Original Article

Barriers to the Efficiency of the Olive Value Chain in Rural Areas of Tarom County, Iran

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Abstract

Purpose- Value chain development is an approach to rural economic development, which promotes the development of businesses and farmers' access to the market, reduces poverty, increases income and sustains food security in rural areas.

Design/Methodology/Approach- This study is mixed qualitative-quantitative research, and applied research and in terms of purpose. A non-probability sampling method was used in the research. The main method of collecting research data was semi-structured interviews with the selected sample. The interviews were continued until the theoretical saturation. At the end, 38 individuals participated in the interviews. Interview notes were classified and analyzed in three stages: open, central and selective coding. Ultimately, 20 respondents were selected to answer the questionnaires after reviewing the content. The data of the questionnaires were collected and combined as a direct input matrix in MICMAC

Findings- Barriers to olive value chain efficiency were identified: 30 criteria, 10 subcategories and 5 main categories. The efficiency of the olive value chain in Tarom County depends on a proper marketing management, providing infrastructure, policymaking, planning and also the organizations and trade unions. These factors were the most important and influential factors that had high cohesion and influence among other factors. In contrast, variability of the purchase and sale price, taking advantage of buying the product below the price by the middlemen, pre-sale of the product by farmers, more product waste during storage, transferring the olives to processing factories in the county are the dependence criteria.

Practical implications- Given that the olive value chain in Tarom County is not efficient, its efficiency depends on a proper marketing management, providing infrastructure, policymaking, planning and also the organizations and trade unions. Most of the mentioned factors are dependent on the institutional actors and agricultural managers, and indicates their important role in enhancing the productivity of the olive value chain.

Originality/Value- The results of this research can be a good way to solve problems and obstacles to agricultural development in rural areas.

Keywords- Rural economy, Agriculture, Value chain, Olive, Tarom County.

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1. Introduction

Throughout history and in the early stages of economic development of countries, agriculture has always been a major part in the economy and the exchange of goods and money (Upite & Pilvere, 2011; Ommani et al., 2009). Today, agriculture provides a large source of the world's food and calories (FAO, 2016; Zdanovskis & Pilvere, 2015), and has been the main job source in rural areas, also a key element in maintaining quality and the environment in these areas (Brence & Upeniece, 2018; Smit et al., 2015; Halwart et al., 2003). This sector provides livelihoods and helps rural areas via increasing incomes (Chowdhury & Chowdhury, 2011) and reducing poverty (Shahroudi, 2011; O'Farrell, 2001). Furthermore, through supplying raw materials for other industries and employment, and maintaining stability and growth, agriculture contributes to social stability and economic growth of societies (Gong & Lin, 2000). Thus, any neglect to recognize and assess the factors affecting agricultural development and promotion of economic and social indicators, reduces agricultural capacity in rural areas, which will lead to social and economic instability (Mirlotfi et al., 2012). In countries where the majority of the population lives in rural areas, addressing this is of great importance.

The agricultural sector in Iran, as in other developing countries, is crucial in terms of special and sensitive conditions of food security, high-risk environment and its high proportion in the national economy (Kabiri & Barzandeh, 2003), as well as its high amount of employment especially in rural areas (Ommani et al., 2009; Shakoori, 2013). The agricultural sector is yet facing some problems and anomalies in Iran, and calls for structural reform (Kabiri & Barzandeh, 2003). Currently, a concerning matter in the agricultural sector is the barriers to the efficiency of the value chain of agricultural products in rural areas. The issue has been increasingly argued in the regions, along with the expansion of urbanization and the transition of agriculture from the traditional to the modern stage and the growing share of products offered in the consumer market.

The value chain includes all the factors and conditions that lead to the transfer and preparation of the product for the consumer. It is crucial for reducing poverty and overcoming the challenge of food security and resilience in times of crisis and shocks (Cucagna & Goldsmith, 2018; Kumar & Sharma, 2016). Completing this value cycle and distribution channels will help the development of regions and the added value to the regions. Tarom County, located in the subtropical climatic conditions (based on the Koppen climate classification) and Ghezel Ozan River, has special capabilities in the production of agricultural products, especially in the production of olives. This county is the largest producer of olives (27% of the country's olives) in the province and this region is considered as a strategic agricultural region in Zanjan Province. In this regard, it seems that the distribution network and value chain of olive products in rural areas of Tarom County is not efficient and most olives produced are transported unprocessed to neighboring cities for processing. According to the report by Agriculture Jahad Organization in 2020, only half of the olive crop is processed inside the county. The structural weakness in production, sale and supply of the product has caused low efficiency of the product value chain in Tarom County. Therefore, understanding the bottlenecks of the value chain of agricultural products, and its inefficiency are now among the main challenges in rural economies, the present study examines this issue more clearly in rural areas, particularly in Tarom's rural area. In this regard, the following questions are asked to study the issue:

- What is the current pattern of olive value chain in rural areas of Tarom County?
- What are the barriers to the efficiency of the olive value chain in rural areas of Tarom County?

2. Research Theoretical Literature

Agriculture as the most important basis of the country's economy and rural economy is the pivotal in rural areas. The stability and continuity of this sector contributes to economic stability in rural areas (Riahi & Nasire Zare, 2021). Agricultural development in rural areas not only provides optimal use of water, soil and human resources located in rural areas, but also has a significant impact on creating a proper economic structure and the development process of national development (Momeni et al., 2017). The efficiency of the value chain is part of organization of economic activity.

Michael Porter and Harvard in 1985 first introduced the concept of the value chain. It was a strategic tool for systematically examining activities and interaction of companies. Value chain simply provides conditions for creating more benefits than costs and the success of a particular industry in the long run (Charband & Jafari, 2016). In other words, it is defined as a combination of integrated planning, collaboration and control of all processes and activities across the chain to create added value, which reduces the total cost of stakeholders, helps to reduce risk, and increases overall revenue and performance (Jayaratne, 2011).

The idea of value chain can be studied from two different perspectives: The first is about the business and its application to strategy and organization, coined by Porter in the late 1980s, and the second is about global product chains introduced and used by Gereffi and in the late 1990s. In general, such analyses emphasize the interaction between actors at every stage of the production system (from raw material producers to consumers) (UNCTAD, 2000). The value chain is an operational and analytical model based on the fact that a product is rarely consumed directly at the place of production, instead the product is transformed, deformed, combined with other products, packaged, shipped, and then illustrated to reach the final consumer (Abdullahzadeh & Sharifzadeh, 2018).

The value chain is a wide range of activities required to create a product or service, through various stages of production, conversion and delivery to end consumers (Bammann, 2019). It consists of a set of actors (stakeholders) including suppliers, manufacturers, processors, exporters and buyers who are involved in product creation activities to the end user (Fanzo et al., 2017; Kissoly et al., 2017; Kaplinsky & Morris, 2001). There is another concept called supply chain that is fundamentally different. The supply chain focuses on a top-down stream to integrate supplier and producer processes, improve productivity, and reduce waste, while the value chain examines bottom-up stream to create value from the customer perspective. The supply chain includes all activities related to procurement, but the value chain is a set of activities that creates added value. Therefore, value chain in general is a chain of operations that are performed in an industry to create value. The products pass through the loops of this chain and in each loop the value is added to the final product.
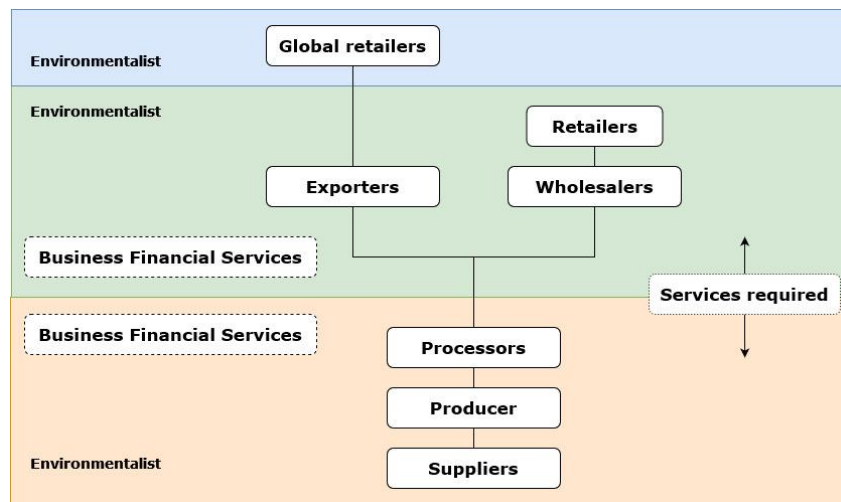

Figure 1: Value chain system

It is evident in the literature that analyzing the value chains of agricultural products is essential. The value chain has a positive effect on job creation in urban and rural areas (development of non-agricultural jobs and income diversity) through business development and market access for farmers. Chain development reduces waste during and after harvest and increases food security. This is created by a stable relationship between supply chain actors. Figure 2 is a simple value chain in agricultural products.
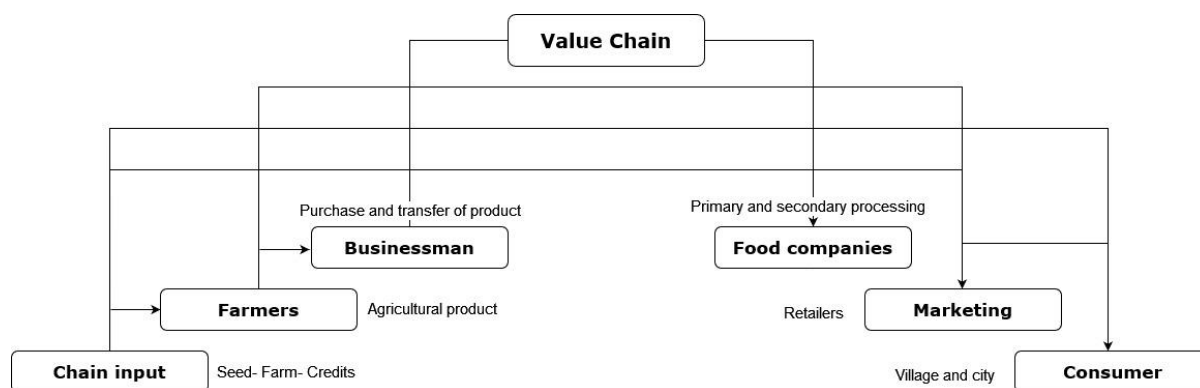
Figure 2: Value chain of agricultural products
Source: KPMG, 2013; Fanzo et al., 2017

2.1. Research background

Some studies have been conducted on this topic. Golbaz et al. (2016) analyzed the obstacles and challenges of the grape value chain in West Azerbaijan Province. According to the results of their research, institutional, human, social and financial issues, natural crises, lack of knowledge, issues of operating systems, physical and technological infrastructure are the most important challenges. In another study, Niazi Shahraki and Mobini (2015) investigated value chain problems in horticultural products. Government policies and NGOs support, transportation, logistics, and warehousing were mentioned in their research findings. Karbasi et al. (2015) investigated the barriers of saffron value chain in the international markets. They resulted that the incompatibility of saffron price in accordance with the target markets, the lack of recognition of the Iranian brand in the global market and the country's low share in added value are the key factors. Ghasemi and Bakhshi Shadmehri (2018) also studied pomegranate value chain development strategies in Mahvelat County using strategic planning tools. Their results showed that the strategy of "creating pomegranate conversion industries to produce processed products" is a priority for the development of the pomegranate value chain in the study area. Moreover, agricultural value chains and its efficiency have also been researched internationally. Ashfaq et al. (2019) examined barriers to citrus production and marketing in Pakistan. They pointed the factors such as fertilizer quality, pesticides and seeds, climate change, high production costs and labor performance, product packaging, and the storage in the product chain. Zhao et al. (2019) analyzed the challenges in the food value chain. Barriers were indicated for warehousing/storage capacity, costly problems, regulations, and lack of skills. Other studies about marketing chains and marketing channels of agricultural products have been conducted by some researchers. Sapkota et al. (2018) examined rice marketing in Kathmandu-Nepal. Mariono et al. (2018) investigated aspects of vegetable marketing in four regions, Java and East Bali, Indonesia. Muotini (2015) evaluated the benefits of commercial farms in marketing channels in Makuni, Kenya, and Bahajantari (2011) evaluated potato production, processing, and marketing in the Karnataka region of India.

Olive product in Tarom County has already been examined due to the importance of this product. Nasiri Zare (2019) investigated the marketing network of olive products in rural areas of Tarom County. He stated that the effective factors for marketing of this product include profitability, access and distance, knowledge and awareness, production and infrastructure, and the farm related factors. Pirmardovand Chegini (2014) analyzed the factors affecting the marketing behavior of olive farmers in Tarom County. The results showed that the variables of age, level of education, participation in extension training, risk-taking, quality satisfaction and quality of production have a significant relationship with the marketing behavior of farmers. Ashoori (2012) also examined the distribution of the olive marketing system in Tarom County. The results of his research showed that the olive market is not efficient, and producers are not able to carry out marketing activities, which leads to the emergence of middlemen, and ultimately reduces the producer's share of the final price. Jazunaghi et al. (2012) studied the olive

product in Zanjan Province. The results of the study showed that producers and wholesalers of olive products did not apply any appropriate sales tools and strategies for marketing, and the main buyers of this product in Zanjan Province are originally from Gilan Province. After processing, this product is turned to "Rudbar Olive". The price and distribution of olives had a positive effect on product sales.

A review of studies on agricultural products shows that the efficiency and obstacles of the value chain is paramount because of the importance of productivity of farmers (Ros et al., 2015). On the other hand, what is clear is that rural areas have different challenges for value chain efficiency based on their product type and conditions, which is important for determining the specific policies of that area for agricultural development. This is the same in Tarom County where the activities of the inhabitants depend on olive production activities. This study is a cognitive and perceptual research about the barriers to the efficiency of the olive value chain in rural areas of Tarom County. Previous studies have investigated this topic partially with some variables, although this is a multivariate matter to research. Therefore, this study tries to first identify the components by the local community and then to analyze them.

3. Research Methodology
3.1 Geographical Scope of the Research
Tarom County is one of the counties of Zanjan Province, and its capital is Abbar City. According to the latest political divisions, this county consists of Central and Chavarzagh Districts. The Central District includes three rural districts of Abbar, Gilavan and Darram, and the Chavarzagh District comprises two districts of Chavarzagh and Dastjerdeh, which are located on the mountainous areas. The employment rate in rural areas of the county is distributed in agriculture as the first sector, and then in the service and industry sectors, respectively. Moreover, the employment rate is 43.5% in the areas of this county (Cooperatives Labor and Social Welfare Organization of Zanjan Province, 2019). In terms of natural location, due to its climatic conditions and average temperature as well as abundance of surface water in Ghezel Ozan River, this county has cultivation patterns and crops different from other regions of Zanjan Province. Among horticultural and agricultural products, olive product is regarded as a significant product with a high production rate in Tarom County. The olive production also has the highest employment in comparison to other products (Table 1).

Table 1. Olive production villages in rural areas of Tarom County
Source: Agriculture Jahad of Tarom County (2020)

Rural district	Villages		User		Cultivated area (Hectare)		Production rate (Tons)	
	Frequency	Percent	Frequency	Percent	Cultivation	Percent	Production	Percent
Abbar	12	15.8 %	922	16 %	2375	17.3 %	7521	16.9 %
Chavarzagh	15	19.7 %	850	14.7 %	739	5.4 %	2231	5 %
Dastjerdeh	14	18.4 %	1274	22.1 %	2567	18.7 %	7282	16.4 %
Gilavan	20	26.3 %	2140	37.1 %	6421	46.7%	24001	53.9 %
Darram	15	19.7 %	579	10 %	1649	12 %	3501	7.9%
Total	76	100 %	5765	100 %	13751	100 %	44536	100 %

Seventy eight out of 131 villages are engaged in olive farming. According to the reports, Gilvan rural district has the most olive-producing rural areas, the highest number of farmers, olive farming land use, and the amount of production among the rural districts of Tarom County. Figure 3 shows the geographical location of the study area.
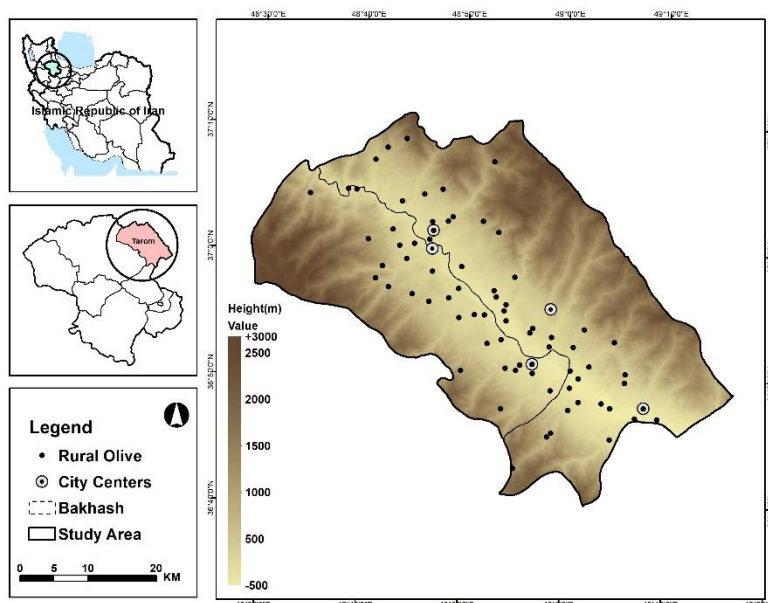
Figure 3. Geographical location of olive farmers in rural areas of Tarom County

3.2. Methodology

The present study is a mixed qualitative-quantitative and applied research. In this regard, using MAXQDA software we investigated the barriers to the efficiency of the olive value chain in the studied rural areas. The snowball sampling method as a non-probabilistic and purposeful was used to select the samples based on the knowledge individuals about the subject. Including the comprehensive view of these individuals, we used three distinctive sample groups: Product beneficiaries, marketing agents and the agriculture organization experts. The main method of collecting research data was semi-structured interviews with the sample. To this end, interviews proceeded with short questions, so the interviewees can also easily express their opinions and thoughts. The interviews were continued until the theoretical saturation. The number of participants in the interview was 38 (Table 2).

Table 2. Distribution of selected purposive samples

Sample	Frequency	Percent
Olive farmers	15	39.5 %
Marketing agents (buyers, sellers, processors)	12	31.6 %
Agriculture Organization Experts (Director of Agriculture Jahad, Agricultural Extension and Education Expert, Land-Use Expert)	11	28.9 %
Total	38	100 %

Interview notes were reviewed line-by-line and the expressed components were identified via the MAXQDA software and classified and analyzed in three stages: open, axial and selective coding. In classifying the criteria, in addition to noticing the combination of common concepts, the distribution of the desired criteria in the factors were distinguished in order to examine the coefficients of both impact and dependency factors. In order to ensure the validity and reliability of the data, acceptability and verification for the theoretical sensitivity of data collection were used by the researchers. Also, in order to increase the acceptability of components, 5 agriculture experts reviewed the data collection tools. However, after determining the criteria, a pairwise comparison questionnaire was prepared. Pairwise questionnaires included a matrix of 30 x 30 of the desired criteria, and the respondents were asked to determine a score based on the intensity of the influence of the desired criterion. The intensity of the impact can be scored 0, 1, 2, 3 or P for weak, moderate, strong and potential effects, respectively (Godet, 2008). Ultimately, 20 respondents were

selected to answer the questionnaires after reviewing the content. These respondents were expert who had the knowledge and experience of the subject. Also, the data were collected through questionnaire and combined as a direct input matrix in MICMAC and then the criteria were clustered based on the coefficients of impact and dependency. The distribution of both impact and dependency were investigated for stability of the system.

4. Research Findings

The findings of the research are presented in the form of the research process and reaching the main components. 38 participants were interviewed regarding their personal characteristics, selected by a snowball method. Men were the most frequent. Most of the participants were between 40 and 60 years old; the education level of the majority of them was diploma and higher, and they had at least 20 years of experience in olive cultivating, buying and selling and processing. Table 3 shows the characteristics of the participants.

Table 3. Personal characteristics of the research participants

Sex	Frequency	Percent	Age category	Frequency	Percent
Male	29	76.3 %	Less than 20 years old	0	0.0 %
Female	9	23.7%	Between 20 to 40 years old	9	23.7 %
Total	38	100 %	Between 40 to 60 years old	24	63.2 %
Education level	**Frequency**	**Percent**	More than 60 years old	5	13.2 %
Ability to read and write	1	2/6 %	Total	38	100 %
Elementary	0	0/0 %	**Years of experience**	**Frequency**	**Percent**
Middle school	11	28.9 %	Less than 10 years old	13	34.2 %
High school	7	18.4 %	Between 10 to 20 years old	18	47.4 %
Diploma and more	19	50 %	More than 20 years old	7	18.4 %
Total	38	100 %	Total	38	100 %

4.1. Olive value chain
The transfer of each agricultural commodity starts from the harvesting/collecting stage and continues until the consumption stage. A value chain is defined as the sequence of marketing, processing activities, and the management factors by which a product passes from producers to end consumers.

To answer the main research question, we must first identify the common pattern of the value of the olive crop in the study area. Therefore, according to the findings of the interviews of the participants, the common pattern of the value chain of olive products in Tarom County was obtained as Figure 4.
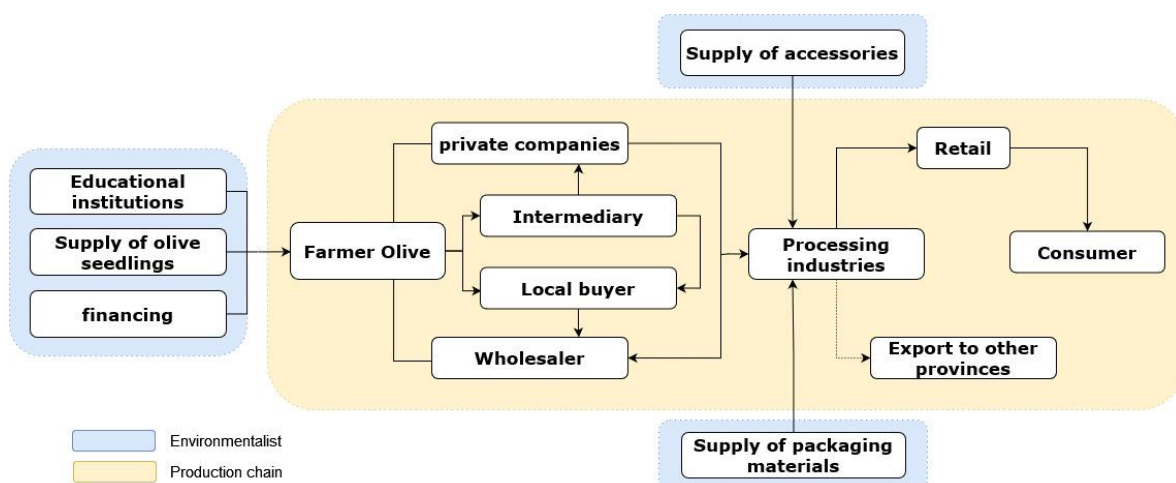

Figure 4. Olive value chain pattern in rural areas of Tarom County

The provision of financial resources and facilities, educational institutions and the provision of olive seedlings are the stages before olive cultivation.

Then, after the harvest, wholesalers, local buyers, middlemen and private companies are the farmers, and among them the wholesalers have the largest

amount of buying and selling the olives in the study area. After the purchase of the product from farmers by marketing agents, part of the product is transferred to the conversion industries within the county. Also, for olive and its processed products preparation ready for factories, part of the olive products is transferred to retailers inside and outside the county. End-consumers also buy the final product from retailers.

4.2. Investigating Barriers to Olive Value Chain Efficiency

In order to obtain the barriers to the efficiency of the olive value chain, the information obtained from the interview was collected and analyzed in three stages. In the first step of the analysis, after the content was implemented in MAXQDA, open coding was performed. Thirty semantic units in relation to the barriers to the efficiency of the value chain were identified in this step. In the second step to achieve axial coding, the data in the previous step (open coding) were compared with each other. The similar codes were put in the same class and the clusters with new concepts were formed. The outcome of this step was the identification of 10 subcategories (product sales, product prices, product marketing, financing, etc.). Finally, in the third step, reviewing, integrating and combining classes and understanding the relationship between subcategories led to eliminating the shortcomings of the coding step. Thus, 5 main categories (marketing, financial, infrastructure, policy and institutional barriers) were identified. Table 4 shows the outcome of each coding step are presented in.

Table 4. Conceptualizing barriers of the olive value chain efficiency from the selected individuals point of view

Selective coding	Axial coding	Row	Open coding	Code
Core category	Subcategories		Semantic units	
Marketing Barriers	Product sales	1	Buyers tend to buy with non-cash means	A1
		2	Monopoly of exchange limited a number of buyers	A2
		3	Farmers tend to sell olives to non-local buyers	A3
	Product price	1	Low control over the product price and market	B1
		2	Variability of the purchase and sale price	B2
		3	Middlemen advantage from buying the product below the market price	B3
	Product marketing	1	Low awareness of farmers about marketing activities	C1
		2	Market saturation at the time of product supply	C2
		3	Unrecognized quality of olives in Tarom County	C3
Financial barriers	Providing financial resources	1	High cost of olive production and processing	D1
		2	Pre-sale of the product by farmers	D2
		3	Biennial bearing of the olive crop	D3
Infrastructural barriers	Processing and storage units	1	Lack of units and factories for product processing	E1
		2	More product waste during storage	E2
		3	Transferring the olives to processing factories in the county	E3
	Providing inputs	1	High price and shortage of the inputs (water, fertilizer, pesticide, labor, etc.)	F1
		2	Distribution and cultivation of some inappropriate varieties of olive seeds	F2
		3	Lack of supply of standard olive seedlings to farmers	F3
	Providing infrastructure	1	Lack of soil testing laboratories for the construction and improvement of olive farms	G1
		2	Lack of specific places for transactions (buying and selling olives)	G2
		3	Few conversion industries related to olives	G3
Policy barriers	Policymaking	1	Unmatched allocation of credit to problems of olive industry	H1
		2	Low control over the olive transfer at harvest season	H2
		3	Inadequate provision of banking facilities to farmers for their farm development	H3
	Planning	1	Lack of internal needs assessment and unbalanced market supply and demand	I1
		2	Lack of planning to organize and improve processing units	I2
		3	Lack of integrated and/or specific plans in terms of buying, selling and marketing	I3

Selective coding	Axial coding	Row	Open coding	Code
Core category	Subcategories		Semantic units	
Institutional barriers	Organizations and trade unions	1	Lack of cohesive grassroots organizations in the market olives	J1
		2	Lack of active agricultural and olive-related cooperatives	J2
		3	Low communication between production managers (olive growers) and the rest of industry	J3

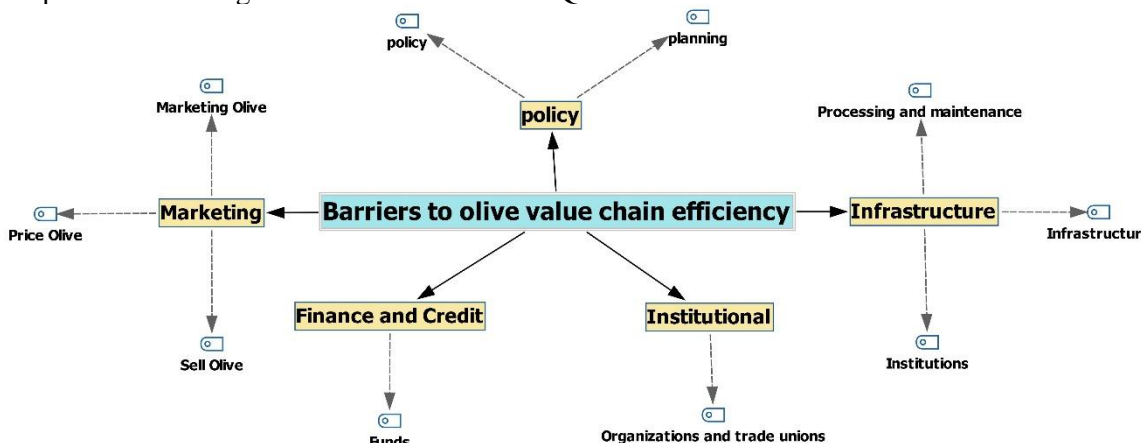Figure 5 presents the categories obtained from MAXQDA.

Figure 5. Barriers to the efficiency of the olive value chain in rural areas of Tarom County

After identifying the categories, a pairwise comparison was conducted by agriculture experts and specialists in Tarom County. For this part, future studies method was used. The first step is the initial data analysis and input matrix as shown in Table 5.

Table 5. Initial analysis of input matrix

Matrix Dimensions	Number of Repetitions	Number of Zeros	Number of Ones	Number of Twos	Number of Threes	Total	Degree of Matrix Loading
30 * 30	4	(43.6%)392	(23.0%)207	(9.3%)84	(24.1%)217	900	56.44%

The dimensions of the matrix are 30 x 30 and degree of matrix loading is 56%, which indicates the distribution of the desired criteria on the barriers of the value chain efficiency of the olive product. Moreover, as shown in Table 6, after 2 rotations, the data has 100% optimization, and this low number of repetitions indicates the impact of the criteria on each other, the efficiency of the research tool, and confirmation of the collected information.

Table 6. Matrix optimization rate

Rotation	Impact	Dependency
1	100 %	93 %
2	100 %	100 %

As shown in Table 7, the sum of the row numbers determines the impact of each criterion on the other criteria and the sum of each column determines the degree of dependence of the criteria on the other ones. Based on the impact of the criteria, the lack of an integrated plan in buying, selling and marketing, lack of active agricultural and olive-related cooperatives and unrecognized quality of the olive have the greatest impact on other criteria. For the dependency criteria, organizations and trade unions and marketing are the most important criteria for the olive value chain.

Table 7. Matrix of coefficients of direct impact and dependency of the criteria on each other

Row	Criteria	Categories	Impact	Rate	Categories	Rate	Dependency	Rate	Categories	Rate
1	Costumers tend to buy with non-cash means	Sale	16	28	37	10	27	24	96	6
2	Monopoly of transactions		11	29			36	12		
3	Farmers tendency to sell olives to non-local buyers		10	30			33	19		
4	Low control over product price and market	Price	28	21	78	8	34	17	141	1
5	Variability of the purchase and sale price		24	24			42	4		
6	Taking advantage of buying the product below the price by the middlemen		26	22			65	1		
7	Low awareness of farmers about marketing activities	Marketing	40	10	139	2	28	23	103	5
8	Market saturation at the time of product supply		47	6			35	14		
9	Unrecognized quality of the olive in Tarom County		52	3			40	8		
10	High cost of olive production and processing	Financial resources	18	27	73	9	18	28	92	8
11	Pre-sale of the product by farmers		30	20			57	2		
12	Biennial bearing of olive trees		25	23			17	30		
13	Lack of units and factories for processing	Processing units	45	7	95	6	41	5	128	2
14	More product waste during storage		31	18			41	5		
15	Transferring the olives to processing factories		19	26			46	3		
16	High price and shortage of the inputs (water, fertilizer, pesticide, labor, etc.)	Providing inputs	20	25	85	7	29	21	73	10
17	Distribution and cultivation of some inappropriate varieties of olive seeds		31	18			22	25		

Row	Criteria	Categories	Impact	Rate	Categories	Rate	Dependency	Rate	Categories	Rate
18	Lack of supply of standard olive seedlings to farmers		34	16			22	25		
19	Lack of soil testing laboratories for the construction and improvement of olive farms	Providing infrastructure	36	14	114	5	18	28	93	7
20	Lack of specific places for transactions		45	7			35	14		
21	Few conversion industries related to olives		33	17			40	8		
22	Unmatched allocation of credit to problems		49	4			29	21		
23	Low control over the olive transfer	Policy making	37	12	121	4	37	10	86	9
24	Inadequate provision of banking facilities to farmers		35	15			20	27		
25	Needs assessment and unbalanced market supply and demand		37	12			31	20		
26	Lack of planning to organize and improve processing units	Planning	39	11	135	3	37	10	104	4
27	Lack of integrated and/or specific plans in terms of buying, selling and marketing		59	1			36	12		
28	Lack of cohesive grassroots organizations in the market		49	4			34	17		
29	Lack of active agricultural and olive-related cooperatives	Organizations and trade unions	57	2	149	1	35	14	110	3
30	Low communication between production managers and the rest of industry		43	9			41	5		
Total			1026				1026			

Based on the effectiveness of the criteria, the profitability of intermediaries from buying the product below market price and pre-selling the product by gardeners were more effective than other criteria, so the price and processing units of olive products were the most important components. Figure 6 illustrates the relationship and intensity of direct impact of the criteria.
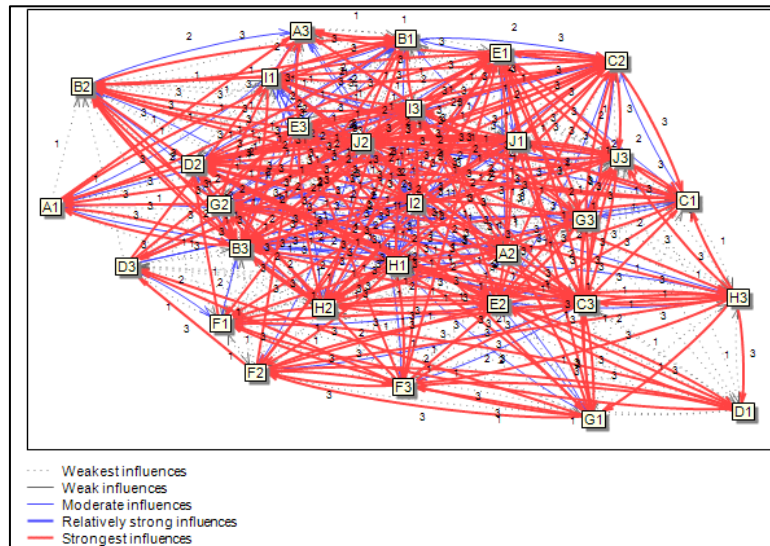
Figure 6. Diagram of the relationship intensity in the direct effect of variables

Figure 7 illustrates the impact and the dependent factors for the efficiency of the olive value chain.
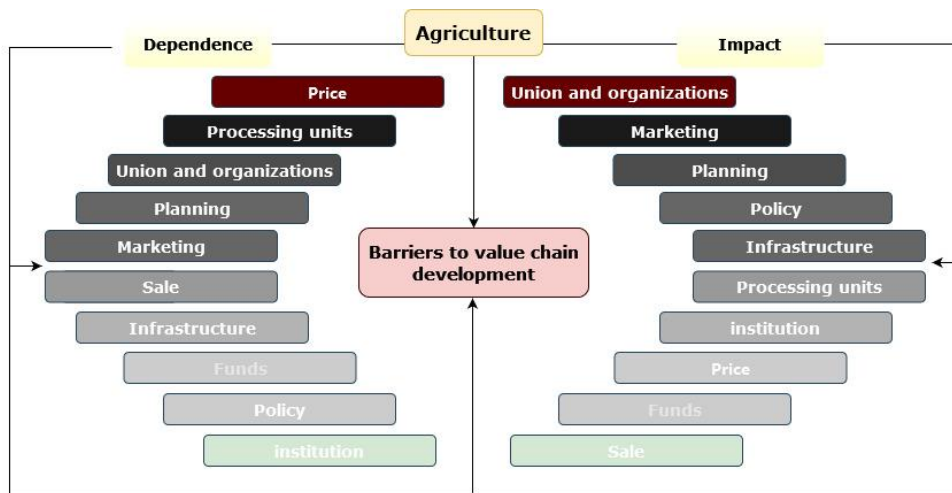

Figure 7. Empirical model explaining the barriers affecting the olive value chain

After determining the impact and dependence of the criteria, the four clusters of the criteria are presented in Figure 8. The first clustering variables are key or impact criteria. These criteria have a high degree of coherence and influence among other criteria. The second group is hybrid and two-dimensional criteria. These criteria have a high degree of impact and dependence, and any change in them will cause a change in the system. The third group is dependent criteria, whereas the fourth group is independent criteria that have a weak influence and dependence as well as little correlation with other criteria.
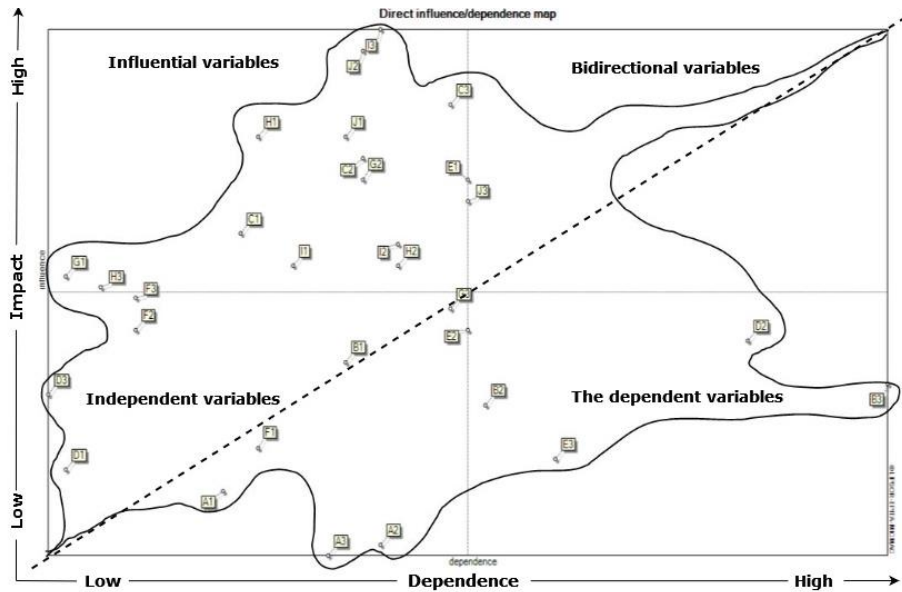
Figure 8. Clustering of criteria in MICMAC model

Table 8 shows the result of clustering analysis. It shows that Lack of integrated and/or specific plans in terms of buying, selling and marketing lack of cohesive grassroots organizations in the market olives, and lack of active agricultural and olive-related cooperatives, etc., are the most important impact criteria in the efficiency of the olive value chain. The second group is the hybrid and two-dimensional criteria. In this cluster, lack of units and factories for product processing is the only criteria. The degree of dependence of this criteria on key criteria is very high while it also has a high

impact power. In the third group, variability of the purchase and sale price, taking advantage of buying the product below the price by the middlemen, etc., are the most important dependent criteria. These criteria have less impact and dependence than the last criteria, and also the existence of these criteria depends on other criteria. The fourth group are the independent criteria. The criteria such as few conversion industries related to olives, costumers' tendency to buying with non-cash means, monopoly of transactions, etc. (Table 8).

Table 8. Criteria clustering analysis

Row	Criterion type	Criteria	Number	Categories
1	Impact	Lack of integrated and/or specific plans in terms of buying, selling and marketing, lack of cohesive grassroots organizations in the market olives, lack of active agricultural and olive-related cooperatives, low communication between production managers (olive growers) and the rest of industry, low awareness of farmers about marketing activities, market saturation at the time of product supply, unrecognized quality of the olive in Tarom County, lack of soil testing laboratories for the construction and improvement of olive farms, lack of specific places for transactions (buying and selling olives), unmatched allocation of credit to problems of olive industry, low control over the olive transfer at harvest season, inadequate provision of banking facilities to farmers for their farm development, lack of internal needs assessment and unbalanced market supply and demand, lack of planning to organize and improve processing units	14	Marketing, providing infrastructure, policymaking, planning, Organizations and trade unions
2	Two-dimensional	Lack of units and factories for product processing	1	-
3	Dependence	Variability of the purchase and sale price, Taking advantage of buying the product below the price by the middlemen, pre-sale of the product by	5	Price, processing units

Row	Criterion type	Criteria	Number	Categories
		farmers, more product waste during storage, transferring the olives to processing factories in the county		
4	Independence	Few conversion industries related to olives, costumers tend to buy with non-cash means, monopoly of transactions limited a number of buyers, farmers tendency to sell olives to non-local buyers, low control over product price and market, high cost of olive production and processing, biennial bearing of olive trees, high price and shortage of the inputs (water, fertilizer, pesticide, labor, etc.), distribution and cultivation of some inappropriate varieties of olive seeds, lack of supply of standard olive seedlings to farmers	10	Sale. financial resources, providing inputs

In stable systems, there are usually no second group or two-dimensional criteria, while in unstable systems, the criteria are distributed in all groups. The criteria were distributed in all groups of the MICMAC model. Therefore, the value chain model of olive crop in the study area implies an unstable system.
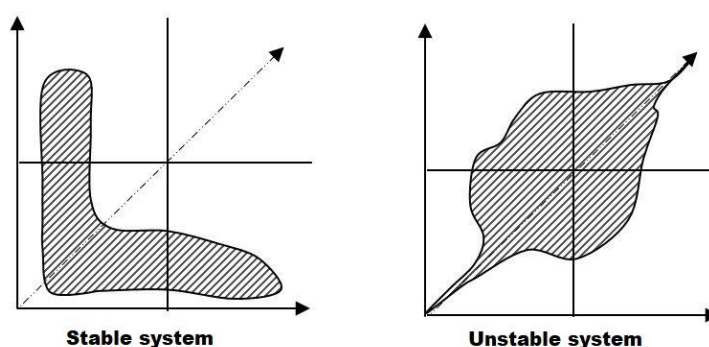

Figure 9. Stability and instability of the system in the distribution of criteria in the MICMAC model

5. Discussion and conclusion

Agriculture is a crucial sector because of meeting the needs of the people, providing raw materials for industry, employment and income generation. The stability of this sector is the requirement of economic stability of rural settlements. The efficiency of the value chain of rural products is a fundamental bottleneck in the development of this sector. Value chain development is an approach to rural economic development, which promotes the development of businesses and farmers' access to the market. Danavan et al. (2015) and Orr et al. (2018) argue that the improvement and stability of value chains lead to the distribution of justice and reduction of the poverty of small holders and marginalized groups. Such an important matter and its efficiency are now one of the main challenges in the national and rural economy. Olive, a strategic crop in Zanjan Province, is cultivated in Tarom County. Based on this study, the efficiency of the olive value chain in Tarom County depends on a proper marketing management, providing infrastructure, policymaking, planning and also the organizations and trade unions. In contrast, variability of the purchase and sale price, taking advantage of buying the product below the price by the middlemen, pre-sale of the product by farmers, more product waste during storage, transferring the olives to processing factories in the county are the dependence criteria. These are more dependent on the impact factors. Sales, providing financial resources and inputs for olive cultivation are among the independent factors that have the least dependence on other factors. According to this, Chamcham et al. (2021) stated that the lack of cooperation of the organizations in providing inputs, credits and facilities are the most important problems in the efficiency of the value chain. It is evident that these factors will be among the major factors for the development of olive farms and encouraging the olive farmers. In conclusion, the olive value chain in Tarom County is not efficient, and most of the value of this product gets lost from the territory of Tarom County due to the insufficient management. Ultimately, the study

makes the following suggestions for increasing the olive value chain in Tarom County:

- Strengthening the private sector, making agricultural associations and cooperatives engage in decision-making, and establishing a coordination structure for the development of the olive product value chain;
- Organizing the transaction market and distribution network of olive products in order to implement incentive policies for stabilizing the purchase of the products from the farmers;
- Reforming structures, making planning and management systems more dynamic in controlling the transaction price;
- Strengthenng and developing the relationship between industry suppliers and olive farmers to provide the required inputs and services;
- Holding the required training courses in specialized areas such as economics and product sales marketing as well as environmental domain;
- Increasing productivity by providing healthy seedlings and suitable inputs as well as practical recommendations regarding the cultivation of suitable varieties, planting, growing, and harvesting of olives;
- Reinforcing infrastructure and financial support and allocating the necessary financial resources for solving problems and developing olive gardens;
- Eliminating the unnecessary intermediary factors from the pre-cultivation to consumption stages

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بررسی موانع کارایی زنجیره ارزش محصول زیتون در نواحی روستایی شهرستان طارم، ایران

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چکیده مبسوط

۱. مقدمه

کارایی زنجیره ارزش در محصولات کشـاورزی، رویکردی بدیل برای توسعه اقتصاد روستایی، از طریق توسعه کسب‌وکارها و دسترسی کشاورزان به بازار بوده که می‌تواند موجب کاهش فقر، افزایش درآمد و پایداری امنیت غذایی در مناطق روسـتایی گردد. اما در مقابل ناکارآمدی آن نیز یکی از موانع توسعه کشاورزی در نواحی روستایی بوده که بررسی این موضوع برای تعیین سیاست‌های خاص آن منطقه و توسعه کشاورزی دارای اهمیت می‌باشـد. بنابراین تحقیق با این آگاهی به بررسی موانع کارایی زنجیره ارزش محصول زیتون در نواحی روستایی شهرستان طارم پرداخت. لذا با علم به این موضوع و با توجه به اهمیت و جایگاه مهم زنجیره ارزش محصولات کشاورزی در اقتصاد نواحی روسـتایی کـه هم اکنون ناکارآمـدی آن بـه عنوان یکی از چالش‌های اساسی در اقصاد روستایی بوده، تحقیق حاضر به بررسی روشـن‌تری از این موضـوع در نواحی روسـتایی شـهرسـتان طارم می‌پردازد. در همین راسـتا سـؤالات زیر برای بررسی موضوع بیان می‌گردنـد: للگوی رایج زنجیره ارزش محصـول زیتون در نواحی روستایی شهرستان طارم چگونه است؟ و موانع کارایی زنجیره ارزش محصول زیتون در نواحی روستایی شهرستان طارم کدام‌اند؟

۲. مبانی نظری تحقیق

کشاورزی به عنوان مهمترین اساس اقتصاد کشور و اقتصاد روستایی نقش مهمی در نواحی روستایی داشته و ثبات و استمرار این بخش از عوامل عمده کمک کننده به ثبات اقتصـادی در نواحی روسـتایی به شـمار می‌رود. توسـعه کشـاورزی در مناطق روسـتایی، ضـمن این که امکان بهره‌برداری بهینه از منابع آب و خاک و منابع انسانی مستقر در مناطق روستایی را فراهم می‌آورد بلکه در ایجاد سـاختار اقتصـادی

مناسـب و روند توسـعه مطلوب توسـعه ملی کشـور نیز تأثیرات قابل توجه‌ای دارد. در ارتباط با این فعالیت اقتصادی آنچه که مهم اسـت بررسـی موانع توسـعه این بخش بوده که طبیعتاً یکی از این موارد، کارایی زنجیره و ارزش اقتصـادی آن اسـت. زنجیره ارزش در طیف گسـترده‌ای از فعالیت‌های مورد نیاز برای ایجاد محصول یا خدمات، از طریق مراحل مختلف تولید، تبدیل و تحویل به مصـرف کنندگان نهایی است. زنجیره ارزش از مجموعه‌ای از بازیگران(ذینفعان) از جمله تأمین‌کنندگان، تولیدکنندگان، فرآوری‌کنندگان، صـادرکنندگان و خریداران تشکیل شده که در فعالیت‌های ایجاد محصول تا استفاده کننده نهایی مشـغول فعالیت هسـتند. زنجیره ارزش تأثیر مثبتی بر ایجاد شـغل در مناطق شهری و روستایی(توسعه مشاغل غیرزراعی و تنوع درآمد) از طریق توسعه کسب و کارها و دسترسی به بازار برای کشـاورزان دارد. توسـعه زنجیره باعث کاهش ضـایعات در مرحله برداشـت و پس از برداشـت شـده و افزایش امنیت غذایی را به دنبال دارد. این موضـوع با ایجاد رابطه پایدار بین بازیگران زنجیره عرضـه به وجود می‌آید.

۳. روش شناسی تحقیق

تحقیق حاضـر به لحاظ هدف کاربردی و با توجه به اسـتفاده از روش ترکیبی، از نوع تحقیقات کیفی- کمی بوده اسـت. در این راسـتا برای بررسی موانع کارایی زنجیره ارزش محصول زیتون در نواحی روستایی مورد مطالعه در قالب یک ابزار مکس‌کیودا استفاده شده است. فرآیند نمونه‌گیری در این تحقیق از نوع غیراحتمالی و هدفمند بوده که افراد نمونه براسـاس تسلّط و آگاهی به موضوع با اسـتفاده از تکنیک گلوله برفی انتخاب شـده‌اند. همچنین با توجه به موضوع مورد بررسی تحقیق برای جامعیّت یافتن نتایج تحقیق، سـعی گردید نمونه‌های تحقیق در سـه گروه: بهره‌برداران محصـول، عوامل بـازاریـابی و

کارشناسان جهادکشاورزی و متخصصین در این حوزه در منطقه مورد مطالعه انتخاب گردند. روش اصـلی گردآوری اطلاعات تحقیق نیز به صـورت مصـاحبه نیمهسـاختار یافته با افراد نمونه مورد مطالعه بوده اسـت. در این روش سـعی گردید تا ضـمن آنکه با سـؤالات کوتاه روند مصـاحبه به سـمت تحقیق سـوق داده شـود، مصـاحبه شـوندگان نیز بتوانند به راحتی عقاید و افکار خود را بیان کنند، در این روش انجام مصـاحبه تا زمان رسـیدن به اشـباع نظری از پاسخها ادامه یافت و لذا تعداد شرکتکنندگان در مصاحبه ۳۸ نفر بودند.

گزارشهای مصـاحبه و یادداشـتهای انجام شـده در سـه مرحله، کدگذاری بـاز، محوری و انتخـابی طبقـهبنـدی و مورد واکـاوی قرار گرفتند پس از مشخص شدن معیارها، پرسشنامه مقایسه زوجی آماده و پس از بررسـی محتوایی گزینهها و سـؤالات، پرسـشـنامه مورد نظر توسط ۲۰ نفر از پاسخگویان تکمیل گردید. اطلاعات پرسـشـنامه نیز پس از جمعآوری و ترکیب به عنوان مـاتریس ورودی مسـتقیم در نمودار MICMAC تحلیل شدند.

۴. یافتههای تحقیق

زنجیره ارزش محصـول زیتون شـامل فعالیتهای پشـتیبانی، خرید محصـول، فرآوری و فعالیـتهای فروش و بازاریابی محصـول زیتون اسـت. در سـوی دیگر برای موانع کارایی زنجیره ارزش محصـول زیتون نیز، ۳۰ معیار، ۱۰ خرده مقوله و ۵ مقوله اصـلی شـنـاسـایی گردید. براسـاس نتایجی که در این ارتباط به دسـت آمد، افزایش عملکرد زنجیره ارزش زیتون در شـهرسـتان طارم در گرو مدیریت مناسـب محصول در بازاریابی، تأمین زیرساختها، سیاستگذاری، برنامهریزی و همچنین تأثیرگذاری سـازمانها و تشـکلهای صـنفی اسـت. این عوامل مهمترین و تأثیرگذارترین عوامل بوده که قدرت پیوسـتگی و نفوذ بالایی در میان سایر عوامل داشتند.

این عوامل بخش بزرگتری از راهگشـای افزایش عملکرد زنجیره ارزش محصـول زیتون بوده و در مقابل متغیر بودن قیمت خرید و فروش محصول، سـودجویی واسـطهها و دلالان از خرید محصول زیر قیمت

بازار، پیش فروش کردن محصـول توسـط باغداران، ضـایعات بیشـتر محصـول در زمان نگهداری، واردات زیتون به کارخانههای فرآوری داخل شهرستان از جمله معیارهای وابسته هستند. معیارهای یاد شده قدرت وابستگی بیشتری به عوامل تأثیرگذار دارند. اما در سوی دیگر فروش، تأمین منابع مالی و نهادههای مورد نیاز برای کشـت زیتون در زمره عوامل مسـتقل هسـتند که کمترین وابسـتگی را به عوامل دیگر دارند.

۵. بحث و نتیجهگیری

برحسب آنچه که نتایج تحقیق مشخص کرد، افزایش عملکرد زنجیره ارزش زیتون در شهرستان طارم در گرو مدیریت مناسب محصول در بازاریابی، تأمین زیرسـاختها، سیاستگذاری، برنامهریزی و همچنین تأثیرگذاری سـازمانها و تشکلهای صنفی است. این عوامل مهمترین و تأثیرگذارترین عوامل بوده که قدرت پیوسـتگی و نفوذ بالایی در میان سـایر عوامل داشـتند. این عوامل بخش بزرگتری از راهگشـای افزایش عملکرد زنجیره ارزش محصـول زیتون بوده و در مقابل متغیر بودن قیمت خرید و فروش محصول، سودجویی واسطهها و دلالان از خرید محصـول زیر قیمت بازار، پیش فروش کردن محصـول توسـط باغداران، ضـایعات بیشتر محصول در زمان نگهداری، واردات زیتون به کارخانههای فرآوری داخل شـهرسـتان از جمله معیارهای وابسـته هسـتند. معیارهای یاد شـده قدرت وابسـتگی بیشـتری به عوامل تأثیرگذار دارند. اما در سـوی دیگر فروش، تأمین منابع مـالی و نهادههای مورد نیاز برای کشت زیتون در زمره عوامل مستقل هستند که کمترین وابستگی را به عوامل دیگر دارند.

کلیدواژهها: اقتصاد روستایی، کشاورزی، زنجیره ارزش، زیتون، شهرستان طارم.

تشکر و قدردانی

پژوهش حاضر حامی مالی نداشته و حاصل فعالیت علمی نویسندگان است.