

Examining the Structural Relationships among Components of Strategic Thinking and Their Consequences for Creating Competitive Advantage in Primary Schools (Modeling Using a Mixed-Methods Approach)

Effat Zare Sanjari¹, Faranak Omidian^{2*}, Mohammad Senobari²

¹ PhD Student, Department of Educational Management, Ahv.C., Islamic Azad University, Ahvaz, Iran

² Department of Educational Sciences, Faculty of Humanities, Dez.C., Islamic Azad University, Dezful, Iran

* Corresponding author email address: Omidian.2020@gmail.com

Article Info

Article type:

Original Research

How to cite this article:

Zare Sanjari, E., Omidian, F., & Senobari, M. (2026). Examining the Structural Relationships among Components of Strategic Thinking and Their Consequences for Creating Competitive Advantage in Primary Schools (Modeling Using a Mixed-Methods Approach). *AI and Tech in Behavioral and Social Sciences*, 4(1), 1-9.

<https://doi.org/10.61838/kman.aitech.5056>



© 2026 the authors. Published by KMAN Publication Inc. (KMANPUB), Ontario, Canada. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

ABSTRACT

The present study was applied–developmental in terms of purpose and quantitative in terms of implementation. The statistical population consisted of all principals of primary schools under the Department of Education in Khuzestan Province. From a population of 1,688 individuals, approximately 322 participants were selected using cluster and random sampling methods. The research instrument was a researcher-developed questionnaire on principals’ strategic thinking with a competitive advantage approach in education. Data analysis methods included a one-sample t-test using SPSS software, as well as confirmatory factor analysis and structural equation modeling (SEM). The results showed that the causal factors influencing the development of strategic thinking among primary school principals with a competitive advantage approach in the education system of Khuzestan Province include the development of strategic thinking based on needs and motivation, analysis of competitive advantage in comparison with leading schools, vision and future orientation, and the reconfiguration of educational policies at the school level. Contextual factors include the climatic context affecting the strategic thinking of principals in Khuzestan Province, technological education as a facilitator of strategic thinking growth, situation-based management under the critical and diverse conditions of Khuzestan, and the localization of educational directives in the province. Intervening factors include “institutional and organizational support” from education authorities and the extent of “structural pressures and administrative bureaucracy,” which constitute the most significant interventions. The strategies identified in this study include “intelligent resource management,” “adaptive learning and educational innovation,” and “localization of communicated strategies.” Successful principals, by leveraging “parents’ social capital” and performing the role of a “facilitative leader,” achieve outcomes that include “strengthening social capital and school branding” as the first major result, leading to increased trust among families. At the internal level, this approach results in “professional empowerment of teachers” and “innovation in teaching methods.” Ultimately, “enhancement of organizational effectiveness” and the multidimensional development of students in a joyful and dynamic environment represent the most significant outcomes, stabilizing the school’s position within the educational system of Khuzestan Province.

Keywords: *Strategic thinking, principals, competitive advantage, and education.*

1. Introduction

In contemporary organizational environments characterized by rapid change, uncertainty, and increasing complexity, strategic thinking has emerged as a central managerial capability that enables organizations to anticipate change, align internal capacities with external demands, and sustain competitive advantage. Strategic thinking goes beyond formal strategic planning and is fundamentally concerned with how decision-makers perceive, interpret, and act upon dynamic environmental conditions through holistic, future-oriented, and integrative cognition (Goldman & Casey, 2010; Pisapia et al., 2016). Recent scholarship emphasizes that strategic thinking is not merely an individual cognitive skill but a multilevel organizational capability embedded in leadership practices, institutional contexts, and strategic processes (Combe & Greenley, 2004; Nuntamanop et al., 2013). As organizations increasingly confront global challenges such as digital transformation, environmental uncertainty, and social expectations, the role of strategic thinking in shaping resilient and adaptive organizations has gained renewed scholarly attention (Mariani et al., 2025; Wickert & Muzio, 2025).

The strategic management literature consistently positions strategic thinking as a foundational antecedent of sustainable competitive advantage. Early competency-based perspectives argue that organizations achieve long-term advantage by developing rare, valuable, and inimitable cognitive and managerial capabilities (Lado et al., 1992). Subsequent empirical studies have demonstrated that strategic thinking enhances organizational flexibility, innovation capacity, and responsiveness to environmental change, thereby strengthening competitive positioning (Stoyanova, 2018; Zhou et al., 2009). Strategic thinking enables managers to synthesize diverse information sources, recognize emerging opportunities, and design adaptive strategies that are responsive to both market forces and institutional constraints (Eisenhardt & Zbaracki, 1992; Srivastava & D'Souza, 2019). In this sense, strategic thinking functions as a cognitive bridge between environmental complexity and effective strategic action.

Within the public and educational sectors, the importance of strategic thinking has become increasingly pronounced. Unlike private-sector organizations, educational institutions operate within highly institutionalized environments shaped by regulatory frameworks, bureaucratic structures, and social accountability. These conditions require managers to balance formal compliance with innovation and responsiveness

(Bryson, 2018; George et al., 2025). Strategic thinking in educational leadership thus involves navigating centralized policies while exercising contextual judgment to address local needs. Empirical evidence suggests that schools led by strategically minded managers demonstrate higher levels of organizational learning, stakeholder engagement, and performance outcomes (Asadpour et al., 2018; Hosseini Nasab & Razavi, 2021). Consequently, strategic thinking is increasingly viewed as a critical leadership competency for school managers operating in complex educational systems.

Recent studies have sought to identify the antecedents and components of strategic thinking across organizational contexts. Meta-analytical and grounded theory research indicates that strategic thinking is shaped by a combination of individual, organizational, and environmental factors, including motivation, experience, learning orientation, leadership style, and institutional pressures (Nakhaei, 2023; Shaik & Dhir, 2020). In educational settings, contextual constraints such as limited resources, centralized decision-making, and socio-cultural diversity further complicate the development and application of strategic thinking (Mohammadi et al., 2020; Sahraei, 2021). These findings underscore the need for integrated models that capture the structural relationships among causal, contextual, strategic, and intervening factors influencing strategic thinking.

Strategic thinking has also been empirically linked to innovation and human capital development as key mechanisms for achieving competitive advantage. Research demonstrates that organizations with strategically oriented leaders are more capable of leveraging human capital, fostering innovation, and translating strategic intent into performance outcomes (Abbasi Saymarch & Moradi Niknam, 2021; Alomari, 2020). In educational organizations, this relationship manifests through professional empowerment of teachers, adoption of innovative pedagogical practices, and enhanced organizational coherence (Hili et al., 2017; Lestari et al., 2020). Strategic thinking thus serves as a catalyst that connects leadership cognition to organizational learning and value creation.

Another emerging strand of literature highlights the role of strategic thinking in crisis management and uncertainty reduction. Studies conducted in governmental and public organizations show that strategic thinking enhances preparedness, situational awareness, and adaptive response during crises (Saeed et al., 2025). This dimension is particularly salient in regions characterized by environmental, economic, or social volatility, where

managers must continuously adapt strategies to changing conditions. Strategic thinking, when combined with contingency management and institutional support, enables organizations to maintain stability while pursuing long-term objectives (Dixit et al., 2022; Fahmi et al., 2020). These insights reinforce the relevance of examining strategic thinking within specific regional and institutional contexts.

In recent years, scholars have also emphasized the integration of strategic thinking with design thinking, digital transformation, and participatory governance. Strategic thinking is increasingly understood as an inclusive and iterative process that incorporates stakeholder perspectives, local knowledge, and technological capabilities (Chui et al., 2019; Mariani et al., 2025). Empirical evidence from public-sector organizations indicates that strategic initiatives gain legitimacy and effectiveness when managers adopt participatory and facilitative leadership approaches (George et al., 2025; Wickert & Muzio, 2025). This perspective aligns with contemporary views that position strategic thinking as both a cognitive and social process embedded in organizational interaction.

Despite the growing body of international research, studies focusing on strategic thinking in primary education—particularly within developing and regionally diverse contexts—remain limited. Existing Iranian studies have largely examined strategic thinking in municipal organizations, universities, or urban school systems, with insufficient attention to regional disparities and contextual complexity (Keikhanzhad et al., 2022; Yaghoubi & Soltani, 2020). Moreover, prior research has often treated strategic thinking as a unidimensional construct, neglecting the structural interplay between its antecedents, strategic actions, and organizational outcomes (Mahdi & Almsafir, 2014; Roshani & Mousavi, 2020). This gap highlights the need for comprehensive structural models that capture the multidimensional nature of strategic thinking in educational management.

Khuzestan Province presents a particularly relevant context for such an investigation. The province's socio-economic diversity, climatic conditions, administrative complexity, and educational challenges require school managers to operate under conditions of heightened uncertainty and constraint. In such environments, the ability to think strategically is not merely advantageous but essential for sustaining educational quality and organizational effectiveness. Prior studies have indicated that competitive advantage in public schools is closely linked to managerial cognition, contextual adaptation, and stakeholder

engagement (Sahraei, 2021; Yaghoubi & Soltani, 2020). However, there remains a lack of empirical models that systematically explain how strategic thinking develops and translates into competitive advantage in primary schools within this regional context.

Drawing on competency-based theory, strategic management, and educational leadership literature, this study conceptualizes strategic thinking as a core managerial capability shaped by causal factors, contextual conditions, strategic mechanisms, and intervening institutional forces, ultimately leading to tangible organizational outcomes. By integrating insights from strategic leadership (Hunitie, 2018), organizational learning (Hosseini Nasab & Razavi, 2021), and competitive advantage theory (Lado et al., 1992; Zhou et al., 2009), the present research seeks to advance understanding of how strategic thinking operates within primary school management. Such an integrative approach responds to calls for more context-sensitive and structurally grounded analyses in strategic thinking research (Edmizal et al., 2025; Sudiyani et al., 2025).

Accordingly, the aim of this study is to examine the structural relationships among the components of strategic thinking and their consequences for creating competitive advantage in primary schools.

2. Methods and Materials

The present study was applied–developmental in terms of purpose and quantitative in terms of implementation. The statistical population comprised all principals of public primary schools under the Department of Education in Khuzestan Province. Based on available data, there are approximately 1,688 public primary schools in Khuzestan Province, including 851 boys' schools and 837 girls' schools. Given that each school typically has one principal, the total number of public primary school principals in the province can be estimated at approximately 1,688 individuals. To determine the sample size, Cochran's formula was used. Considering a population size of 1,688, a 95% confidence level, and a 5% margin of error, the required sample size was approximately 322 participants. To select the research sample, cluster and random sampling methods were employed. For this purpose, Khuzestan Province was first geographically divided into five main clusters (north, south, east, west, and center). The names of each cluster (five clusters) were written on separate sheets and placed in a container, from which three sheets were randomly selected. The selected sheets corresponded to the

northern (Dezful), southern (Bandar Mahshahr), and central (Ahvaz) regions of Khuzestan Province. To select the required principals, random sampling was applied after visiting the aforementioned cities, and ultimately 322 questionnaires were distributed among and collected from the principals.

A researcher-developed questionnaire on principals' strategic thinking with a competitive advantage approach in education was designed. This questionnaire consisted of 42 items (11 items for causal factors, 5 items for contextual factors, 9 items for strategic factors, 10 items for intervening factors, and 7 items for outcomes), measured on a five-point Likert scale, and was developed through a review of theoretical and practical foundations. To determine the validity of the questionnaire, face validity, content validity, and construct validity were employed. In this study, reliability was assessed using Cronbach's alpha coefficient. The values of this coefficient for all research variables were above 0.70, indicating the reliability of the measurement instrument. In the inferential section, to answer the research questions, statistical tests such as the one-sample t-test were conducted using SPSS software,

along with confirmatory factor analysis and structural equation modeling (SEM).

3. Findings and Results

In this section, the data obtained from the research questionnaires completed by the participants are organized, summarized, and presented. As observed, 138 participants (42.9%) were male and 184 participants (57.1%) were female. As shown, 115 participants (35.7%) held a bachelor's degree, while 207 participants (64.3%) held a master's degree. The highest frequency was related to work experience of 16 to 20 years, with 118 participants (36.6%), and the lowest frequency was related to work experience of 21 to 25 years, with 50 participants (15.5%). Based on the researcher's examination, the skewness and kurtosis values of the data were within the range of -2 to +2; therefore, the data distribution was within the normal range. Since the Cronbach's alpha values for all research items were higher than 0.70, the reliability of all research components was confirmed. The factor loadings related to the items were greater than 0.40, indicating that the model indices demonstrated an acceptable level of fit, and none of the items were removed from the model.

Table 1

Results of Second-Order Confirmatory Factor Analysis and Structural Relationships

Dimension	Path	Standardized Path Coefficient	t-value	Significance
Contextual Factors	Contextual factors → Climatic context influencing principals' strategic thinking in Khuzestan	0.644	21.025	0.000
	Contextual factors → Technological education as a driver of strategic thinking development	0.719	30.041	0.000
	Contextual factors → Situation-based management under critical and diverse conditions of Khuzestan	0.755	27.291	0.000
	Contextual factors → Localization of educational directives in Khuzestan Province	0.594	19.573	0.000
	Contextual factors → Indigenous development of teacher empowerment in Khuzestan	0.690	19.880	0.000
	Contextual factors → Participatory orientation in educational management in Khuzestan	0.690	20.486	0.000
	Contextual factors → Management of cultural space toward learning vitality	0.824	42.106	0.000
	Contextual factors → Intelligent and flexible management in Khuzestan	0.763	30.136	0.000
	Contextual factors → Multiplicity of environmental contexts and its impact on educational justice	0.740	23.406	0.000
Causal Factors	Causal factors → Development of strategic thinking based on needs and motivation	0.867	57.670	0.000
	Causal factors → Competitive advantage analysis compared to leading schools	0.831	41.204	0.000
	Causal factors → Vision and future orientation	0.809	35.648	0.000
	Causal factors → Reconfiguration of educational policies at the school level as a driver of strategic decision-making	0.760	33.094	0.000
	Causal factors → Optimal resource management considering provincial constraints	0.731	29.135	0.000
	Causal factors → Balance between centralized structure and managerial	0.812	37.620	0.000

	autonomy in Khuzestan			
Strategies	Causal factors → Development of a goal-oriented learning culture for long-term innovation	0.740	26.915	0.000
	Strategies → Intelligent resource management and data-driven planning	0.613	19.460	0.000
	Strategies → Situation-based management in critical and diverse conditions	0.689	18.487	0.000
	Strategies → Strategic mechanisms for aligning school decisions with stakeholders' interests	0.776	28.133	0.000
	Strategies → Adaptive learning and educational innovation in Khuzestan schools	0.860	39.619	0.000
	Strategies → Strategic utilization of parents' social capital	0.836	47.950	0.000
	Strategies → Facilitative leadership role in school innovation and performance improvement	0.803	37.794	0.000
	Strategies → Development of innovative collaboration among teachers, parents, and the local community	0.841	43.779	0.000
Intervening Factors	Intervening factors → Contingency management	0.803	30.831	0.000
	Intervening factors → Institutional support and social feedback	0.831	47.133	0.000
	Intervening factors → Institutional pressure	0.845	42.607	0.000
	Intervening factors → Structural and cultural constraining factors	0.794	34.374	0.000
Outcomes	Outcomes → Strengthening social capital and school credibility	0.655	22.114	0.000
	Outcomes → Professional empowerment and educational innovation	0.767	33.847	0.000
	Outcomes → Organizational effectiveness and coherence of the school	0.845	48.931	0.000
Core Construct Relationships	Strategic thinking development of principals → Strategies	0.854	38.506	0.000
	Strategic thinking development of principals → Contextual factors	0.892	48.686	0.000
	Strategic thinking development of principals → Causal factors	0.856	38.910	0.000
	Strategic thinking development of principals → Intervening factors	0.836	37.001	0.000
	Strategic thinking development of principals → Outcomes	0.719	28.384	0.000

The results presented in Table 1 demonstrate that all dimensions of the proposed model exhibit statistically significant relationships, with standardized path coefficients exceeding the acceptable threshold and t-values well above the critical value, confirming the robustness of the second-order factor structure and the structural model. Within the contextual factors, the strongest loadings were observed for managing the cultural space toward learning vitality, intelligent and flexible management, and situation-based management under the diverse and critical conditions of Khuzestan Province. These findings indicate that environmental, cultural, and managerial adaptability play a decisive role in shaping principals' strategic thinking in primary education.

Regarding causal factors, the development of strategic thinking based on needs and motivation showed the highest path coefficient, followed by competitive advantage analysis and the balance between centralized governance and managerial autonomy. This pattern highlights that intrinsic motivational drivers, comparative strategic awareness, and governance flexibility are key antecedents in fostering strategic thinking among school principals. The significant influence of vision, future orientation, and policy reconfiguration further underscores the importance of long-term, forward-looking managerial cognition.

The strategic dimension reveals that adaptive learning and educational innovation, strategic use of parents' social

capital, and collaborative leadership practices are the most influential strategies derived from strategic thinking. These results suggest that effective strategic thinking is translated into practice primarily through innovation-oriented learning processes, stakeholder engagement, and facilitative leadership that strengthens collective action within and around schools.

In the case of intervening factors, institutional pressure and institutional support emerged as the most influential elements, indicating that strategic thinking does not operate in isolation but is shaped by broader administrative, bureaucratic, and social feedback mechanisms. Contingency management and structural-cultural constraints also play significant moderating roles in how strategies are enacted in practice.

Finally, the outcomes dimension confirms that strategic thinking ultimately leads to enhanced organizational effectiveness, professional empowerment of teachers, and strengthened social capital and school credibility. At the structural level, the strong and significant paths from the development of principals' strategic thinking to all major dimensions—particularly contextual and causal factors—demonstrate that strategic thinking functions as a central, integrative capability that drives alignment between environment, strategy, intervention, and outcomes within primary schools in Khuzestan Province.

Table 2

Reliability and Convergent Validity Indices of the Main Constructs

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Strategies	0.839	0.906	0.704
Contextual Factors	0.824	0.897	0.711
Causal Factors	0.835	0.900	0.758
Intervening Factors	0.869	0.937	0.719
Outcomes	0.788	0.813	0.668

The results presented in Table 2 indicate that all main constructs of the model demonstrate satisfactory levels of reliability and convergent validity. Cronbach's alpha coefficients for all constructs exceed the recommended threshold of 0.70, confirming the internal consistency of the measurement scales. In addition, the composite reliability (CR) values for all constructs are above 0.80, and in most cases exceed 0.90, reflecting a high degree of construct reliability within the structural equation modeling framework. Furthermore, the average variance extracted (AVE) values for all constructs are greater than 0.50, indicating that each construct explains more than half of the variance of its observed indicators. Collectively, these findings confirm that the measurement model possesses adequate reliability and convergent validity, supporting the robustness of the constructs used to examine strategic thinking and its related dimensions in primary school management.

4. Discussion

The purpose of this study was to examine the structural relationships among the components of strategic thinking and their consequences for creating competitive advantage in primary schools. The results of the structural equation modeling demonstrated that the proposed model possesses strong explanatory power and that all hypothesized relationships among causal factors, contextual factors, strategies, intervening factors, and outcomes are statistically significant. These findings confirm that strategic thinking among school principals is a multidimensional and systemic capability that operates through interconnected cognitive, organizational, and environmental mechanisms.

The results related to causal factors indicate that the development of strategic thinking based on needs and motivation, competitive advantage analysis, vision and future orientation, and the reconfiguration of educational

policies at the school level are among the most influential antecedents of principals' strategic thinking. This finding aligns with research emphasizing that strategic thinking is rooted in intrinsic motivation, future-oriented cognition, and the ability to translate abstract policies into actionable strategies (Dixit et al., 2022; Pisapia et al., 2016). The strong effect of competitive advantage analysis confirms that principals who systematically compare their schools with leading institutions are more capable of recognizing strategic gaps and opportunities, which is consistent with competency-based and market-oriented perspectives on strategic advantage (Lado et al., 1992; Zhou et al., 2009). Furthermore, the significance of balancing centralized structures with managerial autonomy supports prior findings suggesting that strategic thinking flourishes when managers are granted discretion to adapt policies to local contexts (Bryson, 2018; George et al., 2025).

The findings concerning contextual factors underscore the critical role of environmental and organizational conditions in shaping strategic thinking. Variables such as cultural space management for learning vitality, intelligent and flexible management, and situation-based management under diverse and critical conditions showed particularly strong effects. These results reinforce the argument that strategic thinking cannot be separated from its context and is deeply influenced by environmental complexity, institutional constraints, and socio-cultural diversity (Combe & Greenley, 2004; Shaik & Dhir, 2020). In educational systems characterized by regional diversity and resource constraints, such as Khuzestan Province, principals must continuously interpret environmental signals and adapt their strategies accordingly. This finding is consistent with studies in Iranian educational settings that emphasize the contextualized nature of strategic leadership and decision-making (Asadpour et al., 2018; Mohammadi et al., 2020). Moreover, the significant role of technological education as a contextual enabler highlights the growing

importance of digital competencies in enhancing strategic cognition and responsiveness (Chui et al., 2019; Mariani et al., 2025).

The analysis of the strategic dimension reveals that adaptive learning, educational innovation, strategic utilization of parents' social capital, and facilitative leadership play a central role in translating strategic thinking into action. The strong relationship between strategic thinking and adaptive learning supports the view that strategically oriented leaders foster continuous learning and experimentation within their organizations (Goldman & Casey, 2010; Nuntamanop et al., 2013). The prominent role of parents' social capital is particularly noteworthy in the educational context, as it indicates that competitive advantage in schools is not achieved solely through internal resources but also through effective stakeholder engagement. This finding aligns with prior research emphasizing the importance of social capital and participatory leadership in enhancing organizational performance and legitimacy in public institutions (Hili et al., 2017; Sudiyani et al., 2025). Additionally, the significance of facilitative leadership confirms that strategic thinking is most effective when principals act as enablers of collective innovation rather than as purely directive leaders (Hunitie, 2018; Mahdi & Almsafir, 2014).

With respect to intervening factors, the results indicate that institutional support, institutional pressure, and structural and cultural constraints significantly shape how strategic thinking is enacted in practice. The strong effects of institutional pressure and bureaucratic constraints suggest that strategic thinking in public education is continuously negotiated within formal administrative frameworks. This finding is consistent with studies demonstrating that public-sector managers must reconcile strategic aspirations with regulatory compliance and accountability demands (Eisenhardt & Zbaracki, 1992; George et al., 2025). At the same time, the positive role of institutional support and social feedback highlights the importance of supportive governance structures in enabling principals to operationalize strategic ideas. These results echo earlier findings showing that strategic thinking yields stronger outcomes when supported by organizational learning systems and leadership development mechanisms (Fahmi et al., 2020; Hosseini Nasab & Razavi, 2021).

The outcomes of strategic thinking identified in this study include enhanced organizational effectiveness, professional empowerment of teachers, educational innovation, and strengthened social capital and school

credibility. The strong path coefficients associated with organizational effectiveness and coherence confirm that strategic thinking contributes directly to improved internal alignment and performance. This result is consistent with prior research linking strategic leadership and thinking to sustainable competitive advantage in academic and public-sector organizations (Lestari et al., 2020; Mahdi & Almsafir, 2014). The significant impact on teacher empowerment and innovation further supports the argument that strategic thinking creates value by fostering human capital development and innovative practices (Abbasi Saymarch & Moradi Niknam, 2021; Alomari, 2020). Moreover, the enhancement of social capital and school credibility highlights the external dimension of competitive advantage, suggesting that strategically managed schools are more successful in building trust and legitimacy among families and communities (Sahraei, 2021; Yaghoubi & Soltani, 2020).

At the structural level, the findings demonstrate that the development of principals' strategic thinking has strong and significant relationships with all major dimensions of the model, particularly contextual and causal factors. This result confirms that strategic thinking functions as a central integrative capability that aligns environmental understanding, strategic action, institutional mediation, and organizational outcomes. Such a holistic role is consistent with contemporary theoretical perspectives that conceptualize strategic thinking as both a cognitive and social process embedded in organizational systems (Stoyanova, 2018; Wickert & Muzio, 2025). The results also support recent arguments that strategic thinking is essential for addressing complex societal challenges and sustaining organizational relevance in dynamic environments (Mariani et al., 2025; Saeed et al., 2025).

5. Conclusion

Overall, the findings of this study contribute to the strategic management and educational leadership literature by empirically validating a comprehensive structural model of strategic thinking in primary schools. By demonstrating how strategic thinking emerges from the interaction of causal and contextual factors and leads to concrete strategic actions and outcomes, the study responds to calls for more integrated and context-sensitive analyses in strategic thinking research (Nakhaei, 2023; Srivastava & D'Souza, 2019). The results also extend existing knowledge by highlighting the importance of regional and institutional

context in shaping strategic thinking and competitive advantage in public education systems.

Despite its contributions, this study has several limitations that should be acknowledged. First, the research relied on self-reported data collected through questionnaires, which may be subject to common method bias and social desirability effects. Second, the cross-sectional design of the study limits the ability to draw causal inferences about the dynamic development of strategic thinking over time. Third, the study focused exclusively on public primary schools in Khuzestan Province, which may restrict the generalizability of the findings to other educational levels, private schools, or regions with different institutional and socio-cultural characteristics.

Future studies could adopt longitudinal designs to examine how strategic thinking evolves among school principals and how its effects on competitive advantage unfold over time. Comparative research across provinces or countries could provide deeper insights into the role of institutional and cultural context in shaping strategic thinking. In addition, qualitative or mixed-methods approaches could enrich understanding by capturing the lived experiences and cognitive processes of principals as they engage in strategic decision-making under complex conditions.

From a practical perspective, educational policymakers and administrators should prioritize the development of strategic thinking competencies in school leadership training programs. Providing principals with greater managerial autonomy, institutional support, and opportunities for collaborative learning can enhance their capacity to translate strategic thinking into effective action. Schools can also strengthen their competitive advantage by actively engaging parents and local communities, fostering adaptive learning cultures, and promoting facilitative leadership practices that encourage innovation and shared responsibility.

Authors' Contributions

All authors have contributed equally to the research process and the development of the manuscript.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

References

- Abbasi Saymarih, K., & Moradi Niknam, A. (2021). Investigating the impact of strategic innovation on competitive advantage with the mediating role of human capital. 1st International Conference on Educational Sciences, Psychology, Sport Sciences, and Physical Education, Sari.
- Alomari, Z. (2020). Does human capital moderate the relationship between strategic thinking and strategic human resource management? *Management Science Letters*, 10(3), 565-574. <https://doi.org/10.5267/j.msl.2019.9.024>
- Asadpour, P., Yousefi Saeedabadi, R., & Fallah, V. (2018). Identification and ranking of strategic thinking components in education managers of Mazandaran Province. *Journal of Educational Leadership and Management*, 12(1), 25-39.
- Bryson, J. M. (2018). *Strategic Planning for Public and Non-Profit Organizations: A Guide to Strengthening and Sustaining Organizational Achievement*. Wiley.
- Chui, M., Manyika, J., & Miremadi, M. (2019). *The Digital Dividend: First Mover Advantage in the Age of Artificial Intelligence*.
- Combe, I., & Greenley, G. (2004). *Capabilities for strategic flexibility: a cognitive content framework*. Emerald Group Publishing Limited. <https://doi.org/10.1108/03090560410560191>
- Dixit, S., Singh, S., Dhir, S., & Dhir, S. (2022). Antecedents of strategic thinking and its impact on competitive advantage. *Journal of Indian Business Research*, 13(4), 437-458. <https://doi.org/10.1108/JIBR-08-2020-0262>
- Edmizal, E., Donie, D., Barlian, E., Welis, W., Sin, T. H., Umar, U., & Bhatnagar, P. (2025). Effect of psychological skills training on reaction time and strategic thinking in competitive badminton-a systematic review. *Retos*, 62, 439-453. <https://doi.org/10.47197/retos.v62.110746>

- Eisenhardt, K. M., & Zbaracki, M. J. (1992). Strategic decision making. *Strategic management journal*, 13(S2), 17-37. <https://doi.org/10.1002/smj.4250130904>
- Fahmi, A. M., Khudair, A. H., & Ali Mohammed, A. A. (2020). The mediating effect of strategic thinking between strategic leadership and tourism marketing. *African Journal of Hospitality, Tourism and Leisure*, 9(1), 1-14.
- George, B., Jacobsen, D. I., Johanson, J. E., Johnsen, Å., & Pekkola, E. (2025). User acceptance of strategic planning: Evidence from Northern European municipalities. *Public Administration Review*, 85(3), 752-767. <https://doi.org/10.1111/puar.13874>
- Goldman, E. F., & Casey, A. (2010). Building a culture that encourages strategic thinking. *Journal of Leadership & Organizational Studies*, 17(2), 119-128. <https://doi.org/10.1177/1548051810369677>
- Hili, P., Gani, M., Hamzah, N., & Rahman, Z. (2017). Effect of human capital and leadership on institutions performance and competitive advantages. *International Journal of Management & Social Sciences*, 7(3), 479-488. <https://doi.org/10.21013/jmss.v7.n3.p9>
- Hosseini Nasab, S., & Razavi, M. (2021). The role of organizational learning in improving the strategic performance of schools. *Journal of Educational Management*, 13(2), 54-70.
- Hunitie, M. (2018). Impact of strategic leadership on strategic competitive advantage through strategic thinking and strategic planning: a bi-meditational research. *Verslas: teorija ir praktika*, 19(1), 322-330. <https://doi.org/10.3846/btp.2018.32>
- Keikhanezhad, M., Keikha, A. R., Kord, E., Salim Abadi, N., & Kord, K. (2022). Presenting a model of strategic thinking skills in Farhangian University of Mazandaran Province. *Islamic Lifestyle Centered on Health*, 6(1), 64-77.
- Lado, A., Boyd, N., & Wright, P. (1992). A competency-based model of sustainable competitive advantage: toward a conceptual integration. *Journal of Management*, 18(1), 77-91. <https://doi.org/10.1177/014920639201800106>
- Lestari, S. D., Leon, F. M., Widyastuti, S., Brabo, N. A., & Putra, A. H. P. K. (2020). Antecedents and consequences of innovation and business strategy on performance and competitive advantage of SMEs. *The Journal of Asian Finance, Economics and Business*, 7(6), 365-378. <https://doi.org/10.13106/jafeb.2020.vol7.no6.365>
- Mahdi, O., & Almsafir, M. (2014). The role of strategic leadership in building sustainable competitive advantage in the academic environment. *Procedia - Social and Behavioral Sciences*, 129, 289-296. <https://doi.org/10.1016/j.sbspro.2014.03.679>
- Mariani, I., Mortati, M., Rizzo, F., & Deserti, A. (2025). *Design thinking as a strategic approach to e-participation: From current barriers to opportunities*. Springer Nature. <https://doi.org/10.1007/978-3-031-72160-1>
- Mohammadi, F., Hosseini, N., & Rajabi, M. (2020). Challenges of strategic thinking development in primary school managers in Tehran. *Journal of Education and Development*, 15(4), 85-101.
- Nakhaei, M. H. (2023). *Presenting a model of predictive factors of strategic thinking among senior managers using grounded theory* [Iran University of Science and Technology].
- Nuntamanop, P., Kauranen, I., & Igel, B. (2013). A new model of strategic thinking competency. *Journal of Strategy and Management*, 6(3), 242-264. <https://doi.org/10.1108/JSMA-10-2012-0052>
- Pisapia, J., Jelenc, L., & Mick, A. (2016). The foundations of strategic thinking: effectual, strategic, and causal reasoning. In *Neostrategic Management* (pp. 45-55). Springer, Cham. https://doi.org/10.1007/978-3-319-18185-1_4
- Roshani, A., & Mousavi, F. (2020). A study of strategic thinking of school managers and construction and validation of a scale for its measurement. *School Management*, 8(1).
- Saeed, S. A., Azam, K. O., Faraj, S. M., Mustafa, N. A., & Osman, L. N. (2025). The Impact of Strategic Planning and Strategic Thinking on Crisis Management: An Analytical Study on Governmental and Non-governmental Organizations in the KRI. *Jurnal Manajemen Strategik dan Simulasi Bisnis*, 6(1), 45-58. <https://doi.org/10.25077/msssb.6.1.45-58.2025>
- Sahraei, K. (2021). The impact of managers' strategic thinking skills on the readiness to create competitive advantage in municipal organizations. 4th National and 1st International Conference on New Patterns of Management and Business, Tehran.
- Shaik, A. S., & Dhir, S. (2020). A meta-analytical review of factors affecting the strategic thinking of an organization. *foresight*, 22(2), 144-177. <https://doi.org/1108/FS-08-2019-0076>
- Srivastava, S., & D'Souza, D. (2019). An empirical examination of the relationship between managerial strategic thinking and absorptive capacity of the organization. *Journal of Strategy and Management*, 13(1), 51-71. <https://doi.org/10.1108/JSMA-05-2019-0077>
- Stoyanova, V. (2018). *An Analysis of David J. Teece's Dynamic Capabilities and Strategic Management*. Macat Library. <https://doi.org/10.4324/9781912453191>
- Sudiyani, N. N., Goca, I. G. P. A. W., Putri, C. I. A. V. N., Dwijayanthi, A. A. I. A. O., & Putra, I. K. E. D. (2025). Optimizing the Competitive Advantage of Four and Five Star Hotels in Bali with Strategic Thinking and Local Wisdom. *Studi Akuntansi, Keuangan, dan Manajemen*, 4(2), 479-491. <https://doi.org/10.35912/sakman.v4i2.3966>
- Wickert, C., & Muzio, D. (2025). What is the strategy of strategy to tackle climate change? *Journal of Management Studies*, 62(2), 954-964. <https://doi.org/10.1111/joms.13114>
- Yaghoubi, F., & Soltani, F. (2020). Factors affecting competitive advantage in public schools of Khuzestan. *Quarterly Journal of Training and Human Resources Development*, 7(4), 112-129.
- Zhou, K., Brown, J., & Dev, C. (2009). Market orientation, competitive advantage, and performance: a demand-based perspective. *Journal of Business Research*, 62(11), 1063-1070. <https://doi.org/10.1016/j.jbusres.2008.10.001>