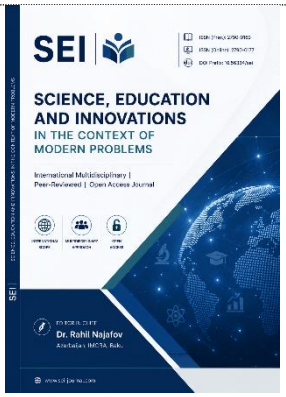

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RESEARCH ARTICLE

Integration of SWOT, Delphi and QFD Approaches in the Context of Contemporary Educational Analysis and Strategic Planning

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Keywords Systematic integration, strategic planning, SWOT matrix, Delphi method, QFD tool, educational research.

Abstract

This study proposes a conceptual framework that integrates three strategic planning tools: SWOT analysis, Delphi method and quality function deployment (QFD) to develop educational research and move from analysis to implementation. The framework is divided into three progressive stages. First, through SWOT analysis, internal strengths and weaknesses, external opportunities and threats are identified for a specific educational issue. Second, the Delphi method is used to validate and prioritize these factors through expert consensus. Third, QFD is used to translate the validated priorities into action-oriented strategies and mechanisms. The proposed framework is logical, the results of each stage are used as input for the next stage, and diagnosis, validation, and strategic planning are part of a single methodological process. To illustrate how this can be applied, a hypothetical educational case study is presented that demonstrates how the framework can be used to move from contextual analysis to prioritized action planning. The framework is designed to offer educational researchers and planners a systematic framework to create evidence-based strategies and assist in decision-making processes. The current study is theoretical in nature; therefore, further empirical research is needed to investigate the applicability, effectiveness, and adaptability of the framework in other educational settings.

Citation

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1. INTRODUCTION

The role of educational research in informing policy, enhancing institutional practices, and supporting evidence-based decision making is important. While there has been significant decision-making progress in educational research and study, there are still concerns about the narrow translation of the findings in research into action and institutional change. This challenge has been referred to as the theory-practice (Yazigy, 2023) gap, the gap between research-based knowledge and its significant decision-making use in real educational environments (Ponce, 2022). (Groothuijsen et al., 2021) pointed out that much of the research produced is limited to academic publications and is not used directly in the design and implementation of education and school decision-making.

This gap may be due, in part, to the lack of methodology to systematically relate problem diagnosis to strategic planning and implementation. Educational research can produce valuable analytical results either quantitatively, qualitatively, or using a combination of both methods; however, the results of the research are usually descriptive and do not suggest clearly prioritised actions (Kayyali, 2025). In addition, education systems have several stakeholders who have varying interests, motives, and expectations, necessitating strategies that can help draw out priorities, gain consensus, and facilitate rational planning processes (Pregoner, 2024).

Some strategic instruments are used to tackle parts of the process of educational planning and evaluation. SWOT analysis is a structured process that helps you understand your strengths and weaknesses and identify opportunities and threats in your surroundings. However, it does not offer anything to validate findings and prioritise identified factors. The Delphi method helps to achieve a consensus of experts and prioritisation by iterative consultation, but it does not automatically lead to recommended implementation steps (Naisola-Ruiter, 2022). Quality Function Deployment (QFD) can help translate the identified requirements into operative plans, but the results of this will depend on the availability of validated and prioritised inputs, such as in the House of Quality (HoQ) (Dror, 2022). The three tools have complementary properties that could lead to a more complete methodological trajectory than using them individually.

In previous studies, combinations of these tools have been studied for strategic planning and quality improvement. However, the combination of SWOT, Delphi, and QFD is still scarce in the realm of educational research using an integrated methodology (Suyatmika et al., 2022). Most existing research has concentrated on either the process of diagnosis and consensus building or the diagnosis and planning stages, with little focus on the entire process of analysis and implementation (Sakamoto, 2023). To address this deficiency, the present study proposes a conceptual framework based on SWOT analysis, the Delphi method, and QFD, sequenced between diagnosis, validation, and strategic planning. This study does not call for a new analytical instrument but aims to offer a methodological structure that helps illustrate how the products of each step can be used as inputs for the next, thus helping with a more systematic passage from educational analysis to action planning (Farwati, 2025).

Thus, this study was designed to:

- Create a conceptual model for the SWOT approach integrated with the Delphi and QFD approaches in a meaningful methodological sequence.
- Explain the work phases of the framework and the relationships between the elements of the framework.
- Discuss and analyse the benefits and limitations of using the framework for educational research and planning.

In view of these goals, this study aims to answer the following research question: What is the most effective way to combine SWOT analysis, the Delphi method, and QFD into a single method to help with educational research and strategic planning?

To answer this question, the study considers the following sub-questions:

- What methodological rationale supports the integration of SWOT, Delphi, and QFD in educational research?
- What are the proposed stages, inputs, outputs, and relationships within the integrated framework?
- What potential benefits and implementation challenges may arise from applying this framework in educational contexts?

2. THEORETICAL FRAMEWORK AND PREVIOUS STUDIES

2.1. The three tools are mapped to the Conceptual Framework

The proposed framework incorporates three complementary tools: SWOT analysis, Delphi method, and quality function deployment (QFD). Each tool is used at a different phase of the planning process: diagnosis, validation, and implementation. To develop an integration mechanism, it is crucial to understand its strengths and weaknesses.

2.1.1. SWOT Analysis

A frequently used strategic planning tool is SWOT analysis, which examines internal strengths and weaknesses and external opportunities and threats (Kumar C.R & K.B, 2023). It can be used in an educational environment to provide an institutional assessment of institutional and environmental conditions and gain an overall view of developmental needs and challenges. Although SWOT analysis is a useful diagnostic tool, it has limitations. The identification of these factors may be subjective, which could affect the reliability of the analysis (Spichak et al., 2021). In addition, SWOT does not offer a means of validating the findings or prioritising identified factors, making it difficult to link the findings of the diagnosis to the strategic actions (Benzaghta et al., 2021). These restrictions indicate that other tools should be used to complement these, which can increase the objectivity and prioritisation of the tools.

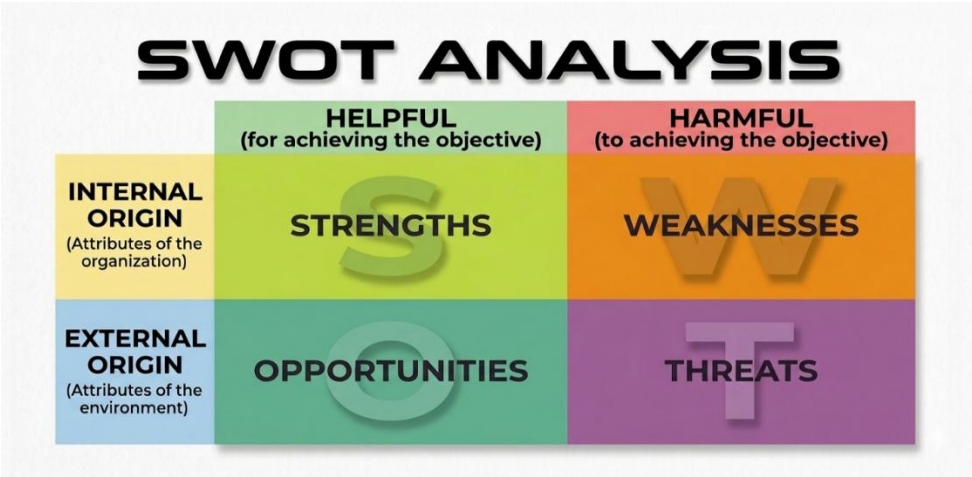


Figure 1. SWOT Analysis
Source: https://pappgab.com/swot-elemzes/

2.1.2. Delphi Method

The Delphi method involves repeated rounds of questionnaires aimed at gaining consensus from experts (Rebustini, 2024). It has several important characteristics, such as expert anonymity, controlled feedback, and repeated evaluation, which can help minimise individual bias and foster independent judgment. This approach is particularly useful in cases of uncertainty or a lack of empirical data. Delphi is a technique that is often applied in educational research to validate study results, determine priorities, and reach a consensus among stakeholders (Goodyear-Smith, 2021). However, the Delphi method is mostly about validated opinions and ranked priorities and not implementation plans. Moreover, several rounds can take a long time and require continued professional involvement, which might pose practical challenges during implementation (Naisola-Ruiter, 2022).

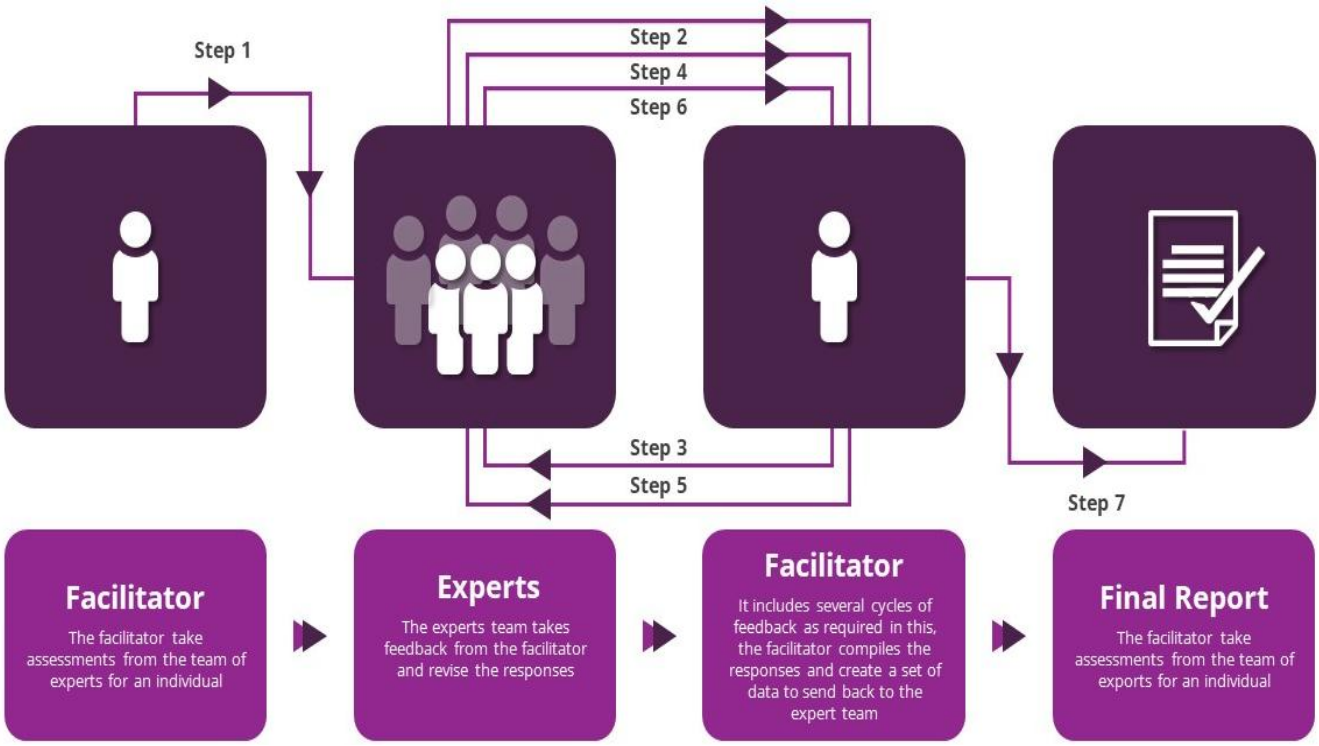


Figure 2. Stages of the Delphi method
Source: SlideBazaar, 2024

2.1.3. Quality Function Deployment (QFD)

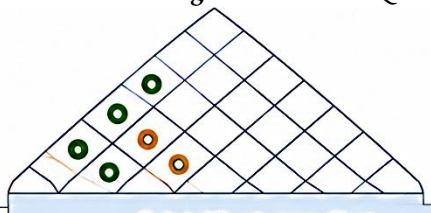
Quality Function Deployment (QFD), specifically using the House of Quality (HoQ), is a planning tool developed to convert the needs of stakeholders into operational specifications. QFD relates identified needs ("WHATs") to implementation mechanisms ("HOWs") and then prioritises the actions systematically with quantitative weighting procedures (Aydarov et al., 2018). The greatest

benefit of QFD is that it transforms vague requirements into a set of action plans with clear priorities. However, the quality and reliability of the inputs to the matrix are critical. In addition, the House of Quality includes various analytical parts that require technical knowledge for appropriate application (Marson & Sartor, 2019). The advantage of QFD is that it can be integrated with methods that provide validated and prioritised inputs.

2.1.4. Rationale for Integration

Each of the three tools has complementary attributes. SWOT offers a complete SWOT analysis of the educational environment, Delphi procedure validates and prioritises the identified factors through a process of consensus among experts, and QFD transforms the prioritised factors into operational strategies. By combining these resources, the approach becomes a streamlined sequence of analysis, validation, and planning, and overcomes the shortcomings of individual tools (Roff & Mcaleer, 2015).

Figure 3. House of Quality tool



Educational Requirements (What)	Priority Weight (1–5)	Technical Requirements (How)					Current Practice	Target Framework
		Strengthen Teaching Practices	Improve Digital Infrastructure	Provide Teacher Training	Enhance Student Support Systems	Improve Assessment Methods		
High-quality and relevant instruction	5	O		O	O	O	F	G
Effective use of digital technologies	4	O	O	O		O	F	G
Professional development opportunities for teachers	5	O		O	O		F	G
Inclusive and supportive learning environment	3		O		O		F	G
Continuous and authentic assessment	4			O		O	P	G

Relationship Key

- O High Relationship (5)
- O Medium Relationship (3)
- O Low Relationship (1)

Performance Rating

- G = Good
- F = Fair
- P = Poor

Note: Priority weight indicates the relative importance of each educational requirement (1 = low; 5 = high).

Source: *Conceptually developed and adapted by the author based on QFD methodology.*

2.2. Previous Studies

2.2.1. Studies Using Individual Tools

Each of these tools has proven useful for educational planning and evaluation. SWOT has been used to assess institutions and diagnose strategies in the education sector. The Delphi method has been applied to various fields of education and professional consensus, such as intercultural competence (Dovhaliuk, 2025), computational thinking pedagogy, and vocational education (Hestivik et al., 2026).

In this respect, QFD has been used for curriculum development, evaluation of educational quality, and improvement of academic programs. Although these studies showed the effectiveness of individual tools, they tended to focus on particular steps of the planning process and were not comprehensive enough to offer a step-by-step approach from diagnosis to implementation (Okudan & Ogot, 2020).

2.2.2. Studies Using Dual Integration

Few studies have fused two of the three tools used. SWOT–Delphi integration was applied to enhance strategic planning by enhancing the validation and prioritisation of SWOT factors. For instance, used Delphi rounds to further develop and prioritise SWOT results to inform the strategic planning of the department (Westover, 2024). This was beneficial in generating analytical rigor but did not offer a means of translating priorities into an implementation plan for the project. Other studies have combined SWOT analysis with QFD. (Westover, 2024) applied SWOT, Kano, and QFD to identify and prioritise institutional requirements, whereas applied SWOT and QFD to enhance the quality of online education.

These studies were able to relate diagnosis to planning but did not have a systematic method for validating and prioritising SWOT outputs prior to their input into QFD. The integration of Delphi QFD has also been used in quality improvement and service development. (Jansone & Nawalage, 2026) employed Delphi and QFD techniques to identify and prioritise project management requirements. This was a useful way of improving planning, but did not include a full contextual diagnosis, for example, using SWOT analysis.

2.2.3. Classical and contemporary studies on triple integration

Classical and modern studies on triple integration. However, research combining SWOT, Delphi, and QFD in a single framework is limited. Previous studies have focused on two approaches to utilise SWOT: employing expert weighting (Hariri et al., 2023) and integrating SWOT and QFD without a formal Delphi process (Andini & Kusufa, 2024). An outstanding example is (Melnyk & Belska, 2023), who used SWOT, Delphi, and QFD techniques to propose a set of strategies to identify mathematically gifted students in Algeria. This study demonstrated the possibility of connecting the outputs of each stage and provided an important methodological foundation for further conceptual development.

2.2.4. Research gap

The research literature suggests that the incorporation of SWOT, Delphi, and QFD is still not very numerous in the field of educational research. The work that has been done on these tools has mostly been on specific applications, and fewer efforts have been applied to developing a well-defined conceptual framework that will explain the methodological rationale, integration sequence, and relationships between the three tools. In view of this, the present study adds to the literature by proposing a conceptual framework of SWOT, Delphi, and QFD with a sequential approach to diagnosis, validation, and strategic planning (Taherdoost & Madanchian, 2021). The study provides clarity for the inputs/outcomes of each phase, clarifies the rationale for integration, and covers the applications and limitations of the framework for education-research and planning.

3. METHODOLOGY

3.1. Research Design

This study uses a conceptual framework development approach to develop a structured methodology for designing a conceptual framework that integrates SWOT analysis, the Delphi method, and QFD in one planning process. This study does not involve an empirical investigation but summarises theoretical and methodological findings from the literature and creates a framework that connects the three stages of diagnosis, validation, and strategic planning in education research.

The framework was designed by following a sequence of integration, where the products of one stage were used as the inputs of the next stage. Integration was developed to overcome the weaknesses of each tool and capitalise on its strengths. SWOT was used to diagnose the situation in the context, Delphi was used to validate and prioritise the situation in the context by using expert consensus, and QFD was used to transform the prioritised situation in the context into implementation-oriented strategies.

3.2. Framework Development Process

The suggested framework has three key stages that are linked together. The first stage of a contextual diagnosis is called SWOT analysis.

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The first stage involves determining the main factors that affect the educational problem being studied. SWOT analysis involves analysing internal strengths and weaknesses and external opportunities and threats. Document analysis and stakeholder consultations, questionnaires, interviews, and/or previous studies may be used to obtain information. This stage produces a tentative list of SWOT factors related to the educational context.

Stage 2: Validation and Prioritisation (Delphi Method):

The second stage involves validating and prioritising the SWOT factors found in the diagnostic stage. Experts are chosen for their experience, knowledge, and expertise in the field. The Delphi process is carried out in a series of rounds. During the first round, the SWOT factors are analysed by experts, and changes are recommended as needed. Later rounds are dedicated to the assessment of each factor and agreement on the priorities. If there is not a strong enough consensus, further rounds can be repeated. The result of this stage is a consensus-based list of SWOT factors that have been validated and prioritised.

STAGE 3: Strategic Planning with QFD

In the third stage, the prioritized factors are translated into actionable strategies by Quality Function Deployment (QFD). The validated SWOT factors are then included as planning requirements in the house of quality; potential actions and implementation

mechanisms are then identified as strategic responses. Weighted relationship scores are used to evaluate the relationships between requirements and implementation mechanisms, which help prioritise alternative actions. The matrix highlights the strategies that will have the greatest impact on meeting priority needs. The interrelationships between implementation mechanisms are also considered to explore possible synergies and conflicts. The results of this stage will be a prioritised strategic action plan with a clear weighting/prioritization process.

Table 1. Summary of the Proposed Framework Development Process

Stage	Tool	Purpose	Main Activities	Outputs
Stage 1	SWOT Analysis	Contextual diagnosis	Identification of strengths, weaknesses, opportunities, and threats through literature, documents, stakeholder input, or institutional data	Preliminary SWOT factors
Stage 2	Delphi Method	Validation and prioritization	Expert review, revision, rating, and consensus building across iterative rounds	Validated and prioritized SWOT factors
Stage 3	QFD (House of Quality)	Strategic planning	Translation of prioritized factors into implementation mechanisms and action priorities	Prioritized strategic action framework

3.3. The Framework's Integration Logic

The framework is sequential, where diagnosis is performed before validation, and validation is performed before the planning stage. The initial list of contextual factors is provided by SWOT; these factors are further confirmed and prioritised using expert consensus as provided by Delphi, and the validated priorities are translated into strategic actions using QFD. The integration aims to create a systematic link between educational analysis and planning in terms of implementation.

4. Results

4.1. Presentation of the Model: Structure and Logical Flow

The main output of this study is the development of a concept of a systematic integration model, which includes SWOT Analysis and Delphi and Quality Function Deployment (QFD) in an integrated form of a strategic planning process. The model represents a sequential chain of process steps, where the output of one step is used as the input to the next step. The diagnostic aspect of SWOT analysis is to identify the internal and external factors that influence the educational problem being investigated.

These factors are then validated and prioritised by experts, and using the Delphi technique, consensus weights are obtained that demonstrate the relative importance of these factors. The validated factors are then translated into a House of Quality (QFD), which is then translated into operational strategies and implementation priorities. The proposed framework outlines a structured approach from problem identification to strategic action. The model integrates the diagnostic, validation, and planning steps into a single methodological sequence, minimising fragmentation and its consequences on the consistency of the decision-making process.

Table 2. Functional Structure of the Proposed Integration Model

Stage	**Tool**	**Primary Function**	**Input**	**Output**
Stage 1	SWOT Analysis	Context diagnosis	Institutional and environmental information	Preliminary SWOT factors
Stage 2	Delphi Method	Validation and prioritization	SWOT factors	Consensus-based weighted factors
Stage 3	QFD (House of Quality)	Strategic planning	Prioritized factors	Ranked implementation strategies

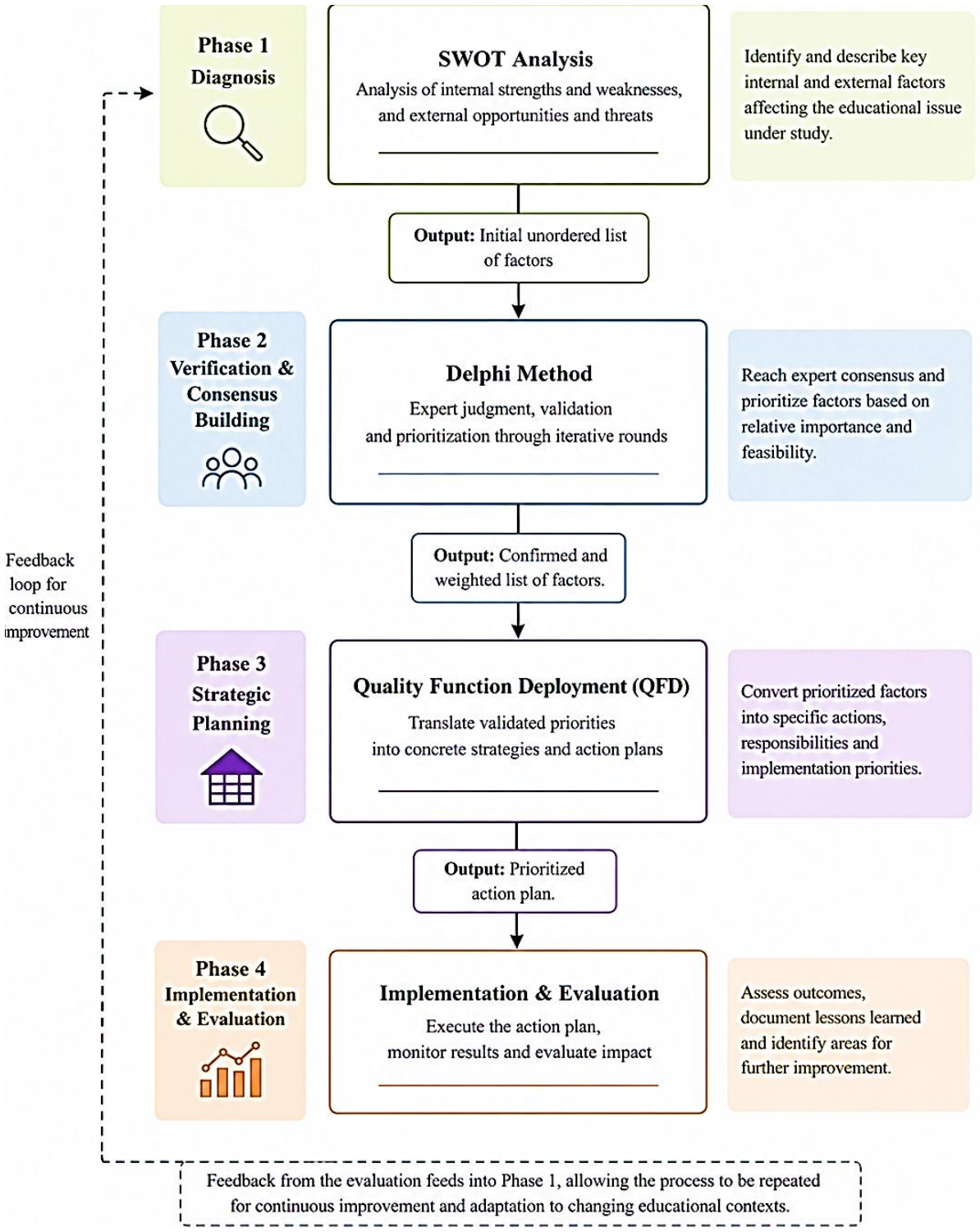

Figure 4. The Cyclical Model of Systematic Integration among SWOT, Delphi, and QFD Tools
Source: *Conceptually developed and refined by the author.*

4.2. Methodological Characteristics of the Proposed Model

The methodological characteristics of the proposed model are as follows. The proposed framework showcases some methodological features that differentiate it from the reported ones. First, the model sets a clear logical sequence for the analytical stages. SWOT offers an initial diagnosis, Delphi offers reliable results because of the experts' consensus, and QFD turns the validated priorities into actionable strategies. This way of going forward ensures methodological continuity and helps reduce inconsistencies in the analytical and planning steps. Second, the model includes expert-based validation, so that the model becomes more objective. Delphi procedures lower individual researcher bias by using consensus-building iterative procedures.

The resulting weighted priorities provide a firmer basis for making decisions strategically. Moreover, the quantitative calculations included in the House of Quality help to facilitate a clear prioritisation process. Third, the framework focuses on outcomes related to implementation. The proposed model differs from approaches that end with the diagnosis but rather one that translates what is identified as a need into specific actions and implementation priorities. As a result, the framework is conducive to evidence-based decision-making and resource allocation. Finally, the model has a multidimensional approach by combining diagnostic, evaluative, and planning functions in one model. This integration allows for a more holistic understanding of the educational challenges faced, as well as a means of strategic intervention. The following is a comparison of the three integrated tools.

Table 3. Comparative Characteristics of the Three Integrated Tools

Criterion	SWOT	Delphi	QFD
Main purpose	Diagnosis	Validation	Strategic planning
Data type	Qualitative	Qualitative and quantitative	Quantitative
Key output	SWOT factors	Consensus weights	Priority actions
Main limitation	Subjectivity	Time requirements	Structural complexity
Contribution within model	Context analysis	Priority validation	Action implementation

4.3. Illustrative Application of the Model

To illustrate the functioning of the framework, a fictional case example was created based on faculty professional development programs. The example demonstrates the possibilities for using the proposed integration process to translate diagnostic results into prioritised implementation strategies. The SWOT stage resulted in an initial list of factors concerning faculty development, both inside and outside the organisation. The strengths represented were experienced trainers, and the weaknesses were the limited evaluation of the effectiveness of the training. Opportunities included the possibility of funding from outside sources, networking, and collaboration with other professionals. Threats included time constraints and growing professional demands. These factors were then subjected to a Delphi process with a hypothetical panel of 15 experts for validation. Following two rounds of consultation, agreement was achieved with more than 80% on most of the factors, on which priority weights were assigned.

Subsequently, the weighted factors were placed in the "House of Quality," where the interrelationships between the factors and the mechanisms of implementation were analysed using standard QFD relationship scores (9 = strong, 3 = moderate, 1 = weak). The QFD analysis yielded a prioritised list of strategic actions for decision makers to consider in selecting interventions with the highest potential for impact. The example illustrates how the proposed framework can turn diagnostic information into implementation priorities based on evidence while being coherent with the methodology throughout the cycle.

Table 4. Illustrative Example of Hypothetical Outputs from the Integrated Model

SWOT Factor	Delphi Consensus (%)	Priority Weight	Proposed QFD Action	QFD Priority Score
Skilled trainers	91.3	4.8	Advanced training modules	432
Weak impact evaluation	88.7	4.6	Evaluation monitoring system	414
External funding opportunities	85.4	4.4	Partnership development strategy	396
Limited faculty time	82.1	4.2	Flexible training delivery model	378

Note: These values are purely illustrative and hypothetical, presented only to demonstrate the operational logic of the proposed framework. They do not represent empirical findings or real dataset results.

5. DISCUSSION

This study presents a systematic approach to integrating SWOT analysis, the Delphi method, and Quality Function Deployment (QFD) into a methodological sequence for educational research and strategic planning. The results show that the proposed

framework has a structured approach from the context diagnostic stage to the expert stage to the planning stage for implementation (Keravnos & Orphanos, 2025). The model links various stages in a logical sequence that overcomes a longstanding challenge in educational research: the translation of analysis into development strategies (Kayyali, 2025).

The proposed framework is also consistent with modern approaches to strategic planning that focus on the importance of using integrated methodologies to strengthen analytical rigor and support evidence-based decision-making in complex educational contexts (Qadafi & Nurhasan, 2025). SWOT analysis provides a comprehensive understanding of the internal and external factors. Delphi further enhances the reliability of the results by obtaining expert consensus, and QFD transforms the validated priority into operational strategies (Fisher et al., 2020). The combination of these complementary functions is aimed at decreasing the methodological discontinuity that is frequently found in the application of these tools separately (Widyaningrum et al., 2024).

An important asset of the framework is its ability to build on past experiences of integration, as mentioned in the literature. An earlier study focused mainly on dual combinations, such as SWOT–Delphi or SWOT–QFD, with only a part of the planning process. SWOT–Delphi methods enhanced the diagnostic accuracy but did not provide much guidance on implementation (Westover, 2024). On the other hand, SWOT–QFD models focus on planning and prioritising but do not always have an explicit mechanism for checking the inputs in decision-making (Plowman, 1999). The present study introduces a new methodological chain that couples diagnosis, validation, prioritisation, and implementation using SWOT, Delphi, and QFD in a single framework (Abdel-Basset et al., 2018; Forte et al., 2017).

The novelty of the proposed model is the systematic integration of the tools, not the tools themselves. The framework is grounded in explicit links between the outputs of each stage and the inputs of the following stage, as well as in the explicit links between each of the stages and the development of the final product (Sarkar & Soltisz, 2024). This structured integration' offers a clear process for taking contextual analysis to consensus-based prioritisation and finally to evidence-informed strategic action. Therefore, the framework provides a feasible methodological approach to bridge the gap between educational research and institutional decision-making (Ming & Goldenberg, 2021). It is also relevant for use in research, education planning, and institutions. For researchers, it offers a sound, theory-based model that can yield implementation-oriented rather than mere descriptive results. Delphi and QFD are useful tools for planners and decision makers who want to prioritise their actions and allocate their resources in a systematic way, rather than making subjective decisions (Maxey & Kezar, 2016; Van Urk et al., 2016).

The framework can aid strategic planning, program evaluation, quality enhancement, and continuous improvement initiatives at the institutional level through the use of multiple stakeholders' perspectives in the planning process. However, several drawbacks must be considered (Khalilov et al., 2024). First, the framework is conceptual and has not yet been applied empirically. However, its effectiveness has not been demonstrated in other educational settings. Second, experts must be qualified for the implementation and a high degree of participation during the Delphi process, which may be difficult in resource-poor areas (Chang & Huang, 2022; Mtenga et al., 2026).

Third, developing and analysing QFD matrices requires a specialised methodology that may exclude researchers unfamiliar with quality management tools. Finally, the integration process can produce a significant amount of analytical complexity, especially if many SWOT factors and implementation alternatives are considered (Ginting et al., 2020). The restrictions indicated above suggest that practical implementation should be backed up by proper training, analytical tools, and methodological guidelines. In general, the proposed framework is a methodological improvement that further strengthens the link between the diagnosis of the educational situation, prioritising based on expert opinion, and strategic planning. The model combines complementary analytical and planning instruments in a coherent package to establish a basis for more coherent, transparent, and implementation-oriented educational research (Chyhrina et al., 2024).

Future Research Directions

Empirical testing of the proposed framework in various educational settings (such as curriculum development, institutional quality improvement, and professional development programs) is warranted in future studies. These applications would allow the effectiveness of the framework to be evaluated and would offer opportunities to improve it based on real-life experiences (Bédard et al., 2023). Additional studies could also focus on the creation of digital tools and analytical templates to help Delphi administrators construct the QFD. Comparisons between the performance of the proposed framework and conventional planning approaches would provide more evidence of its practical value (Mantari Laureano et al., 2025). Furthermore, the inclusion of decision support methods, such as the Analytic Hierarchy Process (AHP), could improve the accuracy of the weightings and support the prioritisation process. Future developments may also need to include feedback and evaluation features to establish a cycle of continuous improvement, which will help inform long-term strategic planning and institutional learning (Felice & Petrillo, 2024).

CONCLUSION

This study aimed to present an integrated methodological framework of SWOT analysis, the Delphi method and Quality Function Deployment (QFD) that can be used to assist in the educational research and strategic planning process. The framework outlines a sequence of steps: contextual diagnosis, expert input to validate the diagnosis, and translation into prioritized implementation strategies. This is because the integration unlocks the potential of using the tools in isolation, and offers a consistent pathway from the analysis to action. The main contribution of this study is the creation of an integrated logic of diagnosis, consensus building and strategic planning in the same methodological structure. The framework helps to fill the long-standing mismatch between education research and implementation by providing a practical way. The model can be empirically tested in various educational contexts, but offers theoretical basis for further application in order to improve decision making, resource allocation and institutional development.

DECLARATIONS

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Conflicts of Interest

The author declares no conflict of interest regarding the publication of this study.

Ethical Approval

This study is theoretical and conceptual in nature and does not involve human participants, personal data, or experimental procedures. Therefore, ethical approval was not required.

Data Availability Statement

No empirical datasets were generated or analyzed during the current study.

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Artificial Intelligence (AI) Statement

Artificial intelligence tools may have been used for limited language editing and formatting assistance. All conceptual development, interpretation, academic evaluation, and final content preparation were conducted and verified by the author.

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