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A STUDY ON STRATEGY DETERMINATION IN THE EGG POULTRY SECTOR IN TÜRKIYE THROUGH SWOT AND SOR ANALYSIS

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Abstract

In this study the current status of the egg poultry sector in Türkiye was examined, taking Afyonkarahisar, Manisa, and Konya, where production is most intensive, and Antalya, Burdur, and Isparta as examples. Research data were obtained through face-to-face interviews conducted with 68 egg-producing enterprises selected using the stratified random sampling method. Within the scope of the SWOT analysis, the strengths and weaknesses of the sector, along with opportunities and threats, were identified, and these findings were further evaluated from a strategic perspective through the SOR (Strategic Orientation) analysis. The research findings indicate that increasing domestic raw material production and reducing dependency on imports are essential for lowering feed costs. Furthermore, to ensure continuity in the egg market and maintain price stability, it is crucial to develop technological infrastructure that allows eggs to be preserved for longer periods in liquid or dried forms. Extending the shelf life of eggs and encouraging a shift toward high-value-added products will enhance competitiveness in both domestic and international markets, thereby contributing to the sustainability of the sector.

Key words**:** *egg poultry sector, SWOT analysis, SOR analysis*

INTRODUCTION

Today, a significant portion of the world's population lacks sufficient protein consumption. According to Food and Agriculture Organisation (FAO) data, more than two billion people experience difficulties in accessing protein and micronutrients, while three billion people cannot maintain a healthy and balanced diet due to insufficient protein intake [3]. When the global supply of animal protein is examined, it is observed that approximately 30–40% comes from meat, 20% from milk and dairy products, 15–17% from fish and seafood, and 7–10% from eggs [4].

Eggs, with their rich nutritional content and low cost, are an economically accessible source of protein. In a wide range of uses, from breakfasts to confectionery and gastronomy, they are consumed not only by low-income groups but also by middle- and high-income groups [1, 2].

According to FAO data, global egg production was 51.3 million tons in 2000, and by 2023 it had increased by 77%, reaching 91.1 million tons. In the same period, egg exports increased by 127%, while imports rose by 167%. This situation reveals that eggs have become an increasingly strategic product not only in domestic consumption but also in international trade. A similar trend is observed in Türkiye. While egg production in 2000 was 844 thousand tons, in 2023, it increased by 52% to approximately 1.3 million tons. The value of egg exports rose from 3.6 million dollars to 403 million dollars in the same period, demonstrating Türkiye's competitiveness in the sector and its role in the global market.

Isik and Gul (2024) affirmed that egg price has seasonal fluctuations depending on offer/demand ratio in Türkiye [6].

When previous studies on SWOT analysis are examined, Sav [9] in his study on the effects of policies implemented on Türkiye's vegetable seed foreign trade with SWOT and SOR analysis, concluded that the seed sector should be supported to modernise. İşler and Ören [7], in their studies, determined that Burdur province has a leading position in livestock farming, particularly in cattle breeding (dairy

farming). Uysal [11] in their study on determining strategies with SWOT and SOR analysis in the pulse sector of Mersin province, identified that the most important problem faced by producers was the instability in supply and prices. Taş [10], in her study, determined that changes in natural structure directly affect agricultural areas. This study reveals that the increase in egg production and trade carries not only an economic dimension but also a strategic dimension in terms of global food security and the sustainable supply of animal protein. In this context, the strengths and weaknesses of the egg poultry market, as well as opportunities and threats, were determined by using the SWOT analysis method. The outputs obtained from the SWOT analysis were then evaluated through the SOR (Strategic Orientation Round) method, to contribute to the development of the egg poultry sector.

MATERIALS AND METHODS

The primary material of the study was obtained through face-to-face interviews with 68 enterprises selected by the stratified random sampling method from the provinces where egg poultry farming is intensively carried out in Türkiye, namely Afyonkarahisar, Konya, Manisa, Antalya, Burdur, and Isparta.

The survey form covers topics such as establishment investment costs, enterprises' input costs, fluctuations in egg prices, the situation of egg prices compared to meat and milk prices during crisis periods, the adequacy of enterprise sizes, the impact of obtaining feed raw materials through imports on costs, disease risks observed in poultry farming (such as Newcastle disease and avian influenza), and the economic role of eggs in meeting human protein needs. The data obtained from the research were subjected to SWOT analysis to reveal the strengths and weaknesses of the sector as well as its opportunities and threats. The results of the SWOT analysis were evaluated with the help of the SOR (Strategic Orientation) analysis matrix, and applicable strategic goals for the sector were developed. SWOT analysis is a strategic analysis method that allows a comprehensive assessment of the current status of a sector, an enterprise, or a specific activity, considering market conditions and competitors' positions. Through this method, enterprises can see their current situation more clearly and effectively carry out strategic planning for the future. In SWOT analysis, internal factors represent the strengths and weaknesses of the enterprise, while external factors indicate the opportunities and threats in the environment (Table 1) [5]. SOR Analysis refers to the process of strategy development using the outputs obtained from the SWOT analysis [8]. SOR stands for Strategic Orientation. To develop a strategy with this analytical approach, the results of the SWOT analysis need to be used as the primary input (Table 2).

Table 1. SWOT analysis matrix

Strengths	**Opportunities**
The strong points of the enterprise are specified.	Opportunities in the external environment that may provide advantages to the enterprise have been indicated.
Weaknesses	**Threats**
The aspects of the enterprise that need improvement are identified.	Threats in the external environment that the enterprise may encounter are explained.

Source: [5].

Table 2. SOR analysis matrix

Score	**What It Indicates**	**What Can Be Done**
Total score (calculated separately for Strengths (S), Weaknesses (W), Opportunities (O), and Threats (T))	Indicates the importance level of S, W, O, T factors	Based on the most significant opportunities and threats from external factors, 2 or 3 strategies can be developed for optimal benefit
Scores for each combination	Shows the effect of strengths or weaknesses in addressing opportunities or threats	Strategic objectives are determined for the combinations that yield the highest scores.
Total score for each combination	Provides an overall assessment	Determines the type of strategy: • High S-O: Offensive strategy; opportunities are strong • High S-T: Defensive strategy; strengths can be used against threats • High W-O: Weaknesses need to be addressed to take advantage of opportunities • High W-T: Threats are severe; solutions are challenging

Source: [12].

RESULTS AND DISCUSSIONS

As a result of the field study, the analysis of the data obtained from the sample region determined the strengths, weaknesses, opportunities, and threats of the egg production sector (Table 3). Examination of the data on the 68 firms interviewed revealed the sector's strengths and weaknesses as well as the opportunities and threats it faces.

Table 3. SWOT analysis of firms in the egg poultry sector

Strengths	Weaknesses
S1. Being the most economical source of protein needed by people (31 firms)	**W1.** High enterprise-level input (feed) costs (29 firms)
S2. Egg prices do not increase as much as meat and milk prices during crises, remaining the cheapest animal protein source (26 firms)	**W2.** High establishment and investment costs of the enterprise (27 firms)
S3. Short production period compared to other animal groups and high production potential (6 firms)	**W3.** Enterprise sustainability is affected by the price instability of eggs (6 firms)
S4. Poultry has a better feed conversion rate compared to other farm animal groups (3 firms)	**W4.** Insufficient size of enterprises (4 firms)
S5. High yield per unit area within animal production in the poultry sector (2 firms)	**W5.** Cost fluctuations due to the main feed ingredients being largely imported (2 firms)
Opportunities	**Threats**
O1. Increasing orientation toward cheap protein sources (30 firms)	**T1.** Continuous increase in feed prices (46 firms)
O2. Türkiye's geostrategic proximity to the world's largest importing countries and the absence of egg production in Middle Eastern markets (15 firms)	**T2.** Risk of diseases (such as Newcastle and avian influenza) and their variants (8 firms)
O3. Rising interest in protein-focused diets for healthy nutrition (12 firms)	**T3.** Dependence on imported breeding material and feed ingredients (6 firms)
O4. Increased demand for protein to maintain immunity during the COVID-19 pandemic (8 firms)	**T4.** Difficulties in finding qualified personnel (5 firms)
O5. Demand across all income levels due to cheap, healthy, and high-quality animal protein (3 firms)	**T5.** Lack of interest from the younger population in the business (3 firms)

Source: Own calculation.

According to the analysis, 31 firms stated that the sector's strongest aspect is "its economic source for meeting human protein needs." In contrast, 29 firms indicated that the sector's greatest weakness is "the high input costs in the egg production sector." Regarding opportunities, 30 firms viewed the sector's "orientation toward cheap protein sources" as a chance for growth, while 46 firms expressed that the "continuous increase in feed prices" represents the main threat facing the sector.

After the SWOT analysis, a SOR matrix was created to make strategic decisions for the sector and to determine a roadmap. In preparing the SOR matrix, the factors included in the SWOT analysis were rated by the participating firms on a scale from 0 (least important) to 3 (most important). Based on the obtained scores, the matrix was divided into four main areas: "attack" (strengths × opportunities), "quick escape" (weaknesses × opportunities), "defence" (strengths × threats), and "crisis" (weaknesses × threats). In the study, the "quick escape" area was identified with the highest value of 220 points, and accordingly, the strategic roadmap was formed by leveraging opportunities to transform weaknesses into strengths (Table 4).

Table 4. SOR analysis results of companies in the egg poultry sector

		Opportunities					Threats					TOTAL
		O1	O2	O3	O4	O5	T1	T2	T3	T4	T5	
Strengths	S1	15	10	6	11	13	15	5	7	9	4	95
	S2	14	9	4	11	12	15	6	5	10	3	89
	S3	10	5	5	8	10	11	7	5	7	4	72
	S4	8	7	4	9	9	9	4	4	8	6	68
	S5	7	5	4	7	8	7	4	3	4	5	54
Weaknesses	W1	15	9	5	13	13	14	7	7	8	4	95
	W2	12	10	5	8	12	13	5	7	8	5	85
	W3	12	8	5	10	12	11	5	5	9	5	82
	W4	9	6	3	8	7	9	3	5	7	5	62
	W5	10	6	4	8	10	11	5	5	6	4	69
Scoring		112	75	45	93	106	115	51	53	76	45	771

Source: Own calculation.

Strategic Objectives in Egg Poultry Farming in Türkiye: An Assessment Based on SOR Analysis

The egg poultry sector in Türkiye has experienced significant development in recent years. While production and consumption data indicate that the sector has gained momentum, specific structural weaknesses at the sectoral level continue to exist. In this context, it is necessary to develop strategic approaches to address these weaknesses in order to utilise existing opportunities effectively. The results of the SOR (Strategic Orientation) analysis indicate that two primary strategic objectives emerge as crucial for the sustainable development of the sector. Strategic Objective

1: The high cost of basic inputs in the sector (Z1:15) and the high production costs faced by producers wishing to invest in the poultry industry (Z2:12) are among the main barriers limiting the development of the sector. In this context, providing input subsidies to producers and supporting new investors will increase consumers' tendency towards affordable and accessible protein sources (F1:112). Thus, the egg sector's potential to provide the protein needed by people will be preserved in an economically sustainable manner (G1:15).
Strategic Goal 2: The instability of egg prices (Z3:12) and the heavy dependence of primary raw materials for poultry feed on imports (Z5:10) have been identified as other significant structural weaknesses of the sector. Implementing measures to ensure price stability and increasing production capacity for raw material supply will sustain consumer demand for eggs, which are an affordable, healthy, and high-quality source of animal protein (F5:106). This approach will prevent egg prices from rising as sharply as meat and milk prices during potential economic crises, thereby preserving eggs' position as the most economical source of animal protein (G2:12).

CONCLUSIONS

Türkiye, due to its geographical location, has significant advantages in egg production; however, it remains vulnerable, particularly in connection with developments in Middle Eastern countries, Russia, and Ukraine. Among the sector's main issues are the heavy reliance on imported raw materials for feed—the primary input determining production costs—and the price instability of eggs resulting from problems in exports. In this context, policymakers need to reduce dependence on imported raw materials and encourage domestic production to mitigate feed costs. Additionally, to address fluctuations in egg prices and disruptions in the supply chain, the use of technological automation infrastructure in enterprises—which can extend the shelf life of eggs and convert them into higher-value products—should be promoted. These measures will help ensure the continuous availability of eggs in the market and contribute to price stability both domestically and internationally.

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