The Effect of Market Orientation on Performance Considering the Roles of Supply Chain Agility, Initiative Innovation, and Proactive Innovation: A Study of Small and Medium-Sized Enterprises in Kermanshah



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Abstract: This study aimed to examine the effect of market orientation on the performance of small and medium-sized enterprises in Kermanshah, considering the mediating role of supply chain agility and the moderating roles of initiative innovation and proactive innovation. This applied research employed a descriptive-survey design and was conducted as a field study among employees of small and medium-sized enterprises in Kermanshah during 2025–2026. The statistical population comprised approximately 3,989 employees, from whom 384 participants were selected using stratified random sampling based on Cochran's formula. Data were collected using a demographic questionnaire and standardized instruments measuring market orientation, organizational performance, supply chain agility, initiative innovation, and proactive innovation on five-point Likert scales. Face and content validity were confirmed by management experts. Data were analyzed using SPSS 27 and AMOS. Structural equation modeling was used to test the hypothesized relationships, the Sobel test was applied to evaluate mediation, and hierarchical regression analysis was conducted to assess the moderating effects of innovation capabilities. Market orientation had a significant positive direct effect on SME performance ($\beta = .294$, $p < .001$) and supply chain agility ($\beta = .611$, $p < .001$). Supply chain agility also significantly predicted SME performance ($\beta = .429$, $p < .001$). The indirect effect of market orientation on performance through supply chain agility was significant ($\beta = .262$, Sobel $z = 6.62$, $p < .001$), indicating partial mediation. Initiative innovation significantly strengthened the market orientation–performance relationship ($\beta = .142$, $p = .002$), while proactive innovation demonstrated a stronger positive moderating effect ($\beta = .171$, $p < .001$). The interaction terms significantly increased the explained variance in performance by 4.4%. The findings indicate that market orientation improves SME performance both directly and through enhanced supply chain agility, while initiative and proactive innovation strengthen the performance benefits of market-oriented behavior, highlighting the complementary role of informational, operational, and innovation capabilities in improving SME competitiveness.

Keywords: Market Orientation; SME Performance; Supply Chain Agility; Initiative Innovation; Proactive Innovation; Small and Medium-Sized Enterprises; Kermanshah

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1. Introduction

Small and medium-sized enterprises (SMEs) constitute a substantial component of contemporary economies because of their contributions to employment generation, entrepreneurial activity, regional development, innovation, and the diversification of production and service structures. Their importance is particularly pronounced in emerging and developing economies, where SMEs frequently operate as flexible economic units

capable of identifying local market opportunities, responding to specialized customer needs, and creating employment at comparatively low levels of capital intensity. At the same time, their relatively limited financial resources, managerial capacity, technological infrastructure, and bargaining power expose them to substantial environmental uncertainty and competitive pressure. Research on SMEs has therefore increasingly emphasized the importance of strategic and organizational capabilities that enable smaller firms to understand changing markets, exploit technological opportunities, improve decision-making, and adapt their operations to environmental turbulence. The adoption of information technology and innovation can, for example, improve the competitive potential and employment-generating capacity of SMEs in developing economies, although such benefits depend substantially on the capacity of firms to integrate technological resources into their business models and organizational processes [1]. Similarly, effective information systems have been identified as important mechanisms for strengthening the quality and timeliness of managerial information in manufacturing SMEs, thereby supporting more informed operational and strategic decisions [2]. These developments suggest that sustainable SME performance increasingly depends not merely on access to resources but on the capacity to sense the market, respond rapidly to changing supply and demand conditions, and transform new information into adaptive and innovative action.

Among the strategic orientations considered particularly relevant to these challenges, market orientation has occupied a central position in the marketing and strategic management literature. Market orientation broadly refers to an organizational philosophy and behavioral capability through which firms continuously collect, interpret, disseminate, and respond to information concerning customers, competitors, and broader market developments. Rather than being confined to promotional or sales activities, it reflects the extent to which market intelligence is embedded in organizational decision-making and coordinated across functional areas. A market-oriented firm is consequently expected to recognize changes in customer preferences earlier, understand competitors more accurately, identify emerging opportunities, and align its products, services, and internal processes with evolving market requirements. Research in service settings has demonstrated that the components of market orientation can have differentiated but meaningful implications for performance, indicating that the performance consequences of market orientation are generated through distinct organizational mechanisms rather than through a simple, unitary effect [3]. Evidence from emerging markets similarly indicates that effective marketing strategies require firms to identify both existing users and potential non-users, adapt value propositions, and expand demand through a deeper understanding of heterogeneous market conditions [4].

The relevance of market orientation is especially pronounced for SMEs because smaller firms often compete in environments characterized by limited slack resources and a relatively high dependence on market responsiveness. In such settings, errors in interpreting market conditions can have disproportionately adverse consequences, whereas accurate knowledge of customers and competitors may enable SMEs to allocate scarce resources more effectively. Empirical studies have linked market orientation to competitive advantage and performance in SMEs, particularly when it is complemented by entrepreneurial or strategic orientations that encourage opportunity recognition and action [5]. More recent evidence also indicates that the association between market orientation and SME performance may depend on the firm's entrepreneurial orientation, suggesting that the value created by market knowledge is contingent on whether organizations possess the willingness and capability to act on that knowledge [6]. In the Iranian context, studies of exporting companies have likewise shown that market orientation can contribute to export performance through mechanisms such as marketing effectiveness and marketing capabilities, highlighting the need to examine intervening capabilities rather than treating market orientation as a

self-sufficient predictor of organizational outcomes [7]. In addition, evidence from Iranian firms suggests that market orientation can interact with environmental dynamism and strategic conditions in determining organizational performance, while market agility may strengthen firms' ability to capitalize on market-oriented behavior [8].

Performance, however, is a multidimensional organizational outcome and cannot be adequately explained by market orientation alone. For SMEs, performance may reflect the combined consequences of financial results, customer outcomes, operational efficiency, market position, adaptability, and the organization's capacity to sustain competitiveness under changing conditions. The broader management literature has shown that organizational learning, knowledge accumulation, and the capacity to transform experience into improved processes are important determinants of organizational performance [9]. Similarly, recent research on small and medium-sized trading firms has emphasized that corporate entrepreneurship, digital transformation, and business innovation can jointly enhance organizational performance, reinforcing the argument that SME success increasingly depends on combinations of strategic orientation and adaptive organizational capability [10]. Market conditions themselves may also affect how organizational characteristics are translated into performance, as recent evidence from automotive parts exporting companies indicates that market characteristics shape the relationship between corporate governance and firm performance [11]. Accordingly, an adequate explanation of performance requires attention to the mechanisms through which a market-oriented organization mobilizes its resources and reorganizes its activities in response to environmental demands.

One of the most important mechanisms potentially connecting market orientation to performance is supply chain agility. Supply chain agility refers to the ability of a firm and its supply network to sense changes and respond rapidly, flexibly, and effectively to fluctuations in customer demand, supply disruptions, competitive movements, technological developments, and other forms of environmental uncertainty. From a strategic perspective, agility differs from simple operational efficiency. Efficiency emphasizes the minimization of waste and cost under relatively predictable conditions, whereas agility emphasizes responsiveness, reconfiguration, flexibility, and timely action under uncertainty. Foundational discussions of supply chain management have emphasized that contemporary supply chains require coordination among purchasing, production, logistics, information flow, and interorganizational relationships in order to meet customer expectations and sustain competitiveness [12]. Practical evaluations of agility in manufacturing contexts further demonstrate that agility is multidimensional and depends on the firm's capacity to coordinate processes, integrate information, respond to demand changes, and manage operational flexibility [13]. In SMEs, these capacities can be especially critical because smaller organizations may lack the inventory buffers, supplier power, and financial reserves available to larger firms.

The relationship between supply chain agility and performance has received considerable empirical support. Research in the fashion industry, for example, has shown that strategic flexibility, manufacturing flexibility, and supply chain agility can contribute to firm performance by enabling rapid adjustment to market variability [14]. Evidence from export-oriented firms also indicates that supply chain agility may strengthen export performance through increased responsiveness and innovativeness, suggesting that agility simultaneously improves operational reaction speed and the organization's ability to generate and implement new solutions [15]. In Iranian manufacturing settings, supply chain agility has similarly been identified as an important mediating mechanism through which flexible information technology infrastructure and organizational learning contribute to performance [16]. The growing strategic importance of supply chain agility is further reflected in recent work identifying infrastructural factors that facilitate supply chain agilization and emphasizing the necessity of

developing organizational, technological, and process foundations for rapid responsiveness [17]. Research on artificial intelligence-based risk management has also indicated that advanced analytical capabilities may enhance supply chain reengineering and agility by improving the identification and management of risk [18].

These findings are highly relevant to the market orientation–performance relationship. Market orientation supplies the organization with information about changing customer expectations, competitor behavior, and emerging market trends, but such information can improve performance only when the firm possesses mechanisms capable of converting it into timely operational responses. Supply chain agility may therefore function as a behavioral and operational bridge between market sensing and organizational performance. A market-oriented SME may recognize a change in customer demand earlier than its competitors, but without the ability to modify sourcing, production, distribution, inventory, or delivery arrangements quickly, the informational advantage may not generate a corresponding performance benefit. Conversely, firms with agile supply chains may translate market intelligence into rapid changes in products, schedules, delivery arrangements, or supplier configurations. Contemporary research reinforces this view by demonstrating that dynamic capabilities and innovation can foster supply chain agility and strengthen supply chain management outcomes, particularly in environments emphasizing sustainability and changing stakeholder requirements [19]. In addition, recent studies of the automotive industry suggest that transformational leadership and organizational ambidexterity can foster supply chain agility by enabling organizations to simultaneously exploit existing capabilities and explore new opportunities [20].

The emergence of artificial intelligence, advanced analytics, and digital technologies has further intensified the importance of agility and innovation. Digital technologies increase the speed at which organizations can detect environmental changes, process large volumes of information, forecast disruptions, and coordinate decisions across supply chain actors. Research on artificial intelligence-driven innovation has shown that technology-enabled innovation can enhance supply chain resilience and performance, particularly under conditions of supply chain dynamism [21]. At a broader macroeconomic level, technological innovation is also shaped by economic and social conditions that influence the capacity of firms and industries to participate in the technological transformations associated with the Fourth Industrial Revolution [22]. For SMEs, which often operate with tighter resource constraints, these developments create a dual challenge: they increase competitive pressure to innovate while also increasing the strategic value of flexible and proactive organizational capabilities.

Innovation is therefore another important factor in explaining why some market-oriented SMEs outperform others. The concept of innovation encompasses more than the introduction of completely new products. It includes the development of new services, processes, technologies, organizational arrangements, business models, and market approaches. In the present framework, particular attention is given to initiative innovation and proactive innovation as capabilities that may strengthen the firm's ability to derive performance benefits from market orientation. Initiative innovation can be understood as the organization's tendency and ability to initiate new solutions, practices, or activities in response to identified opportunities and problems. Proactive innovation, in turn, emphasizes anticipating future needs and competitive developments and introducing innovations before environmental pressures make such changes unavoidable. These forms of innovation are especially relevant in competitive SME environments because they reflect movement from reactive adaptation toward intentional and anticipatory change.

Prior research provides a strong basis for expecting innovation to interact with market orientation. Studies of SMEs have shown that innovation can mediate the effects of market orientation, entrepreneurial orientation,

knowledge management, and organizational learning on performance, demonstrating that firms often need to transform strategic and knowledge-based resources into innovative outputs before measurable performance gains emerge [23]. Research on market orientation and new product performance also indicates that the effectiveness of market-oriented behavior can depend on managerial social ties and the identification of latent customer needs, suggesting that innovative outcomes are enhanced when firms move beyond explicit current demand and attempt to anticipate unarticulated future requirements [24]. This perspective is directly relevant to proactive innovation because a firm that only responds to already-expressed needs may remain market responsive but fail to develop a sustainable first-mover or differentiation advantage.

The capability to innovate may also determine how effectively SMEs differentiate themselves in crowded markets. Evidence from research on brand differentiation suggests that market orientation can play a mediating role in relationships involving brand image and firm value, emphasizing the strategic relevance of market knowledge in creating differentiated offerings and market perceptions [25]. Innovative behavior can further strengthen this differentiation by enabling firms to translate market knowledge into distinct products, processes, customer experiences, and business practices. In emerging competitive environments, the relationship between market orientation and performance may consequently be strongest among firms that possess the capacity to initiate change rapidly and anticipate future opportunities rather than merely follow existing market trends.

At the same time, operational innovation and continuous improvement remain important for SMEs. Research on lean manufacturing practices among manufacturing SMEs demonstrates that structured process improvement can contribute to sustainability performance, indicating that innovation may also occur through incremental modifications to production and operational routines rather than exclusively through radical technological change [26]. This observation is important because initiative innovation and proactive innovation need not necessarily involve high-cost research and development. In SMEs, innovation can arise from managerial experimentation, employee suggestions, redesign of service delivery, supplier collaboration, new distribution approaches, digitalization of customer interactions, or incremental changes to production processes. The capacity to undertake such actions may amplify the benefits of market orientation by allowing firms to convert market information into practical organizational change.

The relevance of these relationships becomes more pronounced when supply chain constraints are considered. Supply chains are vulnerable to disruptions arising from fluctuations in demand, supplier unreliability, logistical bottlenecks, technological change, resource scarcity, and broader economic uncertainty. Studies addressing supply chain management challenges have highlighted the necessity of improving coordination, information flow, infrastructure, and managerial capabilities in order to mitigate such problems [27]. Market orientation may enable firms to identify demand-side changes, whereas supply chain agility enables them to respond operationally, and innovation capabilities allow them to redesign processes and offerings when existing solutions are insufficient. Taken together, these capabilities can be conceptualized as complementary rather than substitutable: market orientation provides intelligence, agility facilitates rapid response, and innovation expands the range and novelty of possible responses.

This integrated perspective is particularly important in the context of SMEs in Kermanshah. Firms operating in regional markets may face simultaneous pressures associated with changing customer preferences, resource limitations, technological development, intense competition, market uncertainty, and supply chain constraints. Because SMEs generally possess fewer financial and structural buffers than larger organizations, their performance may depend strongly on whether they can recognize market signals early and react with sufficient speed and

creativity. Iranian research has separately examined market orientation, market agility, supply chain agility, organizational learning, and performance, but comparatively less attention has been devoted to integrated models in which the direct influence of market orientation is considered alongside the mediating role of supply chain agility and the conditioning roles of different innovation capabilities. The existing literature therefore provides substantial evidence for the relevance of each construct while leaving an important question regarding how these mechanisms operate simultaneously within regional SMEs.

Moreover, much of the available literature has examined either direct relationships between market orientation and performance, mediation through marketing or innovation capabilities, or the independent effects of supply chain agility. For example, market orientation has been linked to export performance through marketing effectiveness and capabilities [7], innovation has been identified as an intervening mechanism between organizational orientations and SME performance [23], and supply chain agility has been associated with firm and export performance in different industry settings [14, 15]. Other studies have shown that organizational learning and technological flexibility contribute to performance through agility [16], while recent research has emphasized the role of dynamic capabilities, innovation, artificial intelligence, ambidexterity, and digital transformation in strengthening organizational responsiveness and performance [10, 19-21]. These findings collectively indicate that the market orientation–performance relationship is likely to be embedded within a broader configuration of adaptive capabilities rather than constituting an isolated direct association.

A further theoretical issue concerns the possibility that innovation capabilities change the strength of the relationship between market orientation and performance. Market knowledge does not automatically result in successful action. Two firms may obtain similar information regarding customer needs, yet the firm with stronger initiative innovation may be more capable of converting that information into new solutions, while the firm with stronger proactive innovation may anticipate market changes before competitors and introduce solutions before demand fully materializes. This argument is consistent with evidence that market orientation becomes more consequential when combined with entrepreneurial and innovation-related strategic behaviors [5, 6]. It is also compatible with research emphasizing latent customer needs and managers' external ties in determining new product performance [24]. Therefore, treating initiative and proactive innovation as conditions that strengthen the performance consequences of market orientation can provide a more nuanced understanding of heterogeneity in SME outcomes.

The present study consequently integrates three complementary theoretical mechanisms. First, it assumes that market orientation directly contributes to SME performance by improving the alignment between organizational activities and market requirements. Second, it proposes that supply chain agility mediates this relationship because market information generates greater performance benefits when it is converted into timely and flexible supply chain responses. Third, it considers initiative innovation and proactive innovation as capabilities that can strengthen the extent to which market orientation translates into improved organizational performance. This integrated framework responds to the need for models that move beyond isolated bivariate relationships and instead explain how informational, operational, and innovative capabilities work together in SMEs. Such an approach also has practical importance because managers need to know whether investment in market intelligence alone is sufficient or whether its value depends on simultaneously strengthening supply chain responsiveness and innovation capability.

Accordingly, the aim of this study was to examine the effect of market orientation on the performance of small and medium-sized enterprises in Kermanshah, considering the mediating role of supply chain agility and the moderating roles of initiative innovation and proactive innovation.

2. Methodology

This study employed an applied research design in terms of its purpose and a descriptive-survey design in terms of its methodological approach. The research was conducted as a field study to empirically examine the effect of market orientation on the performance of small and medium-sized enterprises (SMEs), with particular emphasis on the mediating role of supply chain agility and the roles of initiative innovation and proactive innovation. The statistical population consisted of employees working in small and medium-sized enterprises located in Kermanshah, Iran, during the 2025–2026 study period. According to statistics obtained from the relevant provincial authority of the Ministry of Industry, Mine and Trade, the target population was estimated at approximately 3,989 employees. The required sample size was determined using Cochran's sample size formula. Based on the conventional assumptions adopted for survey research and to obtain an adequate sample for statistical inference and structural equation modeling, a sample of 384 participants was considered appropriate. Participants were selected using a stratified random sampling method so that employees from the constituent SMEs had an appropriate opportunity to be represented in the final sample. Eligibility for participation was based on employment in one of the identified small or medium-sized enterprises in Kermanshah during the study period and willingness to participate in the research. Data were collected using both library-based and field-based approaches. The library method was used to review the theoretical foundations, conceptual literature, previous empirical studies, and relevant models concerning market orientation, organizational performance, supply chain agility, and innovation capabilities. The field component of the study involved administering standardized questionnaires to members of the selected sample. Participation was voluntary, respondents were informed of the academic purpose of the research, and the collected information was treated confidentially and analyzed at the aggregate level.

Data were collected using a questionnaire consisting of two principal sections. The first section collected demographic and background information concerning the participants and their organizational characteristics. The second section consisted of standardized measures adapted from the instruments introduced by ALfarajat (2023) and T. M. Kijner (1965) and was designed to operationalize the principal constructs included in the conceptual model. Specifically, the questionnaire assessed market orientation as the principal predictor variable, organizational performance as the outcome variable, supply chain agility as the mediating variable, and initiative innovation and proactive innovation as innovation-related capabilities incorporated into the proposed relationships. Market orientation reflected the extent to which an enterprise systematically attends and responds to market-related information, customer requirements, competitive conditions, and changes in its business environment. Organizational performance represented the perceived effectiveness and overall business outcomes of the enterprise. Supply chain agility reflected the organization's capacity to respond rapidly and effectively to changes in demand, supply conditions, customer requirements, and environmental uncertainty. Initiative innovation and proactive innovation reflected different aspects of the enterprise's capability to initiate innovative activities and anticipate emerging market needs and opportunities rather than relying exclusively on established organizational practices. All substantive questionnaire items were measured using a five-point Likert scale, allowing respondents to indicate the extent of their agreement with each statement from the lowest to the highest

level of agreement. Prior to the main administration of the questionnaire, its face and content validity were evaluated by specialists and university faculty members with expertise in management and related fields. The reviewers examined the clarity, relevance, appropriateness, comprehensibility, and conceptual correspondence of the items with the study variables. Based on their assessment, the questionnaire was considered suitable for measuring the constructs included in the proposed research model.

The collected data were analyzed using both descriptive and inferential statistical procedures. IBM SPSS Statistics version 27 was used for data preparation, screening, descriptive analysis, assessment of the distributional properties of the variables, and supplementary regression analyses. Descriptive statistics were employed to summarize the demographic characteristics of the respondents and describe the principal study variables. Frequencies and percentages were used for categorical variables, whereas means and standard deviations were used to summarize quantitative and scale-based variables. Before testing the research hypotheses, the distribution of the study variables was examined using the Kolmogorov–Smirnov test to assess the normality assumption and determine the appropriateness of the subsequent parametric analyses. The primary hypotheses and the relationships specified in the conceptual model were examined through structural equation modeling (SEM) using AMOS software. SEM was employed to simultaneously estimate the relationships among market orientation, supply chain agility, innovation-related variables, and SME performance and to evaluate the direct and indirect effects specified by the theoretical model. The mediating role of supply chain agility in the relationship between market orientation and performance was additionally evaluated using the Sobel test, which examined whether the indirect effect transmitted through supply chain agility was statistically significant. Regression analysis was used to investigate the moderating effects associated with the innovation capabilities, including initiative innovation and proactive innovation, by examining whether variations in these capabilities altered the magnitude or direction of the relationships proposed in the model. Statistical decisions were made on the basis of the estimated coefficients, associated significance levels, and the results of the structural and regression analyses, thereby permitting an integrated assessment of the direct, mediating, and moderating relationships proposed in the study.

3. Findings and Results

A total of 384 employees from small and medium-sized enterprises in Kermanshah were included in the final analysis. Of the participants, 233 (60.7%) were men and 151 (39.3%) were women. With respect to age, 88 participants (22.9%) were 30 years of age or younger, 154 (40.1%) were between 31 and 40 years, 101 (26.3%) were between 41 and 50 years, and 41 (10.7%) were older than 50 years. Thus, the largest proportion of respondents belonged to the 31–40-year age group. Regarding educational attainment, 80 participants (20.8%) had a high-school diploma or associate degree, 194 (50.5%) held a bachelor's degree, 94 (24.5%) held a master's degree, and 16 (4.2%) held a doctoral degree, indicating that approximately three-quarters of the respondents had at least a bachelor's degree. In terms of work experience, 91 respondents (23.7%) had fewer than 5 years of experience, 126 (32.8%) had between 5 and 10 years, 86 (22.4%) had between 11 and 15 years, and 81 (21.1%) had more than 15 years of work experience. Regarding organizational position, 248 participants (64.6%) were employees without formal managerial responsibility, 105 (27.3%) were supervisors or middle-level managers, and 31 (8.1%) were senior managers or individuals occupying equivalent decision-making positions. Furthermore, 239 respondents (62.2%) were employed in small enterprises and 145 (37.8%) were employed in medium-sized enterprises. Overall, the demographic distribution indicated adequate representation of employees with different age groups, educational backgrounds, levels of work experience, organizational positions, and enterprise sizes, thereby providing a

heterogeneous sample for examining the relationships among market orientation, supply chain agility, innovation capabilities, and SME performance.

Table 1. Descriptive Statistics, Distributional Characteristics, Reliability, and Convergent Validity of the Study Variables

Variable	Mean	SD	Skewness	Kurtosis	K–S D	K–S p	Standardized Loading Range	Cronbach's α	CR	AVE
Market Orientation	3.68	0.58	-0.34	0.18	0.047	.083	.71–.86	.90	.91	.57
SME Performance	3.61	0.62	-0.27	0.14	0.046	.096	.72–.88	.88	.89	.55
Supply Chain Agility	3.57	0.64	-0.22	-0.11	0.049	.071	.75–.90	.91	.92	.60
Initiative Innovation	3.66	0.61	-0.30	0.08	0.044	.108	.70–.85	.87	.88	.54
Proactive Innovation	3.54	0.67	-0.17	-0.21	0.050	.065	.73–.89	.89	.90	.58

As shown in Table 1, the mean scores of all principal variables were above the theoretical midpoint of 3.00 on the five-point response scale. Market orientation had the highest mean among the study variables (M = 3.68, SD = 0.58), closely followed by initiative innovation (M = 3.66, SD = 0.61), SME performance (M = 3.61, SD = 0.62), supply chain agility (M = 3.57, SD = 0.64), and proactive innovation (M = 3.54, SD = 0.67). These values indicated that respondents generally evaluated the market orientation, innovation capabilities, supply chain responsiveness, and organizational performance of their enterprises at moderately favorable levels. The absolute values of skewness ranged from 0.17 to 0.34, while the absolute values of kurtosis ranged from 0.08 to 0.21, indicating no substantial departure from univariate normality. Consistent with these results, the Kolmogorov–Smirnov tests were nonsignificant for market orientation (D = 0.047, p = .083), SME performance (D = 0.046, p = .096), supply chain agility (D = 0.049, p = .071), initiative innovation (D = 0.044, p = .108), and proactive innovation (D = 0.050, p = .065). Therefore, the assumption of approximate normality was considered satisfactory for subsequent parametric and covariance-based analyses. Examination of the measurement properties also showed that the standardized factor loadings ranged from .70 to .90 and were therefore sufficiently strong across the study constructs. Cronbach's alpha coefficients ranged from .87 for initiative innovation to .91 for supply chain agility, demonstrating satisfactory internal consistency. Composite reliability coefficients ranged between .88 and .92 and were above the acceptable level for all constructs. In addition, the AVE values varied from .54 to .60, indicating that each latent construct accounted for more than half of the variance in its indicators. Taken together, the factor loadings, Cronbach's alpha coefficients, composite reliability values, and AVE estimates provided support for the reliability and convergent validity of the measurement model and justified proceeding to structural model estimation.

Table 2. Goodness-of-Fit Indices for the Measurement and Structural Models

Fit Index	Measurement Model	Structural Model	Recommended Criterion	Evaluation
χ^2	613.84	628.52	—	—
df	341	346	—	—
χ^2/df	1.80	1.82	< 3.00	Good
GFI	.914	.909	≥ .90	Acceptable
AGFI	.896	.891	Approximately ≥ .90	Acceptable
CFI	.957	.954	≥ .90	Good
TLI	.951	.948	≥ .90	Good
IFI	.958	.955	≥ .90	Good
NFI	.929	.925	≥ .90	Good

RMSEA	.046	.046	< .08	Good
SRMR	.041	.044	< .08	Good

The goodness-of-fit statistics presented in Table 2 demonstrated that both the measurement model and the final structural model adequately represented the observed data. For the measurement model, the chi-square to degrees-of-freedom ratio was 1.80, while the corresponding value for the structural model was 1.82; both values were clearly below the commonly accepted upper limit of 3.00 and indicated satisfactory model parsimony. The GFI values were .914 and .909 for the measurement and structural models, respectively, while the AGFI values were .896 and .891. Although the AGFI estimates were marginally below .90, their proximity to this criterion, together with the stronger performance of the remaining fit indices, supported the overall adequacy of both models. The incremental fit measures were consistently favorable. Specifically, the CFI was .957 for the measurement model and .954 for the structural model, the TLI values were .951 and .948, the IFI values were .958 and .955, and the NFI values were .929 and .925, respectively. All of these values exceeded .90, indicating that the hypothesized models provided a substantially better representation of the covariance structure than a null or independence model. Moreover, the RMSEA was .046 for both models, and the SRMR values were .041 for the measurement model and .044 for the structural model. These residual-based indices were well below the conventional threshold of .08 and indicated relatively small discrepancies between the observed and model-implied covariance matrices. Accordingly, the collective pattern of absolute, incremental, comparative, and residual fit statistics confirmed that the measurement model had satisfactory construct representation and that the structural model was sufficiently well fitted to the data to permit interpretation of the hypothesized direct and indirect relationships.

Table 3. Structural Equation Modeling Results for the Direct and Mediating Effects

Hypothesized Relationship	B	SE	Standardized β	C.R./Sobel z	p	Total Effect β	Result
Market Orientation → SME Performance	.308	.058	.294	5.31	< .001	—	Supported
Market Orientation → Supply Chain Agility	.671	.056	.611	11.98	< .001	—	Supported
Supply Chain Agility → SME Performance	.452	.057	.429	7.93	< .001	—	Supported
Market Orientation → Supply Chain Agility → SME Performance	—	—	.262	6.62	< .001	.556	Partial mediation

The structural coefficients reported in Table 3 supported the principal direct and mediating relationships specified in the research model. Market orientation had a positive and statistically significant direct effect on SME performance (B = .308, SE = .058, β = .294, C.R. = 5.31, p < .001), indicating that enterprises characterized by stronger market orientation tended to report higher levels of organizational performance. Market orientation also exerted a particularly strong positive effect on supply chain agility (B = .671, SE = .056, β = .611, C.R. = 11.98, p < .001), demonstrating that greater attention to customers, competitors, market information, and changing market conditions was associated with a substantially stronger capacity to adapt supply chain activities rapidly. Supply chain agility, in turn, had a significant positive effect on SME performance (B = .452, SE = .057, β = .429, C.R. = 7.93, p < .001), showing that enterprises with more agile supply chains tended to achieve better performance outcomes. The squared multiple correlation for supply chain agility was R^2 = .373, indicating that approximately 37.3% of its variance was explained by market orientation. The structural predictors collectively accounted for approximately 50.8% of the variance in SME performance (R^2 = .508), demonstrating substantial explanatory capacity for the

proposed model. More importantly, the indirect standardized effect of market orientation on SME performance through supply chain agility was β = .262. The Sobel test confirmed that this indirect pathway was statistically significant (z = 6.62, p < .001). Because the direct effect of market orientation on performance remained significant after supply chain agility was entered into the model, the mediation was identified as partial rather than complete. The total standardized effect of market orientation on SME performance was β = .556, demonstrating that market orientation contributed to performance both directly and indirectly through the development of supply chain agility. Thus, the findings supported the proposition that supply chain agility represents an important explanatory mechanism through which a market-oriented approach is translated into improved SME performance.

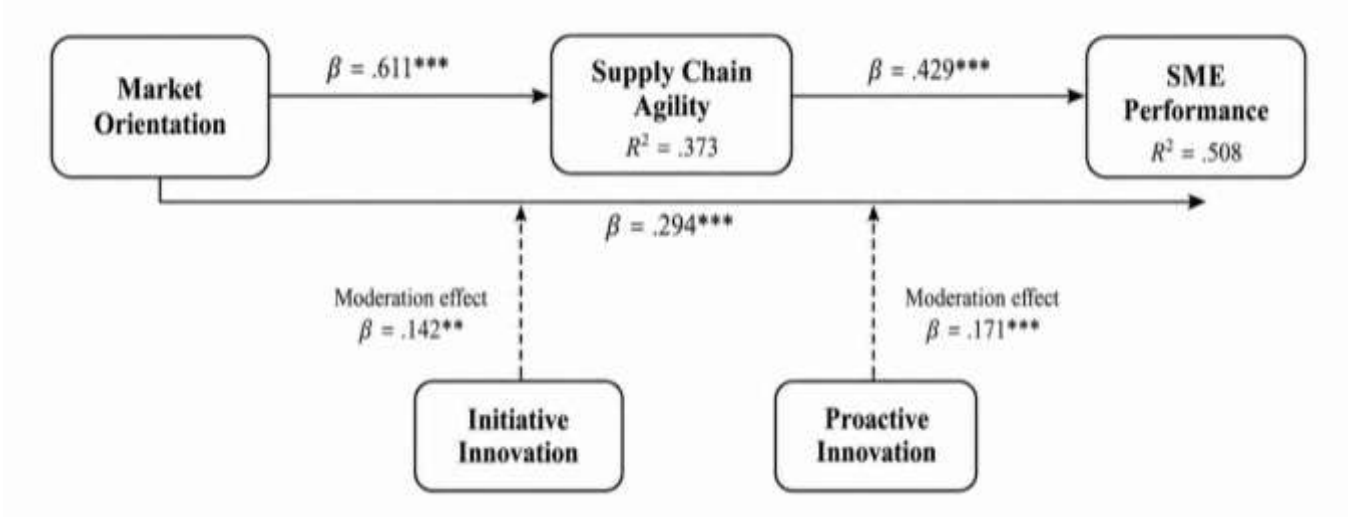


Figure 1. Standardized Structural Model of the Relationships Among Market Orientation, Supply Chain Agility, Innovation Capabilities, and SME Performance

The standardized structural model summarized in Figure 1 indicated a coherent pattern of positive relationships among the core constructs. The strongest structural path was observed from market orientation to supply chain agility (β = .611, p < .001), followed by the path from supply chain agility to SME performance (β = .429, p < .001) and the remaining direct path from market orientation to SME performance (β = .294, p < .001). This configuration demonstrated that the performance effect of market orientation was not restricted to a single direct pathway. Rather, a considerable proportion of its influence was transmitted through the enterprise's capacity to develop a more agile supply chain. The model therefore showed that market orientation functioned simultaneously as a direct antecedent of performance and as an antecedent of the dynamic supply chain capability through which additional performance benefits were obtained. The significant residual direct coefficient between market orientation and performance, together with the significant indirect coefficient through supply chain agility, visually represented the partial mediation pattern identified by the Sobel test. Furthermore, the model incorporated initiative innovation and proactive innovation as innovation capabilities capable of conditioning the strength of the market orientation–performance relationship. The explanatory power of the model was also notable, with market orientation explaining 37.3% of the variance in supply chain agility and the predictors incorporated into the structural relationships explaining approximately 50.8% of the variance in SME performance. These coefficients collectively indicated that the proposed model provided a meaningful account of differences in performance among the SMEs included in the study.

Table 4. Hierarchical Regression Analysis of the Moderating Effects of Initiative Innovation and Proactive Innovation on the Relationship Between Market Orientation and SME Performance

Model	Predictor	B	SE	Standardized β	t	p	VIF
Model 1	Market Orientation	.354	.043	.335	8.23	< .001	1.43
Model 1	Initiative Innovation	.246	.041	.239	6.00	< .001	1.39
Model 1	Proactive Innovation	.201	.040	.196	5.03	< .001	1.35
Model 2	Market Orientation	.325	.043	.308	7.56	< .001	1.51
Model 2	Initiative Innovation	.219	.041	.213	5.34	< .001	1.47
Model 2	Proactive Innovation	.180	.040	.175	4.50	< .001	1.43
Model 2	Market Orientation × Initiative Innovation	.112	.036	.142	3.11	.002	1.18
Model 2	Market Orientation × Proactive Innovation	.147	.038	.171	3.87	< .001	1.21

Model Summary	R^2	Adjusted R^2	F	p	ΔR^2	ΔF	p for ΔF
Model 1: Main effects	.468	.464	111.43	< .001	—	—	—
Model 2: Main effects + interaction terms	.512	.506	79.32	< .001	.044	17.04	< .001

As presented in Table 4, the hierarchical regression analysis demonstrated that both dimensions of innovation capability significantly moderated the relationship between market orientation and SME performance. In the first model, which contained only the main effects, market orientation was a significant positive predictor of performance (B = .354, SE = .043, β = .335, t = 8.23, p < .001). Initiative innovation also had a significant positive main effect (B = .246, SE = .041, β = .239, t = 6.00, p < .001), as did proactive innovation (B = .201, SE = .040, β = .196, t = 5.03, p < .001). Together, these three predictors accounted for 46.8% of the variance in SME performance (R^2 = .468, adjusted R^2 = .464), and the overall regression model was statistically significant, F = 111.43, p < .001. In Model 2, the two interaction terms were entered in addition to the main effects. The Market Orientation × Initiative Innovation interaction was positive and statistically significant (B = .112, SE = .036, β = .142, t = 3.11, p = .002), demonstrating that initiative innovation strengthened the positive relationship between market orientation and SME performance. Similarly, the interaction between market orientation and proactive innovation was statistically significant and somewhat stronger (B = .147, SE = .038, β = .171, t = 3.87, p < .001), indicating that proactive innovation further enhanced the capacity of market orientation to generate superior organizational performance. The addition of the interaction effects increased the explained variance from 46.8% to 51.2%, representing a statistically significant increase of 4.4 percentage points (ΔR^2 = .044, ΔF = 17.04, p < .001). The variance inflation factor values ranged from 1.18 to 1.51, indicating that multicollinearity did not adversely affect the regression estimates. Examination of the interaction pattern further indicated that the positive relationship between market orientation and performance became progressively stronger as innovation capability increased. At approximately one standard deviation below the mean of initiative innovation, the estimated effect of market orientation on performance was approximately B = .257, whereas at one standard deviation above the mean it increased to approximately B = .393. A similar but somewhat stronger pattern was found for proactive innovation: the estimated market orientation slope increased from approximately B = .227 at a low level of proactive innovation to approximately B = .423 at a high level. Therefore, market orientation was positively related to SME performance even at comparatively lower levels of innovation capability, but its performance-enhancing effect was substantially stronger among enterprises characterized by greater initiative and proactive innovation. Overall, the moderation findings showed that innovation capabilities did not merely have independent positive associations with performance; rather, they amplified the benefits that SMEs obtained from their market-oriented activities. Among the two innovation dimensions, proactive innovation demonstrated the stronger moderating effect, suggesting that the ability to

anticipate emerging opportunities and act ahead of market developments was especially important in converting market orientation into superior performance.

4. Discussion and Conclusion

The present study examined the effect of market orientation on the performance of small and medium-sized enterprises (SMEs) in Kermanshah, with particular attention to the mediating role of supply chain agility and the moderating roles of initiative innovation and proactive innovation. The findings provided empirical support for the proposed conceptual framework and demonstrated that market orientation was positively associated with SME performance both directly and indirectly through supply chain agility. Specifically, market orientation had a significant positive direct effect on SME performance ($\beta = .294$, $p < .001$), a strong positive effect on supply chain agility ($\beta = .611$, $p < .001$), and supply chain agility, in turn, positively predicted SME performance ($\beta = .429$, $p < .001$). The indirect effect of market orientation on performance through supply chain agility was also significant ($\beta = .262$, $p < .001$), while the direct effect remained statistically significant, confirming partial mediation. The total effect of market orientation on SME performance was $\beta = .556$, indicating that market orientation represented a substantial explanatory factor in organizational performance. In addition, initiative innovation and proactive innovation significantly strengthened the positive relationship between market orientation and performance, with interaction coefficients of $\beta = .142$ ($p = .002$) and $\beta = .171$ ($p < .001$), respectively. The stronger moderating effect of proactive innovation suggested that the capacity to anticipate future opportunities and respond ahead of competitors may be especially important in transforming market orientation into superior performance.

The first major finding was that market orientation had a positive and statistically significant direct effect on SME performance. This result indicates that SMEs that pay greater attention to customers, competitors, changing market conditions, and the systematic use of market information are more likely to achieve favorable performance outcomes. Market-oriented firms are generally better positioned to identify changing customer requirements, recognize shifts in competitive behavior, adjust their value propositions, and allocate resources toward activities with greater market relevance. The finding is consistent with the proposition that market orientation is not merely a marketing philosophy but an organization-wide strategic capability capable of influencing broader business outcomes. Previous evidence has similarly demonstrated that different components of market orientation contribute to service performance through improved responsiveness and alignment with market requirements [3]. The present finding is also consistent with evidence from SMEs showing that market orientation contributes to competitive advantage and improved organizational performance, particularly when it operates in conjunction with entrepreneurial capabilities [5]. Furthermore, the positive relationship identified in the present study accords with research demonstrating that market orientation can enhance export performance through marketing effectiveness and organizational marketing capabilities [7].

The positive effect of market orientation on performance can also be interpreted in relation to the resource constraints typically faced by SMEs. Because smaller firms generally possess fewer financial, technological, and human resources than larger organizations, the efficient allocation of their limited resources becomes especially important. Market orientation may reduce uncertainty in such decisions by directing managerial attention toward activities that are more closely aligned with actual or anticipated market demand. In this sense, accurate market intelligence reduces the probability of investing in inappropriate products, ineffective promotional activities, or poorly targeted operational changes. This interpretation is compatible with findings showing that market orientation and market agility jointly influence organizational performance under dynamic environmental

conditions [8]. It is also consistent with recent evidence indicating that the relationship between market orientation and SME performance becomes stronger when firms possess entrepreneurial orientations that encourage opportunity recognition, risk acceptance, and timely strategic action [6]. Accordingly, the current results suggest that market orientation creates performance value by improving the quality and relevance of organizational decisions and by increasing the firm's capacity to align its activities with evolving market realities.

The second major finding was the strong positive effect of market orientation on supply chain agility. The standardized coefficient for this relationship ($\beta = .611$) was the largest direct structural coefficient in the model, suggesting that market orientation is an important antecedent of an SME's ability to develop an agile supply chain. This result can be explained by considering the informational foundation of agility. Supply chain agility requires rapid recognition of changes in demand, customer expectations, competitive pressures, supply availability, and broader environmental conditions. A market-oriented organization continuously gathers and interprets precisely this type of information. Therefore, firms that systematically monitor customers and competitors are more likely to identify supply chain adjustments earlier and respond more rapidly through changes in sourcing, production, inventory, logistics, or delivery arrangements. The result is consistent with the broader supply chain literature, which emphasizes coordination, information exchange, flexibility, and responsiveness as essential characteristics of effective supply chain management [12]. It also supports empirical findings that supply chain agility depends on the organizational capacity to coordinate resources and rapidly reconfigure processes in response to environmental change [13].

This finding also corresponds with more recent research emphasizing the role of organizational and technological capabilities in creating agile supply chains. For example, transformational leadership and organizational ambidexterity have been shown to foster supply chain agility by strengthening both exploitation and exploration capabilities [20]. Similarly, the development of infrastructure supporting supply chain agilization has been identified as essential for improving responsiveness in dynamic operating environments [17]. Artificial intelligence-based risk management has also been associated with supply chain reengineering capabilities and agility, highlighting the increasing value of timely information and predictive decision-making in contemporary supply chains [18]. Viewed together with the present findings, these studies suggest that market orientation may provide the external informational input required for agility, whereas technological, managerial, and structural capabilities determine how efficiently that information is converted into supply chain action.

The third major finding was that supply chain agility positively and significantly affected SME performance. The coefficient of $\beta = .429$ indicates that SMEs capable of adjusting their supply chain activities rapidly and flexibly tended to exhibit higher performance. This finding can be explained by the fact that agile supply chains enable firms to shorten response times, accommodate demand fluctuations, manage disruption, improve customer service, and reduce the costs associated with delayed or inappropriate operational decisions. For SMEs, which commonly operate with restricted inventories, narrower supplier networks, and fewer financial buffers, the capacity to respond rapidly may be especially consequential. The present result is consistent with evidence from the fashion industry demonstrating that supply chain agility, together with strategic and manufacturing flexibility, contributes positively to firm performance [14]. It is also aligned with evidence that supply chain agility enhances export performance through responsiveness and innovativeness [15]. Within the Iranian context, supply chain agility has likewise been shown to mediate the effects of information technology flexibility and organizational learning on manufacturing firm performance [16].

The positive performance consequences of agility can additionally be understood within the broader framework of dynamic capabilities. Agile firms do not simply operate efficiently under stable conditions; rather, they are better able to reconfigure resources when conditions change. This distinction is important because performance in uncertain environments increasingly depends on the capacity to adapt rather than merely on the optimization of existing routines. Recent research has shown that dynamic capabilities, innovation, and supply chain agility collectively contribute to stronger supply chain outcomes in contexts characterized by sustainability requirements and environmental change [19]. Artificial intelligence-driven innovation has similarly been associated with greater supply chain resilience and performance under conditions of supply chain dynamism [21]. The current findings therefore reinforce the view that agility represents a strategically valuable capability that allows SMEs to protect and improve performance when faced with market volatility and supply chain uncertainty.

A particularly important finding of the study was that supply chain agility partially mediated the relationship between market orientation and SME performance. The significant indirect effect ($\beta = .262$, $p < .001$), together with the continuing significance of the direct relationship, indicates that market orientation improves performance through at least two routes. First, it exerts a direct influence by improving customer understanding, competitive positioning, and strategic decision-making. Second, it contributes indirectly by strengthening supply chain agility, which subsequently enhances performance. This partial mediation provides a more comprehensive explanation of how market orientation creates organizational value. It suggests that acquiring and interpreting market knowledge alone is insufficient to fully realize its performance benefits. Firms must also be capable of translating such knowledge into operational responses. A company may accurately recognize an emerging shift in customer demand, but unless it can alter procurement, production, logistics, or delivery processes quickly, the market intelligence may not lead to improved outcomes.

This mediating mechanism is consistent with prior evidence showing that the effects of market-oriented or organizational capabilities on performance often operate through intervening mechanisms. For example, marketing effectiveness and marketing capabilities have been identified as pathways through which market orientation improves export performance [7]. Innovation has similarly been shown to mediate the effects of market orientation, entrepreneurial orientation, knowledge management, and organizational learning on SME performance [23]. Moreover, supply chain agility has previously been identified as an intervening variable linking technological infrastructure flexibility and organizational learning to performance [16]. These findings collectively support the interpretation that market orientation should not be regarded as an isolated determinant of performance. Rather, its benefits depend substantially on the development of organizational capabilities capable of transforming information into coordinated action.

The mediation result is also compatible with research emphasizing organizational learning as a foundation of improved performance. Organizational learning facilitates the acquisition, interpretation, and application of knowledge and has been positively associated with organizational performance [9]. Market orientation may be regarded as a specialized form of externally focused learning through which firms acquire information about customers and competitors. Supply chain agility then constitutes an operational mechanism for applying this knowledge rapidly. This logic becomes even more important in technologically dynamic markets, where the pace of innovation and digital transformation continuously alters production systems, consumer expectations, and patterns of competition. Research on the economic and social determinants of technological innovation indicates that the broader development of advanced technologies creates new conditions for organizational adaptation [22]. Similarly, the positive contributions of digital transformation, business innovation, and corporate entrepreneurship

to SME performance demonstrate that organizations increasingly need to convert information and technological opportunities into practical strategic and operational changes [10].

The study further showed that initiative innovation positively moderated the relationship between market orientation and SME performance. The significant interaction coefficient (β = .142, p = .002) indicated that the beneficial effect of market orientation on performance was stronger among SMEs exhibiting higher levels of initiative innovation. This finding suggests that market knowledge yields greater value when firms are willing and able to initiate new solutions rather than merely respond passively to environmental developments. Initiative innovation can facilitate the conversion of market information into new products, service improvements, process changes, distribution arrangements, or managerial practices. A market-oriented firm may identify customer dissatisfaction or an emerging market opportunity, but the performance outcome depends on whether the organization is capable of initiating an appropriate response. The finding therefore reinforces the argument that market orientation is most productive when combined with action-oriented innovation capabilities.

This result is supported by previous research demonstrating that innovation plays a central role in transforming market orientation and other strategic orientations into performance outcomes. Innovation has been found to mediate the relationship between market orientation and SME performance, indicating that market knowledge becomes economically valuable when it generates innovative action [23]. Research on new product performance similarly shows that market orientation is especially effective when organizations understand latent customer needs and possess managerial relationships that facilitate access to knowledge and resources [24]. The present result can also be interpreted in light of research demonstrating that process improvement and lean manufacturing practices contribute to sustainability performance among SMEs [26]. Initiative innovation may therefore involve both novel offerings and incremental operational improvements. In each case, the important mechanism is the organization's willingness to translate perceived market opportunities into deliberate change.

Proactive innovation also significantly moderated the market orientation–performance relationship, and its moderating coefficient (β = .171, p < .001) was stronger than that of initiative innovation. This finding indicates that SMEs with a greater capacity to anticipate future opportunities, latent customer needs, technological developments, and competitive changes obtained greater performance benefits from market orientation. Proactive innovation differs from purely reactive innovation because it emphasizes acting before market pressures become explicit. In highly dynamic environments, firms that wait until customer demand or competitor behavior becomes fully observable may lose valuable first-mover opportunities. A proactive organization, by contrast, uses market information to infer future developments and prepare innovative responses in advance. The stronger moderating effect found for proactive innovation therefore suggests that anticipation may be particularly important for SMEs attempting to convert market knowledge into sustained competitive performance.

This interpretation is consistent with evidence that identifying latent customer needs enhances the effectiveness of market orientation in generating new product performance [24]. It also corresponds with arguments emphasizing the importance of developing strategies directed not only toward existing customers but also toward potential and emerging users in developing markets [4]. Recent evidence concerning brand differentiation further suggests that market orientation can contribute to value creation when firms use market understanding to distinguish their offerings and strengthen their market position [25]. Proactive innovation can amplify these effects by encouraging firms to develop differentiated solutions before competitors react to the same market signals. Furthermore, because technological innovation is increasingly shaped by rapid changes associated with digital

transformation and the Fourth Industrial Revolution, proactive innovation may help SMEs anticipate technological shifts rather than respond only after established market structures have changed [22].

The positive effects of both initiative and proactive innovation also complement recent research concerning the role of innovation in SME performance. Business innovation, digital transformation, and corporate entrepreneurship have been shown to improve the performance of small and medium-sized trading firms [10]. The current results extend this reasoning by suggesting that innovation capabilities do more than independently contribute to performance; they also increase the effectiveness of another strategic capability, namely market orientation. This distinction is theoretically meaningful because it demonstrates complementarity among organizational capabilities. Market orientation provides information and direction, while innovation capabilities determine whether the organization can convert that information into distinctive and timely responses. This also aligns with the finding that market characteristics can shape how internal organizational mechanisms influence performance [11]. Performance is therefore best understood as the outcome of combinations of capabilities interacting with one another and with external market conditions.

Taken together, the findings support an integrated explanation of SME performance in which market orientation, supply chain agility, and innovation capabilities perform complementary functions. Market orientation strengthens the firm's capacity to understand its environment; supply chain agility enables it to translate this understanding into rapid operational responses; and initiative and proactive innovation increase the range, originality, and anticipatory quality of the responses available to the organization. This integrated interpretation is also compatible with concerns regarding supply chain management challenges, where inadequate coordination, information exchange, infrastructure, and flexibility can constrain organizational responsiveness [27]. In contrast, SMEs that combine market knowledge with agility and innovation are more likely to adapt their products, processes, and supply arrangements to changing conditions. The results therefore demonstrate that superior performance is unlikely to emerge from any single capability in isolation. Instead, performance appears to depend on the firm's ability to integrate informational, operational, and innovative capabilities into a coherent adaptive system.

Several limitations should be considered when interpreting the findings of this study. First, the research employed a cross-sectional descriptive-survey design; therefore, although the structural relationships were theoretically specified and statistically supported, causal conclusions cannot be established with the same confidence as in longitudinal or experimental studies. Second, the study relied on self-report questionnaire data, which may be affected by common method variance, social desirability, perceptual bias, or respondents' incomplete knowledge of organizational practices and performance. Third, the research population was restricted to employees of small and medium-sized enterprises in Kermanshah, which limits the generalizability of the findings to SMEs operating in other Iranian provinces, larger enterprises, or organizations functioning in substantially different economic and institutional environments. Fourth, the study combined SMEs from different sectors, and variations in industry structure, supply chain complexity, technological intensity, competitive conditions, and customer characteristics may have influenced the strength of the observed relationships. Finally, the model focused specifically on supply chain agility and two innovation capabilities and therefore did not incorporate other potentially important mechanisms such as digital capability, organizational learning, environmental turbulence, leadership style, knowledge integration, financial resources, or supply chain resilience.

Future studies should replicate the proposed model in different geographical regions, industrial sectors, and national contexts to determine the stability and generalizability of the findings. Longitudinal research would be particularly valuable for examining how changes in market orientation influence the development of supply chain

agility and subsequent performance over time and for establishing stronger temporal evidence concerning mediation. Researchers could also employ multisource data by obtaining market orientation and innovation assessments from employees and managers while measuring performance through objective financial, sales, market-share, productivity, or growth indicators. Comparative research between small and medium-sized firms, manufacturing and service organizations, exporting and non-exporting firms, or technologically intensive and traditional industries could clarify important boundary conditions. Future models may incorporate digital transformation, artificial intelligence capability, environmental dynamism, organizational ambidexterity, supply chain resilience, knowledge management, entrepreneurial orientation, and leadership as additional mediators or moderators. Further studies could also distinguish among different forms of innovation, including incremental, radical, product, process, organizational, and digital innovation, and use multigroup structural equation modeling or longitudinal moderated-mediation analysis to determine whether the effects identified in this study differ across organizational and environmental contexts.

Managers of SMEs should treat market orientation as an organization-wide managerial capability rather than as the exclusive responsibility of the marketing department. Systematic mechanisms should be established for collecting customer feedback, monitoring competitor actions, identifying emerging market trends, and sharing relevant information across purchasing, production, sales, logistics, and senior management functions. At the same time, market intelligence should be connected directly to supply chain decision-making so that changes in demand can rapidly influence procurement, inventory, production scheduling, supplier coordination, and distribution. Managers should invest in flexible processes, reliable information systems, supplier collaboration, cross-functional communication, and contingency planning to strengthen supply chain agility. The findings also indicate that innovation capabilities should be deliberately cultivated alongside market orientation. Employees should be encouraged to propose and test new solutions, decision-making procedures should allow timely experimentation, and managers should allocate resources to initiatives addressing both current customer problems and anticipated future needs. Particular emphasis should be placed on proactive innovation because its strengthening effect on the market orientation–performance relationship was greater than that of initiative innovation. SMEs that combine continuous market sensing with agile operations and a proactive innovation culture are therefore more likely to convert environmental information into timely action and stronger organizational performance.

Authors' Contributions

Authors equally contributed to this article.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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