SOCIAL MEDIA ADOPTION ON GREEK MICRO- AND SMALL-ENTERPRISES' PERFORMANCE: SERIAL MEDIATION OF FIRM'S MARKETING AND INNOVATION CAPABILITY

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Abstract

This study extends previous research efforts concerning the role of social media adoption (SMA) in the context of micro- and small-enterprises (MSEs), for which the utilization of social media (SM) tools represents a significant opportunity for growth (Susanto et al., 2023; Cao & Weerawardena, 2023; Khaki & Khan, 2024a). Drawing on the resource-based view (RBV) as the theoretical framework, this paper aims to examine the impact of SMA on MSEs' performance by considering the serial mediating effects of their marketing and innovation capabilities (ICs). To validate the proposed research model, a quantitative study was conducted using primary data collected from 276 MSEs' owners/directors/managers in Greece. The data were analyzed with the partial least squares (PLS) path modelling methodology. The results indicated that the positive and significant effect of SMA on MSEs' performance is enhanced through their marketing and IC, both of which partially mediate the relationship between SMA and business performance (BPR). The study concludes with several theoretical and practical implications regarding the consequences of SMA by MSEs.

Keywords: Social Media Adoption, Social Media Marketing, Marketing Capabilities, Innovation Capabilities, Business Performance, Micro- and Small Enterprises

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1. INTRODUCTION

In the contemporary era characterized by high digital technologies penetration rates, social media (SM) emerged as a pivotal tool for businesses, influencing customer engagement, brand visibility, and overall firm performance (Tajudeen et al., 2018; Ahmad et al., 2018; Bhimani et al., 2019; Dolan et al., 2019; Olanrewaju et al., 2020; Bartoloni & Ancillai, 2024; Solomon et al., 2024). SM platforms such as Facebook, Instagram, YouTube, LinkedIn, X, TikTok offer cost-effective ways for companies to connect and interact with their customers and gather valuable insights about their needs and competitors' activities (Kaplan & Haenlein, 2010; Li et al., 2021; Akpan, 2022; Issa et al., 2023; Situmorang, 2023).

While large and medium enterprises have invested heavily in digital transformation, micro- and small-enterprises (MSEs) have faced challenges in effectively leveraging SM (Meier & Peters, 2023; Rieg & Ulrich, 2024; Solomon et al., 2024). Given the economic landscape in Greece, understanding how social media adoption (SMA) affects their performance is essential. Greece relies on MSEs more than other countries in the European Union (EU) to promote its economic growth, with these businesses representing 99.4% of all companies and employing the highest percentage of people in the EU, at 72.6%. Their contribution to added value stands at 50.2%, significantly above the EU average of 36.6% (European Commission, 2024).

Greek MSEs face unique challenges, including economic instability, limited financial resources, low investments in digital technologies, and intense market competition (Vlachvei & Notta, 2018). Their digitalization lags behind the EU average, with Greece ranking 24th in digital intensiveness (43.3% of firms meeting this criterion, compared to the EU average of 57.7%) (Chrysolora, 2024). In terms of digital tools usage (including SM), the research conducted by Cosmote and Athens University of Economics and Business about Greek companies' digital readiness revealed that 71% of Greek MSEs use SM, that 61% have launched a digital advertising campaign, 24% engage in e-commerce and 24% utilize customer relationship management (CRM) systems (Cosmote & Eltrun, 2024). Notably, Greek MSEs rank second lowest in productivity across the EU, and greater investment in technology is required to enhance both their productivity and overall economic performance (Chrysolora, 2024).

SM usage offers opportunities for business growth through improved brand value, sales growth, customer trust and loyalty, new product development, and electronic word-of-mouth (Nisar & Whitehead, 2016; Palacios-Marques et al., 2015; Tajvidi & Karami, 2021; Marolt et al., 2022; Bartoloni & Ancillai, 2024), by enhancing marketing capability (MC) and fostering innovation. MC — such as brand development and implementation, digital advertising, market research, and CRM — can significantly enhance firms' competitiveness (Qalati et al., 2022; Khaki & Khan, 2024b; Susanto et al., 2023). Additionally, innovation capability (IC), referring to successful new product/service development, plays a critical role in sustaining competitive advantage and improving business performance (BPR) (Tajvidi & Karami, 2021; Borah et al., 2022; Khaki & Khan, 2024a, 2024b; Ghazwani & Alzahrani, 2024).

This study explores the extent to which Greek MSEs adopt SM and examines the mediating roles of MC and IC in translating SMA into better BPR. Prior research emphasizes that technology adoption alone is insufficient to improve business outcomes (Ahmad et al., 2019); rather, its effectiveness depends on firms' ability to integrate digital tools into their strategic framework (Trainor et al., 2014). The study of Ahmad et al. (2019) failed to empirically validate SMA as the sole driver of BPR improvement. Given the limited literature on SM usage by MSEs and its impact on BPR, this study draws on the resource-based view (RBV) theory to empirically validate that SMA enhances MSEs' performance when supported by both strong MC and IC (Barreto, 2010). Although prior studies have examined how MC (Qalati et al., 2022; Cao & Weerawardena, 2023; Susanto et al., 2023) or IC enhance the value of SM usage (Khaki & Khan, 2024a; Borah et al., 2022; Tajudeen et al., 2018; Fang et al., 2022), to the best of our knowledge, no research has explored the simultaneous interplay of SM with both MC and IC in explaining both the direct and the indirect effects of SMA on MSEs' performance.

The study addresses the following research questions:

RQ1: To what extent does social media impact the performance of Greek MSEs?

RQ2: How does marketing capability mediate the relationship between social media adoption and business performance?

RQ3: What role does innovation capability play in utilizing companies' marketing capability to strengthen the impact of social media adoption on the success of MSEs?

By addressing these questions, this research contributes to the growing literature on SM marketing and small BPR, offering theoretical business researchers and practical insights for entrepreneurs, policymakers, and business strategists. The findings will have implications for developing better policy frameworks that support Greek MSEs in leveraging SM for sustainable growth.

The paper is structured as follows. Section 2 reviews the relevant literature on the relationships among SMA, MC, IC, and BPR. Section 3 outlines the research methodology, including the procedures of research instrument development, data collection, and analysis. Section 4 presents the empirical findings, and Section 5 discusses them along with their theoretical and managerial implications. Finally, Section 6 concludes with limitations and recommendations for further research.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Theoretical and conceptual framework

The current literature on SMA from an organizational perspective includes studies that utilize the technology-organization-environment theory (Tornatzky & Fleischer, 1990) and the RBV theory (Barney, 2001) to examine BPR. Several recent studies have employed the RBV as their theoretical framework to investigate the role of SMA on small and medium-sized enterprises (SMEs) BPR (Tajvidi & Karami, 2021; Qalati, Li, et al., 2021; Qalati, Yuan, et al., 2021; Qalati et al., 2022; Susanto et al., 2023). The RBV theory emphasizes firms' resources, particularly those that are valuable, rare, inimitable, and non-substitutable, as the foundation for

sustained competitive advantage and superior performance. An effective combination of different types of resources (i.e., scale, experiential, technological, financial, structural, etc.) could lead to the development of unique capabilities. These capabilities refer to the managerial processes that companies use to leverage their resources and create valuable marketing propositions for their customers. As such, companies with varying resources and capabilities will achieve different levels of BPR (Teece et al., 1997).

SM is defined as "a collaborative online application and technology that enables participation, connectivity, user-generated content, sharing of information, and collaboration amongst a community of users" (Henderson & Bowley, 2010, p. 239). The most well-known types of SM include social networking sites (i.e., Facebook, LinkedIn, X); media sharing networks (i.e., Instagram, YouTube, TikTok); and product/services rating platforms (i.e., Booking, TripAdvisor) (Meier & Peters, 2023). SMA plays a crucial role in several business activities such as research and development, operations and supply management, information accessibility, marketing planning and control, communication management, and customer acquisition/relationship management (Qalati, Li, et al., 2021; Qalati, Yuan, et al., 2021; Qalati et al., 2022).

SMA is defined as companies' practices that develop and disseminate online marketing activities using SM platforms that create additional value to their partners and customers (Khaki & Khan, 2024a, 2024b; Solomon et al., 2024). Following Parveen et al. (2015), SM are used by companies for the following tasks: information search and dissemination; brand visibility; digital advertising and sales promotion; conducting market research; targeting new customers; establishing strong customer relations; communicating with several stakeholders (i.e., customers, providers, intermediates); providing customer service; and getting customer feedback/referrals (Dwivedi et al. 2023). These tasks have been grouped into three main categories named: information accessibility, SM marketing and branding, and customer relationships (Qalati, Li, et al., 2021; Qalati, Yuan, et al., 2021; Susanto et al., 2023).

As an information technology resource, SM can be leveraged by MSEs to enhance their BPR by assessing knowledge derived from SM activities. This knowledge helps improve their MC by enabling them to have a better understanding of customers' needs and allowing them to better serve customers compared to their competitors, thereby driving better performance (Susanto et al., 2023). Furthermore, SM, through their sharing of information and collaboration mechanisms with various stakeholders, can positively impact the companies' IC (Borah et al., 2022). These capabilities enhance the firms' ability to generate and transform ideas into new products/services, processes, and systems that contribute to improved BPR (Saunila, 2020). Since companies' IC is linked to their responses to customers' demand, market requirements, and global competition, their MC, such as better understanding the market condition, establishing favorable relations with customers, and integrating this information internally, can be significantly associated with innovative performance in developing product and services that are better suited to their target groups.

While the current literature includes several studies investigating how the impact of SMA on BPR is enhanced by companies' MC (Qalati et al., 2022; Susanto et al., 2023; Khaki & Khan, 2024b) or IC (Borah et al., 2022; Khaki & Khan, 2024a; Ghazwani & Alzahrani, 2024), there are limited studies that consider, however, only the individual mediating effects of both capabilities (Tajvidi & Karami, 2021). Based on the above discussion, the present study aims to examine the serial mediation effects of MC and IC to gain a deeper understanding of how the adoption of SM influences the BPR of MSEs.

2.2. Proposed model and research hypotheses

Several previous studies suggest that SM stands out as a powerful tool for enhancing BPR. For SMEs, its primary benefit lies in being a low-cost tool that helps these companies overcome limitations related to scarce resources or remote locations by effectively connecting them to broader, otherwise unreachable target groups (Bartoloni & Ancillai, 2024; Olanrewaju et al., 2020; Ramdani et al., 2022). These literature review studies emphasize that SM has contributed to reduced SMEs' communication expenses, which, in turn, have positively impacted business profitability (Spita et al., 2020). According to Qalati, Li, et al. (2021), Qalati, Yuan, et al. (2021), Qalati et al. (2022), and Amoah and Jibril (2021), SMEs record SM as a strategic resource aimed at supporting the achievement of their business objectives.

Although a few studies have not confirmed a direct relationship between SMA and BPR (Ahmad et al., 2019; Marolt et al., 2022; Eid et al., 2020) or marketing performance (Cao & Weerawardena, 2023), numerous others highlight how SM contributes to improved business outcomes (Parveen et al., 2015; Dodokh et al., 2019; Tajvidi & Karami, 2021; Fang et al., 2022; Qalati, Li, et al., 2021; Qalati, Yuan, et al., 2021; Qalati et al., 2022; Palladan et al., 2023; Fu et al., 2024; Al Halbusi et al. 2024). Chou et al. (2022) indicate that companies benefit from adopting SM, emphasizing that consistent use of appropriately selected platforms enhances BPR. Finally, the findings of the study of Bruce et al. (2023) suggest that SM usage, along with its integration into business processes, positively affects SMEs' performance and sustainability. Based on the above, the following hypothesis is made:

H1: Social media adoption positively affects MSEs' business performance.

MC helps firms effectively implement strategic orientations aligned with market dynamics to achieve desired performance outcomes. Consequently, MC, like market-sensing, brand management, and customer relations capabilities (Ju et al., 2018), is widely recognized as a critical driver of BPR (Merrilees et al., 2011; Alnawas & Hemsley-Brown, 2019; Alnawas & Abu Farha, 2020). A number of studies have explored the relationship between MC and BPR, showing that MC exerts a positive and significant influence on business outcomes (Murray et al., 2011). More specifically, Orr et al. (2011) found that both CRM and branding capabilities contribute positively to marketing and financial outcomes, while Santos-Vijande et al. (2013) and Rahman et al. (2019) discovered that an effective brand management system enhances companies' competitiveness and increases their value. Therefore, the following hypothesis is proposed:

H2: Marketing capability positively affects MSEs' performance.

Kaplan and Haenlein (2010) highlight several benefits of SM, including its ability to facilitate information exchange between companies, customers, and suppliers, as well as its role as a new component of the companies' marketing strategy. Additionally, SM usage promotes customer engagement by providing a cost-effective platform for sharing information, encouraging collaboration and dialogue, and supporting co-creation (Ahmad et al., 2018; Dolan et al., 2019). They also enable customers to generate content, interact, and integrate seamlessly (Li et al., 2021; Olanrewaju et al., 2020). Tajvidi and Karami (2021) investigated the role of SM, and they found that brand performance, including brand and new product/service awareness, brand engagement, promotion management, and sales/distribution management, is positively associated with SM usage (Dwivedi et al., 2023). Susanto et al. (2023) empirically confirmed the impact of SMA on MC in the context of SMEs in Indonesia. Finally, Khaki and Khan (2024b), Qalati et al. (2022), and Marolt et al. (2022) validated the improvements of companies' CRM capabilities — one of the key components of MC — resulting from the use of SM. As a result, MSEs should leverage SM to enhance marketing effectiveness. Based on this, we propose the following hypothesis:

H3: Social media adoption positively affects MSEs' marketing capability.

By considering *H1*, *H2*, and *H3* the following hypothesis is anticipated:

H4: Marketing capability positively mediates the relationship between social media adoption and MSEs' business performance.

IC is defined as the firm's "ability to continuously transform knowledge and ideas into new products, processes, and systems for the benefit of the firm and its stakeholders" (Lawson & Samson, 2001, p. 384). Companies with well-developed IC are able to effectively integrate their key capabilities and resources to drive innovation successfully (Lawson & Samson, 2001). Companies, pursuing differentiation strategies, should already possess the appropriate IC in order to achieve these objectives. However, for MSEs, developing a competitive position, through the creation of new products, services, or processes, is more challenging, primarily due to the limited resources available to support their strategic objectives (Borah et al., 2022)

Previous studies have examined IC as a moderating variable in the relationship between SMA and SMEs' BPR (Qalati et al., 2022; Fang et al., 2022). These studies suggest that for SMEs with a high IC level, the impact of SMA on BPR increases. Other studies, drawing on the RBV, propose that companies' resources and BPR should primarily be evaluated through their indirect effects (Khaki & Khan, 2024b). For example, SM platforms such as YouTube, Facebook, and Instagram are utilized to gather information for innovation and development from external experts (Muninger et al., 2019). Moreover, knowledge dissemination and external engagement are considered crucial innovation development drivers. From this perspective, IC is theorized to play a mediating role, as it is significantly influenced by SM activities and, in turn, contributes to improved business outcomes (Zada et al. 2025).

Many previous research efforts have empirically validated the effect of IC on BPR, as the delivery of superior value propositions is expected to be valued by customers and increase business outcomes (Merrilees et al., 2011; Alnawas & Hemsley-Brown, 2019). On the other hand, SMA by SMEs is considered a driver for innovative performance, through the development of potential and realized absorptive capacity, wherein customers are involved in the new product/service development process, product testing, and marketing communication (Borah et al., 2022; Bhimani et al., 2019). Finally, Tajvidi and Karami (2021), Khaki and Khan (2024a), and Ghazwani and Alzahrani (2024) confirmed an indirect impact of SMA on BPR through IC. As such, it is expected that beyond the direct effect of SMA on BPR, this relationship is further strengthened for MSEs with higher levels of IC, ultimately leading to the creation of competitive advantage (Olanrewaju et al., 2020). Based on the above, the following hypotheses are proposed:

H5: Social media adoption positively affects MSEs' innovation capability.

H6: Innovation capability positively affects MSEs' business performance.

By considering *H1*, *H5,* and *H6* the following hypothesis is anticipated:

H7: Innovation capability positively mediates the relationship between social media adoption and MSEs' business performance.

MC has emerged as a critical innovation driver, particularly in the context of digital transformation and the growing use of SM (Sulistyo & Siyamtinah, 2016). For SMEs, SM platforms offer not only cost-effective communication channels but also real-time insights into customer preferences, market trends, and competitors' activities. Customer feedback gathered through SM usage can directly support the new product/service development process (Kwahk & Park, 2016; Parveen et al., 2015). This customer's engagement often leads to continuous and/or disruptive innovations fueled by customer-generated data.

Previous research has confirmed that SMEs with higher levels of IC, particularly in terms of launching successful products/processes, tend to exhibit stronger MC. This is attributed to their enhanced market-sensing and seizing competencies, which are supported by the use of SM platforms. Additionally, Pérez-Orozco et al. (2023) validated the indirect effect of marketing management in the relationship between online presence and product innovation among SMEs. In conclusion, MC significantly affects IC in SMEs, especially when they are both strengthened by the strategic use of SM. This synergy not only enhances market responsiveness but also fosters a continuous innovation orientation rooted in customer engagement and market intelligence (Li et al., 2021). Based on these findings, the following hypothesis is put forth:

H8: Marketing capability significantly influences MSEs' Innovation capability.

By considering *H3*, *H8*, and *H6*, this study proposes that both MC and IC serially mediate the effect of SMA on MSEs' BPR. More specifically, MC enables MSEs to leverage market and customer knowledge captured through SM usage, which can be utilized in the development of new products/services that provide superior value to customers and enhance overall BPR (Soomro et al., 2024). Hence, the following hypothesis is proposed:

H9: Marketing capability and Innovation capability serially mediate the relationship between social media adoption and MSEs' business performance.

Finally, two variables, measuring firm size and firm age, are included in the proposed model as control variables. Based on the previously presented literature review, the model proposed to study the concepts of this research, namely SMA, MC, IC, and MSEs' BPR, is given in Figure 1.

Figure 1. Proposed model
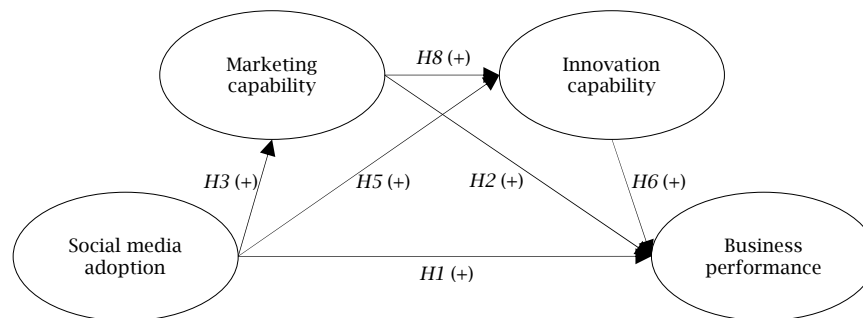
Source: Authors' elaboration.

3. RESEARCH METHODOLOGY

To validate the proposed conceptual framework, a positivist research philosophy was adopted. This philosophical stance is consistent with a quantitative research approach, which emphasizes objectivity and the use of measurable data. Accordingly, data were collected using a survey strategy, specifically through self-administered questionnaires. The decision to adopt a quantitative methodology was primarily based on the existence of a well-established theoretical foundation — the RBV theory. This theory supports the hypothesized connections among the study's key constructs and necessitates empirical testing to assess its relevance and applicability in the context of MSEs. In line with this, a deductive research approach was employed, whereby hypotheses were developed in advance and guided the entire research process. This aligns with Creswell's (2013) characterization of a hypothesis-driven research design, where theory precedes observation and data collection.

This empirical study focuses on MSEs located in the Attica region of Greece. A multi-industry sample was employed to enhance the generalizability of the results. The sample was drawn from the Athens Chamber of Commerce and Industry database, comprising firms that had explicitly indicated involvement in e-commerce activities. Initially, 2,000 companies were randomly selected. Of these, 528 companies were excluded for the following reasons: 50 were no longer operational, 392 did not qualify as MSEs due to having more than 50 employees, and 86 lacked available contact information. Ultimately, 1,472 MSEs were contacted via email between September to November 2024, with a survey link included to collect responses related to the model's variables. A total of 276 companies responded, yielding a response rate of 18.8%. The method proposed by Armstrong and Overton (1977) was used to assess nonresponse bias. No significant differences were found between early and late responses, indicating that nonresponse bias is not a concern in this study.

The study uses established scales to measure the constructs in the proposed model. Specifically, SMA is measured using an eight-item scale adopted from the studies of Parveen et al. (2015), Tajudeen et al. (2018) and Borah et al. (2022); MC is measured using a five-item scale adopted from the studies of Ju et al. (2018) and Susanto et al. (2023); IC is measured using a five-item scale adopted from the study of Fang et al. (2022); and finally, BPR is measured with a five-item scale adopted from the study of Tajvidi and Karami (2021). All items were measured using seven-point Likert scales to ensure statistical variability among responses. In addition, various demographic variables (i.e., gender, age, educational background, position in the company) and firmographic variables (i.e., company size measured as the number of firms' employees, company age, sector, SM level of utilization, and SM marketing usage) were collected to determine the sample's profile.

Partial least squares (PLS) path methodology with Smart PLS4 software was used to assess the measurement model and test the validity of the hypothesized relationships.

4. RESULTS

4.1. Sample profile

Table 1 reveals that out of 276 respondents, 55% were male and 45% were female. 19% of the respondents were under 35 years old, 72% were between 36 years old and 55 years old, and 9% were over 55 years old.

Table 1. Demographics of research participants and micro- and small-enterprises

Demographic variable	Values	Percentage (N = 276)
Gender	Male	55.0
	Female	45.0
Age (years)	< 25 years old	3.0
	26–35 years old	16.0
	36–45 years old	39.0
	46–55 years old	33.0
	> 55 years old	9.0
Educational level	High school	13.0
	Bachelor's	62.0
	Master's	22.0
	PhD	13.0
Position	Owner	61.0
	Executive	7.0
	Manager	32.0
Sector	Retail	36.0
	Information and communications technology	5.0
	Accounting and taxation	27.0
	Services	20.0
	Manufacturing	12.0
Company size (No. of employees)	< 5	53.0
	5–10	31.0
	11–19	11.0
	20–50	5.0
Company age (in years)	< 1	0.0
	1–3	6.0
	4–7	20.0
	8–10	10.0
	11–20	29.0
	> 20	35.0
SM level of utilization	Minimum	29.0
	Basic	29.0
	Moderate	23.0
	Extensive	19.0
SM level of utilization as a marketing tool	Minimal	70.0
	Little	17.0
	A lot	9.0
	Extensive	4.0

Source: Authors' elaboration.

The vast majority of respondents (87%) had a high educational background. 61% of the participants were owners, 32% were managers, and 7% were executives. Regarding the company size, 84% were micro companies with fewer than 11 employees, and 16% were small companies with 11 to 50 employees. Almost 75% of the participating companies had been in the market for more than eight years. The majority of companies (83%) belong to the retail and services provision sectors. With respect to SM usage for marketing purposes, 70% of the respondents stated that their usage was minimal.

4.2. Measurement model assessment

The test of the measurement model follows the guidelines proposed by Hair et al. (2024) and involves assessing the reliability, convergent validity, and discriminant validity of all constructs included in the proposed model. The results appear in Table 2.

According to these guidelines, the results support individual reliability, as all factor loadings exceed 0.770, which is above the recommended threshold of 0.707. The construct reliability of all latent variables is assessed using Cronbach's alpha (CA) and composite reliability (CR) measures. CA and CR values of all constructs exceed 0.880 and 0.892, respectively, surpassing the recommended threshold of 0.7, and indicating a strong internal consistency across all scales (Hair et al., 2024).

To assess convergent validity, the average variance extracted (AVE) criterion was employed (Hair et al., 2024). The AVE values for all constructs are greater than or equal to 0.733, exceeding the recommended threshold of 0.5, thereby suggesting adequate convergent validity.

Discriminant validity was assessed using the heterotrait-monotrait (HTMT) ratios of correlations, presented in Table 3. All HTMT values are below 0.85, indicating that the measurement model demonstrates adequate discriminant validity (Hair et al., 2024).

Table 2. Items' descriptive statistics and constructs measurement model assessment

Construct	Items	Mean value	Std. dev.	Loadings	CA	CR	AVE
Social media adoption (*SMA*)	SMA1	4.395	1.715	0.851	0.964	0.937	0.798
	SMA2	4.518	1.768	0.921			
	SMA3	5.022	1.845	0.919			
	SMA4	4.322	1.892	0.886			
	SMA5	4.457	1.794	0.858			
	SMA6	4.072	1.938	0.954			
	SMA7	4.333	1.905	0.873			
	SMA8	4.793	1.843	0.878			
	SMA9	4.469	1.848	0.893			
Marketing capability (*MC*)	MC1	4.678	1.579	0.770	0.910	0.913	0.738
	MC2	3.460	1.373	0.860			
	MC3	4.377	1.603	0.911			
	MC4	3.645	1.654	0.883			
	MC5	4.043	1.603	0.864			
Innovation capability (*IC*)	IC1	4.167	1.668	0.854	0.880	0.895	0.733
	IC2	5.069	1.736	0.821			
	IC3	5.134	1.767	0.885			
	IC4	4.569	1.646	0.863			
	IC5	4.834	1.802	0.860			
Business performance (*BPR*)	BPR1	3.946	1.726	0.941	0.969	0.939	0.888
	BPR2	3.851	1.908	0.950			
	BPR3	3.975	1.897	0.956			
	BPR4	3.920	1.977	0.935			
	BPR5	4.109	1.946	0.930			

Source: Authors' elaboration.

Table 3. Discriminant validity assessment (HTMT-85)

| Construct	Mean value	Std. dev.	SMA	MC	IC	BPR
SMA	4.499	1.644				
MC	4.595	1.448	0.774			
IC	4.072	1.340	0.623	0.656		
BPR	3.960	1.779	0.768	0.766	0.685	

Source: Authors' elaboration.

4.3. Structural model assessment

The structural model assessment, the results of which are presented in Table 4 and Figure 2, includes the following tests: construct collinearity, the significance of path coefficients, the model's goodness-of-fit, using the coefficient of determination (R^2), and the model's predictive relevance using the Q^2 value (Hair et al., 2024).

Figure 2. Structural model results
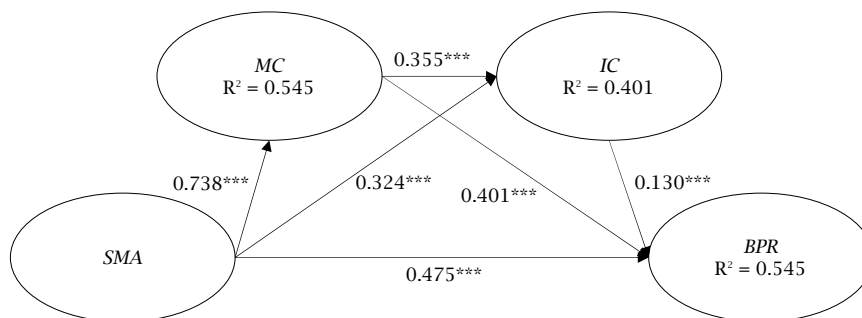
Note: *** $p < 0.001$.
Source: Authors' elaboration.

To test the constructs' collinearity, the variance inflation factor (VIF) was examined. The VIF values for the inner model (*SMA*: 2.373; *MC*: 2.408; *IC*: 1.669) indicate that there is no collinearity issue, as all values are below the recommended threshold of 3.3.

According to Chin (1998), the R^2 values for *MC* (0.545) and *IC* (0.401) indicate moderate predictive behavior, as they fall between 0.33 and 0.67. In contrast, the R^2 value for *BPR* (0.812) indicates substantial predictive behavior as it exceeds 0.66. To assess the out-of-sample predictive power of the model, the predictive relevance (Q^2) was evaluated using the cross-validated redundancy approach (Hair et al., 2024). The Q^2 values for all endogenous variables of the model (i.e., *MC*: 0.543; *IC*: 0.340; *BPR*: 0.704) are greater than zero, suggesting that the model's exogenous variables (*SMA*) have predictive relevance for the endogenous variables (i.e., *MC*, *IC*, and *BPR*). Based on the above results, all structural model assessment criteria were met.

For the assessment of the direct effects, bootstrapping (with 3,000 sub-samples) was used to

evaluate the statistical significance of the path coefficients. The results showed that *SMA* significantly affects *MC* ($\beta = 0.738$, t = 26.717), indicating that *H3* is accepted. Both *SMA* ($\beta = 0.324$, t = 4.561) and *MC* ($\beta = 0.355$, t = 5.032) have significant positive effects on *IC*, supporting the validity of *H5* and *H7*, respectively. Furthermore, *SMA* ($\beta = 0.475$, t = 7.955) and *MC* ($\beta = 0.401$, t = 7.101) are the main drivers of MSEs' *BPR*, followed by *IC* ($\beta = 0.130$, t = 5.635), indicating support for *H1*, *H2*, and *H6*. Among the control variables, company age ($\beta = -0.097$, t = 4.160) has a small but significant negative effect on *BPR*, while company size ($\beta = -0.011$, t = 0.547) has an insignificant effect.

Regarding the mediation analysis, the indirect effects of *SMA* on *BPR*, through *MC* ($\beta = 0.296$, t = 7.136) and *IC* ($\beta = 0.046$, t = 4.030), are significant, supporting *H4* and *H7*. Support is also found for *H9*, as the indirect effect of *SMA* on *BPR*, through both *MC* and *IC* ($\beta = 0.034$, t = 3.658), though small, is significant.

Table 4. Structural model results

Hypothesis	Path	Coefficient	t-stat	R^2	Q^2	Decision
		Direct effect				
H3	SMA → MC	0.738	26.717	0.545	0.543	Supported
H5	SMA → IC	0.324	4.561	0.401	0.340	Supported
H8	MC → IC	0.355	5.032			Supported
H1	SMA → BPR	0.475	7.955	0.812	0.704	Supported
H2	MC → BPR	0.401	7.101			Supported
H6	IC → BPR	0.130	5.635			Supported
		Control variables				
	SIZE → BPR	-0.011	0.547			
	AGE → BPR	-0.097	4.160			
		Indirect effect				
H4	SMA → MC → BPR	0.296	7.136			Supported
H7	SMA → IC → BPR	0.046	4.030			Supported
H9	SMA → MC → IC → BPR	0.034	3.658			Supported

Source: Authors' elaboration.

5. DISCUSSION OF THE FINDINGS

The present study uses the RBV theory to investigate the interplay between SM usage, as a resource, and companies' capabilities, specifically MC and IC, on BPR in the context of MSEs in Greece. To explore these effects, the study considers and empirically validates the serial mediation effects of *MC* and *IC* between *SMA* and *BPR* outcomes. This study advances existing literature, as it is the first that examine how the impact of *SMA* on MSEs' *BPR* can be enhanced by their proactive capabilities, particularly those related to marketing and innovation activities. These findings have several theoretical and practical implications.

From a theoretical perspective, this study contributes to the ongoing debate on the relationship between *SMA* and *BPR* in the context of MSEs. It does so by analyzing the direct, individual, and serial mediation effects of two key business capabilities (i.e., *MC* and *IC*). Specifically, the study provides evidence on both the direct and indirect effects of *SMA* on *BPR* through the individual mediation of *MC* and the serial mediation of *MC* and *IC*. Regarding the direct effects, the findings suggest that MSEs that make greater use of SM platforms are better equipped to address challenges such as limited resources, rising competition, and restricted customer access. These platforms serve as a source of competitive advantage, thereby enhancing MSEs' *BPR*. This finding is consistent with several previous studies (Parveen et al., 2015; Dodokh et al., 2019; Tajvidi & Karami, 2021; Fang et al., 2022; Qalati, Li, et al., 2021; Qalati, Yuan, et al., 2021; Qalati et al., 2022; Chou et al., 2022; Palladan et al., 2023; Bruce et al., 2023; Fu et al., 2024), which highlight the usefulness of SM for market scanning, detecting customer needs/preferences and understanding the competitors dynamics. Additionally, SM helps MSEs to attract new customers by promoting products/services, improves retention by fostering more effective connections with existing customers, and ultimately contributes to greater profitability.

Another important finding is the enhancing role of both MSEs' *MC* and *IC* in the relationship between *SMA* and *BPR*. This implies that *SMA* not only directly affects *BPR* but also has an indirect effect. According to this study, *SMA* improves *MC*, which in turn positively impacts the performance. Thus, MSEs *SMA* can use SM to develop market research mechanisms that effectively identify customer needs, increase awareness of their products/services, and establish better relationships with customers through the development of an appropriate CRM strategy. This finding aligns with several previous studies emphasizing the mediating role of *MC* in general or of CRM capability, which is a major dimension of *MC* (Qalati et al., 2022; Tajvidi & Karami, 2021; Susanto et al., 2023; Khaki & Khan, 2024b).

The findings, consistent with those of previous studies (Tajvidi & Karami, 2021; Borah et al., 2022; Ghazwani & Alzahrani, 2024; Khaki & Khan, 2024a), also evidence the mediating effects of *IC*, which is a vital *BPR* driver for SMEs (Alnawas & Hemsley-Brown, 2019). The impact of SMA on BPR is further enhanced when the adoption of SM contributes to the development of a stronger *IC*. This is based on the understanding that MSEs' innovation processes can leverage customer engagement, facilitated through the use of SM, to gather market insights that enhance their competencies in developing better products and services.

Finally, the results demonstrate the indirect impact of *SMA* on *BPR* through the serial mediation of *MC* and *IC*. Specifically, the strong effect of *MC* on *IC* acts as a mediating mechanism through which *SMA* can indirectly influence *BPR*. The findings provide evidence on the role of *MC* as a significant driver of *IC*, confirming that, in addition to generating strategies to meet customer needs, *MC* also utilizes its competence in collecting customer-generated ideas via SM platforms. This data/info can serve as valuable input for the development of new products and services. The sequential mediation effect shows that through SMA, MSEs can leverage market knowledge to develop customer-driven

marketing strategies and increase the effectiveness of their innovation activities and ultimately improve their BPR.

The findings of this study also have practical implications. First, MSEs that invest in increasing SM utilization and improving SM competencies will be better equipped to leverage real-time market insights related to customer preferences and competitors' activities. This capability can support their efforts to achieve better business results. Market insights provided by SM analytics will mainly allow them to improve their MC, including appropriately selecting target groups, developing, positioning, and promoting their market offerings, while connecting with customers more efficiently (Dwivedi et al. 2023). Moreover, SMA, which facilitates customer engagement, combined with consumer-brand relationship development strategies, fostered by a market-oriented business culture, will strengthen firms' ability to generate and transform customer-generated ideas into new products, services, processes, and systems that drive business growth. In summary, the use of appropriately selected SM platforms by MSEs, along with their marketing and innovation skills, is vital for building stronger customer relationships and increasing sales in a cost-efficient manner, thereby driving their successful BPR (Meier & Peters, 2023).

6. CONCLUSION

While this study offers significant and novel contributions to the literature, it is not without limitations, which also present opportunities for further research. First, the research focuses exclusively on Greek MSEs, potentially making the findings culture-specific and limiting the generalizability of the results. Future studies could address this limitation by replicating this research in other national contexts with different cultural settings, thereby enabling a comparative analysis of potential cultural similarities or differences in the proposed relationships. Second, this study uses a multi-industry sample, which may limit the findings' generalizability to MSEs across different sectors. Future research could explore cross-sectoral variations and commonalities among MSEs in terms of the effects of SMA on business capabilities and performance. Third, the results are derived from a cross-sectional research design, which does not account for temporal changes in the constructs of the proposed model. This limitation could be addressed through longitudinal studies that capture changes over time.

The inclusion of additional variables into the model, such as environmental conditions (i.e., competition intensity, market turbulence), companies' characteristics (i.e., knowledge of SM), a disaggregated representation of MC (i.e., marketing planning capability, marketing implementation capability, product development capability, pricing capability, communication capability), and SMEs' performance (i.e., customer relationship and financial performance) (Tarsakoo & Charoensukmongkol, 2020; Al Halbusi et al., 2024) may yield more insightful results.

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