

Identification, Analysis and Improvement of Red Meat Supply Chain Strategies Considering the Impact of COVID-19 Pandemic: A Hybrid SWOT-QSPM Approach in an Emerging Economy

Abstract

Purpose. In recent years, and especially during the coronavirus disease COVID-19 pandemic, the significant role of agriculture, specifically red meat, in household consumption has been increased. On the other hand, the lack of proper policy-making in the production and pricing of red meat and the lack of a comprehensive study on the beef supply chain has led to a reduction in the role of this protein product in the household food basket. Thus, in this research, comprehensive strategic planning considering the effect of the COVID-19 pandemic has been illustrated to overcome the aforementioned problems.

Design. To study the intended objectives, first, using qualitative methods, the strengths, weaknesses, opportunities, and threats (SWOT) to the studied company's supply chain in Iran were identified and then using the SWOT-QSPM technique, the surrounding strategies have been analysed.

Findings. The results indicate that the most important strength of the studied company is the “access to the red meat market of the retirement plan”; the most important weakness is the “lack of required and on-time funding, especially in the condition of the COVID-19 pandemic”; the highest-ranked opportunity is the “access to banking facilities”, and the main threat to the company is the “COVID-19 pandemic limitations and health protocols”. In the same vein, by examining the attractiveness score of internal and external factors, it was observed that diversity and competitive strategies would have a higher priority. Finally, the Quantitative Strategic Planning Matrix (QSPM) illustrated that activating the full capacity of existing infrastructure has the highest priority.

Originality. According to the red meat supply chain and the link among different market levels, identifying, analysing and improving the beef supply chain is of particular importance. One of the threats facing the international community is the emergence of events such as the COVID-19 pandemic, which requires businesses to choose the right strategy to deal with the issue. Therefore, the main distinction of this study is to identify, analyse and improve the red meat supply chain of a real case due to the condition of the COVID-19 pandemic.

Keywords. Supply Chain; Red Meat; SWOT-QSPM Technique; COVID-19 Pandemic.

1. Introduction

It should be noted that one of the most important supply sources of protein in the agricultural sector is red meat, which is of great significance in Iranian food (Bresciani, 2017). The production of red meat in Iran has experienced a significant increase in recent decades. According to the Food and Agriculture Organisation of the United Nations, Iran's beef production has soared from 81,000 tons in 1961 to 455,340 tons in 2018 (FAO, 2019). This is while the average per capita consumption of red meat has plummeted, especially in low-income stratum. In this regard, according to the Statistical Centre of Iran, red meat consumption has decreased from 11.99 kg in 2013 to 9.6 kg in 2016 and has reached 5.4 kg in 2018 (Statistical Centre of Iran, 2018). This figure in 2020 was much lower than that in 2018 due to the disruption of the supply chain due to the COVID-19 pandemic, and that the per capita consumption for the first 6 months of 2020 was only 1.5 kg (State Livestock Affairs Centre, 2020). Another important point in the field of preparation, supply and distribution of red meat in Iran has been the sharp increase in the price of this basic commodity in recent years; thus, that its price in Iran, according to reports from the State Livestock Affairs Centre (2020), is much higher than the price of the product in global markets. It should be noted that the average price of beef in February 2020 was \$4.32 (Agriculture Ministry of America, 2020), which is equal to 58,618 Tomans based on the price of the dollar (13,569 Tomans) and the average price of beef in Iran in February 2020 was 76,055 Tomans (State Livestock Affairs Centre, 2020). As a result, it should be acknowledged that a large number of vulnerable groups due to the high price of red meat, have reduced their consumption of this product and have replaced other products instead, which has brought about problems in terms of nutritional value in their growth process. (Hajiagha et al., 2013; 2015; 2018; Oliva et al., 2019). Iran's agricultural sector and protein market are currently facing numerous challenges such as high production risk, price instability, high and variable costs of inputs and many other factors, many of which must be rooted in economic inefficiency and unprofitable activities and investment in this sector as well as its low competitiveness compared to other sectors (Ministry of Agriculture-Jahad, 2016; Beheshti et al, 2016; Mahmoudi et al, 2019).

The economics of activity and investment in this sector requires a better understanding of the production process and increase value; in other words, "value production and supply chains" in this sector and improvement in the efficiency of this chain are to strengthen the weak and troubled circles. At present, managing and developing value and supply chains has become a key approach, both in terms of research and policy. The core concept of these chains encompasses actors who, as a sequential chain, make possible the process of producing goods and services and transferring them to consumers through a complex and consecutive set of activities (Bresciani and Ferraris, 2015; Henriksen et al., 2010; Santoro et al., 2019). The importance of understanding, recognising and improving this chain is so great that a bulk of experts have considered the efficiency and effectiveness of any organisational business as the result of management performance and supply chain structure. Therefore, the key to the survival of today's businesses and organisations lies in understanding the needs of customers and responding to such needs quickly (Handfield and Nicholas, 1999; Tardivo et al., 2011; Thrassouet al., 2018a). In other words, success in the highly competitive environment of today's businesses requires the amelioration and development of supply chains.

Although the issue of supply chain and the importance of its management was raised especially in the 1990s (Bresciani et al., 2018; Kanda and Deshmukh, 2008), today it has

been taken into account by many researchers in various fields. Managing this chain is nothing more than integrating supply processes, from the initial supplier to the customer or end customers (Trkmen et al., 2007; Mahdiraji et al., 2019a,b). If an individual or company manages to design and create a supply chain that meets the demand of the market, it will grow and develop (Bresciani et al., 2015; Hastie et al., 2017; Rahbari et al., 2018). This requires a thorough understanding of the supply chain and an analysis of its strengths and weaknesses as well as its opportunities and threats. Such an analysis will ultimately lead to the innovation, improvement and development of this chain and, consequently, that business. An efficient supply chain will increase the competitiveness of the relevant business in today's highly competitive world economy (Peak, 2009; Scuotto et al., 2017; Sukumar et al 2020; Thrassou, et al., 2018b). Accordingly, the importance of the role of agriculture and especially red meat in household consumption becomes axiomatic. On the other hand, the lack of proper policy-making in the production and price of red meat and the lack of a comprehensive examination of the red meat supply chain has reduced the role of this protein product in the household food basket (according to Central Bank Statistics, per capita red meat consumption in Iran is 40% lower than global and the share of red meat in the household basket has decreased from 4.43% to 3.8% during the period 2001 to 2016). Having said that, considering the red meat supply chain and the link among different levels of the market, identifying, analysing and improving the livestock supply chain for red meat, especially beef, is of particular importance. On the other hand, by providing appropriate solutions, one can increase red meat production in companies producing protein products such as the company under study. Thus that identifying strategies to improve the red meat supply chain can significantly increase the competitiveness of the company.

The integrated red meat supply chain in Iran and most countries of the world includes several levels. These levels include livestock suppliers, slaughterhouses, packing units, cold storage facilities, retailers, and end consumers. Livestock suppliers have the task of raising and sending livestock to the slaughterhouse, and the slaughterhouse sends the carcass to the meatpacking unit after carrying out the slaughter-related operations. After the red meat packing operation, the products are transported to cold storage facilities to be distributed to retailers on time and finally delivered to end consumers. Some red meat supply chains may not have some of these levels or some may be combined. For example, the packing unit and slaughterhouse may be in the same place, or the packing unit may have cold storage facilities for storing products. On the other hand, some of these levels may sometimes not be considered. For instance, the products may be shipped from the meatpacking unit directly to retailers over a while (Taghavifard et al., 2018; Mokhtarzadeh et al., 2018). In addition to the flow of products and cash in the supply chain network, the flow of information plays a very important role in the network. In the red meat supply chain, from the level of cold storage facilities onward, they are part of the distribution network level and from the level of slaughterhouses backward, they are part of the supplying network level. Moreover, the levels of slaughterhouses and packing units are considered as levels of the production network. **Figure 1** shows all levels of the red meat supply chain.

Insert Figure 1 here

Unfortunately, the international community has been infected with the coronavirus disease since early 2020 and has been hampered by the day-to-day activities of the people of the world. According to official statistics, as of August 20, 2020, the number of infected people has been 22,256,220 ones and the number of deaths has been 782,456 individuals (World Health Organisation, 2020). This has caused severe economic losses in all aspects of any country; hence, all companies must implement the best strategies to deal with this issue.

Protein companies have also suffered irreparable losses from this situation. Since different countries have concluded that economic activities should continue following the maximum health protocols and that air and land transportation is limited, appropriate strategies should be adopted according to the existing conditions. COVID-19 pandemic and red meat supply chain management are interrelated. In the condition of the COVID-19 pandemic, the importation of livestock has been hampered by trade problems. As a result, many employees have lost their jobs. It has also become more difficult to follow health protocols when slaughtering and packing red meat. On the other hand, final demand has also decreased, which has disrupted the product production network and overhead costs are not covered. These issues are only some of the effects of the COVID-19 pandemic on the various levels of the red meat supply chain, which ultimately disrupts the entire network. As a result, in this study, the COVID-19 pandemic is considered a threat and the best strategies are presented and prioritised according to it for the company. On the other hand, given that businesses may face international problems again in the future, it is quintessential to address this issue and determine the best strategies to deal with issues such as the COVID-19 pandemic to prevent corporate bankruptcy. **Figure 2** shows the step-by-step schematic of this study. The main innovations of this research are as follow:

- Analysing the red meat supply chain using the SWOT-QSPM technique and implementing the best strategies for it,
- Considering the problem of the COVID-19 pandemic as an issue affecting the supply chain of protein products,
- Presenting a real case of a beef producer in Iran and evaluating all the factors and prioritising strategies for it.

Insert Figure 2 here

2. Review of the Related Literature

In Iran, most of the studies conducted on the supply chain are in the field of industry and services. However, in recent years, the authors have witnessed a further weakening of the position of the agricultural sector and a decrease in its competitiveness compared to other sectors, including industry and services (Sadraei et al., 2018; Vrontis et al., 2018). This issue has caused the field of producers in the agricultural sector to become narrower day by day and to lose interest in other productive activities. The issue of the agricultural supply chain is also important because despite the shrinking of this sector and its declining role in the economy and employment, a large part of the population in this sector, and related activities, are still engaged and the development of this sector and activities can make a significant contribution to improving the qualitative and quantitative levels of both rural and urban communities. This is because various studies have shown that agricultural development plays an undeniable role in national and international development due to its close relationship with various issues such as food security and poverty (Collins et al., 2009; Dias and Bresciani, 2006). Lavelli (2013) studied the poultry meat supply chain and implemented a tracking system for medium-sized companies. They also noted that the recycling of waste materials was very important for product identification. They also found that the lack of automation process was the main motive for the problems of implementing a high-guarantee tracking tool. Gholamian and Taghazadeh (2017) investigated the supply chain of wheat in a real case in Iran. This research seeks to determine the amount of the distribution of wheat, determining the production of its products, and selecting the suppliers. Cheraghalipour et al. (2019) designed a rice supply chain by presenting a bi-level mathematical model. This

research aimed to minimise the total cost of the rice supply chain. Finally, they implemented the proposed model on a real case in Iran.

Extensive studies have been carried out in the field of supply chain studies, especially the meat supply chain. Literature sought to create transparency in the meat supply chain following international standards (Bresciani et al., 2015; Kassahun et al., 2016). To address this concern, a transparency software system was needed at the chain level designed to be able to meet the needs of the stakeholder. Cox et al. (2007) studied the red meat supply chain in the United Kingdom. The method used in this research was qualitative and inductive. This research was also implemented on a real case and was examined from the first level to the final customer of the red meat supply chain. Desmarchelier et al. (2007) presented a holistic approach to managing food safety and quality risks in the red meat supply chain. This research proposed a variety of assurance initiatives and implemented them on a real case of the red meat supply chain in Australia. Duffy and Fearne (2009) investigated the value of farm assurance and its perceived role along the red meat supply chain. Integrating customer vision with the rest of the value chain for red meat was one of the goals of this research. In another study, Linnermann et al. (2015) designed a supply chain for protein products based on the MCDM methods i.e. AHP and Multi-Attribute Value Theory (MAVT). Ab Talib and Hamid (2014) stated that strong government support, inconsistent definition of halal meat, Muslim population growth, and non-uniformity in halal meat standards were the most important strengths, weaknesses, opportunities, and threats in the halal meat chain in Malaysia, respectively.

Faisal (2015) examined the variables for the non-existence of transparency knowledge in red meat supply chains operating in Persian Gulf countries. This research proposed variables that can be considered as deterrents for transparency in a red meat supply chain. In line with the organisational management of a meat processing company, Czuma-Imiołczyk (2017) recognised the most important strategies to improve this chain as establishing lasting relationships and partnerships with suppliers and buyers, producing high-quality products, expanding market sales networks, building and consolidating a positive company image, using innovative production technologies, making efforts to satisfy consumers, and increasing the potential of the company's employees. Regarding the meat supply chain, Pizzuti et al. (2017) stated that the identification and communication of the meat supply chain provided interoperability between different systems and the possibility of integrating heterogeneous databases. Maman et al. (2018) studied halal risk agents and events, formulated the halal risk control model, and measured the halal risk rate in all levels of the red meat supply chain. The levels of the red meat supply chain in this study start in Australia and end in Indonesia. Wang and Jie (2019) proposed a framework for managing the red meat supply chain risk in the Australian industry. This research identified major types of risks in the red meat supply chain. Zhang et al. (2020) studied the dependency between the quantity and quality of the information in the red meat supply chain. Besides, in this research, the costs and benefits of producing, using, and sharing information on the red meat supply chain are investigated. Rahbari et al. (2020) examined the supply chain of red meat production from livestock supply to product supply to customers. In this study, the effect of changing the time horizon on the problem was investigated. Mohebalizadehgashti et al. (2020) designed a meat supply chain by presenting a mathematical model. In their study, in addition to taking into account the cost of the supply chain network, they also considered environmental issues. Finally, they implemented the proposed model in a real case.

It is worth noting that SWOT and QSPM techniques have been used in some studies. Shojaei et al. (2010) and Bresciani et al. (2017) provided an appropriate strategic plan for a

food production plant using SWOT and QSPM techniques. They found that the strategy of increasing the share in international markets had the highest score. Ommani et al. (2011) used the SWOT technique to examine internal and external factors for the management of agricultural systems. This research was implemented on a real case in the field of wheat fields. Furthermore, Nourbakhsh et al. (2013) developed appropriate strategies in ecotourism using SWOT and QSPM techniques. In their study, the best strategies included ecotourism management in small groups and the development of sustainable ecotourism management programmes in the regions. Abya et al. (2015) surveyed the tourism industry. Using SWOT and QSPM techniques, they identified appropriate strategies for their research. The research was conducted to develop the tourism industry in one of the cities of Iran. It was determined which internal and external factors had the greatest impact on the industry.

In another study, Ghorbani et al. (2015) examined the development of sustainable ecotourism for a real case in Iran. In their study, after identifying internal and external factors using the SWOT technique, they prioritised the strategies obtained using the QSPM technique. Hongxun et al. (2016) presented competitive strategies for the Chinese gas industry. In their study, they concluded that there was a need for a cost forecasting strategy in the gas industry. To develop management strategies for agricultural systems in Sistan, Iran based on the SWOT-QSPM technique, Keykha (2018) stated that creating several greenhouses for the growth of medicinal plants and creating employment with the development of the agricultural sector were the most important strategies for the management of agricultural systems. Somarish et al. (2018) used the same technique for the sustainable strategic management of the water transmission system. Abdolshah et al. (2018) examined strategic planning in the agricultural sector using SWOT and QSPM techniques. They prioritised the strategies using the mentioned techniques in a real case. Abbasi et al. (2019) implemented and prioritised strategies for a real case in Spain for farm consulting services using SWOT and QSPM techniques. Takeleb et al. (2020) examined water management strategies for a real case. In their study, they performed weighting using the AHP technique and then using SWOT and QSPM techniques to prioritise the proposed strategies.

Although previous studies have accentuated the significance of the red meat supply chain especially beef in different countries, the analysis of supply chain strategies for this product in Iranian companies and especially in a pandemic condition of the disease has not been studied yet. Given the importance of beef supply chain management in Iran due to its high price as well as the diminishing role in the food basket of Iranian households, this study can be considered innovative in this regard. Besides, due to the COVID-19 pandemic in the current situation, a lot of economic problems have arisen in companies producing protein products, which shows the need to implement the best strategies to deal with the issue.

3. Methodology

SWOT summarises the most important internal and external factors that can affect the future of an organisation (Ma et al., 2010). Given that this method, like any other methods, has its drawbacks (1- All assigned scores are mentally measured and 2- When the same question is answered again, non-uniformity may occur because the weights of key factors are mentally assigned by the assessment team and no adaptation tests are performed), efforts were made to address these deficiencies. Therefore, internal and external factors are considered in the form of EFAS (External Factor Analysis Summary) and IFAS (Internal Factor Analysis Summary) (Keykha, 2018).

In the first step, internal and external factors are identified. Once all the strengths, weaknesses, threats, and opportunities have been identified, the Internal Factor Evaluation (IFE) matrix and the External Factor Evaluation (EFE) matrix are formed. At this step, first through discussion sessions and exchange of views individually with 5 senior managers of the company for internal factors according to pre-designed questions and also to determine external factors based on Porter and Postel criteria, the status of the company was examined. In examining external factors (opportunities and threats), macro factors and factors that are closer to the company's situation should be examined to obtain a more comprehensive analysis of external factors. Accordingly, the criteria of Porter's five competitive forces were used to analyse the close external environment of the company, and the Postel criteria were used to analyse the far external environment of the company. Therefore, more powerful results in the analysis of external factors can be achieved by using the opinions of experts based on the Porter and Postel criteria (Sánchez-Cambronero et al., 2020). Then, using research literature and specialised interviews, the most important indicators of each of the above criteria were identified and then classified in the form of strengths and weaknesses. In the same vein, using research literature and specialised interviews, the most important indicators of each external factor are identified and then categorised in the form of opportunities and threats.

Then in the second session, all internal and external factors discussed in the first session, in a group meeting with the presence of 6 experts as well as company managers are discussed and key internal and external factors that were of higher importance are selected and the questionnaire is designed. In the second step, after identifying internal and external factors and classifying them in the form of strengths, weaknesses, opportunities, and threats, designed questionnaires are distributed among 13 experts of the company. After identifying and scoring internal and external factors, these factors are placed in the strategy matrix table. To determine the weight of each factor, experts are asked to give each factor a score ranging from one (least important) to 10 (most important). In the third step, to prepare the IFE matrix, first the strengths and then the weaknesses are listed and each factor is assigned a weighting factor between zero (not important) to one (very important). In this case, the sum of the assigned weighting coefficients must be equal to one. This coefficient is determined based on the weights assigned to each factor in the previous step. Since the evaluation of internal and external factors has not yet been performed in the company, based on the opinions of experts and managers of the company, simple and understandable methods are used for ranking. Then each of these factors is given a score of 1 to 4. A score of 1 indicates a major weakness, a score of 2 indicates a low weakness, a score of 3 indicates the strength and a score of 4 indicates a very high strength of the factor. In this regard, among the internal factors, weaknesses are given a rank of 1 to 2.5, whereas strengths are given a rank of 2.5 to 4. Threats and opportunities are scored in the same way. The same is done by distributing a questionnaire among 13 experts and simultaneously with the second step. In the fourth step, to determine the final score of each factor, the coefficient of each factor is multiplied by its score. Then, the sum of the final scores of each factor is calculated to determine the final score of the organisation. If their average is less than 2.5, it means that the organisation is weak in terms of internal factors; otherwise, the organisation is strong. The same procedure is used to prepare the EFE matrix.

Internal and external matrices are used for the simultaneous analysis of internal and external factors. This matrix is used to determine the status of the industry or company and to form it, the scores obtained from the internal factors evaluation matrix and the external factors evaluation matrix should be placed in its vertical and horizontal dimensions to

determine the status of the industry or company in the market to specify appropriate strategies for it. This matrix is consistent with the SWOT matrix and identifies appropriate strategies for the organisation. In this regard, there are 4 different strategies, including Defense Strategy (WT), Competitive Strategy (ST), Conservative Strategy (WO) and Offensive Strategy (SO) (Abya et al., 2015). To determine the company's strategies, after determining the company's position in terms of the type of application of strategies by holding two sessions of discussion and exchange of views with 4 experts of the company, company strategies are designed. In fact, during the first session, the strategies are proposed and discussed by experts. Then, in the second session, the strategies proposed after summarising are mentioned again and the final strategies are determined. In this way, using the SWOT matrix, a list of different strategies in four different groups is obtained. The strategies adopted are then scored using the QSPM and the implementation priority of each is determined. To score the QSPM, five senior managers and experts of the company are selected for scoring the matrix and in a symposium, the scores of each strategy are determined.

The QSPM uses the data obtained in different stages of strategic and strategic management and planning and, like other strategic methods, requires good judgment, expertise and knowledge (Abbasi et al., 2019). The QSPM is for evaluating the feasibility and sustainability of the proposed solutions in the face of environmental conditions as well as the current situation. Furthermore, the company's experts were located in Chabahar and Tehran offices, and methods such as SWOT-AHP required a lot of time and travel costs. Also, the experts did not have too much time to respond to questionnaires and they were also unfamiliar with the other methods, which made them difficult to use. Therefore, the SWOT-QSPM method was used so that experts could answer more easily. In the first column of the matrix, a list of strategic factors outside the organisation including all threats and opportunities and strategic factors inside the organisation including all weaknesses and strengths are given. These factors are derived directly from the IFE and EFE matrix. In the second column, the weighted score of each strategic factor is extracted and inserted directly from the IFE and EFE matrix. The following columns list the types of strategies derived from the SWOT matrix that include the four strategies WO, ST, WT, and SO. Each of the columns related to the types of strategies is divided into two sub-columns. One is under the AS column and the other is under the TAS column. In the AS column, attractiveness points are given, in which each strategic factor is measured and scored according to the desired strategy. In determining the attractiveness score, the question must be answered whether this factor influences the choice of the mentioned strategy. If the answer to this question is yes, the attractiveness score should be given to the other strategy separately and according to the relative attractiveness of each strategy. This method is summarised in the following stages:

Stage 1. The internal Factor Evaluation (IFE) matrix and the External Factor Evaluation (EFE) matrix are formed. This stage is performed via experts interview and literature reviews.

Stage 2. Scoring the IFE and EFE. After identifying internal and external factors, they are classified in the form of strengths, weaknesses, opportunities, and threats, and scored from 1 to 4.

Stage 3. The weight of IFE and EFE is calculated. If their average is less than 2.5, it means that the organisation is weak in terms of internal factors; otherwise, the organisation is strong. The same is done for external factors.

Stage 4. A SWOT matrix is established. The SWOT matrix is established using Internal and external matrices to specify appropriate strategies for the company.

Stage 5. QSPM method is performed. The strategies in different groups are then scored using the QSPM and the implementation priority of each one is determined.

4. Case study

According to the methodology, the mentioned stages are employed in this real-world case. By examining all aspects of the company's external analysis, four opportunities and five main threats that can be the most important external factors have been identified. Moreover, after examining all aspects of the company's internal analysis, seven strengths and five weaknesses that can be the most important internal factors have been identified. The main opportunities, threats, strengths and weaknesses of the company with additional explanations are proposed in **Appendix A-D**. The internal and external sub-criteria affecting the company's beef are given in **Table 1**.

Please insert Table 1 here

The results of prioritising the sub-criteria of strengths, weaknesses, opportunities and threats of the company can be seen in **Table 2**. Based on the results, it can be said that "access to the red meat market of the retirement plan" is the most important strength of the company. Because according to the relevant experts, it weighs 22%. Similarly, "Possibility of importing livestock and carcasses" in the second place, "Stakeholders' trust in the name of the organisation, especially in the COVID-19 pandemic conditions due to the observance of health protocols by the company " with a weight of 14.6% in the third place and three sub-criteria in terms of decision-making in this area, "incentives for economic activities in Chabahar Free Trade Zone" and "the existence of suitable production infrastructures" are jointly in fourth place with a weight of 12.2%. In this regard, although all sub-criteria are closely related to each other, "access to cheap labour in the region" with a weight of 9.8 has the lowest priority according to experts. The results of prioritising the sub-criteria related to weaknesses are given. According to the results of the table, it can be seen that the most important weakness of the company is the "lack of funding required promptly, especially in the condition of the COVID-19 pandemic." The importance of this factor is 25.8%. However, the lowest weight of weaknesses, according to experts, is related to "lack of using the full capacity of existing infrastructure" and "lack of establishment of efficient and effective management systems" with a weight of 16.1%. The two factors of "quantitative and qualitative weakness of human resources" and "lack of agility in decision making due to organisational hierarchy" are in second and third place with weights of 22.6% and 19.4%, respectively.

Based on the results, it can be said that the biggest opportunity for the company is "access to banking facilities". Similarly, "government support for the meat industry and especially the allocation of government currency" with a weight of 25.8% is in second place and "geographical location of the company and access to livestock" and "increasing importance of meat supply for the country, especially in the condition of COVID-19 pandemic" jointly have the third priority. According to the results of **Table 2**, it can be seen that the most important threat to the company is "COVID-19 pandemic limitations and health protocols"; because it has the highest weight among the desired sub-criteria.

Please insert Table 2 here

Concerning the analysis of the internal and external factors, the results are presented in **Table 3**. There are 4 different strategies, including Defense Strategy (WT), Competitive Strategy (ST), Conservative Strategy (WO) and Offensive Strategy (SO). Based on the

attractiveness score of the company's internal factors, it can be seen that the desired score is 2.601. Since the desired score is higher than 2.5, it can be said that there is strength concerning the internal factors of the company. In other words, the strengths of the company outweigh the weaknesses of the company. Examining the attractiveness score of external factors, it can be seen that the desired score is 2.271, which is less than 2.5; hence, among external factors, threats are somewhat superior to opportunities, given that strengths overcome weaknesses and also threats outweigh opportunities. Therefore, the company is located in the (ST) area. Accordingly, diversity and competitive strategies will have a higher priority.

Please insert Table 3 here

After examining the strengths and weaknesses as well as the opportunities and threats of the company, it is possible to formulate a strategy based on each of the mentioned factors. In this regard, in **Table 4**, the designed strategies are mentioned.

Please insert Table 4 here

In line with the strategies mentioned in **Table 4**, each of the strategies is described and interpreted below:

SO₁. Development of the production of the final product through ownership infrastructure: given the existence of suitable infrastructure and cheap labour in the Chabahaar region, on the other hand, the increasing importance of meat supply for the country, especially in the condition of the COVID-19 pandemic and the possibility of importing livestock and carcasses, using appropriate policy to use the existing capacities in Chabahaar, production can be augmented in line with the existence of a guaranteed market (S₃, S₆₋₇, O₁, O₄).

SO₂. Production of the final product through the development and creation of a network of partners: This can pave the way for concluding contracts and identifying and cooperating with suppliers and companies for packing and cold storage. Therefore, the expansion of these collaborations is proposed to provide meat for the country, especially in the condition of the COVID-19 pandemic. This strategy supports long-term contracts between the company and other industries and companies (packing, cold storage, livestock purchasing) that also provides access to facilities to some extent; therefore, the company's activity pattern is shaped according to their own specific needs (S₁₋₂, S₄, O₁, O₃₋₄).

SO₃. Organisation meat product branding, especially for the organisation's stores and major centres: Due to the trust of stakeholders in the name of the organisation, especially in the COVID-19 pandemic due to compliance with health protocols and the existence of a guaranteed sales market for the company, it can be supported by the government through the special allocation of government currency. The creation of a dedicated brand for the company causes that over time not only the company's monopoly share does not decrease but also increases. In other words, it should be noted that the company has access to the guaranteed market (retirement plan) and this access is to some extent only for the company under study (monopoly in meeting the demand for the retirement plan). As a result, by defining a brand (currently the company does not have a brand) in addition to meeting demand, the company can become better known to consumers over time in the red meat market. (S₃₋₄, O₂, O₄).

SO₄. Development of social interactions with relevant institutions: Due to the trust of stakeholders in the name of the organisation, especially in the COVID-19 pandemic due to

the observance of health protocols and the existence of appropriate production infrastructure, the company can influence decision-making in this area. Development of social interactions with relevant institutions will make it possible to import livestock and carcasses with government support in the allocating of government currency due to the importance of meat production for the government and the country, especially in the condition of the COVID-19 pandemic (S₂, S₄, S₆, O₁₋₂, O₄).

ST₁. Development of import of livestock and carcasses from economically justified countries: Since there is access to livestock for the company due to its convenient geographical location and the necessary economic incentives to operate in the region; hence, importing livestock from Pakistan and other countries in terms of cost and benefit of import can be a good solution (S₁, S₅, T₁).

ST₂. Influencing the company's decision-making to increase the share of meat in the retirement plan: Stakeholder trust in the organisation name, especially in the COVID-19 pandemic conditions due to health protocols and the possibility of influencing the company's decision-making in this area and access to the red meat market is considered a strength for the company. These issues can help the company deal with this threat in line with competitors' efforts to develop the market, and in particular in trying to capture the markets of the retirement plan. Besides, the threat of fluctuations and instability in economic policies (monetary and fiscal) will be reduced to some extent. It should be noted that the retirement plan is a plan in which the government distributes essential goods, including red meat, to retirees at reasonable prices. The company under study is the meat supplier of this plan, and the existence of such a market increases the company's decision-making power (S₂₋₄, T₂, T₄).

ST₃. Use of anti-COVID-19 tools to increase exports, imports and production of red meat: The company has access to livestock due to its geographical location, which provides cheap livestock and carcasses for the company. Adequate meat production infrastructure for this livestock and a guaranteed market are also available. In contrast, the COVID-19 pandemic limitations and health protocol issues have hampered red meat production and imports. Accordingly, the use of anti-COVID-19 tools to increase the import and production of red meat as a double game, not only can minimise the limitations of the COVID-19 pandemic due to the comprehensive observance of health protocols, but also will increase the company's profitability due to the simultaneous export, import and production of red meat. Due to the cheapest way to access the import market in Chabahar Free Trade Zone, the threat of reducing the company's share through competitors and reducing the company's monopoly market can be countered. It should be noted that in Iran, inflation is always part of the macroeconomy that can affect the cost of fodder, livestock health costs, etc. However, it should be noted that when a company operates as an integrated supply chain, it can fluctuate less than other companies, and therefore price fluctuations will be less than competitors (S₁₋₄, S₆, T₁₋₅).

ST₄. Establishment of a fattening network to produce suitable livestock: Due to the condition of COVID-19 pandemic limitations and issues related to the observance of health protocols, the import of livestock may be difficult. Considering the possibility of company decision-making in this field and access to the guaranteed market, the company can focus on domestic production by creating a fattening network to produce suitable livestock, and counteract the changing tastes of customers towards the consumption of red meat (S₂₋₃, S₆, S₇, T₁₋₃, T₅).

WO₁. Development of financing as cheap as possible: The possibility of access to financial facilities can lead to the growth of the company by improving production technologies to increase sustainability and also using the existing capacities in Chabahar due to the lack of desired capacities. Expanding financing as cheaply as possible can enable the company to be financed quickly and at minimal cost when needed. This will augment the company's credibility and make it easier to access banking facilities. Besides, the importance of providing meat for the country, especially in the condition of the COVID-19 pandemic, can be responded to (W₁₋₂, W₄, O₃₋₄).

WO₂. Improvement and development of human resources: Perhaps one of the reasons for the lack of motivation is the lack of meeting the relevant demands and needs of employees. If they are rewarded and facilitated in terms of performance and success rate in performing job duties, it will cause each employee to seek to improve their performance which will, in turn, lead to not only satisfaction with their creativity and authority but also the success of the company. (W₁, W₃₋₅, O₃₋₄).

WO₃. Improving structures and processes: To use the capacities of the Chabahar complex and the possibility of importing livestock and access to financial facilities, improving structures and processes through the design and application of supply chains or studies of meat supply chains in other countries can be useful. Finally, after reducing and improving the company's weaknesses to take advantage of the opportunities ahead, the government can support the company by allocating government currency (if the company operates efficiently) (W₁₋₅, O₁₋₃).

WO₄. Activating the full capacity of existing infrastructure: Lack of full capacity of existing infrastructure due to lack of funding required promptly, especially in the COVID-19 pandemic conditions and the lack of efficient management systems has hampered the company to operate optimally. However, the possibility of importing livestock and carcasses is a serious opportunity for the company, which with access to government facilities and foreign exchange support can be effective in activating the full capacity of the existing infrastructure. It should be noted that in the discussion of activating the total capacity of infrastructure, the issue of renting vacant capacities or ancillary activities can also be considered (W₂, W₄₋₅, O₁₋₃).

WT₁. Closure and liquidation of the company: Due to lack of agility in decision-making, lack of timely funding, especially in the COVID-19 pandemic conditions, lack of livestock production due to drought, etc. fluctuations and instability in monetary and fiscal economic policies, COVID-19 pandemic limitations and related health protocols, and ultimately a reduction in customers' purchasing power and a shift in consumption towards poultry consumption, complete closure of the company, due to its high overhead cost, can be one of the proposed solutions (W₁₋₅, T₁₋₃, T₅).

WT₂. Outsourcing of activities: Due to the lack of timely funding, especially in the COVID-19 pandemic conditions in the company, it is difficult to use the full capacity of the existing infrastructure. This is due to fluctuations and instability in economic policies (monetary and fiscal) and the COVID-19 pandemic limitations and related health protocols, which makes the outsourcing of activities economically justified. Therefore, by outsourcing the slaughter and packing activities in the short term to companies with the financial capacity and the distribution of meat by the company itself to the target markets, these issues can be overcome. Leasing existing idle capacity to reduce overhead costs and implementing long-term acquisition plans can be modified in the coming years and over time. Because there are

many unemployed capacities in the company that only have an overhead cost and if rented, it will lead to income for the company (W_2, W_{4-5}, T_{2-3}).

WT₃. Changing the use of current infrastructure: Due to not using the full capacity of existing infrastructure and on the other hand competitors' efforts to develop the market and especially trying to capture the markets of the retirement plan and reduced customers' purchasing power and changing the taste of consumption to consume poultry by changing the current infrastructure to cheaper protein products such as poultry, working in more profitable areas can be taken into account (W_4, T_{4-5}). To prioritise strategies based on the QSPM, **Table 5** is presented. This table indicates the QSPM for Offensive Strategies (SO), Competitive Strategies (ST), Conservative Strategies (WO), and Defensive Strategies (WT).

Please insert Table 5 here

Table 6 summarises the weight of each of the strategies prioritised. As the results show, activating the full capacity of existing infrastructure has the highest priority. This strategy is used in situations where the company is pursuing conservative strategies. Similarly, the use of anti-COVID-19 tools to increase exports, imports and production of red meat and influencing the company's decision-making to increase the share of meat in the retirement plan with attractiveness scores of 6.148 and 6.051, respectively, have second and third priorities. These two strategies can be justified as competitive strategies are of higher strategic importance. On the other hand, these strategies existed in the offensive and competitive strategic areas, which shows the high importance of this strategy. Also, the strategy of improvement and development of human resources with the lowest attractiveness score is in the last rank.

Please insert Table 6 here

5. Discussion

According to the deep study and examining many aspects, some strategies are proposed. The following are suggestions from the obtained results in this study.

- Due to the trust of stakeholders in the name of the organisation, especially in the condition of the COVID-19 pandemic due to the observance of health protocols, it can be possible to conclude contracts and identify and cooperate with suppliers and providing more conditions for the import of livestock by the company itself. Therefore, the use of long-term contracts between the company and other industries (packing, cold storage, livestock purchase) can shape the company's pattern of activity according to the needs of the market
- The low performance of the company's employees due to their low motivation based on the opinions of experts, which has led to a reduction in the quantity and quality of labour in the company is also another important issue in the company. Perhaps one of the reasons for the lack of sufficient motivation is the lack of meeting the relevant demands and needs of employees.
- Due to the COVID-19 pandemic and the involvement of the international community, all businesses have faced problems, so that on the one hand they have to make large investments in compliance with health protocols and on the other hand their demand has decreased compared to before. According to the health protocols communicated to companies by the governments of each country, every effort should be made to comply with them to allow exchanges and economic activities by the governments and to be able to largely return to the pre- COVID-19 pandemic conditions to avoid bankruptcy.

- There is a lot of idle capacity in the company. Relevant experts say that the reason for this is the lack of financing and sufficient budget; therefore, it seems necessary for the company to attract several investors to finance them so that it can use the empty capacity of its units and have a larger share in the distribution channel. On the other hand, adequate financing, will neutralise the effects of currency and fiscal policies and reduce the purchasing power of consumers to some extent.
- Given the importance that the company attaches to research and marketing work, and on the other hand, the lack of agility in decision-making due to organisational hierarchy and the lack of efficient and effective management systems as its weaknesses and its international relations are weak, red meat is also facing price threats. This company can control price fluctuations to some extent by conducting comparative research of its company with other foreign companies and comparing their meat chain with Iran and make use of the experiences of those countries to improve their activities in management and decision making.

In line with the issues surrounding the company, some other points are presented as follows:

- Reducing the role of the government and carrying out most activities by the members of the company, because the role of the government can only be in import tariffs and export issues, which the government itself is often challenged in these issues, especially in the COVID-19 pandemic. The government can also support the relevant companies by reforming its mechanisms and foreign exchange policies and economic decisions, and by creating incentives and subsidies.
- One of the problems related to the company is the lack of integrated and independent management. This factor leads to parallel activities and decisions, which are usually contradictory. Therefore, the company must pay special attention to integrated management.
- Expansion of units and integration of different industries in this company provides better quality control and reduces purchases from other companies

In the following, the relationship between supply chain levels and SWOT factors is examined. Factors S₁, S₅, O₁, and T₁ are related to the level of livestock suppliers in the red meat chain. Factors W₃, W₄, S₆ and S₇ are related to the levels of production, and factors S₃, S₄, O₄, and T₅ are related to the levels of distribution in the red meat chain. Other factors also play an important role at all levels of the red meat supply chain. For example, “fluctuations and instability in economic policies (monetary and fiscal)” play a role in the levels of livestock suppliers, slaughterhouses, packing units, cold storage facilities, retailers and consumers. The relationship between red meat supply chain levels and SWOT factors is indicated in **Figure 3**. Since strategies have been developed according to SWOT factors, it is clear that these strategies are also related to red meat supply chain levels. Therefore, it can be said that all strategies affect all levels of the red meat supply chain (directly and indirectly).

Please insert Figure 3 here

6. Conclusion

Based on the findings, the importance of agriculture and red meat in household consumption is clear, especially in the COVID-19 pandemic; On the other hand, the lack of proper policy in the production and price of red meat and the lack of a comprehensive review of the red meat supply chain has led to a reduction in the role of this protein product in the household market basket, especially in critical situations. Accordingly, considering the red meat supply chain and the link between different levels of the market, the study and design of

the livestock supply chain for red meat and especially beef is of particular importance so that after examining the conditions and structure of the red meat market, solutions can be provided to improve the position of this product in the household basket, and on the other hand, by providing appropriate solutions to increase red meat production in the company under study. It should also be possible for businesses to adopt the best policies to deal with the COVID-19 pandemic.

Based on the results, it can be postulated that the existence of a guaranteed market for the company at the beginning of the activity can be the most important strength that a company needs initially. The same issue should be considered by experts and managers of the company to make the best use of the opportunities facing the company. Although the lack of financing is the most important weakness that the company faces, this weakness should not be a reason to liquidate the company. It may be possible to limit financial issues to some extent by implementing long-term contracts with suppliers. According to the results of the ranking of sub-criteria related to the company's opportunities, it can be said that the biggest opportunity for the company is "access to banking facilities". Finally, the most important threat to the company is "COVID-19 pandemic limitations and health protocols"; because it has the highest weight among the desired sub-criteria. Given that the main goal of the company was to import livestock and this is the main reason for establishing the central core of the company in Chabahar port; Therefore, the company can overcome this threat by using anti-COVID-19 tools. For example, the company can develop a dynamic import network (long-term and guaranteed contracts) under COVID-19 pandemic limitations. Such contracts will lead to the payment of non-supply compensation by the outer company for the costs of supplying livestock and carcasses. Based on the attractiveness score, the company's strengths outweigh the company's weaknesses, and the threats outweigh the opportunities. Given that strengths outweigh weaknesses and that threats outweigh opportunities, the company is in the ST zone. Accordingly, diversity and competitive strategies will have a higher priority. Finally, the results of the QSPM showed that activating the full capacity of existing infrastructure has the highest priority. This strategy is used in situations where the company is pursuing conservative strategies. Similarly, the use of anti-COVID-19 tools to increase exports, imports, and production of red meat and influencing the company's decision-making to increase the share of meat in the retirement plan has second and third priorities. These two strategies can also be justified in terms of the results showing that competitive strategies are of greater strategic importance.

The essential limitations and challenges for this research were related to the case study of a beef company in Iran. One of the main limitations of this project is the issues related to the organisational hierarchy, which makes it difficult to collect information on the red meat supply chain in Iran. Unfortunately, some people were occupied in jobs that were not related to their specialty, which prolonged the process of obtaining information. Besides, coordinating the company's experts to hold meetings as well as conducting individual interviews with them required the permission of top managers, which made the process difficult. Eventually, some of the information was of strategic importance to the company, which was not readily available to everyone, and it took a long time to get a written order from the company's top managers to receive it. Future research can centre on the following: Given that the COVID-19 pandemic has caused many problems for the economic activities of different companies, the analysis of other economic companies is justified; thus, researchers can determine the impact of this pandemic on other economic activities and strategies to deal with this problem. Another important point to note here is that the world community has been exposed to such deadly viruses several times throughout its history and may occur again in

the future; hence, strategies for companies to deal with such situations should always be developed. Furthermore, other methods can be used to analyse the supply chain of meat products. For example, the SWOT fuzzy method can be used as another technique to determine and prioritise the strategies. Moreover, researchers can use stochastic factor analysis methods, primarily correlation, to detail the stages of food products passing through the supply chain, as well as to determine the dynamics and mutual influence of economic (price) and natural indicators that form the food supply chain.

References

- Abbasi, F., Esparcia, J. and Saadi, H. A. (2019), "From Analysis to Formulation of Strategies for Farm Advisory Services (Case Study: Valencia–Spain), an Application through SWOT and Qspm Matrix", *European Countryside*, Vol. 11 No. 1, pp. 43-73.
- Abdolshah, M., Fazli Besheli, B., Fazli Besheli, S. and Norouzi, A. (2018), "Strategic Planning for Agriculture Section using SWOT, QSPM and Blue ocean-case Study: Eshraq Agro-industry company", *International Journal of Agricultural Management and Development*, Vol. 8 Issue. 2, pp. 149-162.
- Abya, H., Khalili, M., Ebrahimi, M., and Movahed, A. (2015), "Strategic planning for tourism industry using SWOT and QSPM". *Management Science Letters*, 5(3), 295-300.
- Ab Talib, M.S., and Hamid, A.B.A. (2014), "Halal logistics in Malaysia: a SWOT analysis", *Journal of Islamic Marketing*, Vol. 5 Issue. 3, pp. 322-343.
- Agriculture Ministry of America (2020), "Special site of statistical information", available at: www.usda.gov
- Beheshti, M., Mahdiraji, H. A., and Zavadskas, E. K. (2016), "Strategy portfolio optimisation: A copras g-modm hybrid approach", *Transformations in Business and Economics*, 15(3C), pp. 500-519.
- Bresciani, S. (2017), "Open, networked and dynamic innovation in the food and beverage industry", *British Food Journal*, Vol. 119, No. 11, pp. 2290-2293.
- Bresciani, S., Bertoldi, B., Giachino, C. Ferraris, A. (2015), "An exploratory investigation on new product development in family luxury businesses", *World Review of Entrepreneurship, Management and Sustainable Development*, Vol. 11, Nos. 2/3, pp. 186-199
- Bresciani, S., Del Giudice, M., Papa, A. (2017), "Public Control and Strategic Governance in State-Owned Public Utilities: Empirical Evidence from Italian Listed Firms", *Sinergie*, Vol. 35, No. 102, pp. 47-64.
- Bresciani, S., Ferraris, A. (2015), "International diversification and performance in European service multinational companies", *The Marketing Review*, Vol. 15, No. 4, pp. 423-438.
- Bresciani, S., Ferraris, A., Del Giudice, M. (2018), "The management of organizational ambidexterity through alliances in a new context of analysis: Internet of Things (IoT) smart city projects", *Technological Forecasting and Social Change*, Vol. 136, pp. 331-338
- Bresciani, S., Vrontis, D., Thrassou, A. (2015), "Strategic RandD internationalisation in developing Asian countries - the Italian experience", *World Review of Entrepreneurship, Management and Sustainable Development*, Vol. 11, Nos. 2/3, pp. 200-216
- Cheraghali pour, A. Paydar, M.M. and Hajiaghaci-Keshteli, M. (2019), "Designing and solving a bi-level model for rice supply chain using the evolutionary algorithms", *Computers and Electronics in Agriculture*, 162, pp.651-668.

- Collins, A.L., Anthony, S.G., Hawley, J., and Turner, T. (2009), "The potential impact of projected change in farming by 2015 on the importance of the agricultural sector as a sediment source in England and Wales". *Catena*, Vol. 79 Issue. 3, pp. 243-250.
- Cox, A., Chicksand, D., and Palmer, M. (2007), Stairways to heaven or treadmills to oblivion?. *British Food Journal*, 109 (9), pp. 689-720.
- Czuma-Imińczuk, L. (2017), "SWOT analysis as an organizational management tool on the example of a meat processing company". *World Scientific News*, Vol. 78, pp. 185-192.
- Desmarchelier, P., Fegan, N., Smale, N., and Small, A. (2007), "Managing safety and quality through the red meat chain", *Meat science*, 77(1), pp. 28-35.
- Dias, R.T., Bresciani, S. (2006), "RandD and knowledge: a theoretical assessment of the internationalisation strategies", in *International Journal of Technology, Policy and Management*, Vol. 6, No. 1, pp. 1-32
- Duffy, R., and Fearne, A. (2009), Value perceptions of farm assurance in the red meat supply chain. *British Food Journal*, 111(7), pp. 669-685.
- Faisal, M. N. (2015), A study of inhibitors to transparency in red meat supply chains in Gulf cooperation council (GCC) countries. *Business Process Management Journal*, 21(6), pp. 1299-1318.
- Food and Agriculture Organization of the United Nations (2019) a specialized agency of the United Nations that leads international efforts to defeat hunger, available at: www.fao.org
- Ghorbani, A., Raufirad, V., Rafiaani, P., and Azadi, H. (2015), "Ecotourism sustainable development strategies using SWOT and QSPM model: A case study of Kaji Namakzar Wetland, South Khorasan Province, Iran", *Tourism Management Perspectives*, 16, pp. 290-297.
- Gholamian, M.R. and Taghanzadeh, A.H. (2017), "Integrated network design of wheat supply chain: A real case of Iran", *Computers and Electronics in Agriculture*, 140, pp.139-147.
- Hajiagha, S. H. R., Mahdiraji, H. A., Tavana, M., and Hashemi, S. S. (2018), "A novel common set of weights method for multi-period efficiency measurement using mean-variance criteria", *Measurement*, 129, pp. 569-581.
- Hajiagha, S. H. R., Hashemi, S. S., Mahdiraji, H. A., and Azaddel, J. (2015), "Multi-period data envelopment analysis based on Chebyshev inequality bounds", *Expert Systems with Applications*, 42(21), pp. 7759-7767.
- Hajiagha, S. H. R., Mahdiraji, H. A., and Hashemi, S. S. (2013), "Multi-objective linear programming with interval coefficients", *Kybernetes*, 42(3), pp.482-496.
- Handfield, R.B. and Nichols, E.L. (1999), *Introduction to Supply Chain Management*, Upper Saddle River, Prentice-Hall, NJ.
- Hastie, J., Sutrisna, M., and Egbu, C. (2017), "Modelling knowledge integration process in early contractor involvement procurement at tender stage—a Western Australian case study". *Construction Innovation Information, Process and Management*. Vol. 17 NO.4, pp. 429-456.
- Henriksen, L.F., Riisgaard, L., Ponte, S., Hartwich, F. and Kormawa P. (2010), Agro-food value chain interventions in Asia: A review and analysis of case studies: United Nations Development Organization (UNIDO).
- Hongxun, L., Bin, C., and Mingli, W. (2016), "A Study on the Competition Strategies of Chinese Natural Gas Industry Based on the SWOT-QSPM Model", *Sino-Global Energy*, 1(5), pp. 400-419.
- Kanda, A. and Deshmukh, S.G. (2008), "Supply chain coordination: perspectives, empirical studies and research directions", *International journal of production Economics*, Vol. 115 Issue 2, pp. 316-335.

- Kassahun, A., Hartog, R.J. and Tekinerdogan, B. (2016), "Realizing chain-wide transparency in meat supply chains based on global standards and a reference architecture". *Computers and Electronics in Agriculture*, Vol. 123, pp. 275-291.
- Keykha, A. (2018), Developing manajment strategies of sistan agricultural systems using SWOT technique (Doctoral dissertation, university of zabol).
- Lavelli, V. (2013), High-warranty traceability system in the poultry meat supply chain: A medium-sized enterprise case study. *Food control*, 33(1), pp. 148-156.
- Linnemann, A.R., Hendrix, E.M., Apaiah, R. and van Boekel, T.A. (2015), "Food chain design using multi criteria decision making, an approach to complex design issues", *NJAS-Wageningen Journal of Life Sciences*, Vol. 72-73, pp. 13-21.
- Ma, J.H., Zhang, Q. and Yuan, J. (2010), "The strategic analysis of the development of the logistics industry in Shandong Province based on the SWOT-PEST matrix", *Technology and Innovation Management*, Vol. 24, pp. 317-319.
- Maman, U., Mahbubi, A., and Jie, F. (2018), Halal risk mitigation in the Australian-Indonesian red meat supply chain. *Journal of Islamic Marketing*, (1), pp. 60-79.
- Mahdiraji, H. A., Mokhtarzadeh, N. G., Shateri, H., and Beheshti, M. (2019a), "A Comparison Of Buyback, Rebate And Flexible Contracts In A Seller-Buyer Supply Chain", *Transformations in Business and Economics*, 18(1), pp. 109-128.
- Mahdiraji, H. A., Kazimieras Zavadskas, E., Kazeminia, A., and Abbasi Kamardi, A. (2019b), "Marketing strategies evaluation based on big data analysis: a CLUSTERING-MCDM approach", *Economic research-Ekonomiska istraživanja*, 32(1), pp. 2882-2892.
- Mahmoudi, M., Mahdiraji, H. A., Jafarnejad, A., and Safari, H. (2019), Dynamic prioritization of equipment and critical failure modes. *Kybernetes*, 48 (9), pp. 1913-1941.
- Ministry of agriculture-Jahad (2016), special site of statistical information, available at: www.agri-jahad.ir.
- Mokhtarzadeh, N. G., Mahdiraji, H. A., Beheshti, M., and Zavadskas, E. K. (2018), "A novel hybrid approach for technology selection in the information technology industry", *Technologies*, 6(1), pp. 34-50.
- Mohebalizadehgashti, F. Zolfagharinia, H, and Amin, S.H. (2020), "Designing a green meat supplychain network: A multi-objective approach", *International Journal of Production Economics*, Vol. 219, pp. 312-327.
- Nourbakhsh, S. Z., Shahba, S., and Mozafari, M. (2013), "Using SWOT Analysis and QSPM Matrix for Developing and Evaluating Strategies of Ecotourism", *Caspian Journal of Applied Sciences Research*, 2(9), pp. 116-125.
- Oliva, F., Couto, M., Santos, R. and Bresciani, S. (2019), "The integration between knowledge management and dynamic capabilities in agile organizations", *Management Decision*, Vol. 57 No. 8, pp. 1960-1979.
- Ommani, A.R. (2011), "Strengths, weaknesses, opportunities and threats (SWOT) analysis for farming system businesses management: Case of wheat farmers of Shadervan District, Shoushtar Township, Iran", *African journal of business management*, Vol. 5 No. 22, pp. 9448-9454.
- Pizzuti, T., Mirabelli, G., Grasso, G., and Paldino, G. (2017), "MESCO (MEat Supply Chain Ontology): An ontology for supporting traceability in the meat supply chain", *Food Control*, Vol. 72, pp. 123-133.
- Rahbari, M., Naderi, B., and Mohammadi, M. (2018), "Modelling and Solving the Inventory Routing Problem with CO 2 Emissions Consideration and Transshipment Option", *Environmental Processes*, 5(3), pp. 649-665.

- Rahbari, M., Hajiagha, S.H.R., Dehaghi, M.R., Moallem, M., and Dorcheh, F.R. (2020), Modeling and solving a five-echelon location–inventory–routing problem for red meat supply chain. *Kybernetes*.
- Sánchez-Cambronero, A., González-Cancelas, N., and Serrano, B. M. (2020), “Analysis of port sustainability using the PPSC methodology (PESTEL, Porter, SWOT, CAME)”, *World Scientific News*, 146, pp. 121-138.
- Santoro, G., Bresciani, S., Bertoldi, B. and Liu, Y. (2019), “Cause-related marketing, brand loyalty and corporate social responsibility: A cross-country analysis of Italian and Japanese consumers”, *International Marketing Review*, Vol. 37 No. 4, pp. 773-791.
- Scuotto, V., Del Giudice, M., Bresciani, S., Meissner, D. (2017), “Knowledge Driven Preferences in Informal Inbound Open Innovation Modes. An Explorative view on Small to Medium Enterprises”, *Journal of Knowledge Management*, Vol. 21, No. 3, pp. 640-655.
- Shojaei, M.R., Taheri, N.S. and Mighani, M.A. (2010), “ Strategic planning for a food Industry Equipment manufacturing factory, Using SWOT Analysis, QSPM, and MAUT models. *Asian Journal Of Management Research*, Online Open Access publishing platform for Management Research.
- Statistical Center of Iran (2018), census on expense and income of the household, www.amar.org.ir
- State Livestock Affairs Center (2020), Special site of statistical information, available at: www.iranslal.com
- Sumiarsih, N.M., Legono, D. and Kodoatie, R.J. (2018), “Strategic Sustainable Management for Water Transmission System: A SWOT-QSPM Analysis”, *Journal of the Civil Engineering Forum*, Vol. 4 No. 1, pp. 29-40.
- Taghavifard, M. T., Amoozad Mahdiraji, H., Alibakhshi, A. M., Zavadskas, E. K., and Bausys, R. (2018), An extension of fuzzy SWOT analysis: An application to information technology. *Information*, 9(3), pp. 46-60.
- Takeleb, A.M., Sujono, J. and Jayadi, R. (2020), “Water resource management strategy for urban water purposes in Dili Municipality, Timor-Leste”, *Australasian Journal of Water Resources*, pp. 1-10.
- Tardivo, G., Bresciani, S., Fabris, F. (2011), “Internal Dealing And Insider Trading: Focus On Financial Market In Italy Research Findings”, *Journal of Financial Management and Analysis*, Vol. 24, No. 1, pp. 24-38.
- Thrassou, A., Vrontis, D. and Bresciani, S. (2018a), “The Agile Innovation Pendulum: A strategic marketing multicultural model for family businesses”, *International Studies of Management and Organization*, Vol. 48, No. 1, pp. 105-120.
- Thrassou, A., Vrontis, D. and Bresciani, S. (2018b), “The Agile Innovation Pendulum: Family Business Innovation and the Human, Social and Marketing Capitals”, *International Studies of Management and Organization*, Vol. 48, No. 1, pp. 88-104.
- Trkman, P., Štemberger, M. I., Jaklič, J. and Groznik, A. (2007), “Process approach to supply chain integration”, *Supply Chain Management: An International Journal*, Vol. 12 No. 2, pp. 116-128.
- Vrontis, D., Tardivo, G., Bresciani, S., Viassone, M. (2018), “The Competitiveness of the Italian Manufacturing Industry: an Attempt of Measurement”, *Journal of the Knowledge Economy*, Vol. 9, No. 4, pp. 1087–1103
- Wang, M., and Jie, F. (2019, April), Towards a Conceptual Framework for Managing Supply Chain Uncertainty and Risk in the Australian Red Meat Industry: A Resource-Based View Approach. In *2019 IEEE 6th International Conference on Industrial Engineering and Applications (ICIEA)* (pp. 714-722), IEEE.

World Health Organization (2020) Coronavirus disease 2019 (COVID-19) pandemic, available at: www.who.int

Zhang, Y., Baker, D., and Griffith, G. (2020), Product quality information in supply chains: a performance-linked conceptual framework applied to the Australian red meat industry. *The International Journal of Logistics Management*, 31(3), pp. 697-723.

Appendix A: The main opportunities of the company are as follows.

- 1. *Possibility of importing livestock and carcasses.*** the company is located in Chabahar Free Trade Zone. This zone is one of the main import borders outside the Persian Gulf, which is of great importance. The presence of the slaughterhouse and the company's packing centre in this area has created a fundamental opportunity for the company, which is the import of livestock and carcasses. Based on the facilities and equipment available in the company, by planning for the import of livestock, there will be a stable production opportunity at a reasonable price for the company.
- 2. *Government support for the meat industry and especially the allocation of government currency.*** The issue of timely and cheap meat supply and also regulating the meat market for the government creates an opportunity for the company to benefit from government support, especially by allocating cheap currency. If such an opportunity is achieved, the company can cover the country's meat production needs, especially during the COVID-19 crisis, by importing livestock, and the company itself can progress rapidly.
- 3. *Access to banking facilities.*** It can be said that banking facilities are one of the main concerns of any emerging company. Currently, the company cannot use all of its production capacity due to financial problems. In this regard, if the opportunity is provided for the company to be able to receive banking facilities, then due to the existence of sufficient and appropriate production structures, the company will be able to experience growth in this respect.
- 4. *The increasing importance of meat supply for the country, especially in the condition of the COVID-19 pandemic.*** For Iran, meat is one of the main dimensions of the household food security basket, especially in the condition of the COVID-19 pandemic. This creates a fundamental opportunity for the company in the competitive environment of the meat industry as the government strives to facilitate meat production including tax cuts, zero import tariffs and so on. Therefore, this opportunity can help the company significantly in the development path.

Appendix B. The main threats of the company are as follows.

- 1. *Lack of livestock production due to drought, etc.*** One of the threats of the studied company is the lack of livestock production due to drought, etc. In the current situation of Iran, the existence of drought leads to the impossibility of producing livestock at a cost commensurate with the cost. Thus, there is a threat to the company that prevents it from having long-term planning for domestic livestock.
- 2. *Fluctuations and instability in economic policies (monetary and fiscal).*** At present, price fluctuations are a major threat. This is especially true in the current condition of the COVID-19 pandemic. On the other hand, traces of such fluctuations and instability in the government's monetary and fiscal policies were identified. The issue of instability will lead to the inability of the company to plan for the future. Moreover, it should be noted that issues such as disposable income, unemployment rate, foreign exchange rate, interest rates, trade tariffs, inflation rate, foreign trade trends, public tax issues, tax changes for products or specific services, and the situation and trends of the regional economy in the condition of the COVID-19 pandemic were considered in this threat.
- 3. *COVID-19 pandemic limitations and health protocols.*** Given that the company's livestock is mainly supplied through imports, in the current situation, the COVID-19 pandemic and the problems related to health protocols are major threats to the company. Hence, the required livestock will be provided with more difficulty. On the other hand, adhering to health protocols for companies requires large investments, which causes economic problems for the company.
- 4. *Competitors' efforts to develop the market and especially the efforts to capture the markets of the retirement plan.*** New entrants to the meat market and existing competitors cannot be ignored, and it should always be borne in mind that competitors' entry into the market can be a threat to the company; especially if the company does not seek to improve quality by relying on its support and credibility. Therefore, over time, the company's meat market will shrink and eventually lead to the company's bankruptcy. In this regard, in the long run, based on the company's situation and lack of brand and capital problems, this threat will become more serious. Furthermore, due to infancy, there is not enough managerial experience and always the threat of losing the market by existing competitors is challenging.
- 5. *Decreasing the purchasing power of customers and changing the taste of consumption towards consuming poultry.*** Generally, due to the increase in the price of red meat, the purchasing power of customers has plummeted. This will eventually change the tastes of consumers and pose a threat to the company. On the other hand, as meat prices have soared due to shortages and rising exchange rates and animal feed, consumer preferences for alternative products have increased. This is especially evident in the current context of the COVID-19 pandemic, which has plagued many businesses.

Appendix C. The main strengths of the company are as follows.

- 1. *The geographical location of the company and access to livestock.*** The main complex of the company is located in Chabahar Free Trade Zone. This area is close to the import borders which facilitate the possibility of importing livestock. Also, considering that there is cheap labour in the area, the geographical location of the company can be considered fruitful from this perspective. Another advantage of being located next to international waters as the most important Iranian port outside the Persian Gulf, along with land access, is the most important feature of this free zone. The closest route to Afghanistan and Central Asia for the transit of goods, access to air transportation facilities through Chabahar Airport with the acceptance of giant aircraft and round-the-clock flight facilities and fuel supply and the ability to moor large ships up to a capacity of 100,000 tons also indicate the high importance of this zone.
- 2. *The possibility of the contribution of the company to make decisions in this area.*** The company has strong distribution channels as well as strong and rich information systems involved in the red meat supply chain. Also, there is complete information about the main activities in the meat industry. All of these issues make it possible to influence and facilitate decision-making as one of the company's strengths.
- 3. *Access to the red meat market of the retirement plan.*** The company is responsible for providing meat for the retirement plan. Having a guaranteed market for the company is a fundamental strength.
- 4. *Stakeholders' trust in the name of the organisation, especially in the COVID-19 pandemic conditions due to the observance of health protocols by the company.*** The parent holding above the studied case deals with more than 60 years of efforts in the fields of economics and finance, foreign trade, industry, agriculture and animal husbandry, stores and distribution of goods, and is one of the largest parent companies in Iran. Using specialised forces, intelligent software and hardware networks, this organisation is a leader in the supply, production, distribution and services, capital management and financial and economic businesses.
- 5. *Incentives for economic activities in Chabahar Free Trade Zone.*** In Chabahar Free Trade Zone, there are some incentives for easier economic activities including special regulations for the employment of manpower in the free trade zone and the possibility of access to skilled, productive and cheap manpower, export of products without paying customs duties, special regulations for insurance and social security in the free trade zones, 20-year tax exemption for all activities in all fields, possibility of participation with foreign investors without restrictions on participation ratio, possibility of having 100% shares of companies registered by foreign investors, freedom to transfer currency abroad without any restrictions, complete freedom of the incoming and outgoing capital and profits from economic activities, having special regulations in exports, import and customs affairs, no need for visas and ease of issuing entry and residence permits for foreigners. It is obvious that there is an incentive for economic activity in the region for the company as an important strength. In S_1 the emphasis is on livestock imports and proximity to the import border, and in S_5 the emphasis is on the conditions that facilitate economic activity in the region, such as tax exemptions. In O_1 , the emphasis is on the company's equipment, including slaughterhouse and packing unit, which is much less expensive

than competitors in the import and slaughter process, and the company has such an opportunity.

6. ***Existence of suitable production infrastructures.*** Using up-to-date technologies and having a 4,000-ton storage complex is among the company's advantages. In general, there are proportionate production facilities and even more than the demand of the collection. Therefore, the company will not face production problems in the future, which is one of the company's strengths.
7. ***Access to cheap labour in the region.*** If companies have cheap labour, the cost of their products will decrease and they will be more competitive. In this regard, the company has the advantage of access to cheap labour.

Appendix D. The main weaknesses of the company are as follows.

1. ***Lack of agility in decision making due to organisational hierarchy.*** In the current condition of the COVID-19 pandemic and the difficulty of communication, this issue has become more apparent. This is considered a weakness for the company as causes cumbersome rules and a lack of timely decisions. The lack of goals and long-term vision has also exacerbated the issue.
2. ***Lack of required and on-time funding, especially in the condition of the COVID-19 pandemic.*** This will make it impossible to produce on time and has caused a crisis in the company and slowed down the production process. The current condition in which the international community is facing a COVID-19 pandemic has caused many governments and funding institutions to face economic difficulties and limitations in financing.
3. ***The quantitative and qualitative weakness of human resources.*** The unwillingness of specialised manpower to work in Zahedan and Chabahar regions due to insufficient salaries and adequate living facilities and low performance of employees due to insufficient attention to motivational programmes are the reasons for manpower weakness.
4. ***Lack of using the full capacity of the existing infrastructure.*** There is a capacity of 4000 tons of meat storage in the slaughterhouse and packing of the company. However, due to the lack of production or other uses, only a small part of this capacity has been exploited. Production capacity is now increasingly unused due to COVID-19 pandemic problems.
5. ***Lack of establishment of efficient and effective management systems.*** Due to the lack of independence of company managers to make decisions and the lack of supply chain management system, low efficiency has resulted.