threshold for necessity. Although tax compliance contributes to regulatory stability and organizational legitimacy, it cannot be considered a potential necessity candidate for high EP.
- H5. Received support, as regression analysis revealed a positive MBO $\times$ FinTech interaction effect on both sales growth and return on investment (ROI), indicating that participatory management through MBO strengthens the positive relationship between FinTech adoption and EP.
- H6. Received support, as interaction analyses confirmed that AI usage strengthens the positive relationship between FinTech adoption and EP. Positive effects were observed for both sales growth ($\beta = 0.0467$) and return on investment ($\beta = 0.0432$), supporting the proposed moderating role of AI.
- H7. Received support, as the configurational analysis revealed that the joint presence of participatory management through MBO, FinTech adoption, AI usage, and tax compliance constitutes a sufficient pathway to high EP. These findings support the existence of synergistic relationships among managerial, technological, and institutional capabilities within the Entrepreneurship 4.0 context.

These findings collectively indicate that MBO, FinTech, and AI emerge as potential necessity candidates and, in various combinations, sufficient conditions associated with high EP among

Greek SMEs. While tax compliance supports these outcomes, it is not a prerequisite. Importantly, the data underscore that participatory goal-setting under MBO contributes substantially to entrepreneurial outcomes. The results also emphasize AI's dual role as both a direct driver and strategic amplifier of other performance-enhancing practices.

In summary, the findings reveal that the most powerful configuration combines participatory management through MBO with FinTech adoption and AI tools, which jointly amplify sales growth and ROI. Tax compliance contributes primarily when coupled with these digital and participatory practices. The interplay of these elements creates multiple avenues to success; and AI not only moderates but also synergizes the impact of FinTech and MBO on performance outcomes. These results highlight the growing importance of digital transformation, participatory management practices, and strategic goal alignment in helping SMEs thrive in an increasingly digital and competitive business environment.

7. Discussion

The findings of this study highlight the crucial role of MBO, FinTech adoption, and AI tools in driving high EP in Greek SMEs. The results indicate that MBO, FinTech adoption, and AI usage emerged as potential necessity candidates, appearing consistently among high-performing SMEs, with tax compliance playing a more indirect role. Employee involvement in setting work objectives appears particularly relevant, indicating that participatory practices are not only present but effective in enhancing SME outcomes. Figure 5 provides a visual summary of the key factors influencing EP and their interrelated roles, as identified through fsQCA. The configurational results further clarify that while FinTech adoption and participatory management through MBO consistently appear as core drivers of high EP, the presence of AI is frequent but not universal. This indicates that AI acts as an enhancer rather than a prerequisite, strengthening the benefits of MBO and FinTech when integrated. From a practical standpoint, SMEs can follow a sequential approach—first institutionalizing participatory goal-setting and financial digitization (MBO + FinTech), and then layering AI tools to maximize forecasting, decision-making, and long-term adaptability. This finding aligns with the Dynamic Capabilities Theory (DCT), which emphasizes staged capability development and the progressive recombination of resources to sustain competitiveness.

The mixed effect of the FinTech $\times$ Tax Compliance interaction reveals an institutional tension between short-term compliance costs and long-term legitimacy gains. While tax compliance can initially impose administrative and financial burdens that offset the efficiency benefits of FinTech adoption, it simultaneously strengthens firm legitimacy and credibility

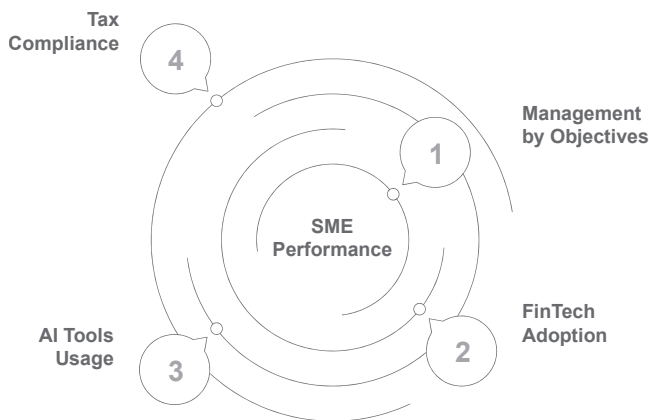


Figure 5. Configurational pathways to SME entrepreneurial performance. fsQCA results highlight how combinations of MBO, FinTech, AI, and tax compliance jointly explain high performance outcomes

among regulators and investors. According to institutional theory (Suchman, 1995; DiMaggio and Powell, 1983), compliance mechanisms act as legitimacy-enhancing routines that ensure stability and trust, both of which are crucial for SMEs seeking financing or public contracts. FinTech and AI applications can gradually mitigate these costs by automating e-invoicing, real-time reporting, and VAT submissions, thereby converting compliance from a constraint into a strategic resource. In RBV and DCT terms, regulatory transparency becomes a rare and inimitable capability that reinforces long-term competitiveness, illustrating that legitimacy and efficiency are not mutually exclusive but co-evolving outcomes.

Furthermore, the findings suggest that digital transformation, particularly through AI tools, significantly amplifies the benefits of FinTech adoption and participatory management through MBO practices. Crucially, the role of participatory management through MBO as reflected in employee-driven objective-setting highlights the synergy between employee empowerment and digital capability in driving performance. These insights not only reinforce the growing significance of digital technologies in modern business management but also provide a roadmap for SMEs looking to enhance their performance through strategic digital integration. The interplay among these conditions demonstrates that sustained performance derives not from isolated resources but from their configurational complementarity, where participatory management, financial digitalization, and regulatory legitimacy co-evolve as a unified capability system.

These results reinforce both the Resource-Based View (RBV) and the Dynamic Capabilities Theory (DCT). Consistent with RBV, participatory management through MBO, FinTech, AI, and tax compliance operate as VRIN resources - valuable for improving efficiency and legitimacy, rare in their integrated application among SMEs, inimitable due to their social and technological embeddedness, and non-substitutable when configured together. From a DCT perspective, the sequential patterns revealed through fsQCA illustrate how SMEs continually reconfigure these managerial, digital, and institutional capabilities to sense opportunities, seize advantages, and transform internal routines. This dynamic orchestration of participatory and digital resources provides the foundation for sustained EP under Entrepreneurship 4.0.

Building on these insights, the study proposes actionable design heuristics for SME managers. To replicate the high-performance configurations, firms should: (1) deploy goal-tracking dashboards linking MBO to financial KPIs through FinTech tools; (2) introduce AI-based decision aids and training programs that enhance analytical literacy; and (3) phase in automated compliance systems to simplify tax processes while ensuring transparency. These steps provide a structured pathway for SMEs to operationalize participatory management principles in tandem with digital transformation - an approach that enhances both efficiency and institutional legitimacy. Table 9 presents these recommendations in summary form.

8. Practical implications

Table 9 presents actionable recommendations based on the findings.

To operationalize the configurations identified through fsQCA, SMEs should adopt a phased implementation strategy. The evidence suggests a sequential pathway: (1) establish participatory goal-setting mechanisms through MBO, (2) integrate FinTech tools for financial transparency and decision support, and (3) progressively introduce AI-based analytics to enhance adaptability and long-term performance. This staged approach reflects the working order observed in the data, where MBO and FinTech form the foundation and AI acts as a

Table 9. Evidence-based recommendations for SME performance improvement

Stakeholders	Recommendations
SMEs	Address implementation gaps in goal alignment and increase awareness of FinTech tools
Policymakers	Design training programs and awareness campaigns to improve the adoption and alignment of digital tools

performance amplifier. This study emphasizes the practical need for SMEs to integrate MBO, FinTech adoption, and AI tools to enhance EP. Entrepreneurs and SME managers should focus on setting clear, measurable goals and aligning these with business objectives, while adopting digital financial tools to optimize cash flow and financial decision-making. Leveraging AI technologies can further support operational efficiency, customer experience, and strategic decision-making. Embedding employees in the goal-setting process fosters a high-involvement work culture that supports strategic alignment and commitment.

For policymakers, the study suggests that creating an environment conducive to digital adoption through education, incentives, and the promotion of best practices like MBO can significantly aid SME growth. Support programs should encourage participatory decision-making and shared accountability to maximize the benefits of digital and management interventions. By offering resources like financial incentives for digital adoption and fostering collaborative knowledge-sharing platforms, governments can assist SMEs in overcoming innovation barriers, ultimately contributing to broader economic growth. These implications illustrate how SMEs can dynamically reconfigure managerial and digital resources—consistent with the Resource-Based View and Dynamic Capabilities Theory—to sustain competitiveness in the digital economy.

9. Limitations and future research

While the study offers valuable insights, there are several limitations. The cross-sectional nature of the data restricts the ability to make causal claims, and fsQCA does not capture longitudinal changes in firm performance or the evolution of digital tools. Additionally, the use of self-reported survey data raises the possibility of common method bias. We mitigated this risk through procedural remedies (e.g. anonymity, varied item wording) and statistical checks (Harman's single-factor test indicated no single factor accounted for more than 40% of variance), but acknowledge that multi-source or longitudinal designs would further strengthen future research. Additionally, although participatory practices were included through MBO, more nuanced forms of employee participation such as co-decision-making, worker representation in governance, or team-based incentives were not directly assessed. A further limitation concerns the use of subjective, self-reported measures of EP. Although such indicators are widely used in SME research (Kraus *et al.*, 2022; Pappas and Woodside, 2021), future studies should complement perceptual measures with objective financial indicators to improve external validity.

Future research could address these limitations by employing longitudinal studies, multi-country comparisons, or mixed-method approaches to explore how digital tools and management practices evolve over time. Additionally, qualitative case studies could provide deeper insights into the specific mechanisms behind the configurational effects observed in this study. Future investigations might also expand the scope to include employee ownership models, participatory work systems, or shared capitalism frameworks, thereby exploring the broader spectrum of high-involvement organizational practices and their relationship to digital innovation.

Finally, future investigations should also extend the scope beyond a single-country context. Comparative studies across different institutional environments would allow examination of how cultural, regulatory, and technological infrastructures shape the interplay between MBO, FinTech, AI, and tax compliance. In addition, longitudinal research designs could capture how these relationships evolve over time as SMEs progress through different stages of digital maturity. Such extensions would enhance the generalizability of our findings and provide richer insights into the dynamic nature of Entrepreneurship 4.0.

10. Conclusion

This study reaffirms Peter Drucker's concept of MBO in the context of Entrepreneurship 4.0, emphasizing the importance of integrating digital tools and participatory management practices. MBO, FinTech adoption, and AI tools emerged as potential necessity candidates and were consistently associated with high EP.



The fsQCA approach revealed multiple pathways to superior performance, highlighting the strategic value of combining participatory management through MBO with digital transformation. Importantly, the study contributes to the understanding of how participatory goal-setting and employee involvement (core tenets of MBO) interact with technological advancement to improve business outcomes. These findings offer a robust framework for SMEs seeking to boost profitability, sales growth, and operational efficiency, and provide practical insights for policymakers promoting digital innovation. From a broader perspective, this study connects with the principles of participatory and employee-centered management models. It demonstrates that when employees are empowered through goal alignment and digital integration, firms can foster shared accountability, innovation, and resilience. Future research may expand this model across different countries, use longitudinal methods, or further unpack the mechanisms linking digital tools to performance.

Overall, this study provides a contemporary interpretation of Drucker’s principles by extending MBO into the digital era of Entrepreneurship 4.0, integrating FinTech, AI, and tax compliance within a configurational framework grounded in RBV and DCT. In doing so, it helps SMEs remain competitive and resilient in an increasingly digital economy.

Acknowledgments

This paper is dedicated to the memory of Professor Joseph A. Maciariello, whose support during my time as a Visiting Scholar at Claremont Graduate University, California, USA, and whose enduring contributions to Drucker scholarship inspired this research.

Appendix

Table A1. Research instrument

No	Variable	Code	Statement	Reference
1	FinTech Adoption (FA)	FA_1	Our firm will always try to use FinTech in its daily operations	Balaskas <i>et al.</i> (2024)
		FA_2	Our firm plans to continue to use FinTech frequently	
		FA_3	If we had access to FinTech, we would have the intention of using them	
		FA_4	We think it will be worth it for us to adopt FinTech when it is available	
		FA_5	Our firm intends to continue using FinTech solutions in the future	
2	Tax Compliance (TC)	TC_1	Our firm understands the provisions of tax regulations	Herman <i>et al.</i> (2019)
		TC_2	Our firm completes and clears form filling	
		TC_3	Our firm calculates the correct tax payable	
		TC_4	Our firm pays taxes on time	
3	AI tools usage (AI)	AI_1	We rely on AI tools to help me complete a variety of tasks	Nguyen <i>et al.</i> (2021)
		AI_2	We invest a significant amount of time and effort in learning and using AI tools	
		AI_3	We explore and experiment with new AI tools as they become available	
		AI_4	We are constantly exploring new AI tools and incorporating them in completing various tasks	
		AI_5	We use AI tools on a daily basis to complete my work or tasks	

(continued)

Table A1. Continued

No	Variable	Code	Statement	Reference
4	Entrepreneurial Performance (EP)	EP_1	Our firm demonstrates strong profitability	Tippins and Sohi (2003)
		EP_2	Our customer retention rates are high	
		EP_3	We achieve a favorable return on investment (ROI)	
		EP_4	Our firm experiences significant sales growth	
5	Management by Objectives (MBO)	MBO_1	Our firm sets clear and measurable goals that align with its strategic objectives	George <i>et al.</i> (2021), Starbuck (2017)
		MBO_2	Employees are actively involved in the decision-making process regarding their work objectives	
		MBO_3	We have a structured plan of action to achieve the set goals within specified timelines	
		MBO_4	Our firm conducts regular reviews to track the progress of goal achievement and performance	
		MBO_5	Our performance is evaluated based on the accomplishment of the defined objectives and individual contributions	

References

- Balaskas, S., Koutroumani, M., Komis, K. and Rigou, M. (2024), "FinTech services adoption in Greece: the roles of trust, government support, and technology acceptance factors", *FinTech*, Vol. 3 No. 1, pp. 83-101, doi: [10.3390/fintech3010006](https://doi.org/10.3390/fintech3010006).
- Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120, doi: [10.1177/014920639101700108](https://doi.org/10.1177/014920639101700108).
- Blasi, J., Kruse, D. and Freeman, R. (2018), "Broad-based employee stock ownership and profit sharing", *Journal of Participation and Employee Ownership*, Vol. 1 No. 1, pp. 38-60, doi: [10.1108/jpeo-02-2018-0001](https://doi.org/10.1108/jpeo-02-2018-0001).
- Bogdanova, B. and Hristova, G. (2025), "ML-based AI conceptual framework for assessing SMEs digitalization through the lens of sentiment analysis", in *Digitalization and Management Innovation III*, IOS Press. doi: [10.3233/FAIA250005](https://doi.org/10.3233/FAIA250005).
- Boxall, P. and Macky, K. (2009), "Research and theory on high-performance work systems: progressing the high-involvement stream", *Human Resource Management Journal*, Vol. 19 No. 1, pp. 3-23, doi: [10.1111/j.1748-8583.2008.00082.x](https://doi.org/10.1111/j.1748-8583.2008.00082.x).
- Case, J. and Quarrey, M. (2019), "Turning employees into owners", *Journal of Participation and Employee Ownership*, Vol. 2 No. 3, pp. 202-211, doi: [10.1108/jpeo-09-2019-0022](https://doi.org/10.1108/jpeo-09-2019-0022).
- Crifo, P. and Rebérioux, A. (2024), "Employee participation as a new Frontier in corporate social responsibility: a review of the literature", *Journal of Participation and Employee Ownership*, Vol. 7 No. 3, pp. 241-254, doi: [10.1108/jpeo-04-2022-0006](https://doi.org/10.1108/jpeo-04-2022-0006).
- DiMaggio, P.J. and Powell, W.W. (1983), "The iron cage revisited: institutional isomorphism and collective rationality in organizational fields", *American Sociological Review*, Vol. 48 No. 2, pp. 147-160, doi: [10.2307/2095101](https://doi.org/10.2307/2095101).
- Drucker, P.F. and Maciariello, J.A. (2008), *Management*, Rev. ed., Collins.
- European Commission, CASE Poniatowski, G., Bonch-Osmolovskiy, M., Śmietanka, A. and Sojka, A. (2023), *VAT Gap in the EU – Report 2023: Executive Summary*, Publications Office of the European Union, Luxembourg.
- Fischer-Daly, M. and Anner, M. (2023), *Worker Voice: A Literature Review*, Center for Global Workers' Rights, The Pennsylvania State University, available at: https://ler.la.psu.edu/wp-content/uploads/sites/26/2024/04/literature_review_Worker_Voice_Research_Project_9November2023_amended16March2024-1.pdf

- Fiss, P.C. (2007), "A set-theoretic approach to organizational configurations", *Academy of Management Review*, Vol. 32 No. 4, pp. 1180-1198, doi: [10.5465/amr.2007.26586092](https://doi.org/10.5465/amr.2007.26586092).
- George, S., Jaber, M.K.A., Salem, M.J. and Alsaad, A.J. (2021), "The impact of management by objectives on employee behaviour and performance", *Proceedings of the 2021 International Conference on Decision Aid Sciences and Application (DASA)*, pp. 176-181, doi: [10.1109/dasa53625.2021.9682364](https://doi.org/10.1109/dasa53625.2021.9682364).
- Hellenic Statistical Authority (ELSTAT) (2025), "Evolution of turnover of enterprises, December 2024", *Bulletin*, available at: <https://www.statistics.gr/documents/20181/6b45982f-87be-5cb6-4b58-189bf52fd6b4>
- Herman, P., Tarmizi, H.B., Daulay, M. and Rahmanta, G. (2019), "Effect of good governance, tax understanding, and tax sanctions on taxpayers' compliance: micro, small, and medium enterprises in Medan", *Proceedings of the International Conference of Organizational Innovation (ICOI 2019), Ulsan, Republic of Korea, 20-22 July, Advances in Economics, Business and Management Research*, Vol. 100, doi: [10.2991/icoi-19.2019.116](https://doi.org/10.2991/icoi-19.2019.116).
- Hjelle, S., Mikalef, P., Altwaijry, N. and Parida, V. (2024), "Organizational decision making and analytics: an experimental study on dashboard visualizations", *Information and Management*, Vol. 61 No. 6, 104011, doi: [10.1016/j.im.2024.104011](https://doi.org/10.1016/j.im.2024.104011).
- Kang, E. and Foster, E. (2022), "Use of implementation mapping with community-based participatory research: development of implementation strategies of a new goal setting and goal management intervention system", *Frontiers in Public Health*, Vol. 10, 834473, doi: [10.3389/fpubh.2022.834473](https://doi.org/10.3389/fpubh.2022.834473).
- Kassar, G. (2024), "Is management by objectives (MBO) still relevant?", *Arpha Conference Abstracts*, Vol. 7, e129557, doi: [10.3897/aca.7.e129557](https://doi.org/10.3897/aca.7.e129557).
- Kock, N. (2015), "Common method bias in PLS-SEM: a full collinearity assessment approach", *International Journal of E-Collaboration*, Vol. 11 No. 4, pp. 1-10, doi: [10.4018/ijec.2015100101](https://doi.org/10.4018/ijec.2015100101).
- Kraus, S., Ribeiro-Soriano, D. and Schüssler, M. (2018), "Fuzzy-set qualitative comparative analysis (fsQCA) in entrepreneurship and innovation research: the rise of a method", *The International Entrepreneurship and Management Journal*, Vol. 14 No. 1, pp. 15-33, doi: [10.1007/s11365-017-0461-8](https://doi.org/10.1007/s11365-017-0461-8).
- Kraus, S., Durst, S., Ferreira, J.J., Veiga, P., Kailer, N. and Weinmann, A. (2022), "Digital transformation in business and management research: an overview of the current status quo", *International Journal of Information Management*, Vol. 63, 102466, doi: [10.1016/j.ijinfomgt.2021.102466](https://doi.org/10.1016/j.ijinfomgt.2021.102466).
- Laskovaia, A., Lee, Y., Bogatyreva, K. and Herrmann, P. (2022), "Harmonious passion, effectuation and firm performance: the moderated mediation effect of entrepreneurial experience", *Management Decision*, Vol. 60 No. 8, pp. 2331-2348, doi: [10.1108/md-11-2020-1569](https://doi.org/10.1108/md-11-2020-1569).
- Liu, W., Liu, Y., Zhu, X., Nespoli, P., Profita, F., Huang, L. and Xu, Y. (2023), "Digital entrepreneurship: towards a knowledge management perspective", *Journal of Knowledge Management*, Vol. 28 No. 2, pp. 341-354, doi: [10.1108/jkm-12-2022-0977](https://doi.org/10.1108/jkm-12-2022-0977).
- Locke, E.A. and Latham, G.P. (2002), "Building a practically useful theory of goal setting and task motivation: a 35-year odyssey", *American Psychologist*, Vol. 57 No. 9, pp. 705-717, doi: [10.1037/0003-066X.57.9.705](https://doi.org/10.1037/0003-066X.57.9.705).
- McElheran, K., Li, J.F., Brynjolfsson, E., Kroff, Z., Dinlersoz, E., Foster, L. and Zolas, N. (2024), "AI adoption in America: who, what, and where", *Journal of Economics and Management Strategy*, Vol. 33 No. 3, pp. 375-415, doi: [10.1111/jems.12576](https://doi.org/10.1111/jems.12576).
- Minde, J. and Mrindoko, A. (2024), "The role of fintech on the performance of manufacturing SMEs in Dar es Salaam city, Tanzania", *International Journal of Applied Research in Business and Management*, Vol. 5 No. 1, doi: [10.51137/ijarbm.2024.5.1.16](https://doi.org/10.51137/ijarbm.2024.5.1.16).
- Mygind, N. and Poulsen, T. (2021), "Employee ownership – pros and cons – a review", *Journal of Participation and Employee Ownership*, Vol. 4 No. 2, pp. 136-173, doi: [10.1108/jpeo-08-2021-0003](https://doi.org/10.1108/jpeo-08-2021-0003).

- Nguyen, P.V., Huynh, H.T.N., Lam, L.N.H., Le, T.B. and Nguyen, N.H.X. (2021), "The impact of entrepreneurial leadership on SMEs' performance: the mediating effects of organizational factors", *Heliyon*, Vol. 7 No. 6, e07326, doi: [10.1016/j.heliyon.2021.e07326](https://doi.org/10.1016/j.heliyon.2021.e07326).
- Pappas, I.O. and Woodside, A.G. (2021), "Fuzzy-set qualitative comparative analysis (fsQCA): guidelines for research practice in information systems and marketing", *International Journal of Information Management*, Vol. 58, 102310, doi: [10.1016/j.ijinfomgt.2021.102310](https://doi.org/10.1016/j.ijinfomgt.2021.102310).
- Pappas, I.O., Papavaslopoulou, S., Mikalef, P. and Giannakos, M.N. (2020), "Identifying the combinations of motivations and emotions for creating satisfied users in SNSs: an fsQCA approach", *International Journal of Information Management*, Vol. 53, 102128, doi: [10.1016/j.ijinfomgt.2020.102128](https://doi.org/10.1016/j.ijinfomgt.2020.102128).
- Pappas, A., Fumagalli, E., Rouziou, M. and Bolander, W. (2023), "More than machines: the role of the future retail salesperson in enhancing the customer experience", *Journal of Retailing*, Vol. 99 No. 4, pp. 518-531, doi: [10.1016/j.jretai.2023.10.004](https://doi.org/10.1016/j.jretai.2023.10.004).
- Qian, H. (2024), "Research on innovation and entrepreneurship and talent cultivation mode of college students under the background of artificial intelligence technology", *Applied Mathematics and Nonlinear Sciences*, Vol. 9 No. 1, 20242120, doi: [10.2478/amns-2024-2120](https://doi.org/10.2478/amns-2024-2120).
- Ragin, C.C. (2006), "Set relations in social research: evaluating their consistency and coverage", *Political Analysis*, Vol. 14 No. 3, pp. 291-310, doi: [10.1093/pan/mpj019](https://doi.org/10.1093/pan/mpj019).
- Ragin, C.C. (2008), *Redesigning Social Inquiry: Fuzzy Sets and beyond*, University of Chicago Press, Chicago, IL.
- Ragin, C.C. (2017), "User's guide to: fuzzy-set/qualitative comparative analysis, fsQCA", available at: <https://sites.socsci.uci.edu/~cragin/fsQCA/download/fsQCAManual.pdf>
- Schneider, C.Q. and Wagemann, C. (2012), *Set-Theoretic Methods for the Social Sciences: A Guide to Qualitative Comparative Analysis*, Cambridge University Press, Cambridge.
- Shi, J. (2024), "Management by objectives theory—still effective for current business management?", *Advances in Economics Management and Political Sciences*, Vol. 69 No. 1, pp. 207-212, doi: [10.54254/2754-1169/69/20231413](https://doi.org/10.54254/2754-1169/69/20231413).
- Starbuck, P. (2017), "Peter F. Drucker's management by objectives and self-control", in Wilkinson, A., Armstrong, S.J. and Lounsbury, M. (Eds), *The Oxford Handbook of Management*, Oxford Handbooks, Oxford Academic. doi: [10.1093/oxfordhdb/9780198708612.013.5](https://doi.org/10.1093/oxfordhdb/9780198708612.013.5).
- Suchman, M.C. (1995), "Managing legitimacy: strategic and institutional approaches", *Academy of Management Review*, Vol. 20 No. 3, pp. 571-610, doi: [10.5465/AMR.1995.9508080331](https://doi.org/10.5465/AMR.1995.9508080331).
- Teece, D.J., Pisano, G. and Shuen, A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal*, Vol. 18 No. 7, pp. 509-533, doi: [10.1002/\(SICI\)1097-0266\(199708\)18:7](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7).
- Tippins, M.J. and Sohi, R.S. (2003), "IT competency and firm performance: is organizational learning a missing link?", *Strategic Management Journal*, Vol. 24 No. 8, pp. 745-761, doi: [10.1002/smj.337](https://doi.org/10.1002/smj.337).
- Vnukova, N. (2020), "Activation of expansion of access to means of financing implementation of innovative projects of small and medium enterprises", *Law and Innovations*, Vol. 2 No. 30, pp. 17-23, doi: [10.37772/2518-1718-2020-2\(30\)-2](https://doi.org/10.37772/2518-1718-2020-2(30)-2).
- Wernerfelt, B. (1984), "A resource-based view of the firm", *Strategic Management Journal*, Vol. 5 No. 2, pp. 171-180, doi: [10.1002/smj.4250050207](https://doi.org/10.1002/smj.4250050207), available at: <http://www.jstor.org/stable/2486175>
- Wiyono, G. and Kirana, K. (2021), "Digital transformation of SMEs financial behavior in the new normal era", *Jurnal Keuangan Dan Perbankan*, Vol. 25 No. 1, doi: [10.26905/jkdp.v25i1.4954](https://doi.org/10.26905/jkdp.v25i1.4954).
- Xu, X. (2023), "Explore the impact of China FinTech loans on the financing of SMEs", *Advances in Economics Management and Political Sciences*, Vol. 30 No. 1, pp. 8-13, doi: [10.54254/2754-1169/30/20231412](https://doi.org/10.54254/2754-1169/30/20231412).

Yin, J., Li, Y., Ma, Z., Chen, Z. and Guo, G. (2024), "Impact of entrepreneurship on technological innovation in the digital age: a knowledge management perspective", *Journal of Knowledge Management*, Vol. 28 No. 9, pp. 2750-2772, doi: [10.1108/jkm-07-2023-0602](https://doi.org/10.1108/jkm-07-2023-0602).

Further reading

North, D.C. (1990), *Institutions, Institutional Change and Economic Performance*, p. 33, Cambridge University Press, Cambridge.

Corresponding author

Konstantinos S. Skandalis can be contacted at: kskandalis@aegean.gr