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Prioritizing MoNE 2019-2023 Strategic Goals and Objectives with Analytical Hierarchy Process and Analysis of Relationship between Affecting-Affected Strategic Goals with DEMATEL Method*

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ABSTRACT

In this study, MoNE 2019-2023 strategic goals and strategic objectives under these goals were prioritized and hypothetical impact-relationship between them were presented in order to provide an example for decision-makers and to contribute to the efficient and productive use of public resources by making use of Analytical Hierarchy Process method and DEMATEL which are of the Multi Criteria Decision Making methods. The objectives and targets in the MoNE Strategic Plan were examined depending on the evaluations made by school administrators and academics who are experts in strategic planning, prioritization was made by determining the weights of strategic objectives and targets, and the hypothetical impact-relationships between strategic objectives were revealed. According to the results of the AHP, the 4th strategic goal (Students with ability to find solutions for social problems, contribute to social, cultural and economic development of the country will be trained by the help of a secondary education system that prepares them for higher education in accordance with their abilities and capacities) was found to be the most weighted and the 7th strategic goal (A supportive private schooling structure will be put into practice for all the schools in accordance with the international standards) was the least weighted. According to the results of DEMATEL, the 1st strategic goal (All of our students will be provided with the common values of our civilization and humanity, knowledge, skills, attitudes and behaviors that are the necessities of time) was determined to be the most centralized one in the strategic plan, the 2nd strategic goal (An effective and productive management structure and organizational structure that is in accordance with modern norms will be made dominant) was the most influential goal for all others and the 7th strategic goal was the most affected one.

Keywords: Multi-criteria decision making, AHP, DEMATEL, strategic plan

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1. INTRODUCTION

Strategic planning plays a crucial role in managing the resources efficiently. In Turkey, public institutions are obliged to prepare strategic plan within the scope of Public Financial Management and Control Law No. 5018.

Every organization must consider the factors that affect organizational success or organizational failure while striving to identify strategies for progress and development. One of the most used methods in strategic planning, which can also be expressed as the process of developing future strategies for the organization, is SWOT analysis. SWOT is a method used for determining the best strategies to be implemented in achieving organizational goals by examining strengths (S), weaknesses (W), opportunities (O) and threats (T) to the organization. The chosen strategy should be able to deal with weaknesses and minimize the negative effects of threats while taking advantage of strengths and opportunities (Abdel-Baseet, Mohamed & Smarandache, 2018; Ministry of Development, 2018).

SWOT analysis does not determine the weights of strengths, weaknesses, opportunities and the weight of threats to the organization or establish an affecting-affected relationship between these factors. Therefore, in strategic planning, there is no prioritization for strategic goals based on SWOT analysis and affecting-affected relationship isn't provided. However, public

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institutions should determine their primary strategic goals and strategic objectives and determine their resource requirements depending on prioritization (Ministry of Development, 2015 p.13).

In this study, it was aimed to determine relative importance levels of the strategic goals in the 2019-2023 Strategic Plan of the Ministry of National Education by making use of Analytical Hierarchy Process (AHP) and to determine the affecting and affected strategic objectives by making use of DEMATEL (The Decision-Making Trial and Evaluation Laboratory) method technique. Within the scope of the study, pairwise comparison matrices were prepared on the basis of the strategic objectives included in the 2019-2023 Strategic Plan of the Ministry of National Education. The matrices obtained were filled in by experts by using the scale developed by Saaty and Vergas (2012, p. 6). With this study, strategies that provide high added value for the strategic plan of the Ministry of National Education were tried to be determined, the strategic goals in the affecting and affected position were identified, thus suggestions were put forward for a more effective and efficient implementation of the strategic plan.

While the term strategy includes long-term choices to be made to achieve the goals, the term plan is about deciding the means and ways to be followed to achieve these goals (Çelik, 2011). Planning is also a management approach to make best use of limited resources (Alpkan, 2011; Ekiz & Somel, 2007). The aim in planning is to ensure that the strategic goals and objectives determined by organizations are reached in the shortest time, in the shortest way and with the least resources (Yazıcı, 2014).

Strategic planning can be defined as the development and implementation of strategies appropriate to the internal characteristics of the organization by following the developments and changes in the external environment. It also covers analyzing the opportunities and threats created by these changes and developments and developing and implementing strategies in line with the results of this analysis (Yıldırım, 2014). Ereş (2004) defines strategy as the path to be followed in reaching predetermined goals and states that organizations cannot be sure of their future without strategies. According to Küçüksüleymanoğlu (2008), strategic planning refers to all initiatives aimed at getting results, including the participation and support of all members of the organization from bottom to top. Gürer (2006) states that strategic planning guides the activities of the organization, and the organization evaluates its current situation and environment with strategic planning, thus establishing a bridge between the current situation and the future of the organization. The strategic plan, which depicts the general objectives regarding the desired future, also constitutes the basis of accountability (Ereş, 2004; Özer & Bozkurt, 2017).

There are the three fundamental questions that strategic planning tries to answer (Gürer, 2006):

1. What are we as an organization? (What business are we in? What are the quality and quantity of our human resources? What are our management style and techniques? Who are our customers?)
2. What do we want to be? (In what field do we want to do business? To what level do we want to bring our human resources? How will we improve our technology?)
3. How will we achieve our goals? (How will we combine human resources, technology, finance, and management strategies to achieve the goals?)

When the needs of the public and public resources are evaluated together, it is seen that it is important for public administrations to carry out their activities in a planned manner. The strategic management process applied by public administrations has benefits such as determining short and long-term priorities, ensuring financial discipline in practice, distributing financial resources according to strategic priorities and monitoring the efficiency of the use of these resources, and developing an accountability based on monitoring. Therefore, while strategic planning ensures the effective management of public resources, it also supports the development and strengthening of the corporate culture and corporate identities of public administrations (Ministry of Development, 2018).

The regulation regarding the strategic planning of public institutions in Turkey is carried out with the Public Financial Management and Control Law No. 5018. According to this law, the strategic plan is defined as "the plan that includes the medium and long-term goals, basic principles and policies, objectives and priorities, performance criteria of public administrations, methods to be followed to achieve these objectives and resource allocations". Within the framework of the legislation and development programs, public administrations are obliged to prepare strategic plans in order to establish their vision and missions, to set goals and measurable targets, to measure their performance according to predetermined indicators, and to monitor and evaluate their activities accordingly (Ministry of Development, 2018).

It is of great importance that the Ministry of National Education, which is a public institution tasked with raising the generations of the country, and its affiliated public and private schools fulfill their obligations to produce and provide services efficiently and effectively. Strategic planning is a continuous, renewing process that enables organizations to be in harmony with the developing and changing environment (David, 2009). Undoubtedly, educational institutions, which are primarily affected by environmental changes, need to adapt to these changes and develop and implement strategies in line with their internal qualities. The Ministry of National Education has prepared and implemented its first two strategic plans covering the years 2010-2014 and 2015-2019 within the scope of the Public Financial Management and Control Law No. 5018. In the Ministry of National Education's Strategic Plan 2019-2023, the third strategic plan of MoNE, there are seven strategic goals,

various strategic objectives for each of these strategic goals, and performance indicators as criteria for achieving these strategic objectives (MoNE, 2019). Previous ones and current strategic plan constitute an important tool for the successful implementation of educational services and activities offered in public and private institutions within the scope of public administration (Usta, 2014). They are very important tools that ensure the administrators of non-profit public sector organizations to think strategically and act in accordance with strategic thinking (Çelik, 2011). It is known that successful implementation of strategic decisions has critical importance in achieving organizational goals and objectives (Elbanna, Thanos, & Colak 2014; Elbanna, Andrews, & Pollanen, 2015).

1.1. Statement of the Problem

In an effective strategic planning in which achieving long-term organizational goals by using the shortest paths and considering the least resource consumption, the priority is the efficient use of resources and the applicability of the plan (Alpkan, 2011; Çelik, 2011; Ekiz & Somel, 2007; Yazıcı, 2014). However, while the most attention is paid on planning phase in the strategic plan preparation process, the implementation phase remains in the background (Bryson, 2004). As a matter of fact, it is known that strategies that are not possible to implement fail and there are obvious differences between planning and implementation in many strategic plans (Sebola & Mahlatji, 2014). One of the most important problems regarding the strategic management process is that 90% of the planned strategies are not implemented (Kılıç & Erkan, 2006). Cervone (2014, p.157-158) lists the problems encountered in the preparation and implementation of the strategic plan as follows:

1. Failure of executive leadership,
2. Problems arising from organizational culture,
3. Not including all stakeholders in the planning process,
4. Failure to integrate planning and sub-units of the organization,
5. Poor implementation of the plan,
6. Setting goals based on wrong or weak indicators,
7. Putting too much focus on formality and structure in the planning process.

The complexity of the problems dealt with in strategic planning and the attempt to find solutions for all of these problems require meticulous planning and the use of participatory methods (Godet, 2004, p. 4). When the problem areas put forward by Cervone (2014) are examined, among other factors, it is seen that attention is drawn to the determination of objectives by focusing on false indicators or weak indicators in the strategic plan. In strategic planning, SWOT analysis is the most frequently used method to determine strategies to achieve organizational goals (Abdel-Baseet, Mohamed, & Smarandache, 2018). However, Oreski (2012, p.285) states that the SWOT method is incomplete in managing the uncertainty about the future consequences of various factors and argues that the AHP method makes the decision-making process manageable when there is uncertainty.

In educational administration, which is a public service that shapes the future of the country, it is of great importance to realize the activities carried out economically, effectively, and efficiently, to strategically prioritize investments and current expenditures, and to manage limited resources correctly (Çelik, 2011; Yılmaz & Erkan, 2014). Countries that step forward in the activities carried out by their public institutions have the opportunity to carry their achievements to other fields as well. The number of goals expected to be achieved in public administration is infinite. Consequently, prioritization of the goals at the determination phase by making use of strategic planning and realizing these goals accordingly provides the use of limited resources in the right choices, as well as providing the basis for the realization of the required activities by using the right methods (Ministry of Development, 2015 p 49: Ministry of Development, 2018, p.3).

Relevant literature suggests that organizations work best when responding to environmental demands through strategic planning process and when organizational structure, process and culture are suitable for the practice. The situational context of a strategic initiative affects implementation success (Mitchell, Larson Colantonio, & Nguyen, 2018). In this regard, in the strategic planning and implementation process, administrators should focus on maintaining a supportive stakeholder partnership for high priority initiatives. In this context, it is thought that it is important to prioritize the objectives of the strategic plan prepared by the Ministry of National Education for the years 2019-2023 by getting expert opinions and thus ensuring the correct, effective and efficient use of limited resources and trying to achieve maximum performance in providing education services.

1.2. Purpose of the Study

This study aims to prioritize the strategic goals and the strategic objectives in the 2019-2023 Strategic Plan of the Ministry of National Education with AHP approach, and to identify the most affecting and the most affected strategic goals with DEMATEL method depending on their relationships with each other. Thus, it is expected to contribute to effectively and efficiently implementation of MoNE strategic plan. With this study, it is expected that a road map will be presented to policy makers and the study will contribute to the literature for similar studies to be carried out in the educational administration field.

1.3. Problem of the Study

The problem of the study was stated as follows: What are the impact relations between the strategic goals and the strategic objectives in the 2019-2023 strategic plan of the Ministry of National Education?

2. METHODOLOGY

In this study, it is aimed to prioritize the 2019-2023 Strategic Plan of the Ministry of National Education with the Analytical Hierarchy Process approach and to determine the strategic goals that affect and are affected according to their impacts on each other with the DEMATEL method.

In the Turkish Language Institution's Great Turkish Dictionary, a decision is defined as "a final judgment given by thinking about a business or a problem" (TLI, 2019). The decision-making process consists of the following stages (Koçel, 2011):

- Identifying the purpose or defining the problem,
- Examining the purpose or problem, and determining priorities,
- Identifying alternatives,
- Examination / evaluation of alternatives,
- Determination of selection criteria,
- Making the choice.

It is possible to review the decision-making process under two headings: intuitive decisions and analytical decisions. While analytical decisions are supported by data, intuitive decisions are often arbitrary and not supported by data. The main problem in decision-making is to be able to choose the best alternative from the set of alternatives by considering conflicting or competing criteria (Saaty, 1990).

The methods that provide the opportunity to evaluate the measurable and unmeasurable strategic and operational factors simultaneously are called Multi Criteria Decision Making (MCDM) Methods. MCDM methods are analytical methods capable of involving a large number of individuals in the decision-making process. Taking into account multiple incompatible goals, criteria and qualities, MCDM aims to choose the best option among available options, alternatives, candidates, policies or actions. MCDM methods aiming to determine the alternative that provides the highest level of satisfaction in terms of all criteria related to the decision consists of three stages: determining the criteria and alternatives related to the problem, calculating the effect of these criteria on alternatives, and performing a numerical calculation to determine the order of each alternative (Chatterjee & Chakraborty, 2012; Karaatlı, Ömürbek, Aksoy, & Atasoy, 2015).

2.1. AHP

Developed to be used in cases where it is necessary to make decisions by taking many complex criteria into account, AHP is a method of decision-making based on measurement that enables the determination of the relative importance of the criteria according to the opinions of experts or decision makers. AHP enables a problem to be handled in a hierarchical system. In AHP, it is possible to combine the decisions of people with different experiences, knowledge and foresight into group decisions. The alternatives are determined by prioritizing each alternative over the other by experts. Synthesis of the obtained data allows decision makers to identify the best option. The basic idea in the AHP approach is to reveal the judgments of decision makers in pairwise comparisons (Ballestro & Romero, 1998; Rakotoarivelo & Zarate, 2017; Saaty, 1980; Özdemir & Tüysüz, 2017; Tzeng & Shen, 2017).

AHP provides the opportunity of modelling a complex problem in a hierarchical structure by establishing relationships between goals, objectives, sub-goals and alternatives (Özdemir & Saaty, 2006). Depending on the type of problem addressed in AHP studies, the alternatives or indicators that are aimed to be prioritized are called *criteria* (Russo & Camanho, 2015). In AHP, quantitative and qualitative criteria can be used together by making use of numerical values obtained from pairwise comparisons and scoring scales. It also presents a mathematical method by digitizing subjective preferences (Saaty, 1990; Saaty & Vargas, 2012). Based on calculations built on matrix algebra, AHP is a method used in various fields such as transportation planning, energy distribution, risk management projects, transportation operations, service quality management and resource management (Rakotoarivelo & Zarate, 2017).

The steps to be followed in the AHP method are as follows:

Step 1: Defining the problem hierarchy.

Step 2: Pairwise comparison of the criteria. In this step, n x n matrices are created for strategic goals and strategic objectives, and pairwise comparisons are made by using the values from 1 to 9. Meaning of the values are presented in Table 1 (Saaty, 2008).

Table 1.
The Fundamental Scale

Intensity of Importance	Definition	Explanation
1	Equal importance	Two activities contribute equally to the objective
3	Moderate importance	Experience and judgment slightly favor one activity over another
5	Strong importance	Experience and judgment strongly favor one activity over another
7	Very strong importance	An activity is favored very strongly over another; its dominance demonstrated in practice
9	Extreme importance	The evidence favoring one activity over another is of the highest possible order of affirmation
2, 4, 6, 8	Intermediate values	Used when there are slight differences between the activities
Reciprocals of above	If activity *i* has one of the above nonzero numbers assigned to it when compared with activity *j*, then *j* has the reciprocal value when compared with *i*	

(Source: Saaty & Vargas, 2012, p. 6)

Step 3: Normalization and determination of priority vector. In this step, the values obtained by calculating the geometric mean of the pairwise comparison matrices are normalized and the priority vector that enables the determination of the weights of the criteria is formed.

Step 4: Testing the consistency of the participant evaluations and consistency of the relative weights determined based on the priority vector. In this step, the consistency ratio (CR) is calculated depending on the consistency index (CI) and the random index (RI) which differs according to the number of items used in pairwise comparisons. RI is presented in Table 2.

Table 2.
Random Index

n	1	2	3	4	5	6	7	8	9	10
RI	0	0	0.52	0.89	1.11	1.25	1.35	1.40	1.45	1.49

(Source: Saaty & Vargas, 2012, p. 9)

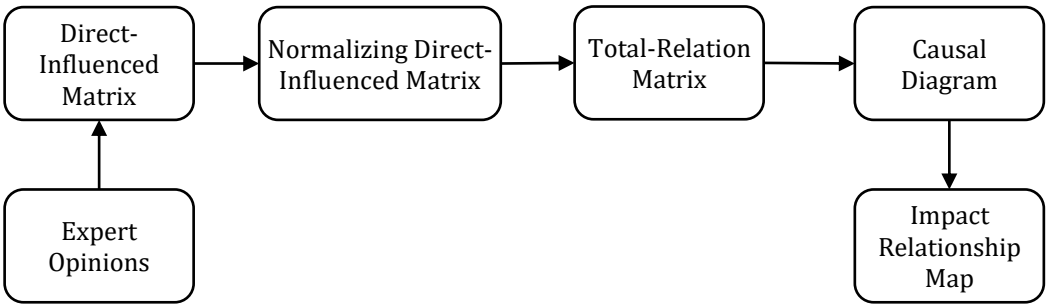
It is in the realm of possibility that comparisons made by decision makers are not consistent. Therefore, consistency of the comparisons made by decision makers is checked with consistency analysis. The consistency ratio is obtained by dividing the value of the consistency index by the relevant random index value, which is shown in Table 2 and determined according to the number of items included in pairwise comparisons. Saaty and Vergas (2012) state that if the calculated consistency rate is below 0.10, it is concluded that the data is consistent.

Step 5: Determination of global weights. Global weights are determined for the items in the priorities vector.

2.2. DEMATEL

A widely used method in various fields such as determining marketing strategies, evaluating scientific studies, evaluating security applications, and making group decisions, DEMATEL was developed by the Geneva Research Centre of the Battelle Memorial Institute in order to determine the complex causal relationships of the criteria. The strength and level of the relations between the criteria can be determined numerically by making use of this method. The method can determine the importance and priority of the criteria as well as detecting the relationship between them. Via DEMATEL, it is possible to identify if a criterion is affected from other criteria or is affecting them (Çelikbilek, 2018; Tzeng & Shen, 2017).

DEMATEL method enables creating a map to investigate and solve complex and intertwined problems, identifying interdependencies between factors, and reflecting the relative relationships between them. This method not only transforms interdependent relationships into cause-effect groups with matrices, but also finds the critical factors of a complex system with the help of a hypothetical effect-relationship scheme. Due to the advantages it provides, DEMATEL approach has attracted great attention in the last decade and has been applied by many researchers to solve complex system problems in various fields (Si, You, Liu, & Zhang, 2018).



Source: Falatoonitoosi, Leman, Sorooshian & Salimi (2013, p. 3477)

Figure 1. Steps of DEMATEL method

Figure 1 shows that following data collection form experts, DEMATEL is applied in 5 steps:

- Creating direct-influence matrix,
- Normalizing direct-influence matrix,
- Achieving the total-relationship matrix,
- Creating the causal diagram,
- Obtaining the impact-relationship map.

Numeric values used during data collection phase for determining affected and affected strategic goals are presented in Table 3.

Table 3.
DEMATEL Comparison Scale

Numeric Value	Explanation
0	No influence
1	Low influence
2	Medium influence
3	High influence
4	Very high influence

(Source: Dey, Kumar, Ray & Pradhan, 2012, p. 3561)

2.3. Participants

In this study, MCDM methods AHP and DEMATEL were used, and the data was collected from 22 expert decision makers. Participants were school administrators who played an active role in the strategic planning process and academics. The distribution of the participants by their duties is shown in Table 4.

Table 4.
Distribution of Participants by Their Duties

Duty	N
Department Manager	3
School Administrator	9
Teacher	2
Academic	8

2.4. Strategic Goals and Strategic Objectives in MoNE 2019-2023 Strategic Plan

The criteria of this study (Russo & Camanho, 2015) are the strategic goals included in the strategic plan of the Ministry of National Education covering the 2019-2023 period and the strategic objectives under these goals. The strategic goals and strategic objectives analyzed in the study are as follows (MoNE, 2019):

Strategic Goal 1. All of our students will be provided with the common values of our civilization and humanity, knowledge, skills, attitudes, and behaviors that are the necessities of time,

Strategic Objective 1.1. Curriculum will be restructured as holistic, flexible, and modular structures associated with skill sets at all levels

Strategic Objective 1.2. An effective measurement and evaluation system will be established to identify, monitor, and support the competencies of our students in all fields and at all levels of education

Strategic Objective 1.3. A skill-based foreign language proficiency system that takes the needs of students into account according to age, school type and type of program will be introduced

Strategic Objective 1.4. With digital content and skill-supported transformation that support learning processes, students, and teachers all over the country will have equal learning and teaching opportunities, and learning will go beyond the classroom

Strategic Goal 2. An effective and productive management structure and organizational structure that is in accordance with modern norms will be made dominant,

Strategic Objective 2.1. Data-based administration structure will be adopted in order to monitor, evaluate, and develop administration and learning activities

Strategic Objective 2.2. A new model of understanding, system and professional development will be created in order to support the development of teachers and school administrators

Strategic Objective 2.3. In order to increase the quality of education and establish an administration approach based on planning in schools, an efficient financing model establishing link between the plan and the budget will be adopted

Strategic Objective 2.4. Institutional guidance and supervision system will be restructured in a way to highlight the guidance dimension of school development, and active efforts of the Ministry for legal services will continue

Strategic Goal 3. In pre-school and basic education, our students will be cultivated multi-dimensionally in cognitive, emotional, and physical aspects,

Strategic Objective 3.1. The quality and prevalence of early childhood education will be increased, community-based early childhood education will be diversified and disseminated

Strategic Objective 3.2. The schooling rate will be increased by transitioning to a basic education structure that puts emphasis on the cognitive, emotional, and physical development of our students, allowing them to internalize scientific thinking, attitudes and values.

Strategic Objective 3.3. Innovative practices that will increase the quality of schools will be included in basic education

Strategic Goal 4. Students with ability to find solutions for social problems, contribute to social, cultural, and economic development of the country will be trained by the help of a secondary education system that prepares them for higher education in accordance with their abilities and capacities,

Strategic Objective 4.1. Participation and completion rates in secondary education will be increased

Strategic Objective 4.2. Secondary education will be transformed into a structure that provides the skills required by the changing world and will train students who will become actors of change

Strategic Objective 4.3. The quality of science high schools and social sciences high schools will be strengthened in order to increase the intellectual capital of our country, and support civilization and development

Strategic Objective 4.4. The quality of 'imam hatip' schools will be increased in formal education

Strategic Goal 5. The physical, psychological, and mental development of individuals will be supported by increasing the effectiveness of special education and guidance services,

Strategic Objective 5.1. A functional psychological counseling and guidance structure that allows students to receive education that matches their temperament, interests and abilities will be established

Strategic Objective 5.2. A justice-based model will be developed in education that does not isolate individuals with special needs from their peers and strengthens the culture of living together

Strategic Objective 5.3. Gifted students, who are an important resource in the development of our country, will be supported with an education method suitable for their nature without being separated from their peers

Strategic Goal 6. Vocational and technical education and lifelong learning systems will be arranged in compliance with the needs of the society, the requirements of the labor market and of the information age,

Strategic Objective 6.1. The attributed value and access opportunities to vocational and technical education will be increased

Strategic Objective 6.2. In vocational and technical education, new generation education programs will be developed, human and physical infrastructure will be improved

Strategic Objective 6.3. The relation of vocational and technical education, employment and production will be strengthened

Strategic Objective 6.4. Lifelong learning qualifications, participation and completion rates will be increased in order to increase the work and life quality of individuals, and activities related to education and training for the citizens abroad will be continued

Strategic Goal 7. A supportive private schooling structure will be put into practice for all the schools in accordance with the international standards,

Strategic Objective 7.1. The rate of students attending private schools will be increased and the administration and supervision structure of private education institutions will be strengthened

Strategic Objective 7.2. Regulations will be made to increase the quality of institutions providing certificate training

2.5. Instruments

In the study, the data was collected using two different types of matrices in accordance with AHP and DEMATEL methods. In Table 5, Strategic Goal AHP Matrix; in Table 6, a sample of Strategic Objective AHP Matrix; in Table 7, Strategic Goal DEMATEL Matrix is presented.

Table 5.
Strategic Goal AHP Matrix

Strategic Goals	**1.** All of our students will be provided with the common values of our civilization and humanity, knowledge, skills, attitudes and behaviors that are the necessities of time	**2.** An effective and productive management structure and organizational structure that is in accordance with modern norms will be made dominant	**3.** In pre-school and basic education, our students will be cultivated multi-dimensionally in cognitive, emotional and physical aspects	**4.** Students with ability to find solutions for social problems, contribute to social, cultural and economic development of the country will be trained by the help of a secondary education system that prepares them for higher education in accordance with their abilities and capacities	**5.** The physical, psychological and mental development of individuals will be supported by increasing the effectiveness of special education and guidance services	**6.** Vocational and technical education and lifelong learning systems will be arranged in compliance with the needs of the society, and the requirements of the labor market and of the information age	**7.** A supportive private schooling structure will be put into practice for all the schools in accordance with the international standards
1. All of our students will be provided with the common values of our civilization and humanity, knowledge, skills, attitudes, and behaviors that are the necessities of time	1						
2. An effective and productive management structure and organizational structure that is in accordance with modern norms will be made dominant		1					
3. In pre-school and basic education, our students will be cultivated multi-dimensionally in cognitive, emotional, and physical aspects			1				
4. Students with ability to find solutions for social problems, contribute to social, cultural, and economic development of the country will be trained by the help of a secondary education system that prepares them for higher education in accordance with their abilities and capacities				1			
5. The physical, psychological, and mental development of individuals will be supported by increasing the effectiveness of special education and guidance services					1		
6. Vocational and technical education and lifelong learning systems will be arranged in compliance with the needs of the society, and the requirements of the labor market and of the information age						1	
7. A supportive private schooling structure will be put into practice for all the schools in accordance with the international standards							1

Including 7 strategic goals, the Strategic Goal AHP Matrix used in data collection can be seen in Table 5. Participants were asked to fill in the matrix depending on their judgements of degree of importance by comparing the strategic goal in the row with the strategic goal in the column by using the scale presented in Table 1. The areas shown in gray in Table 5 were not filled in by the participants, but values in these cells were obtained automatically, since they constitute the opposite of the values entered in the uncolored fields as it is a symmetrical matrix.

Table 6.
A Sample of Strategic Objective AHP Matrix

Strategic Goal 1. All of our students will be provided with the common values of our civilization and humanity, knowledge, skills, attitudes, and behaviors that are the necessities of time	**1.** Curriculum will be restructured as holistic, flexible and modular structures associated with skill sets at all levels	**2.** An effective measurement and evaluation system will be established to identify, monitor and support the competencies of our students in all fields and at all levels of education	**3.** A skill-based foreign language proficiency system that takes the needs of students into account according to age, school type and type of program will be introduced	**4.** With digital content and skill-supported transformation that support learning processes, students and teachers all over the country will have equal learning and teaching opportunities, and learning will go beyond the classroom
1. Curriculum will be restructured as holistic, flexible, and modular structures associated with skill sets at all levels	1			
2. An effective measurement and evaluation system will be established to identify, monitor, and support the competencies of our students in all fields and at all levels of education		1		
3. A skill-based foreign language proficiency system that takes the needs of students into account according to age, school type and type of program will be introduced			1	
4. With digital content and skill-supported transformation that support learning processes, students, and teachers all over the country will have equal learning and teaching opportunities, and learning will go beyond the classroom				1

For each of the 7 strategic goals included in the 2019-2023 Strategic Plan of the Ministry of National Education, AHP matrices of strategic objectives were created. In Table 6, Strategic Objectives AHP Matrix of Strategic Goal 1 is presented as an example. For the Strategic Objective AHP Matrix in Table 6, data was collected using the same method as the Strategic Goal AHP matrix in Table 5.

Table 7.
Strategic Goal DEMATEL Matrix

Strategic Goals	**1.** All of our students will be provided with the common values of our civilization and humanity, knowledge, skills, attitudes and behaviors that are the necessities of time	**2.** An effective and productive management structure and organizational structure that is in accordance with modern norms will be made dominant	**3.** In pre-school and basic education, our students will be cultivated multi-dimensionally in cognitive, emotional and physical aspects	**4.** Students with ability to find solutions for social problems, contribute to social, cultural and economic development of the country will be trained by the help of a secondary education system that prepares them for higher education in accordance with their abilities and capacities	**5.** The physical, psychological and mental development of individuals will be supported by increasing the effectiveness of special education and guidance services	**6.** Vocational and technical education and lifelong learning systems will be arranged in compliance with the needs of the society, and the requirements of the labor market and of the information age	**7.** A supportive private schooling structure will be put into practice for all the schools in accordance with the international standards
1. All of our students will be provided with the common values of our civilization and humanity, knowledge, skills, attitudes, and behaviors that are the necessities of time							
2. An effective and productive management structure and organizational structure that is in accordance with modern norms will be made dominant							
3. In pre-school and basic education, our students will be cultivated multi-dimensionally in cognitive, emotional, and physical aspects							
4. Students with ability to find solutions for social problems, contribute to social, cultural, and economic development of the country will be trained by the help of a secondary education system that prepares them for higher education in accordance with their abilities and capacities							
5. The physical, psychological, and mental development of individuals will be supported by increasing the effectiveness of special education and guidance services							
6. Vocational and technical education and lifelong learning systems will be arranged in compliance with the needs of the society, and the requirements of the labor market and of the information age							
7. A supportive private schooling structure will be put into practice for all the schools in accordance with the international standards							

The Strategic Goal DEMATEL Matrix consisting of 7 strategic goals used in data collection is shown in Table 7. Participants were asked to fill in the matrix depending on their judgements by using the scale presented in Table 3. Since there is no need to calculate the affect degrees of the items with themselves in the DEMATEL method, the areas shown in gray in Table 7 were closed to data entry.

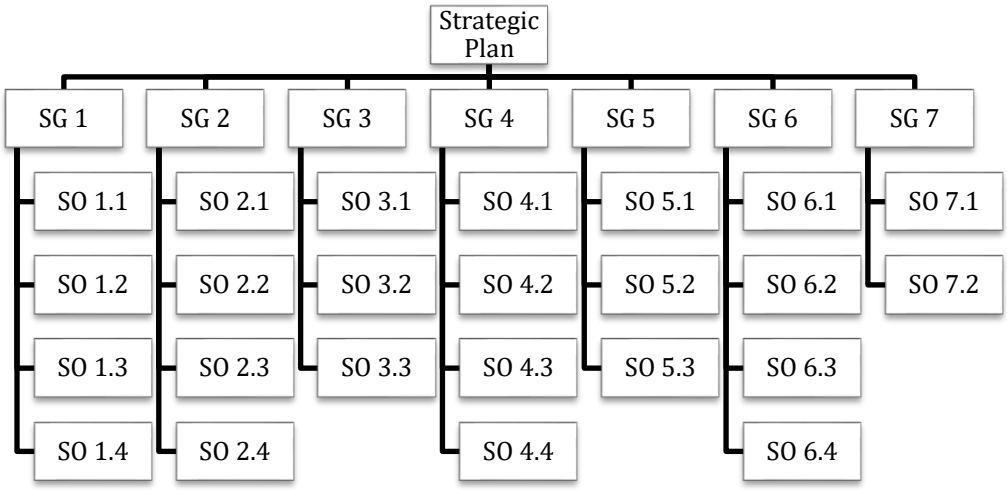
The Strategic Goal AHP Matrix shown in Table 5, Strategic Objective AHP Matrices of which an example of them is presented in Table 6 for each of the 7 strategic goals, and Strategic Goal DEATEL Matrix shown in Table 7 were filled in by the participants. The data was collected through face-to-face interviews with the participants. It took about 30 minutes to fill in all of the matrices. The data obtained was analyzed with MS Excel.

3. FINDINGS

In this section, the findings obtained using AHP and DEMATEL methods are presented.

3.1. AHP

Step 1 - Defining the problem hierarchy: Since prioritization was made for the strategic goals and the strategic objectives included in the 2019-2023 Strategic Plan of the Ministry of National Education in this study, the hierarchical structure established by the Ministry of National Education was taken as a basis. The hierarchical structure of the strategic goals and strategic objectives in the MoNE 2019-2023 Strategic Plan is presented in Figure 2.



SG: Strategic Goal, **SO**: Strategic Objective

Figure 2. Hierarchical structure of MoNE 2019-2023 strategic plan

Step 2 - Pairwise comparison of the criteria: In this step, n x n size matrices were created for strategic goals and strategic objectives. Pairwise comparisons were made on the created matrices.

The geometric mean values of the evaluations made by all the participants are shown on a single matrix. As an example of the geometric mean matrix, the mean values of the participant evaluations for strategic goals are presented in Table 8.

Table 8.
Strategic Goal Geometric Mean Matrix

	SG 1	**SG 2**	**SG 3**	**SG 4**	**SG 5**	**SG 6**	**SG 7**
SG 1	1.00	2.94	1.29	0.74	1.36	1.28	2.49
SG 2	0.34	1.00	0.74	0.67	1.03	0.89	2.25
SG 3	0.77	1.34	1.00	1.48	1.47	1.42	2.44
SG 4	1.35	1.50	0.68	1.00	2.60	1.59	3.00
SG 5	0.74	0.97	0.68	0.39	1.00	1.08	1.87
SG 6	0.78	1.13	0.70	0.63	0.92	1.00	3.18
SG 7	0.40	0.44	0.41	0.33	0.53	0.31	1.00

Step 3 - Normalization and determination of priority vector: The values obtained by the geometric mean of the pairwise comparison matrices were normalized and the priority vector for determination of the weight degrees of the criteria was created. An example of the normalized matrix and the priority vector of strategic goals are shown in Table 9.

Table 9.
Normalized Matrix of Strategic Goals and Priority Vector

	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6	SG 7	Priority Vector
SG 1	0.19	0.32	0.23	0.14	0.15	0.17	0.15	0.19
SG 2	0.06	0.11	0.14	0.13	0.12	0.12	0.14	0.11
SG 3	0.14	0.14	0.18	0.28	0.16	0.19	0.15	0.18
SG 4	0.25	0.16	0.12	0.19	0.29	0.21	0.18	0.20
SG 5	0.14	0.10	0.12	0.07	0.11	0.14	0.12	0.12
SG 6	0.15	0.12	0.13	0.12	0.10	0.13	0.20	0.14
SG 7	0.07	0.05	0.07	0.06	0.06	0.04	0.06	0.06

Step 4 - Testing the consistency of the participants' evaluations and consistency of the relative weights determined based on the priority vector: In this step, the consistency ratio (CR) was calculated depending on the consistency index (CI) and the random index (RI) which differs according to the number of items used in pairwise comparisons. If the calculated consistency ratio is below 0.10, it is stated that the data is consistent. The consistency rates calculated for strategic goals and strategic objectives are shown in Table 10.

Table 10.
Consistency Ratios for Strategic Goals

	Total	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6
N	7	4	3	3	4	3	4
CR	0.022	0.087	0.039	0.059	0.035	0.032	0.018

When Table 7 is inspected, it is seen that all CR values meet the consistency condition. Since there are 2 strategic objectives for the strategic goal 7, the CR wasn't calculated, and these two objectives were not prioritized within themselves.

Step 5 - Determination of global weights: Global weights were determined for the items in the priority vector. Global weight values are shown in Table 11.

Table 11.
Global Weights of Strategic Goals and Strategic Objectives

Strategic Goals (SG)	%SG	Strategic Objectives (SO)	%SO	%SG in Total
Strategic Goal 4. Students with ability to find solutions for social problems, contribute to social, cultural and economic development of the country will be trained by the help of a secondary education system that prepares them for higher education in accordance with their abilities and capacities	20.17	**Strategic Objective 4.2.** Secondary education will be transformed into a structure that provides the skills required by the changing world and will train students who will become actors of change	48.63	9.81
		Strategic Objective 4.3. The quality of science high schools and social sciences high schools will be strengthened in order to increase the intellectual capital of our country, and support civilization and development	29.76	6.00
		Strategic Objective 4.1. Participation and completion rates in secondary education will be increased	14.39	2.90
		Strategic Objective 4.4. The quality of imam hatip schools will be increased in formal education	7.23	1.46
Strategic Goal 1. All of our students will be provided with the common values of our civilization and humanity, knowledge, skills, attitudes and behaviors that are the necessities of time	19.32	**Strategic Objective 1.2.** An effective measurement and evaluation system will be established to identify, monitor, and support the competencies of our students in all fields and at all levels of education	32.06	6.19
		Strategic Objective 1.1. Curriculum will be restructured as holistic, flexible, and modular structures associated with skill sets at all levels	31.44	6.07
		Strategic Objective 1.3. A skill-based foreign language proficiency system that takes the needs of students into account according to age, school type and type of program will be introduced	18.70	3.61
		Strategic Objective 1.4. With digital content and skill-supported transformation that support learning processes, students, and teachers all over the country will have equal learning and teaching opportunities, and learning will go beyond the classroom	17.80	3.44

Table 11 (continued)

Strategic Goals (SG)	%SG	Strategic Objectives (SO)	%SO	%SG in Total
Strategic Goal 3. In pre-school and basic education, our students will be cultivated multi-dimensionally in cognitive, emotional, and physical aspects	17.91	**Strategic Objective 3.2.** The schooling rate will be increased by transitioning to a basic education structure that puts emphasis on the cognitive, emotional, and physical development of our students allowing them to internalize scientific thinking, attitudes and values	40.71	7.29
		Strategic Objective 3.1. The quality and prevalence of early childhood education will be increased, community-based early childhood education will be diversified and disseminated	37.80	6.77
		Strategic Objective 3.3. Innovative practices that will increase the quality of schools will be included in basic education	21.49	3.85
Strategic Goal 6. Vocational and technical education and lifelong learning systems will be arranged in compliance with the needs of the society, and the requirements of the labor market and of the information age	13.51	**Strategic Objective 6.3.** The relation of vocational and technical education, employment and production will be strengthened	39.28	5.31
		Strategic Objective 6.2. In vocational and technical education, new generation education programs will be developed, human and physical infrastructure will be improved	26.57	3.59
		Strategic Objective 6.1. The attributed value and access opportunities to vocational and technical education will be increased	22.34	3.02
		Strategic Objective 6.4. Lifelong learning qualifications, participation and completion rates will be increased in order to increase the work and life quality of individuals, and activities related to education and training for the citizens abroad will be continued	11.81	1.60
Strategic Goal 5. The physical, psychological, and mental development of individuals will be supported by increasing the effectiveness of special education and guidance services	11.56	**Strategic Objective 5.1.** A functional psychological counseling and guidance structure that allows students to receive education that matches their temperament, interests and abilities will be established	41.95	4.85
		Strategic Objective 5.3. Gifted students, who are an important resource in the development of our country, will be supported with an education method suitable for their nature without being separated from their peers	29.80	3.44
		Strategic Objective 5.2. A justice-based model will be developed in education that does not isolate individuals with special needs from their peers and strengthens the culture of living together	28.25	3.27
Strategic Goal 2. An effective and productive management structure and organizational structure that is in accordance with modern norms will be made dominant	11.48	**Strategic Objective 2.2.** A new model of understanding, system and professional development will be created in order to support the development of teachers and school administrators	36.22	4.16
		Strategic Objective 2.1. Data-based administration structure will be adopted in order to monitor, evaluate, and develop administration and learning activities	24.63	2.83
		Strategic Objective 2.4. Institutional guidance and supervision system will be restructured in a way to highlight the guidance dimension of school development, and active efforts of the Ministry for legal services will continue	20.63	2.37
		Strategic Objective 2.3. In order to increase the quality of education and establish an administration approach based on planning in schools, an efficient financing model establishing link between the plan and the budget will be adopted	18.52	2.13
Strategic Goal 7. A supportive private schooling structure will be put into practice for all the schools in accordance with the international standards	6.05			6.05

Importance levels of strategic goals and strategic objectives are presented in Table 11.

3.2. DEMATEL

Step 1 - Creating direct-influence matrix: In this step, a direct-influence matrix was created by calculating mean values of the evaluations made by the participants for strategic goals. The direct-influence matrix is presented in Table 12.

Table 12.
Direct-Influence Matrix

	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6	SG 7
SG 1	0.000	1.810	2.667	3.048	2.429	2.429	1.810
SG 2	2.905	0.000	2.714	2.857	2.714	2.667	2.381
SG 3	2.238	1.524	0.000	2.381	2.000	1.714	1.905
SG 4	2.905	1.762	1.619	0.000	1.905	2.381	2.095
SG 5	2.000	1.286	2.048	2.286	0.000	2.190	1.762
SG 6	2.143	1.810	1.048	2.286	1.524	0.000	1.952
SG 7	1.333	1.429	1.429	1.524	1.571	1.619	0.000

Step 2 - Normalizing direct-influence matrix: Values in direct-influence matrix were normalized in this step. Normalized direct-influence matrix is presented in Table 13.

Table 13.
Normalized Direct-Influence Matrix

	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6	SG 7
SG 1	0.000	0.111	0.164	0.188	0.150	0.150	0.111
SG 2	0.179	0.000	0.167	0.176	0.167	0.164	0.147
SG 3	0.138	0.094	0.000	0.147	0.123	0.106	0.117
SG 4	0.179	0.109	0.100	0.000	0.117	0.147	0.129
SG 5	0.123	0.079	0.126	0.141	0.000	0.135	0.109
SG 6	0.132	0.111	0.065	0.141	0.094	0.000	0.120
SG 7	0.082	0.088	0.088	0.094	0.097	0.100	0.000

Step 3 - Achieving the total-relationship matrix: Total-relationship matrix is shown in Table 14.

Table 14.
Total-Relationship Matrix

	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6	SG 7
SG 1	0.427	0.416	0.506	0.609	0.514	0.542	0.479
SG 2	0.634	0.357	0.557	0.658	0.578	0.606	0.556
SG 3	0.482	0.353	0.310	0.508	0.435	0.444	0.425
SG 4	0.538	0.384	0.423	0.408	0.453	0.501	0.457
SG 5	0.462	0.336	0.413	0.495	0.317	0.459	0.411
SG 6	0.452	0.349	0.350	0.477	0.389	0.325	0.406
SG 7	0.356	0.288	0.320	0.380	0.340	0.360	0.249

Step 4 - Creating the causal diagram: Causal diagram table which forms basis for causal diagram is created in this step. Causal diagram table is presented in Table 15.

Table 15.
Casual Diagram Table

	D	R	D+R	D-R
SG 1	3.49	3.35	6.84	0.14
SG 2	3.95	2.48	6.43	1.46
SG 3	2.96	2.88	5.84	0.08
SG 4	3.17	3.54	6.70	-0.37
SG 5	2.89	3.03	5.92	-0.13
SG 6	2.75	3.24	5.98	-0.49
SG 7	2.29	2.98	5.28	-0.69

Causal diagram created based on Table 15 is presented in Figure 3.

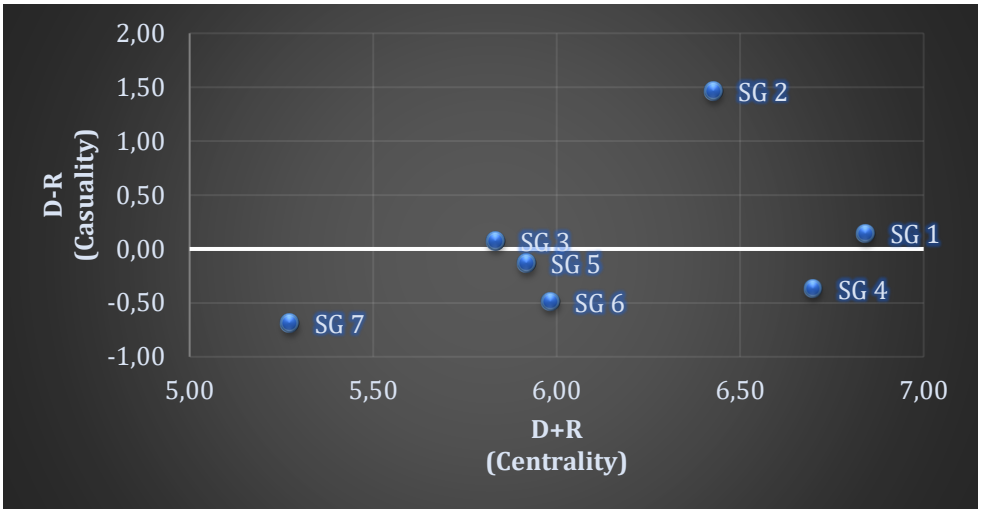


Figure 3. Causal diagram

As a result of DEMATEL, the strategic goals that play the most important role, the ones that play causing role, the most affected ones, the most affecting ones and the ones play the most central role in the strategic plan can be seen in Figure 3.

This study aims to prioritize the strategic goals and strategic objectives in the strategic plan of the Ministry of National Education for the period of 2019-2023 by making use of the Analytical Hierarchy Process method, and to reveal the hypothetical affect-relationships between the strategic goals by making use of DEMATEL method. The conclusions reached may differ if the participants change as these results depend on the participating individuals' subjective opinions. Therefore, it holds great importance to emphasize that the results reached in this study are not suitable for generalization, and the results are limited to this study.

4. RESULTS, DISCUSSION AND RECOMMENDATIONS

The quality of the human resources that countries hold is a prerequisite for reaching the social, economic and technological level they intend to. The existence of a qualified human resource can only be provided by an education system of quality. Today, rapid change and development in all areas such as communication, science and technology cause continuous questioning of education systems and obliges the development of education systems in compliance with new perspectives. In this context, the Ministry of National Education makes strategic plans every five years in order to establish tomorrow's educational institutions focused on quality and success in education, and to ensure that budgeting is made depending on the plans, projects and predictions put forward by the units themselves. The Ministry of Education's third strategic plan, the 2019-2023 MoNE Strategic Plan, lists seven strategic goals, various strategic objectives for each strategic goal, and performance indicators that demonstrate success in achieving the strategic objectives. In countries such as Turkey, where resources are limited, it is very important that planned activities are carried out economically, effectively, and efficiently, and that the investments to be made and current expenditures are prioritized depending on their importance. For this reason, in order to ensure that limited resources are administered correctly by decision makers, in this study it is aimed to prioritize the strategic goals and strategic objectives in the 2019-2023 Strategic Plan of the Ministry of National Education by using AHP technique, and to determine the affecting-affected relationship between strategic goals by using DEMATEL method.

As a result of AHP, it was found out that with a weight of 20.17%, 4th strategic goal (Students with ability to find solutions for social problems, contribute to social, cultural, and economic development of the country will be trained by the help of a secondary education system that prepares them for higher education in accordance with their abilities and capacities) was the primary strategic goal. Following it, with a weight of 19.32%, 1st strategic goal (All of our students will be provided with the common values of our civilization and humanity, knowledge, skills, attitudes, and behaviors that are the necessities of time) ranked number two. With a weight of 17.91%, 3rd strategic goal (In pre-school and basic education, our students will be cultivated multi-dimensionally in cognitive, emotional, and physical aspects) ranked number three. With a weight of 13.51%, 6th strategic goal (Vocational and technical education and lifelong learning systems will be arranged in compliance with the needs of the society, and the requirements of the labor market and of the information age) ranked number four. With a weight of 11.56%, 5th strategic goal (The physical, psychological, and mental development of individuals will be supported by increasing the effectiveness of special education and guidance services) ranked number five. With a weight of 11.48%, 2nd strategic goal (An effective and productive management structure and organizational structure that is in accordance with modern norms will be made dominant) ranked number six. Lastly, with a weight of 6.05%, 7th strategic goal (A supportive private schooling structure will be put into practice for all the schools in accordance with the international standards) ranked the last. Depending on these results, it can be stated that first three strategic goals (4th, 1^{st,} and 3rd) constitute 57.4% of the entire strategic plan. However, on the other hand, last three strategic goals (5th, 2^{nd,} and 7th) constitute only 29.1% of all. It is possible to put forward that 4th strategic goal should be given the top priority and 7th strategic goal should be given the least priority.

In addition, AHP results revealed that strategic objective 4.2 (Secondary education will be transformed into a structure that provides the skills required by the changing world and will train students who will become actors of change), strategic objective 3.2 (The schooling rate will be increased by transitioning to a basic education structure that puts emphasis on the cognitive, emotional and physical development of our students allowing them to internalize scientific thinking, attitudes and values), strategic objective 3.1 (The quality and prevalence of early childhood education will be increased, community-based early childhood education will be diversified and disseminated) and strategic objective 1.2 (An effective measurement and evaluation system will be established to identify, monitor and support the competencies of our students in all fields and at all levels of education) together constitute 30.06% of all the strategic objectives.

Results of DEMATEL showed that 1st strategic goal (D + R = 6.84, D-R = 0.14) plays the most central role in the strategic plan. In other words, it is the strategic goal which sends and receives the most impact. In addition, it is found that 2nd strategic goal (D + R = 6.43, D-R = 1.46) is the one that affects/causes. It is possible to state that 7th strategic goal (D + R = 5.28, D-R = 0.14) is the most affected one. Further, it can be said that 2nd strategic goal (D + R = 6.43, D-R = 1.46) is the one that affects the other strategic goals most.

Article 6 of the Basic Law of National Education of Turkey No. 1739, which is the basic regulatory legislation of the education system implemented in the country, emphasizes that individuals should be directed to education programs depending on their interests and abilities as long as they continue receiving education. In addition, Article 27 of the afore-mentioned legislation emphasizes that "Every student who has completed primary education and has been qualified for secondary education has the right to continue and to benefit from secondary education opportunities to the extent of their interests, aptitudes and abilities". From this point of view, it is possible to suggest that the results of this study, which states that the 4th strategic goal is of primary importance, supports the highlighted points of the Basic Law of National Education.

Results showed that 1st strategic goal which aims structuring of curriculum of all education levels in a flexible and modular manner; establishing an effective measurement and evaluation system for identifying, monitoring and supporting students' competencies; transitioning to a skill-based foreign language proficiency system taking the needs of the students into account; providing equal learning and teaching opportunities to teachers and students all over the country, ranked number two in prioritization and it also plays a central role by sending and receiving the most impact. Yalçın (2018, p.194) states that the most accepted classification of 21st century skills is grouped under three headings: a) learning and innovation skills, b) knowledge, media and technology skills, and c) life and career skills. In the context of this classification, it is possible to say that the strategic objectives of 1st strategic goal match up with 21st century skills. Yalçın (2018, p.184) emphasizes that upskilling of students with 21st century skills at school holds importance as it has potential to directly affect the future competitiveness of the country. Similarly, Cansoy (2018, p.3132) draws attention to the need to design school models in which country's cultural background is not ignored, and 21st century skills are acquired primarily by the students.

Early childhood education plays an important role in reducing the effects of school-based inequalities as it prepares children for formal education and increases formal education success (OECD, 2017, p.2). The participation rate in early childhood education in Turkey is 10% for 3-year-olds; 39% for 4-year-olds and 80% for 5-year-olds. These rates are significantly below OECD averages which are 78% for 3-year-olds, 88% for 4-year-olds and 95% for 5-year-olds (OECD, 2020, p.183). The result regarding 3rd strategic goal emphasizing the importance of pre-school education is expected to contribute significantly to rate of pre-school enrollment.

The free-market economy promises to distribute wealth to the people. The free competition environment of the market economy enables societies to be more productive and increase their welfare. Differences between people's income levels are generally seen as acceptable when access to opportunities is equal. The road to equality of opportunity passes through the education system, as good education reduces the risk of unemployment and increases average income (Konrad-Adenauer-Stiftung, 2015, p.6). It is among the aims of education systems to equip individuals with professional knowledge and skills, and to ensure that social values that will provide economic development are rooted. Tristantie (2017, p.5) puts forward those negativities such as unemployment, children committing crimes, adult crimes, housing problems are all linked up with insufficient vocational and technical education. In addition to making important contributions to the social life, vocational and technical education functions as a bridge between the business world and the education system (Grollman & Rauner, 2007, p.5). Although vocational and technical education is given importance in Turkey, there is a decrease in the number of students attending vocational and technical secondary education institutions due to various negative policies. Successful students tend to attend general high schools (Gelişli, Beisenbayeva, Sultanbek, & Ussenova, 2016, p.8).

Regarding the importance attributed to vocational and technical education in Turkey, OECD ascertains the following issues (OECD, 2015, p.302):

- Including reviewing the quality of education and curriculum, steps are being taken to strengthen vocational and technical education through sectoral partnerships. With these partnerships, it is both aimed to develop the skills required by the labor market and to reduce the unemployment rate in the country.

- The Ministry of National Education and TUBITAK (Scientific and Technological Research Council of Turkey) work together to develop the entrepreneurship and leadership skills of 15,000 vocational and technical education school administrators, and to support their vocational skills.
- Various cooperation protocols are signed and implemented between vocational and technical education institutions and sector organizations in order to train employees with the qualifications demanded by the labor market.

Strategic goal 6, which was found to be the fourth important strategic goal in this study, is about the regulations for vocational and technical education. This result also reveals the importance of the resource that should be allocated in strategic planning to vocational and technical education, which is expected to lead the development of the country.

One of the salient results of the study is that strategic objective 6.4 (Lifelong learning qualifications, participation and completion rates will be increased in order to increase the work and life quality of individuals, and activities related to education and training for the citizens abroad will be continued) ranked the last. It is observed that there are two separate issues addressed in this objective. Ministry of National Education implements lifelong learning activities on General Directorate level. The only objective regarding lifelong learning is combined with another one in strategic objective 6.4. Addressing two different structures in one objective may have caused this objective to be in the last place. The Ministry of Development (2018, p.40) states that strategic objectives should be written in a way that is clear and understandable, measurable, concrete, result-oriented and the time frame is defined. From this point of view, strategic objectives are expected to present the expected results in terms of quality and quantity within the specified time frame.

Various studies reveal that in decision making, intuitive approach, experience-based approach or values are at the forefront, and data-based decision making is less used. However, beyond necessity, it is an obligation to take data into account in decision making processes (Mandinach, 2012, p.81; Tabak, Şahin & Yavuz Tabak, 2020, p.713; Yaylacı & Beldağ, 2015, p.173). The time and money devoted to education constitute a country's investment in human resources. It is expected that the resources allocated by countries for education will have a positive impact on educational outcomes. When examining education systems, the size of the resources allocated to education as well as how these resources are distributed within the education system are considered as indicators (TEDMEM, 2019). When the 2019-2023 Strategic Plan of the Ministry of National Education is examined in a holistic manner, it is seen that the target impact ratio is given as a percentage value for the strategic goals and strategic objectives in the plan, but the method by which these ratios are decided is not mentioned. It is inevitable that evaluations and decisions that are not based on data will result in financial loss. In this context, the necessity of using rational methods rather than intuitive knowledge in allocating limited resources in order of priority stands out remarkably. Therefore, according to the results of this study, which explains the importance of prioritizing the strategic goals and the strategic objectives in the strategic plan prepared by the Ministry of National Education, using the model presented in Figure 4 with an approach that prioritizes data-based decision-making methods will contribute to the quality of strategic plan.

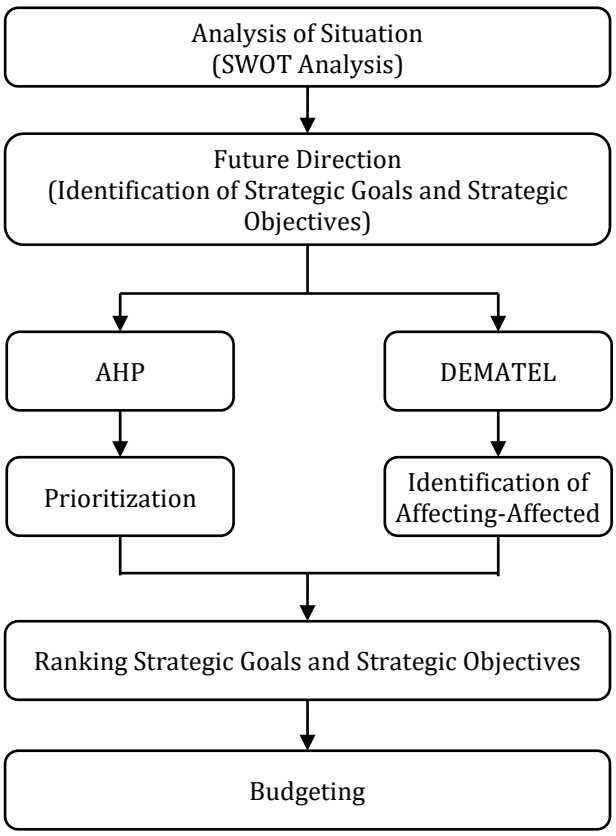


Figure 4. Proposed strategic planning model

Research and Publication Ethics Statement

The authors hereby declare that they have not used any sources other than those listed in the references.

Contribution Rates of Authors to the Article

Ali ÖZDEMİR: Data analysis, writing, reviewing, editing. Uğur ÖZALP: Data collection, writing original draft, conceptualization. Rıza AKKAYA: Data collection, writing original draft, conceptualization.

Statement of Interest

The authors hereby declare that there is no conflict of interest.

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