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The Interaction Between Core Strategic Dimensions and the Iso 56001 Innovation Management System in Organizations: An Empirical Approach

Organizasyonlarda Temel Stratejik Boyutlar ve ISO 56001 Inovasyon Yönetim Sistemi Etkileşimi: Ampirik Bir Yaklaşım

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ABSTRACT

ISO 56001 Innovation System aims to realize and maintain the competencies of organizations to realize innovative innovations in a systematic standard. Therefore, it can be stated that the interaction of the organization with its strategic dimensions will be important. In this context, the main purpose of this research is to determine the relationship of basic strategic dimensions with the ISO 56001 Innovation Management System within the scope of the opinions of the practitioners. The survey created for the research was answered by 32 practitioners in the energy sector operating internationally, in the first ISO 56001 innovation management system certified business in the world, between January 2025 and March 2025. As a result of the research, four factors were formed: "basic strategic dimensions", "visionary, system, market and competition dimensions", "innovativeness, collaborations, reputation and image dimensions" and "behavioral dimensions". A high and moderate positive linear correlation was determined between the dimensions. According to the findings of the structural equation model, it was determined that there is a positive interaction between the basic strategic dimensions in organizations and the ISO 56001 innovation management system strategic dimensions.

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ÖZ

ISO 56001 İnovasyon Sistemi organizasyonlarda inovatif ağırlıklı yeniliklerin gerçekleştirilmesine yönelik yetkinliklerini sistematik bir standartta gerçekleştirme ve sürdürebilmeyi amaçlamaktadır. Bu nedenle temel olarak organizasyonun stratejik boyutlarıyla etkileşiminin önemli olacağı belirtilebilir. Bu kapsamda, bu araştırmanın temel amacı, temel stratejik boyutların ISO 56001 İnovasyon Yönetim Sistemi ile ilişkiselliğinin uygulayıcıların görüşleri kapsa-

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mında belirlenmesidir. Araştırmaya yönelik olarak oluşturulan anket Ocak 2025 ve Mart 2025 tarihleri arasında uluslararası faaliyette bulunan enerji sektöründe yer alan endüstride Dünya'da ilk kez ISO 56001 İnovasyon Yönetim Sistemi belgelendirmesi gerçekleştirilen küresel ölçekli bir işletmede 32 uygulamacıya yanıtlatılmıştır. Araştırmanın sonucunda, "temel stratejik boyutlar", "vizyoner, sistem, pazar ve rekabet boyutları", "inovatiflik, işbirlikleri, itibar ve imaj boyutları" ve "davranışsal boyutlar" şeklinde dört faktör oluşmuştur. Boyutlar arasında yüksek ve orta düzeyde pozitif yönde doğrusal bir korelasyon belirlenmiştir. Yapısal eşitlik modeli bulgularına göre ise, organizasyonlarda temel stratejik boyutlar ile ISO 56001 İnovasyon Yönetim Sistemi Stratejik Boyutları arasında pozitif yönde bir etkileşim olduğu belirlenmiştir.

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1. INTRODUCTION

Organizations operating in today's constantly changing and transforming environments tend to act with a long-term perspective that shapes both the present and the future. In this context, innovation has become increasingly important for organizations to achieve sustainable competitive advantage and to ensure alignment not only with their internal environment but also with external conditions in highly competitive markets (Snyman & Kruger, 2004: 8; Çoban, 2019: 3).

Strategic management is a multidimensional framework that guides all strategic processes of organizations by defining their mission, vision, values, and principles (Hussey, 1998: 277). It encompasses internal and external analyses, the determination of strategic objectives, the selection, implementation, and control of competitive strategies, and the structuring of strategic leadership (Sammut-Bonnici, 2015: 2; Grant & Jordan, 2014: 13; Yiğit & Yiğit, 2015: 120). Therefore, differentiation in competition goes beyond products and services and encompasses managerial processes and organizational activities as a whole (Taşgit & Demirel, 2016: 308). At the same time, it supports organizations in minimizing vulnerability to external threats by enabling proactive precautions (Chaneta, 2015: 18).

ISO 56001 Innovation Management System, on the other hand, is defined as an international standard designed to institutionalize and systematically manage innovation activities in a globally recognized manner (Gueorguiev, 2023: 2). The ISO 56001 framework aims to enhance the strategic innovation capacity of organizations through foundational principles such as leadership, employee participation, knowledge management, risk-based thinking, and continuous improvement (www.iso.org). In this respect, ISO 56001 not only emphasizes achieving innovative outcomes but also positions innovation as an integral component of organizational strategy.

Although the literature includes various studies addressing the relationship between strategic management and innovation, empirical evidence regarding how these two structures are integrated—particularly within organizations that operate internationally and have become the first globally to obtain ISO 56001 certification—remains limited. Addressing this gap, the present research aims to systematically examine the relationship between key strategic dimensions and the ISO 56001 Innovation Management System within organizations.

The key strategic dimensions considered within this framework include visionary orientation, strategic planning competence, competitiveness, systemic approaches, collaboration culture, and behavioral factors. Investigating how these elements align with and complement the structural components of an innovation system forms the core focus of this study.

Within this context, a structural model regarding the alignment between ISO 56001 and strategic management dimensions was developed and tested based on the views of practitioners working in an internationally operating energy-sector organization that underwent ISO 56001 certification. The findings not only corroborate theoretical assumptions but also empirically demonstrate how innovation serves as a driving force within strategic planning and implementation processes. Consequently, this study contributes to both academic knowledge and managerial practice by offering a guiding framework for organizations seeking to integrate innovation-oriented strategic approaches.

2. LITERATURE REVIEW

2.1. Key Strategic Dimensions in Organizations

Within the scope of strategic leadership and perspective, strategic management provides a holistic short-, medium-, long-, and especially very long-term outlook shaped by both internal and external environments. It incorporates mission, vision, objectives, targets, and performance indicators, forming a proactive, competitive, and comprehensive managerial approach (Bateman & Zeithaml, 1990: 185; Turpcu, 2017: 12–13). Strategic management guides the direction of strategic decision-making and the actions required to achieve it (Howe, 1993: 27).

Mission and vision statements, as the starting point of organizational orientation, define the personality, strategic outlook, and strategic framework of the organization. The mission expresses the organization's current reason for existence—what it is and what it is not—while the vision represents an ideal long-term future state expected to be achieved. These statements play a crucial role in guiding the selection and implementation of appropriate strategic decisions (Gül, 2017: 28–30).

A rational and up-to-date understanding of the organization's current situation is essential for determining strategies and setting strategic objectives and goals. Various analytical tools—such as internal and external environment analyses, SWOT analysis, risk analysis, stakeholder analysis, financial analysis, and value chain analysis—can be employed (Lehtinen & Aaltonen, 2020: 86; Gül & Çarıkçı, 2014: 38).

Strategic goals represent the concrete, measurable objectives an organization aims to achieve in the future. Their clarity, feasibility, and time-boundedness directly influence the success of strategic orientation. Effective goal-setting enhances not only the clarity of strategy but also employee motivation and overall organizational performance.

The selection of appropriate competitive strategies is crucial for achieving strategic goals. Porter's cost leadership, differentiation, and focus strategies provide organizations with guidance on market positioning. When aligned with the organization's sectoral structure and resource capabilities, these strategies support the achievement of sustainable competitive advantage (Dess & Davis, 1984: 469).

Another key element enhancing the effectiveness of strategic structures is strategic leadership. Strategic leadership is manifested primarily through top executives and plays a decisive role across all organizational processes, decisions, time horizons, and resource allocations (Sert, 2015: 14–17).

A holistic understanding of key strategic dimensions within organizations influences not only the success of strategic plans but also organizational flexibility and environmental adaptation capacity. For this reason, each dimension must be evaluated as a complementary component within the strategic management process and effectively implemented in organizational practice.

2.2. ISO 56001 Innovation Management System

Innovation can be defined as a concept that encompasses originality and desirability, driving improvement, transformation, and novelty. For organizations, innovation is a primary source of value creation. The value created reflects processes that demonstrate desirability and reputation from the customer's perspective, making innovation directly related to competitive advantage (Porter, 1985). Rapid and dynamic environmental changes and technological shifts compel organizations to manage innovation systematically (Yüksel, 2023: 30).

At this point, ISO standards in general—and ISO 56001 Innovation Management System in particular—aim to ensure that innovation processes are managed strategically and systematically (Hyland & Karlsson, 2021: 11). ISO 56001 enables organizations to analyze and enhance innovation competencies, institutionalize innovation processes, and manage them proactively through a strategic lens (www.tse.org.tr).

For organizations, innovativeness extends far beyond products and services. ISO 56001 emphasizes that innovation is not limited to new products or services; it also requires innovative changes in organizational structures, processes, business models, and culture. Therefore, the standard outlines fundamental principles and implementation processes needed for effective innovation management (www.iso.org).

Increasing organizational innovation capacity centers on encouraging employees to generate new and creative ideas (Akyürek, 2020: 19–20). Leadership plays a critical role in inspiring, motivating, supporting, building trust and confidence, and achieving high individual and organizational performance. This process naturally requires active participation at all levels (Alharbi, 2021: 216).

Collaboration culture is another essential aspect of innovation management. While individuals may differ in their tendency toward cooperation or individualism, organizational culture plays a key role in aligning organizational and personal goals and values (Chatman & Barsade, 1995: 424). In this context, collaboration processes that support knowledge sharing, learning, and adaptation to changing conditions are vital for innovativeness (Torun, 2016: 39; Baykal Eriş, 2011: 27–28).

To implement ISO 56001, organizations must follow a structured framework. The process begins with context analysis, which helps organizations understand their internal and external environments, assess current innovation capabilities, and identify opportunities. After context analysis, innovation strategies are formulated and resources allocated accordingly. Operational innovation processes—including idea generation, commercialization, desirability assessment, and post-sales feedback—are critical steps (www.egiad.org).

Performance evaluation is essential for monitoring the effectiveness of innovation. This evaluation uses various indicators and tools to assess individual, team, departmental, and organizational-level outcomes (Yapa, 2024: 91). A robust performance measurement system adds value, while its absence creates organizational challenges.

ISO 56001 encourages organizations to continuously improve their innovation processes through standardized approaches. Continuous improvement strengthens adaptability to changing environmental conditions and enhances innovation capacity. Innovation is not a static target but a dynamic and evolving process (www.iso.org).

Systematic innovation approaches enable organizations to gain competitive advantage and ensure sustainability (Tidd & Bessant, 2020: 70). For innovation processes to become a strategic management tool, organizations must adopt foundational principles and effectively manage implementation.

2.3. Relationship Between Key Strategic Dimensions and the ISO 56001 Innovation Management System

In strategic terms, innovation refers to creating economic and non-economic value through originality, desirability, opportunity-orientation, risk consideration, entrepreneurship, and sustainable success under competitive environmental conditions (Tidd & Bessant, 2014: 6–9). Organizational innovation capacity must be continuously enhanced and integrated into managerial processes. Thus, strategic analyses, decision-making, and resource allocation must be evaluated rationally along with innovativeness (Taylan, 2024: 3–5).

ISO 56001 is built upon a strategic foundation. While defining innovation strategically, it emphasizes organizational context, leadership, strategic planning, content and value interaction, and assessment and monitoring processes. Strategically, it addresses innovation intent, innovation strategies, and policies; tactically, it focuses on innovation objectives; and operationally, on innovation implementation processes (ISO 56001, 2024: 7–9).

ISO 56001 serves as a critical guide that integrates innovation with the strategic and managerial processes of organizations. Leadership—present in both strategic management and ISO 56001—forms a natural point of alignment. Mission, vision, culture (values, principles, norms, beliefs), strategic objectives, performance indicators, and continuous improvement also align across strategic, tactical, and operational levels. Continuous improvement enhances organizational resilience to environmental conditions (Yukl & Gardner, 2020: 336–340), making standardized innovation essential for proactive adaptation.

Managing innovation systematically improves the effectiveness of strategic innovation objectives. Strategic management, in turn, provides the broader institutional context and processes that guide innovation activities. Thus, innovation becomes an integral component of strategic management rather than merely a supporting tool.

Innovation influences institutionalization at all levels by engaging the entire organization in unified, innovation-driven goals (Hancıoğlu & Yeşilaydın, 2016: 106–107) and supports the organization's future-oriented vision (Aytar & Soylu, 2017: 119). Therefore, these two approaches—strategic management and innovation management—are complementary and provide a stable foundation for modern organizations facing dynamic environmental conditions.

Strategic management minimizes randomness. Similarly, ISO 56001 replaces accidental innovation outcomes with systematic, measurable, and sustainable innovation processes supported by key strategic dimensions.

The context analysis conducted during the establishment of the innovation system resembles strategic planning's environmental analysis and demonstrates that both approaches fundamentally rely on the same managerial philosophy (www.iso.org).

3. RESEARCH

3.1. Purpose of the Research

The primary purpose of this research is to determine the relationship between the key strategic dimensions of organizations and the ISO 56001 Innovation Management System based on the perspectives of practitioners. In addition, the general opinions of participants regarding the ISO 56001 Innovation Management System were examined in a broader analytical framework.

3.2. Data Collection Tools

The data collection form used in the study consists of three main sections.

In the first section, demographic variables—the independent variables of the study—were included: age, gender, education level, job position (manager or non-manager), and years of professional experience.

In the second section, participants were asked three key questions assessing their general perceptions of the ISO 56001 Innovation Management System:

"To what extent is the ISO 56001 Innovation Management System necessary for organizations?"

"To what extent is the ISO 56001 Innovation Management System important within the framework of strategic dimensions?"

"To what extent can strategic dimensions be integrated with the ISO 56001 Innovation Management System?"

In the third section, to measure participants' views on organizational strategic dimensions, seven statements were included; and to evaluate the strategic importance of ISO 56001, twelve statements were used. These items were adapted from prior studies on strategic dimensions (Chaneta, 2015; Grant, 2014; Çıkmaz, 2024; Athapaththu, 2016; Turpcu, 2017) and ISO 56001 Innovation Management System research (Merrill, 2024; Bajić et al., 2024; Arslan et al., 2025; Prasetiyo et al., 2025).

For statistical evaluation, a five-point Likert scale was used: 1 = Strongly disagree, 2 = Disagree, 3 = Moderate agreement, 4 = Agree, 5 = Strongly agree.

3.3. Data Collection and Analysis

The survey was conducted between January 2025 and March 2025 with 32 employees who actively participated in the ISO 56001 Innovation Management System implementation in their organization. Although a sample size of 32 may be perceived as small, the originality of this research lies in its focus on a globally operating enterprise that became the first organization in Türkiye and the world to implement the ISO

56001 Innovation Management System, which strengthens the relevance and significance of the findings.

The analyses included factor analysis, one-sample t-tests, correlation analysis, and structural equation modeling (SEM). Statistical analyses were conducted using SPSS and AMOS, and the results were interpreted in light of existing literature.

3.4. Main Hypotheses of the Research

The primary hypotheses tested in the study are as follows:

H1: The identified factor is significant within the framework of organizational strategic dimensions (f1: Basic strategic dimensions).

H2: The factors associated with ISO 56001 are significant (f2: Visionary, system, market and competition dimensions; f3: Innovativeness, collaborations, reputation and image dimensions; f4: Behavioral dimensions).

H3: There is a positive linear correlation among the factors identified in the study.

H4: There is a positive interaction between the basic strategic dimensions in organizations and the strategic dimensions of the ISO 56001 Innovation Management System.

4. FINDINGS

4.1. Findings Related to Independent Variables

The age distribution of participants (n=32) ranged from 27 to 57 years, with a mean age of 38.2±7.21. The mean age of female participants (n=15; 46.9%) was 38.7±5.87, while the mean age of male participants (n=17; 53.1%) was 37.8±8.38.

The distribution of educational levels was as follows: high school 3.1% (n=1), associate degree 3.1% (n=1), bachelor's degree 31.3% (n=10), and graduate degree 62.5% (n=20).

In terms of work experience, 31.3% (n=10) had 1–9 years of experience, while 68.8% (n=22) had 10 or more years. The participants were evenly distributed between managerial (50%, n=16) and non-managerial positions (50%, n=16).

To assess participants' general perceptions of the ISO 56001 Innovation Management System, three questions were asked. A large majority of respondents evaluated the system as highly or very highly necessary, strategically important, and highly integrable with strategic dimensions.

This result is noteworthy because it reflects the views of individuals who were directly involved in implementing the system and observing its outcomes. In other words, participants' responses indicate that the system has led to strategically meaningful results for the organization. The mean age of the participants in the study (n=32) was 38.2±7.21 years, with a minimum and maximum age of 27 and 57, respectively. For female participants (n=15, 46.9%), the mean age was 38.7±5.87, while for male participants (n=17, 53.1%) it was 37.8±8.38.

The educational background distribution was as follows: high school 3.1% (n=1), associate degree 3.1% (n=1), bachelor's degree 31.3% (n=10), and postgraduate degree 62.5% (n=20).

The distribution of participants' work experience indicated that 31.3% (n=10) had 1–9 years of experience, while 68.8% (n=22) had 10 years or more.

Regarding job position, 50% (n=16) were managers and 50% (n = 16) were other employees (Table 1).

4.2. Validity and Reliability of Measurement Instruments

In the third section of the survey, a principal component analysis (PCA) was employed for the statements deemed important within the scope of strategic dimensions. The Kaiser–Meyer–Olkin value was 0.726, and the result of Bartlett's Test of Sphericity indicated statistical suitability ($\chi^2 = 139.261$, df = 21, p = 0.000). The diagonal values of the anti-image correlation matrix ranged between 0.859 and 0.734. In light of these findings, conducting a factor analysis was deemed appropriate.

The resulting single-factor structure explained 70.398% of the total variance. The Cronbach's alpha coefficient of the single-factor model was 0.903, demonstrating strong internal consistency. Accordingly, the findings indicate that the factors represented by the survey items explain the construct at a highly reliable level (Table 2). The emerging factor was named "F1: Core Strategic Dimensions" in accordance with the nature of the statements it comprises.

Table 1. Overview of the ISO 56001 innovation management system

	n	%
To what extent is the ISO 56001 innovation management system necessary		
Medium	1	3.1
High	10	31.3
Very high	21	65.6
Total	32	100.0
To what extent is the ISO 56001 innovation management system important within the framework of strategic dimensions?		
Medium	1	3.1
High	10	31.3
Very high	21	65.6
Total	32	100.0
To what extent can the ISO 56001 innovation management system be integrated with strategic dimensions?		
Medium	1	3.1
High	10	31.3
Very high	21	65.6
Total	32	100.0

Table 2. Findings of the validity and reliability test within the scope of the strategic dimension

As a strategic dimension within organizations, … holds fundamental importance	Factor	Cronbach alfa
	1	General=0.903
Effective diversification strategies for both the present and the future across all organizational processes (pre-production, production, sales, and post-sales) within an institutional framework	0.853	0.876
The presence of a strategic leadership perspective and perception awareness	0.832	0.881
Effective functional strategies (human resources, production, marketing, logistics, finance, public relations, quality, R&D, etc.) for the present and the future across all operational processes (pre-production, production, sales, and post-sales)	0.814	0.883
The ability to conduct the necessary monitoring, feedback, revisions, and updates	0.797	0.888
Achieving strategic goals and objectives within the processes defined under the selected strategies	0.788	0.884
Effective cost-leadership and differentiation strategies for the present and the future across all processes (pre-production, production, sales, and post-sales) in the markets where the organization operates	0.771	0.888
The effective execution of strategic analyses (SWOT, PEST, risk analysis, value chain analysis, financial analysis, stakeholder analysis, etc.)	0.709	0.896

In the third section of the questionnaire, a principal component analysis (PCA) was preferred within the scope of the other dimension—namely, the ISO 56001 Innovation Management System—to examine the propositions considered important. The Kaiser-Meyer-Olkin value was 0.753, and the Bartlett's Test of Sphericity produced an appropriate result (χ^2 = 230.016, df = 66, p=0.000). The diagonal values of the anti-image correlation matrix ranged between 0.883 and 0.755. In light of these findings, conducting factor analysis was deemed appropriate.

The resulting three-factor structure explained 72.884% of the total variance. The first factor accounted for 28.868% of the variance, the second factor for 27.202%, and the final factor for 16.813%. The Cronbach's alpha coefficient of the three-factor structure was 0.919, indicating strong internal consistency. Based on this result, it was demonstrated that the factors represented by the propositions in the questionnaire explain the subject at a highly reliable level (Table 3).

Accordingly, the three emerging factors were named in line with their associated propositions as follows:

f2: Visionary, System, Market, and Competition Dimensions;

f3: Innovativeness, Collaboration, Reputation, and Image Dimensions;

f4: Behavioral Dimensions.

For the other dimension of the study, the ISO 56001 Innovation Management System, a principal component analysis (PCA) was likewise employed for the statements considered important. The Kaiser–Meyer–Olkin value was 0.753, and Bartlett's Test of Sphericity confirmed the suit-

Table 3. Findings of the validity and reliability tests within the scope of the ISO 56001 innovation management system

The ISO 56001 Innovation Management System is strategically important in…	Factors			Cronbach alfa	
	1	2	3	General=0.919	
Creating innovations that provide value to customers within the framework of originality;	0.892	0.148	0.067	0.839	0.898
Developing innovations that are demanded and preferred by customers;	0.879	0.150	0.197	0.833	
Achieving sustainable competitive advantage against rivals in the markets;	0.809	0.022	0.290	0.863	
Supporting the achievement of performance indicators in an optimal manner;	0.754	0.313	0.025	0.881	
Establishing and sustaining a strong, visionary innovation system;	0.578	0.432	0.258	0.891	
Fostering creative ideas and practices through participatory R&D activities;	0.075	0.831	0.194	0.827	0.867
Leveraging strengths and improving weaknesses to access innovative opportunities;	0.233	0.813	0.021	0.849	
Successfully implementing the philosophy of continuous improvement across all processes;	0.163	0.811	0.150	0.825	
Creating and sustaining corporate reputation and image;	0.155	0.729	0.416	0.826	
Realizing collaborations based on win–win strategies;	0.386	0.525	0.366	0.863	
Ensuring the presence of effective leadership and motivation processes;	0.250	0.150	0.856	-	0.820
Embedding innovation-driven competencies, perceptions, attitudes, and behaviors within the organization.	0.133	0.310	0.850	-	

ability of the data for factor analysis ($\chi^2 = 230.016$, df = 66, p = 0.000). The diagonal values of the anti-image correlation matrix ranged between 0.883 and 0.755. These findings indicated that conducting a factor analysis was appropriate.

The resulting three-factor structure explained 72.884% of the total variance. The first factor accounted for 28.868% of the variance, the second factor for 27.202%, and the third factor for 16.813%. The Cronbach's alpha coefficient of the three-factor model was 0.919, demonstrating strong internal consistency. Accordingly, the factors represented by the survey items explain the construct at a highly reliable level (Table 3).

In line with the content of the items included within each factor, the three factors were respectively named as follows: "F2: Visionary, System, Market, and Competitive Dimensions," "F3: Innovativeness, Collaboration, Reputation, and Image Dimensions," and "F4: Behavioral Dimensions."

4.3. Findings Related to the Factors

Within the scope of the research, the H1 hypothesis established for the core strategic dimensions ("The factor … is important within the framework of strategic dimensions in organizations (f1)") and the H2 hypothesis developed for the ISO 56001 Innovation Management System ("Within the scope of the ISO 56001 System, the factor … is important")—covering the factors f2: Visionary, system, market, and competition dimensions; f3: Innovativeness, collaborations, reputation, and image dimensions; and f4: Behavioral dimensions—were accepted for each factor (Table 4).

In other words, it can be interpreted that practitioners of the ISO 56001 Innovation Management System attach a high level of importance to the "core strategic dimensions" established for the strategic dimension, as well as to the "visionary, system, market, and competition dimensions," the "innovativeness, collaborations, reputation, and image dimensions," the "behavioral dimensions," and their respective contents, which were developed for the ISO 56001 Innovation Management System.

As a result of the correlation analysis, the H3 hypothesis ("There is a positive linear correlation among the factors identified in the study") was accepted for all pairwise correlations. In other words, all pairwise covariations among the factors were found to be positive and linear.

The strength of the relationships indicates that the pair consisting of "Core Strategic Dimensions (f1)" and "Visionary, System, Market, and Competition Dimensions (f2)" exhibits a high-level correlation, whereas the correlations among the remaining factor pairs are at a moderate level (Table 5).

According to the results of the structural equation modeling, the H4 hypothesis—"There is a positive interaction between the core strategic dimensions in organizations and the strategic dimensions of the ISO 56001 Innovation Management System"—was found to be significant, as presented in Table 6. Although the model coefficients (β values) are relatively low, they are statistically significant (Table 6).

Table 4. One-Sample t-Test within the Scope of the Factors

Factors	n	$\bar{x}$±s	Test value =3	
			t	p
Core strategic dimensions (f1)	32	4.5±0.49	17.793	0.000
Visionary, system, market, and competition dimensions (f2)	32	4.4±0.60	13.366	0.000
Innovativeness, collaboration, reputation, and image dimensions (f3)	32	4.4±0.48	16.697	0.000
Behavioral dimensions (f4)	32	4.4±0.54	15.378	0.000

Table 5. Correlation analysis findings

Factors	Symbol	Core strategic dimensions (f1)	f2	f3
Visionary, system, market, and competition dimensions (f2)				
	r	0.693**		
	p	0.000		
Innovativeness, collaboration, reputation, and image dimensions (f3)				
	r	0.589**	0.508**	
	p	0.000	0.003	
Behavioral dimensions (f4)				
	r	0.519**	0.439*	0.526**
	p	0.002	0.012	0.002

Table 6. Structural equation modeling analysis results

Paths	β	Standard error	Critical ratio	p	Result
TSB <--> ID	0.097	0.044	2.187	0.029	Accepted
TSB <--> IV	0.167	0.067	2.485	0.013	Accepted
TSB <--> II	0.092	0.042	2.217	0.027	Accepted
IV <--> II	0.147	0.070	2.105	0.035	Accepted
II <--> ID	0.147	0.058	2.530	0.011	Accepted
IV <--> ID	0.151	0.075	2.006	0.045	Accepted

TSB: Core strategic dimensions; IV: Innovation: Visionary, system, market, and competition Dimensions; II: Innovation: Innovativeness, collaboration, reputation, and image dimensions; ID: Innovation: Behavioral dimensions.

Comparatively, the interaction between the core strategic dimensions and the strategic dimensions of the ISO 56001 Innovation Management System is, from highest to lowest, as follows: IV (Innovation: visionary, system, market, and competition dimensions), ID (Innovation: behavioral dimensions), and II (Innovation: innovativeness, collaboration, reputation, and image dimensions).

In addition, the research findings indicate that there is also a positive interaction among the strategic dimensions of the ISO 56001 Innovation Management System itself (Table 6).

Furthermore, the fit indices—CMIN/DF =1.788, GFI =0.902, NFI =0.902, CFI =0.903, and RMSEA =0.0788—demonstrate that the model exhibits an acceptable level of fit (Fig. 1).

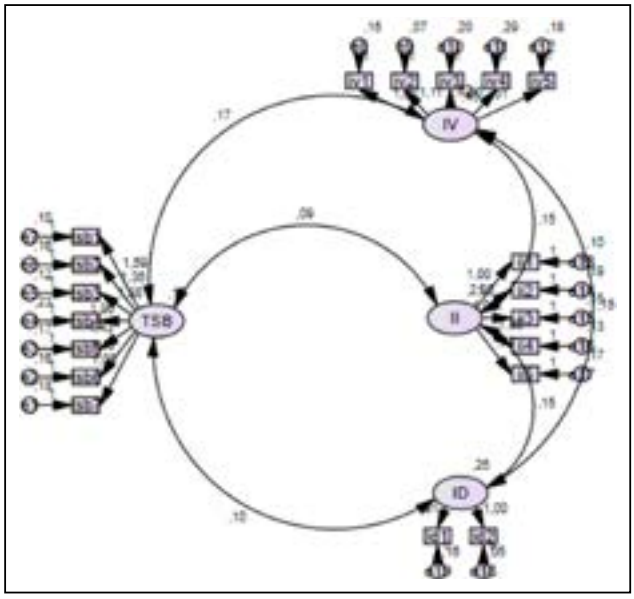

Figure 1. Structural equation model illustrating the relationship between core strategic dimensions (TSB) and the ISO 56001 innovation management system strategic dimensions (IV, II, ID).

5. CONCLUSION

Strategic management and innovation can be described as two fundamental managerial domains that interact to enhance the competitiveness and sustainability of contemporary organizations (Karaman, 2019: 43). In other words, in today's rapidly changing external environment and conditions, organizations cannot consider strategic dimensions and innovation separately. Proactive adaptation to the external environment and sustainable competitive advantage can only be evaluated together with innovativeness within a strategic framework.

This integrated perspective is consistent with prior studies emphasizing that innovation delivers sustainable value only when it is embedded within a clear strategic orientation supported by leadership and systematic processes (Tidd & Bessant, 2020). Accordingly, innovation management systems that operate independently from strategic intent tend to remain fragmented and produce limited long-term impact.

In this study, the interaction between core strategic dimensions and the ISO 56001 Innovation Management System was examined comprehensively based on theoretical approaches and the perspectives of practitioners. The survey conducted within an enterprise that holds the ISO 56001 certification and actively implements the system aimed to reveal the structural alignment between strategic management and innovation management.

The research was carried out between January 2025 and March 2025 with 32 ISO 56001 practitioners working in a globally operating enterprise in the energy sector. The questionnaire consisted of three main sections. The first section collected demographic information (age, gender, education level, position, and experience); the second section gathered participants' overall views on the ISO 56001 system; and the third section included scale-based questions evaluating the relationship between core strategic dimensions and innovation management.

The majority of participants (65.6%) evaluated the ISO 56001 system as "very highly" necessary. Similarly, the perceived relationship and level of integration between the system and strategic dimensions were assessed as "high" or "very high." This indicates that the system is regarded not only as a technical management tool but also as a strategic lever.

This perception aligns with recent empirical evidence showing that ISO 56001-based innovation management systems strengthen strategic alignment and enhance innovation performance when integrated with organizational strategy (Arslan et al., 2025).

Factor analysis revealed that the organizational strategic structure clustered into four factors: (1) Core Strategic Dimensions, (2) Visionary, System, Market, and Competition Dimensions, (3) Innovativeness, Collaboration, Reputation, and Image Dimensions, and (4) Behavioral Dimensions.

Findings from the one-sample t-test demonstrated that all these factors were considered highly important and were viewed as integral components of strategic planning processes at the organizational level.

Correlation analysis showed positive and significant relationships among all factors. The particularly strong relationship between "Core Strategic Dimensions" and "Visionary, System, Market, and Competition Dimensions" suggests that strategic orientation plays a guiding role in shaping the innovation system.

This result supports the view that innovation systems are primarily driven by strategic direction rather than isolated operational initiatives, reinforcing the role of strategy as a central coordinating mechanism for innovation activities (Snyman & Kruger, 2004).

Structural equation modeling further confirmed positive and statistically significant interactions between the core strategic dimensions and the ISO 56001 Innovation Management System dimensions.

In conclusion, the study demonstrated the presence of a strong structural and functional relationship between the ISO 56001 Innovation Management System and core strategic dimensions. The findings suggest that ISO 56001 not only enhances innovation capacity but also directly contributes to the processes of setting, steering, and monitoring strategic objectives. In this respect, the system provides organizations with visionary orientation, strategic flexibility, and competitive advantage.

Overall, these findings corroborate the argument that standardized innovation management systems function as strategic enablers by integrating innovation, leadership, and organizational behavior into a coherent strategic framework (Hyland & Karlsson, 2023).

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