

How to Create the Best NOISE Analysis

A Practical Framework for Strategic Decision-Making

Vladimir Karadzhov

Chief Assistant Professor, PhD (Economic and Social Geography)
Department of Geography, Ecology and Environmental Protection, Faculty of Mathematics and Natural
Sciences, South-West University “Neofit Rilski”, Blagoevgrad, Bulgaria
Email: karadzhov@swu.bg ORCID ID: 0000-0002-7514-5517

<https://doi.org/10.63711/ijdr.net20260202>

ABSTRACT

This study proposes a standardized methodological framework for conducting NOISE analysis, addressing the limited conceptual development and lack of structured application of this underutilized strategic tool. While widely used analytical models such as SWOT, PESTEL, and SOAR provide valuable insights, they often exhibit limitations related to descriptive orientation, insufficient integration of action planning, or imbalance between internal and external factors. The NOISE framework – comprising Needs, Opportunities, Improvements, Strengths, and Exceptions – is introduced as a hybrid analytical model that integrates diagnostic and solution-oriented perspectives. The study develops a step-by-step methodology, including factor identification, categorization, evaluation, prioritization, and strategy formulation. A scoring system is proposed to enhance analytical rigor and support decision-making. To demonstrate its applicability, the framework is illustrated through a realistic case of a higher education institution undergoing digital and organizational transformation. The results highlight the capacity of NOISE analysis to bridge the gap between analysis and implementation, enabling the formulation of targeted and actionable strategies. The findings suggest that NOISE analysis represents a flexible, balanced, and implementation-oriented alternative to traditional frameworks. The study contributes to the advancement of strategic management methodologies by providing a clear, replicable, and adaptable analytical model applicable across multiple sectors. Future research directions include empirical validation, integration with quantitative models, and application in emerging domains such as digital transformation and sustainability.

Keywords: *Noise analysis, Strategic analysis, Decision-making, Organizational development, Strategic management, Analytical frameworks*

INTRODUCTION

In contemporary strategic management and organizational analysis, structured analytical frameworks play a crucial role in supporting decision-making processes across diverse sectors (Porter, 1980; Mintzberg, 1994; Bryson, 2018). Widely recognized tools such as SWOT, PESTEL, and SOAR analyses have been extensively applied in business, public administration, tourism, and regional development due to their ability to synthesize complex internal and external factors into actionable insights (Gürel & Tat, 2017; Yüksel, 2012). However, despite their widespread use, these models often exhibit limitations related to overgeneralization, insufficient focus on implementation, or an imbalance between diagnostic and forward-looking components (Hill & Westbrook, 1997).

In response to these limitations, alternative analytical frameworks have emerged, aiming to provide more nuanced and operational perspectives. One such model is the NOISE analysis, which focuses on Needs, Opportunities, Improvements, Strengths, and Exceptions. Unlike traditional deficit-oriented approaches, NOISE analysis integrates both problem identification and solution-oriented thinking, offering a more dynamic and flexible structure for strategic evaluation.

Despite its conceptual potential, NOISE analysis remains relatively underdeveloped in academic literature. Existing applications are often fragmented, lacking a standardized methodological approach, clear procedural steps, and consistent criteria for implementation. This gap limits its broader adoption and reduces its effectiveness as a reliable analytical tool in both academic and professional contexts.

The present study aims to address this gap by proposing a comprehensive and standardized framework for conducting NOISE analysis. Building upon previous methodological contributions in strategic analysis (e.g., SWOT, PESTEL, and SOAR), this paper introduces a structured approach that enhances clarity, applicability, and analytical rigor. The proposed framework is designed to support researchers, practitioners, and policymakers in systematically identifying key strategic factors and translating them into actionable decisions.

The main contributions of this study are threefold. First, it conceptualizes NOISE analysis within the broader landscape of strategic management tools. Second, it develops a step-by-step methodology for conducting NOISE analysis, including clear definitions, categorization criteria, and practical guidelines. Third, it provides a foundation for future empirical applications and comparative studies, positioning NOISE analysis as a viable and competitive alternative to more established frameworks.

CONCEPTUAL FOUNDATIONS OF NOISE ANALYSIS

Strategic analytical frameworks have evolved significantly over the past decades, reflecting the increasing complexity of organizational environments and the need for more adaptive and actionable decision-making tools (Mintzberg, 1994; Grant, 2016). Classical models such as SWOT analysis have traditionally focused on the identification of internal and external factors, while later frameworks, including PESTEL and SOAR, have introduced broader contextual and more positive, forward-looking perspectives. Despite these advancements, many analytical approaches remain either overly diagnostic or insufficiently oriented toward practical implementation.

Within this evolving landscape, NOISE analysis emerges as a relatively underexplored yet conceptually promising framework. The acronym NOISE represents five key dimensions: **Needs, Opportunities, Improvements, Strengths, and Exceptions**. Unlike traditional deficit-focused models, NOISE analysis integrates both problem identification and solution-oriented thinking, offering a more balanced and dynamic approach to strategic evaluation.



Theoretical Positioning of NOISE Analysis

NOISE analysis can be situated at the intersection of diagnostic and appreciative analytical frameworks. While SWOT analysis emphasizes the classification of internal and external factors, it has often been criticized for its static nature and limited capacity to guide implementation (Pickton & Wright, 1998; Gürel & Tat, 2017). Similarly, PESTEL analysis provides a comprehensive overview of macro-environmental influences but does not inherently translate findings into actionable strategies (Karadzhev & Patarchanova, 2025). In contrast, SOAR analysis shifts the focus toward strengths and opportunities but may overlook critical weaknesses or operational inefficiencies (Karadzhev, 2026).

NOISE analysis attempts to address these limitations by combining elements of both problem-oriented and opportunity-driven approaches. It incorporates the identification of organizational needs and areas for improvement while simultaneously recognizing strengths, opportunities, and exceptional practices. This dual orientation enhances its applicability in complex and rapidly changing environments, where both risks and potentials must be considered simultaneously.

From a theoretical perspective, NOISE analysis aligns with principles of systems thinking and continuous improvement, emphasizing feedback loops, adaptive learning, and iterative refinement of strategies (Senge, 2006; Deming, 1986). It also reflects elements of appreciative inquiry by acknowledging successful practices (exceptions) and leveraging them as a basis for future development.

Core Components of NOISE Analysis

Each component of the NOISE framework represents a distinct analytical dimension, contributing to a comprehensive understanding of organizational or systemic conditions.

Needs (N)

The “Needs” dimension focuses on identifying gaps, deficiencies, and unmet requirements within the analyzed system. These may include resource shortages, structural inefficiencies, skill gaps, or unmet stakeholder expectations. Unlike weaknesses in SWOT analysis, which are often broadly defined, “Needs” emphasize **actionable deficiencies**, directly linked to potential interventions.

Opportunities (O)

Opportunities represent external or internal conditions that can be leveraged to achieve strategic advantages. These may include market trends, technological advancements, policy changes, or emerging consumer demands. In contrast to traditional frameworks, NOISE analysis encourages the explicit connection between opportunities and identified needs, facilitating more targeted strategic responses.

Improvements (I)

The “Improvements” dimension is one of the most distinctive elements of NOISE analysis. It focuses on **specific, actionable measures** aimed at enhancing performance, efficiency, or competitiveness. While SWOT analysis often stops at identification, NOISE explicitly incorporates the transition from diagnosis to action by requiring the formulation of improvement strategies (Kotter, 1996).

Strengths (S)

Strengths refer to existing capabilities, resources, or advantages that provide a competitive edge. These may include organizational competencies, technological infrastructure, brand reputation, or human capital. In line with contemporary strategic management approaches, strengths are not only



identified but also evaluated in terms of their potential to support improvements and capitalize on opportunities (Barney, 1991).

Exceptions (E)

The “Exceptions” component represents unique or outstanding practices, successes, or cases where performance exceeds expectations. This dimension is inspired by appreciative inquiry and focuses on identifying **what works particularly well** within the system. By analyzing exceptions, organizations can replicate successful practices and integrate them into broader strategic frameworks (Cooperrider & Srivastva, 1987).

Distinctive Features of NOISE Analysis

Compared to traditional analytical frameworks, NOISE analysis exhibits several distinctive characteristics:

- **Integration of diagnosis and action** – Unlike SWOT or PESTEL, which often remain descriptive, NOISE explicitly incorporates improvement-oriented thinking.
- **Balanced perspective** – It simultaneously considers deficiencies (Needs), potentials (Opportunities), and existing capabilities (Strengths).
- **Focus on implementation** – The inclusion of “Improvements” ensures that analysis leads to concrete strategic measures.
- **Recognition of best practices** – The “Exceptions” dimension introduces a positive analytical lens, enabling the identification and replication of successful cases.

These features position NOISE analysis as a hybrid model that bridges the gap between traditional diagnostic tools and modern, action-oriented strategic frameworks.

Conceptual Comparison with Established Frameworks

A comparative perspective further clarifies the contribution of NOISE analysis within the broader analytical landscape.

- Compared to SWOT analysis, NOISE replaces the often passive identification of weaknesses with the more proactive concept of “Needs” and introduces a dedicated category for “Improvements,” thereby enhancing practical applicability (Karadzhev, 2025).
- In relation to PESTEL analysis, NOISE operates at a more operational level, focusing not only on external factors but also on internal transformation processes.
- Compared to SOAR analysis, NOISE retains a more balanced perspective by incorporating both positive and corrective dimensions, avoiding an overly optimistic bias.

Through this integrative approach, NOISE analysis offers a more flexible and actionable framework, capable of addressing the limitations of existing models while maintaining conceptual clarity and usability.

The relationships between the core components of NOISE analysis can be conceptualized as an integrated and dynamic framework, as illustrated in Figure 1. The model highlights the interaction between needs, strengths, opportunities, improvements, and exceptions, emphasizing their role in supporting strategic decision-making.



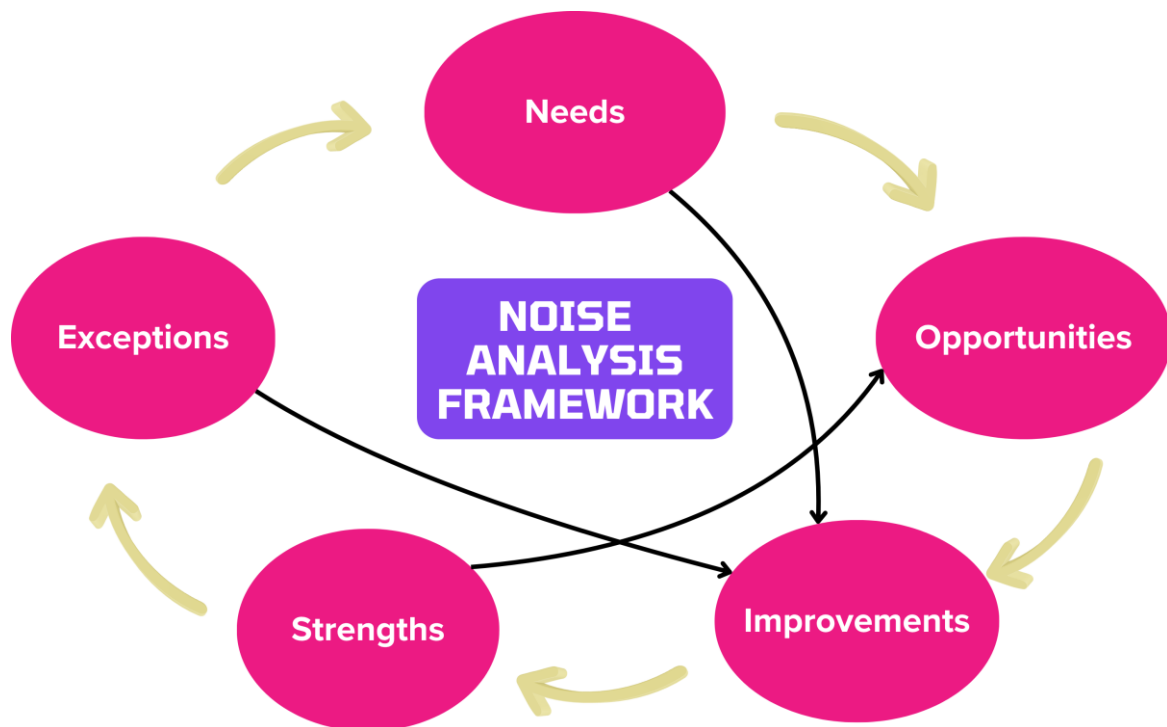


Figure 1. Integrated NOISE Analysis Framework. *Source: Author's own elaboration*

The integrated structure of NOISE analysis, as illustrated in Figure 1, highlights its capacity to combine diagnostic and action-oriented dimensions within a unified analytical framework. This conceptual foundation provides the basis for the development of a structured and replicable methodology for its practical application.

METHODOLOGY: HOW TO CREATE THE BEST NOISE ANALYSIS

The development of a standardized methodology for NOISE analysis is essential to ensure its consistent application across academic and practical contexts. While existing analytical frameworks often remain descriptive, the present study proposes a **structured, step-by-step approach** that transforms NOISE analysis into a replicable and actionable strategic tool.

General Principles of NOISE Analysis

The proposed methodology is based on several key principles:

- **Clarity and categorization** – Each factor must be clearly assigned to one of the five NOISE dimensions.
- **Actionability** – The analysis should lead directly to strategic decisions or improvement measures.
- **Balance** – Equal attention should be given to deficiencies, potentials, and strengths.
- **Systematic evaluation** – Factors should be assessed using consistent criteria.

These principles ensure that NOISE analysis moves beyond descriptive listing and becomes a **decision-support framework** (Porter, 1985; Bryson, 2018).

These principles ensure methodological consistency and enhance the analytical reliability of the NOISE framework across different application contexts.

Step-by-Step Procedure

The process of conducting a NOISE analysis can be structured into five main steps:

Step 1: Define the Scope of Analysis

The first step involves clearly defining:

- the system (organization, sector, destination, project)
- the objectives of the analysis
- the temporal and spatial scope

A well-defined scope ensures that the analysis remains focused and relevant.

Step 2: Data Collection and Factor Identification

Relevant data should be collected from:

- statistical sources
- policy documents
- expert interviews
- field observations

Based on this information, key factors are identified and preliminarily grouped into the five NOISE categories (Yin, 2018).

Step 3: Classification into NOISE Categories

All identified factors are systematically categorized as:

- **Needs (N)** – critical gaps and deficiencies
- **Opportunities (O)** – favorable external or internal conditions
- **Improvements (I)** – actionable measures and interventions
- **Strengths (S)** – existing advantages and capacities
- **Exceptions (E)** – best practices or outstanding performances

This classification stage is crucial, as it determines the analytical structure of the model. This structured classification facilitates a comprehensive and balanced assessment of both internal and external factors.

Step 4: Evaluation and Prioritization

To enhance analytical rigor, each factor can be evaluated using a **scoring system** (Saaty, 1980), for example:

- Importance (1–5)
- Urgency (1–5)



- Feasibility (1–5)

A composite score can then be calculated to prioritize actions:

$$Score = \frac{Importance + Urgency + Feasibility}{3}$$

This allows:

- ranking of factors
- identification of high-priority interventions
- objective comparison between elements

Step 5: Strategy Formulation

The final step involves transforming the analysis into **strategic actions**, including:

- addressing critical needs through targeted improvements
- leveraging strengths to exploit opportunities
- replicating successful exceptions
- integrating all elements into a coherent strategy

This step distinguishes NOISE analysis from traditional frameworks by ensuring a direct transition from diagnosis to implementation.

This stage ensures that the analytical process results in coherent and actionable strategies, directly linking evaluation outcomes to implementation.



Figure 2. Step-by-Step Process of NOISE Analysis. *Source: Author's own elaboration*

The process of conducting a NOISE analysis can be structured into five main steps, as illustrated in Figure 2. The proposed sequence ensures a logical progression from problem identification to strategy formulation, enhancing both clarity and practical applicability.

NOISE Matrix Model

The results of the analysis can be organized into a structured matrix (Figure 3).



Figure 3. NOISE Analysis Matrix (Conceptual Representation). *Source: Author's own elaboration*

The visual representation of the NOISE matrix, as shown in Figure 3, provides a structured overview of its core analytical components and their practical interpretation. Building on this structure, the following section presents the integrated conceptual model that explains the relationships between these elements.

Integrated NOISE Model (Conceptual Framework)

The proposed methodology conceptualizes NOISE analysis as an integrated system, where relationships between categories are essential:

Needs → addressed by → **Improvements**

Strengths → used to exploit → **Opportunities**

Exceptions → inform → **Improvements and strategies**

Advantages of the Proposed Methodology

The standardized NOISE methodology offers several advantages:

Operational clarity – clear steps and structure

Strategic orientation – direct link to decision-making

Flexibility – applicable across sectors

Quantification potential – allows scoring and prioritization

Replicability – suitable for academic research

EXAMPLE APPLICATION OF NOISE ANALYSIS IN HIGHER EDUCATION

To further demonstrate the applicability of the proposed methodology, this section presents a realistic application of NOISE analysis in the context of a higher education institution undergoing organizational and digital transformation (Altbach et al., 2019). The example reflects common challenges faced by public universities in Southeast Europe and beyond, including increasing competition, digitalization pressures, and the need for improved efficiency and student satisfaction (Selwyn, 2016).

Context of the Analysis

The analyzed case concerns a **public university in transition**, aiming to modernize its administrative processes, enhance the quality of education, and expand its digital infrastructure. The institution faces growing expectations from students, accreditation bodies, and international partners, while operating under resource constraints and structural limitations.

The primary objective of the analysis is to identify key strategic factors and formulate actionable measures to support institutional development.

Identification and Classification of Factors

Based on commonly observed patterns in higher education systems, the following factors are identified and classified within the NOISE framework:

Needs (N)

- Limited digitalization of administrative and academic processes
- Insufficient integration of e-learning platforms
- Gaps in staff digital competencies
- Bureaucratic procedures leading to delays in decision-making processes

Opportunities (O)

- Availability of European funding for digital transformation
- Growing demand for online and hybrid education
- Opportunities for international academic partnerships
- Rapid development of educational technologies

Improvements (I)

- Implementation of integrated digital learning management systems
- Development of staff training programs in digital competencies
- Optimization of administrative procedures
- Strengthening international collaboration initiatives

Strengths (S)

- Qualified academic staff with strong disciplinary expertise
- Established institutional reputation
- Existing research capacity and academic networks



- Diverse study programs

Exceptions (E)

- Successfully implemented online courses in specific faculties
- High-performing departments with efficient management practices
- Positive student feedback in selected programs
- Effective use of digital tools in isolated cases

This classification reflects typical structural and strategic challenges observed in higher education institutions undergoing digital transformation.

Evaluation and Prioritization

The identified factors are evaluated using the proposed scoring system (importance, urgency, feasibility). A simplified example is presented in Table 2.

Table 2. Example of NOISE Factor Evaluation in Higher Education

Factor	Category	Importance	Urgency	Feasibility	Score
Digitalization gap	Needs	5	5	4	4.67
E-learning implementation	Improvements	5	5	4	4.67
EU funding opportunities	Opportunities	4	4	5	4.33
Academic staff expertise	Strengths	4	3	5	4.00
Successful online courses	Exceptions	4	4	4	4.00

The evaluation highlights **digital transformation and capacity building** as priority areas requiring immediate strategic attention.

Strategy Formulation

Based on the NOISE analysis, several strategic directions can be formulated:

- **Addressing Needs through Improvements**
 - Introduce integrated digital platforms for administration and teaching
 - Develop structured training programs for academic and administrative staff
- **Leveraging Strengths to Exploit Opportunities**
 - Utilize existing academic expertise to expand online and hybrid programs
 - Strengthen participation in international research and education networks
- **Scaling Exceptions into Institutional Practices**
 - Replicate successful digital teaching models across faculties
 - Adopt best-performing administrative practices at institutional level

Interpretation of Results



The application of NOISE analysis in the higher education context demonstrates its capacity to:

- bridge the gap between **diagnosis and implementation**
- integrate **structural challenges and innovation potential**
- support **evidence-based strategic planning**

In contrast to traditional analytical frameworks, which often remain descriptive, the NOISE approach facilitates the direct transformation of identified factors into targeted actions. This makes it particularly suitable for institutions undergoing complex transitions, such as universities adapting to digital and organizational change.

DISCUSSION

The results of the proposed framework and its illustrative application highlight the growing need for more integrated, action-oriented strategic analysis tools in contemporary management and organizational research (Grant, 2016). While traditional frameworks such as SWOT, PESTEL, and SOAR continue to play a central role in strategic analysis, their limitations create space for the development of alternative models such as NOISE analysis.

Comparative Advantages of NOISE Analysis

One of the key contributions of NOISE analysis lies in its ability to bridge the gap between diagnosis and implementation. Traditional frameworks, particularly SWOT analysis, are often criticized for producing descriptive lists of factors without providing clear guidance on how these factors should be translated into strategic actions (Karadzhev, 2025). In contrast, the explicit inclusion of the “Improvements” dimension in NOISE analysis ensures that the analytical process is directly linked to actionable outcomes.

Similarly, while PESTEL analysis offers a comprehensive overview of macro-environmental influences, it remains largely external and does not inherently address internal transformation processes or operational improvements (Karadzhev & Patarchanova, 2025). NOISE analysis complements this limitation by integrating both internal and external perspectives within a unified framework.

Compared to SOAR analysis, which emphasizes strengths and opportunities, NOISE analysis provides a more balanced approach by incorporating both positive and corrective dimensions. The inclusion of “Needs” and “Improvements” ensures that critical deficiencies are not overlooked, while “Exceptions” introduce a mechanism for identifying and replicating best practices. This combination enhances the analytical depth and practical relevance of the model (Karadzhev, 2026).

Another important advantage is the dynamic nature of NOISE analysis. Unlike static frameworks, NOISE encourages iterative evaluation and continuous refinement, aligning with modern approaches to strategic management and organizational learning (Senge, 2006).

Practical Implications

The proposed NOISE framework has broad applicability across multiple domains, including:

- business management and organizational development
- higher education and institutional transformation
- tourism and regional development



- public administration and policy analysis

Its structured methodology, combined with the possibility for quantification and prioritization, makes it particularly useful for:

- decision-makers seeking actionable insights
- researchers conducting applied studies
- practitioners involved in strategic planning

Furthermore, the integration of “Exceptions” as a distinct analytical dimension provides a valuable tool for identifying successful practices and scaling them across organizations. This aligns with contemporary trends in knowledge management and innovation diffusion.

Theoretical Contributions

From a theoretical perspective, this study contributes to the field of strategic management by:

- introducing a **standardized methodological framework for NOISE analysis**
- expanding the conceptual landscape of strategic analytical tools
- integrating elements of diagnostic, appreciative, and action-oriented approaches

The proposed model can be positioned as a **hybrid analytical framework**, combining the strengths of traditional models while addressing their limitations. In doing so, it contributes to the ongoing evolution of strategic analysis methodologies in response to increasingly complex and dynamic environments.

Limitations of the Study

Despite its contributions, the present study has several limitations.

First, the proposed framework is primarily conceptual and methodological, supported by an illustrative application rather than an empirical case study based on primary data. While this approach ensures flexibility and generalizability, future research could benefit from applying NOISE analysis in specific organizational or sectoral contexts.

Second, the scoring system introduced in this study, although useful for prioritization, may involve a degree of subjectivity depending on the evaluator’s perspective. Further research could explore the development of more advanced quantitative models or decision-support systems.

Third, the relatively limited presence of NOISE analysis in existing literature restricts the scope for extensive comparative validation. However, this limitation also represents an opportunity for future research and development.

Directions for Future Research

Future studies could expand the application and validation of NOISE analysis in several directions:

- empirical case studies across different sectors
- comparative analyses with other strategic frameworks
- integration with quantitative decision-making models
- application in emerging fields such as digital transformation and sustainability



Additionally, the development of visual models, software tools, and decision-support systems based on NOISE analysis could further enhance its practical applicability and academic impact.

CONCLUSION

This study set out to develop a standardized and practical framework for conducting NOISE analysis, addressing the existing gap in the literature related to the lack of structured methodologies for this underutilized analytical approach. By systematizing the key components of NOISE – Needs, Opportunities, Improvements, Strengths, and Exceptions – and integrating them into a coherent step-by-step process, the paper contributes to both the theoretical and practical advancement of strategic analysis.

The findings demonstrate that NOISE analysis offers a flexible, balanced, and action-oriented alternative to traditional frameworks such as SWOT, PESTEL, and SOAR. Its ability to simultaneously incorporate diagnostic elements, improvement-oriented thinking, and the identification of best practices positions it as a hybrid model capable of addressing the complexities of contemporary organizational environments.

A key strength of the proposed framework lies in its emphasis on implementation and decision-making. By explicitly including the “Improvements” dimension and introducing a structured evaluation and prioritization mechanism, NOISE analysis moves beyond descriptive assessment and supports the formulation of concrete strategic actions. Additionally, the inclusion of “Exceptions” enhances the analytical depth by enabling the identification and replication of successful practices.

The illustrative application in the context of higher education further confirms the practical applicability and adaptability of the model across different sectors. Its generic structure allows for broad use in business, public administration, tourism, and institutional development, making it a versatile tool for both researchers and practitioners.

In conclusion, the proposed NOISE framework contributes to the ongoing evolution of strategic analysis methodologies by offering a clear, structured, and replicable approach that bridges the gap between analysis and action. Given its flexibility and potential for further development, NOISE analysis represents a promising direction for future research and application in strategic management and related fields.

Declaration by Authors

Ethical Approval: Approved

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interests.

REFERENCES

- Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2009). *Trends in global higher education: Tracking an academic revolution*. UNESCO .
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>



- Bryson, J. M. (2018). Strategic planning for public and nonprofit organizations (5th ed.). *Jossey-Bass*.
- Cooperrider, D. L., & Srivastva, S. (1987). Appreciative inquiry in organizational life. *Research in Organizational Change and Development*, 1, 129–169.
- Deming, W. E. (1986). Out of the crisis. *MIT Press*.
- Grant, R. M. (2016). Contemporary strategy analysis (9th ed.). *Wiley*.
- Gürel, E., & Tat, M. (2017). SWOT analysis: A theoretical review. *The Journal of International Social Research*, 10(51), 994–1006.
- Hill, T., & Westbrook, R. (1997). SWOT analysis: It's time for a product recall. *Long Range Planning*, 30(1), 46–52. [https://doi.org/10.1016/S0024-6301\(96\)00095-7](https://doi.org/10.1016/S0024-6301(96)00095-7)
- Karadzhov, V. (2025). How to create the best SWOT analysis. *International Journal of Research and Review*, 12(1), 66–75. <https://doi.org/10.52403/ijrr.20250110>
- Karadzhov, V., & Patarchanova, E. (2025). How to create the best PESTEL analysis. *International Journal of Digital Research*, 1(3), 8–20. <https://doi.org/10.63711/ijdr.net20250301>
- Karadzhov, V. (2026). How to create the best SOAR analysis. *International Journal of Digital Research*, 2(1), 77–89. <https://doi.org/10.63711/ijdr.net20260105>
- Kotter, J. P. (1996). Leading change. *Harvard Business School Press*.
- Mintzberg, H. (1994). The rise and fall of strategic planning. *Free Press*.
- Pickton, D. W., & Wright, S. (1998). What's SWOT in strategic analysis? *Long Range Planning*, 31(1), 101–109. [https://doi.org/10.1016/S0024-6301\(97\)00097-8](https://doi.org/10.1016/S0024-6301(97)00097-8)
- Porter, M. E. (1980). Competitive strategy: Techniques for analyzing industries and competitors. *Free Press*.
- Porter, M. E. (1985). Competitive advantage: Creating and sustaining superior performance. *Free Press*.
- Saaty, T. L. (1980). The analytic hierarchy process. McGraw-Hill.
- Selwyn, N. (2016). Education and technology: Key issues and debates (2nd ed.). *Bloomsbury*.
- Senge, P. M. (2006). The fifth discipline: The art and practice of the learning organization. *Doubleday*.
- Yin, R. K. (2018). Case study research and applications: Design and methods (6th ed.). Sage.
- Yüksel, İ. (2012). Developing a multi-criteria decision making model for PESTEL analysis. *Procedia Engineering*, 38, 3246–3252. <https://doi.org/10.1016/j.proeng.2012.06.377>

How to cite this article:

Karadzhov, V. (2026). How to create the best NOISE analysis. *International Journal of Digital Research*, 2(2), 9–22. <https://doi.org/10.63711/ijdr.net20260202>

