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Identification of barriers to Develop the Fruit Production Chains (Case Study of Orchards in Meshginshahr)

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Abstract

The lack of a comprehensive information system and application model in the supply chain of agricultural products in Iran has caused this part of the country's economy to be ineffective despite its potential. Therefore, the aim of the current research was to investigate the barriers against the orchards production chains in Meshginshahr located at Ardabil province, Iran. To reach the aim of the study, the semi-structured interviews were used to collect research data from 16 interviews including farmers, faculties and managers in the field of farming production chains. Then we analyzed the data by applying the Strauss and Corbin method and the paradigm model through Max QDA software. Sampling was theoretical and was done using targeted and snowball methods. Based on that, 16 interviews were conducted with gardeners, university professors and managers in the field of barriers to the development of agricultural production chains. The open codes included 38 concepts and the core codes also included 44 major categories, which were finally identified into four groups of selective categories including barriers to i) product production; ii) input supply; iii) product distribution; and iv) customers. Based on the findings of the research on the risk of supply of input resources, the weakness of regulations and rules in supply of inputs, production information barriers, strategic production barriers, competition barriers in production, environmental risks, planning-management, financial-credit, technical-technical barriers, product distribution cost barriers, lack of regulations in the distribution system, and sales barriers; barriers related to the production sector are of the barriers to the development of production chains of agricultural products. Barriers related to the production sector are one of the barriers to the development of production chains of agricultural products.

Keywords: Agricultural products, barriers to develop, Production chains, Meshginshahr orchards

Introduction

The value chain is a sequence of purposeful combinations of production factors that lead to the creation of a product or service that can be offered in the market from a concept to the final product. This process includes activities such as design, production, marketing, distribution and support services for the final customers. The activities in the value chain can be obtained independently from one company or from different companies. The term value chain refers to the fact that value is added to the primary product by combining different resources. A value chain refers to the sequence of connected factors and processes that transform inputs and services into products with features that consumers are ready to buy. (Devaux *et al.*, 2018). In India,

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inadequacy of infrastructure, frequent price fluctuations, low quality and product incompatibility, problems related to harvesting, losses during and after harvesting, and the length of the chain are among the problems of the value chain. Through measures such as production efficiency by providing healthy seedlings and providing suitable plants, training operators, providing suitable financial resources, practical recommendations related to the cultivation of suitable cultivars, observing the principles of planting, and harvesting in the farm - strengthening the private sector participating, creating a structure in order to increase the participation of the chain members in the direction of the common goal, can help to improve the production chain in the agricultural sector (Niazi and Mobini, 2019).

In 2019, the agriculture sector accounted for 11.5% of GDP and 12% of non-oil exports. Therefore, the growth of this sector determines the country's economic growth to some extent Shahbazi and Alizadeh (2018). In order to increase productivity in Iran's economy, special attention should be paid to the agricultural sector as one of the most important and major sectors of economic activities in the country. Because compared to other economic sectors, this sector is of special importance in terms of production, employment, foreign exchange, food supply and less dependence on foreign currency.(Kazemi *et al.*, 2017) During the year 2021, the export value of agricultural and food products was over 11 billion dollars (Gomrok Iran, 2021). Challenges and problems such as competitors with low-cost products, price fluctuations of agricultural products, increasing consumer expectations (Miri *et al.*, 2017). If the barriers to the development of the production chain in the agriculture sector are identified, it is possible to increase the production of agricultural products by planning and formulating a suitable strategy. Previous researches in the field of agricultural products are limited, one-sided and quantitatively oriented, and the introduction of new ideas and qualitative analyzes into the field of production seems necessary. Since the formation of a strong sector of horticultural products is necessary to have a suitable strategy and these strategies will not be very useful and effective without identifying and recognizing the effective and important factors, therefore, in this research, barriers to the development of agricultural product production chains (case study: horticultural products) has been discussed based on the method of Grande's theory. Creating a strong agricultural sector requires having a proper strategy, and these strategies will not be very useful and effective without identifying and recognizing the effective and important factors. Therefore, the current research is to investigate the barriers to the development of production chains of horticultural products in Meshginshahr city and based on the grounded theory method. The current research seeks to increase the richness of our understanding of the experiences and knowledge of specialists and managers of agricultural producers about the barriers to the development of the chain of agricultural production. Another importance of this research is that it aims to identify all the aspects of agricultural production barriers in order to be a guide for policy makers in the field of production to plan according to the existing development factors and provide solutions in line with the development of production.

In the 1980s, with the increase in diversity in the expected patterns of customers, companies and organizations became increasingly interested in developing flexibility in production lines and developing new products to satisfy the needs and demands of customers. In the 90s, along with the improvement and development in production processes and the application of re-engineering patterns, the managers of many industries realized that to continue being present and active in the market, only improving and developing internal processes and increasing flexibility in the company's capabilities are insufficient; Rather, suppliers and suppliers of

parts and materials must also produce high-quality materials at the lowest cost, and product distributors must be closely related to the manufacturer's market development policies; With such an attitude, the approaches of the production chain and its management emerged and developed. Isfahani Zanjani *et al.* (2021) Supply chain management is defined as the management of materials, information and capital flows, as well as cooperation between supply chain organizations, in order to coordinate the goals of the economic, environmental and social fields, which affects the performance of organizations. Hong *et al.* (2017) Supply chain risks and barriers are defined as the possibility and impact of macro or unexpected events or conditions that negatively affect any part of the production chain and cause failure or disorder at the operational, tactical or strategic level. Food supply chain is one of the eight Conditions affecting food security. It starts from providing food with the farmer (producer) and finally ends with the consumer.

Zhang *et al.* (2019) considers the most important challenges of agricultural production cooperatives around the world to be the lack of access to current knowledge of the managers of these cooperatives. In the Czech Republic, Pedroshki *et al.* (2015) identified the land consolidation plan and other support policies as effective in the development of the production chain of the agricultural sector (Pedroshki *et al.*, 2015). In his study, Sexton examined imperfect competition in agricultural markets and cooperative role in it. This researcher considered the most important feature of most agricultural products markets to be the high cost of transporting raw materials and the relatively low cost of modified products (Sexton, 2011).

Chadney Candaval *et al.* (2021) in a study titled the problem identification model of precise agricultural management based on the intelligent supply chain, argued that the four main categories of supply chain coordination, supporting production resources, scientific and technological equipment, and structural system construction are the problems that hinder precise agricultural management. And to solve this problem, they presented proposals that included two aspects, corporate practice and government policy. Li and Zheng (2016), regarding supply chain risk in the business of international organizations, stated that paying attention to costs, increasing income, attracting customers, branding and preventing crisis are effective factors in reducing business risk. In addition to this, Gadj *et al.* (2017), by examining the supply chain risk assessment approach, found that before any type of risk occurs in the supply chain, it is necessary for managers to take measures such as; product security, accurate knowledge of the current market situation and accurate supply. In most of the studies conducted regarding the supply chain, the focus has mainly been on the importance of managing the production chain of the agricultural sector and examining the role of identifying front and back links, identifying the problem of agricultural management, the challenges of adopting the Internet of Things in the agricultural and food supply chain, risk assessment. In the agricultural sector, managerial ability in the agricultural sector, etc.

Methodology

According to the existing gap in studies regarding the identification of the barriers of the production chains of agricultural products, in this research, based on the Granded theory of the foundation, the barriers of the production chains of agricultural products have been identified. In this research, using the foundational data theory research strategy, the pattern of barriers to the development of agricultural production chain in 2021 has been done. In terms of philosophical foundations, this research is under interpretive paradigm, in terms of research orientation, it is fundamental, in terms of approach Reshape the table to reflect the contains clearly and format the table according to instructions, it is inductive, and in terms of data type, it is qualitative research. In this research, the systematic method of Strauss and Corbin has been used for theorizing; because this

approach is more structured and leads to a comprehensive and applicable model compared to the other two approaches of foundation data, i.e. Glazer's new approach and Charms' constructivist approach (Hasanqoli Pouro *et al*., 2015).

Table 1- Qualitative research methodology

Data analysis	Time horizon	Method selection	Research strategy	Research approac	Philosophy of research
Semi-structured interviews, document review, meta-analysis, Maxqda software	Intermittent	Several methods	Strauss and Corbin	induction	Commentary

The method of Granded theory is based on social science research, has a pragmatic approach. In this method, in comparison with phenomenological studies, interviews are rarely used as the only way to collect data (Sudabi, 2006). In fact, the variety of data collection methods is a useful tool that prevents the researcher from being limited to one method or type (Moser and Corgenes, 2018). In this research, in order to collect data with 16 experts including university faculty members, managers of agricultural units and agricultural experts, as well as producers and suppliers and distributors of horticultural products, consultants and the agents of business cluster development were interviewed. Also, the text of the documents, such as macroeconomic policies of resistance economy, country development plans and reports of development projects, especially the development reports of business clusters, were reviewed. The demographic characteristics of the interviewees and the relevant codes are given in the table below.In this research, using the theoretical sampling method, after analyzing the data obtained from each information source, the source that could provide suitable data to the researcher in the next step was determined based on the theory under construction. Based on theoretical sampling, samples were selected to maximize the possibility of discovering diversity and enrich the categories in terms of features and dimensions, and the sampling continued until the theoretical adequacy of the findings was obtained (Strauss and Corbin, 2012). In fact, conducting interviews and examining the text of documents and written reports continued until the categories reached saturation; that is, in the review of the latest information sources, no more new ideas and concepts were identified, and the existing concepts were not challenged by further data analysis. To collect data, library studies and interview tools were used. The current research is one of the qualitative-exploratory researches. Data analysis was done based on a systematic approach, which included three stages of open, central, and selective coding. For this purpose, in the open coding stage, after reviewing and organizing the texts of the interviews, the codes of the primary concepts were identified and then the similar codes were placed in certain categories. Then, for each of these classes, the titles that represent all the codes of that class were selected, and as a result, the Conditions of the barriers to the development of the agricultural production chain were identified. In the central coding stage, the relationship between the central phenomenon and other categories and concepts was specified and presented based on the paradigm model. In the following and in the selective coding stage of the main variable or the basic process hidden in the data, how the stages of occurrence and its consequences are charted. The researcher first identified 10 experts using the purposeful sampling method and increased the number of these experts to 16 using the snowball method. In the following, by using the snowball sampling method, the statistical sample will be increased to the extent that we reach the theoretical saturation limit in the current research. In the first step of the research, all the interviews, analysis and concepts were extracted. At this stage, nearly 210 initial concepts were extracted from the conducted interviews.

Table 2- Characteristics of demographics and coding of interviewees

Round the interview	Background	Education	Age	Organizational position	ID
First round	11	Bachelor of Business Administration	35	Producer and gardener	M1
First round	10	Bachelor of Agriculture	33	Producer and gardener	M2
First round	13	Master of Industrial Engineering	37	Producer and gardener	M3
First and second round	10	Master of Management	29	Supplier of garden inputs	M4
First and second round	15	Master 0f agriculture	38	Supplier of garden inputs	M5
First and second round	17	Master 0f agriculture	35	Distributor and seller of agricultural products	M6
First and second round	11	Watershed Master	33	Agricultural expert	M7
First and second round	13	Bachelor of Commerce	40	Producer and gardener	M8
Second and third round	12	Master of Industry	42	Producer and gardener	M9
Second and third round	19	Agricultural expert	47	Producer and gardene	M10
Second and third round	21	PhD in economics	38	University faculty	M11
Second and third round	26	PhD in International Business	48	University faculty	M12
Second and third round	21	PhD in Marketing	36	University faculty	M13
Second and third round	24	Master of Agricultural Management	50	CEO of Agriculture Unit	M14
Second and third round	12	Master of Industry	33	Agricultural products sales expert	M15
Second and third round	13	Master of Marketing	43	Master of marketing	M16

Research Findings

The three stages of coding that were used to develop a coherent, orderly and detailed theory are open, central and selective coding. Open coding helps create a set of first-hand concepts that are both raw data and abstract. At this stage, the researcher reviewed the data line by line and identified its processes and coded those using points and phrases. Then, by continuously comparing the codes in terms of similarities and differences in concepts, categories were formed and the characteristics of the dimensions of each of them were determined. In the second stage, the layers are connected and a set of theorems is made. Basically, the question raised in main coding is how are the classes connected to each other? At this stage, the codes and categories were compared and the relationships between the categories and subcategories were determined in order to obtain a more accurate interpretation of the phenomenon in question. Strauss and Corbin have used words called coding paradigm, which are used to describe a set of concepts and are the basis of communication and connections between the topics considered in the research process. This paradigm focuses on things such as causal conditions - phenomenon - context - intervention conditions - strategies and consequences. Finally, during selective coding, selective communication, analytical combination was done on all stages and the classes were combined with each other. The result of this stage was the main class, which was related to other classes, explained them, and was actually the refined result of the initial codes.

Validity and Reliability of Data

Reliability is the consistency of research findings. Reliability in the interview is discussed in stages such as the interview situation, transcription and analysis. In relation to the reliability of the interviewee, it is mentioned how the questions are directed. In the reliability of copying, it is necessary to pay attention to the reliability within the subject of the copies made while typing the texts by two people. While classifying the interviews, paying attention to the percentages reported by two coders is a method to determine the reliability of the analysis. Calculating the reliability between coders: To calculate the reliability between coders, several interviews are selected as a sample from among the conducted interviews and each of them is coded again in a short and specific time interval. Then, the specified codes are compared in two time intervals for each of the interviews. The retesting method is used to evaluate the stability of the researcher's coding. In each of the interviews, codes that are similar in two time intervals are identified with the title (agreement) and dissimilar codes with the title (disagreement). The method of calculating the reliability between the coding done by the researcher in two time intervals is as follows.

Relationship 1) The number of agreements × 2 divided by the total number of codes × 100% = reliability percentage between coders

Table 3- The Results of Coding

Reliability between coders	Number of disagreements	Number of agreements	Total number of codes	Interview title	Row
%79	26	34	86	P2	1
%78	22	31	79	P6	2
%78	48	65	165	Total	

As can be seen in the table, the total number of codes recorded by the researcher and his colleague is 165, the total number of agreements between the codes is 65, and the total number of non-agreements in these two times is 48. The inter-coder reliability for the interviews conducted in this research using equation 1 is equal to 78%. Considering that this reliability level is more than 60%, the reliability of coding is confirmed (Khastar, 2009).

Validity of the Interview

Three criteria of reliability and validity (credibility), transferability, reliability were considered for evaluation. To achieve each of the mentioned criteria, the following actions were taken: 1- Credit: the researcher spent enough time, confirmed the research process under the supervision of eight specialists, used two coders, coded several interview samples in order to ensure the same point of view of the coders, raised objective and measurable questions such as writing domain notes and reminders during the research. , especially in Excel forms, has increased the reliability of the research data to an acceptable level.2- Transferability: To ensure the transferability of the research findings, three experts in the field of organization who did not participate in the research were consulted regarding the research findings.

2- Transferability: To ensure the transferability of the research findings, three experts in the field of organization who did not participate in the research were consulted regarding the research findings. 3- In all stages of the work and in order to create reliability, research details and notes were recorded and as a result, the validity of the interview questions was confirmed.

Causal Conditions

Causal categories include categories that accelerate the risk and risks of agricultural production chain development. In the below table, the causal categories of the model are presented.

The Main phenomenon: Barriers to the Development of Supply Chain of Agricultural Product

The main phenomenon of "barriers to the development of the agricultural production chain" according to the purpose of the current research, the category includes all the development barriers of the agricultural production chain.

Strategic Conditions: Steps to Reduce Production Chain barriers

The measures that should be taken by the responsible or relevant institutions in order to reduce the barriers to the development of the agricultural production chain (Kothari, 2004) are known as the strategies category in the table, concepts and codes of the strategies category.

Grounded Conditions

Grounded categories indicate some specific conditions that affect the strategy (Stress and Corbin, 2013). The Table 7 shows how to choose these categories in the research model.

Consequences: Consequences of the Existence of Barriers and Risks in the Development of Agricultural production Chains

The most important consequences of the existence of barriers in the development of the agricultural production chain are the reduction in production and export, the reduction in competition, and the reduction in the sale of products. In the table, the concepts and codes of the results subset are presented.

Intervener Conditions: Influencing Factors

Those factors that have a negative effect on development of the agricultural production chain, form interfering categories (Danaeifar and Slami, 2010). The concepts and codes of the following interfering categories are presented in the Table 8.

Selective Coding

At this stage, the central category is methodically selected and by connecting it with other categories, the theory is written, which provides an abstract description for the process investigated in the research (Danaeifar and Emami, 2007).

Table 4- Categories of causal Conditions

Open coding	Casual categories
Taking heavy bank collaterals, existence of non-specialized banks, lack of guaranteed purchase and monitoring of product sales, lack of loan sleep time, high loan repayment rate, existence of strict and bureaucratic rules and process of obtaining loans.	Financial and credit barriers
Imported inputs, poor quality of inputs, high price of inputs (seeds, cuttings and seedlings), dispersion and lack of input procurement center in the province	barriers to supply of inputs
Absence of law and practical instructions regarding export, lack of law in stability and price monitoring in the market	barriers lack of rules and regulations of the product distribution system
Lack of protective laws and support for providing inputs, lack of consumption subsidies in horticulture.	barriers laws and regulations in providing inputs

Table 5- Main Categories of Research

Open coding	Main phenomenon
Financial and credit barriers, barriers to providing inputs, barriers to the lack of law and regulations in the product distribution system, barriers to the lack of laws and regulations in providing inputs, barriers to the cost of product distribution, technical and technical, environmental barriers, infrastructural and operational barriers, production barriers, competition barriers, sales barriers, information barriers, planning and management barriers.	All internal and external supply chain barriers

Table 6- Strategic Categories of Research

Open coding	Strategic categories
Lack of up-to-date information about horticulture, lack of technical and specialized knowledge, lack of holding specialized courses by Jihad Agriculture and Engineering, inadequate knowledge and efficient information, lack of expert and skilled personnel, lack of attention to the exact time of harvest.	Production information barriers
Lack of application of management knowledge and principles in horticulture, reduction of production and lack of productivity, lack of supervision of gardeners by relevant organizations.	Planning and management barriers
Lack of supervision of the production process, lack of government support for the producer, lack of coordination between relevant agricultural organizations, lack of appropriate policies for export development.	Strategic barriersto production

Table 7- Grounded Categories of Research

Open coding	Grounded categories
Lack of supervision of the transportation and distribution system of products, the high cost of the product distribution system to the consumer market, lack of timely product delivery in the market	Product distribution cost barriers
Lack of sorting system, lack of product packaging system	Technical barriers to product distribution

Table 8- Research Intervention Categories

Open coding	Interfering categories
The risk of pests and diseases and cold in the climatic conditions of the region	Environmental barriers
Non-mechanization of horticulture, non-integration of horticulture (complex), lack of use of modern equipment, improper design of gardens.	Infrastructure and operational barriers

Table 9- Research Implications

Open coding	Consequences
Lack of ability to know customers in the market, lack of ability to compete with foreign countries, lack of competitive spirit, lack of knowledge of domestic and foreign competitors, lack of ability to cooperate and participate	Disadvantage in competition
Lack of supervision over the selling price of the product in the market, the high price of the finished product, the lack of law to eliminate middlemen and brokers, the active presence of middlemen and brokers in the market to earn profit, not paying attention to the tastes and interests of the customer.	weakness of sales
Inadequate production, increase in product waste, decrease in employment, dissatisfaction of gardeners.	weakness of production

Table 10 shows the sub-model of selective coding resulting from the coding listed in the above lines. According to the six dimensions of the paradigmatic model, the causal factors were considered as the factors and drivers of reducing the development of the agricultural production chain, which include (financial and credit barriers, barriers to providing input resources, barriers to the lack of rules and regulations of the product distribution system, barriers were the lack of rules and regulations in providing inputs. The central phenomenon of this paradigm model was considered as the indicators of the barriers to the development of agricultural production chain, which included all internal and external barriers and risks. The environmental and grounded factors influencing the creation of barriers to the development of the product production chain also included (environmental barriers, operational and infrastructure barriers, product distribution costs, technical and technical barriers to product distribution). These barriers are removed, i.e., they included information barriers, planning and management barriers, production strategy barriers and finally the consequences that these barriers can have for the product production chain include (deficiencies in production and exports, lack of competition and lack of were selling products).

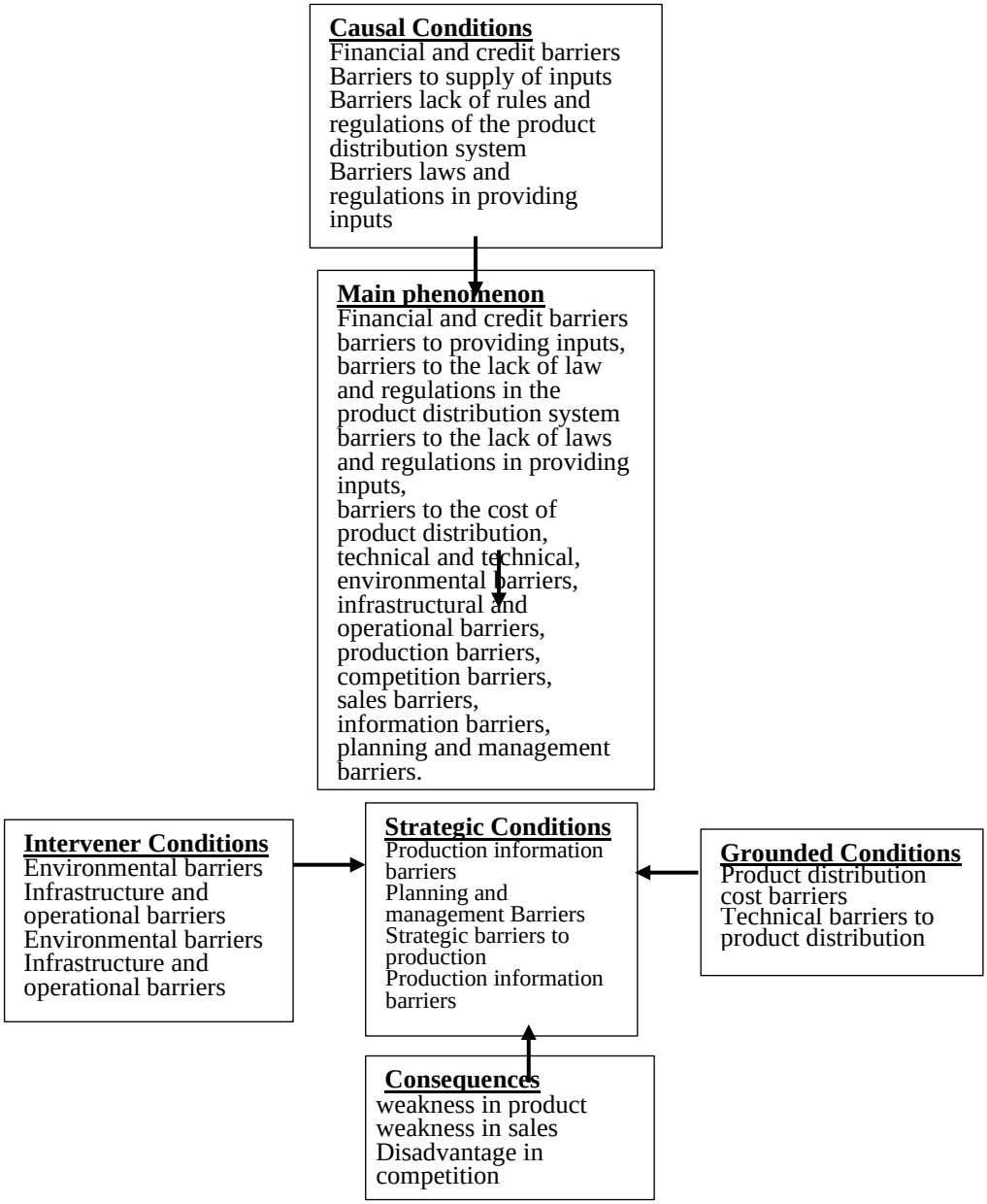

Figure 1- The model derived from the Grounded Theory in a systematic way

Discussion and Conclusion

Four categories (barriers to production, supply of inputs, product distribution and sales) were among the main factors affecting the weakness of the horticulture production chain, which were extracted and explained from the qualitative data. In order to speed up the better understanding of the coding stage, the extracted codes in this research are shown in the above tables. In this research, existing barriers have been categorized based on the opinions and views of the interviewees (gardeners, agricultural managers and experts, and university professors) and the dual structure model of Bohl (2001) regarding the weakness of risks in the form of barriers and internal and external risks. These barriers include risks such as information barriers (internal barriers), production strategic barriers (external barriers), production competition barriers (external barriers), environmental barriers (external barriers) and planning-

management barriers (internal barriers). A brief description of them has been given. One of the risks and deficiencies that was clearly visible and understandable in the business of the people under investigation and emphasized by most of the people under study is the issue of lack of sufficient knowledge and practical scientific information in order to carry out activities in the horticulture environment. Horticulture is one of the agricultural businesses that requires knowledge and expertise to be successful in it, including knowing the types of crops, planting time and harvesting methods, micronutrients, each of which requires its own knowledge and practical information. Therefore, the lack of applied science and information based on practice can be considered as one of the important internal risks in horticulture.

Table 10- Main and Selected Categories in the Research Model

Selected categories	Main codes	
Driver sofreducing the development of agricultural production chain	Financial and credit barriers barriers to supply barriers of lack of laws and regulations of the product distribution system barriers of lack of law and regulations in providing inputs	Causal Conditions of research
Strategies and factors that, in the event of a deficiency in its implementation, are among the barriers to the development of the agricultural production chain	Information barriers Planning and management barriers Strategic barriers to production	Strategic Conditions
Indicators and Conditions of barriers to the development of agricultural production chain	All internal and external barriers and dangers	Core categories
Influential factors in creating barriers in the supply chain of agricultural products	Environmental barriers Infrastructure and operational barriers Product distribution cost barriers Technical barriers to product distribution	Intervener and Grounded categories
Consequences of barriers to the development of agricultural production chain	Production weakness weakness to competition Sales weakness	consequences

Regarding managerial-planning barriers, it can be said that by looking at the field of agricultural products production (especially garden products) in Iran, it is clear that the amount of production per unit level of producers is very different compared to the leading countries in the production of agricultural products. Perhaps one of the reasons for the decrease in productivity in the field of horticulture is the low level of knowledge and technical knowledge of farmers and the lack of information and, as a result, the lack of use of the achievements of previous researchers in the sector. This problem has caused the low level of production and productivity in garden products to become a production obstacle and affect the gardener's income. On the other hand, the low level of production and productivity in this sector can be considered as the lack of basic application of production methods and expert and efficient people. In this research, according to the conducted interviews, it was found that one of the important problems of gardeners is low competitiveness and lack of identification of work competitors in this field. Creating a competitive environment in the society and improving domestic and international competitiveness provides the necessary grounds for entering the global and internationalization process. Considering the need to expand and improve the export of the horticulture sector, developing a specific and appropriate strategy for competitiveness in this field is necessary and necessary because the competitiveness of a quality business is realized through the market and activities based on the relative advantages of a product. The obstacle and risk of the strategy in the cultivation of horticultural crops is actually a

symbol of the transition from traditional agriculture to science, which saves money, creates jobs, uses minimal land for crop production, increases productivity and efficiency of water consumption, increases planned production, the ability to control crops and pests, production and Off-season product diversity, adjusting the cultivation plan according to the market's needs is one of the most important planning and policies in the agricultural system. In some interviews, people mentioned that the planning and policy making system in the field of horticulture is weak and the activity of this field is affected by this issue. The development of agricultural products is inevitable in the face of the increasing need for food for the growing population, but along with that, adverse environmental consequences may also occur, therefore, it is necessary to use environmental resources and high-quality inputs with pollution. In a part of this research, the interviewees raised the issue of banks providing credit and facilities as one of the most important barriers and risks to the progress of gardeners. They stated that in order to receive loans and facilities from banks, they have to provide heavy collaterals to the bank. At the same time, the repayment rate of bank interest is much higher than their financial capacity and leads to non-payment of debt on time, and this problem causes the bank's inability to fulfill its obligations. On the other hand, compared to the producers of other sectors, the recipients of loans and facilities in the horticulture sector are faced with the risk caused by natural factors, the lack of loan repayment period and fluctuations in the sale price of agricultural products; Therefore, they often face the problem of financial inability to repay their due installments on time (Ishraqi Semani, 2015).

In the current research, the risk of supplying resources includes; the risk of resources (external obstacle) and the risk of lack of laws and regulations in supplying inputs (external obstacle). One of the most important needs of gardeners is access to seeds, seedlings, poisons, fertilizers and all healthy, high-quality and standard inputs. In this study, input provision by gardeners was mentioned. They stated that there are many problems in supplying inputs such as, lack of access to quality inputs in the province, high purchase price of inputs, difficulty in importing inputs (high exchange rate), lack of support for purchasing domestic inputs, density of input procurement centers and the lack of subsidy for purchasing inputs. On the other hand, the people under investigation and gardeners stated that there is no written law and regulation in the field of monitoring the preparation and distribution of inputs. This problem has caused the role of dealers and brokers to become more prominent than the government and they earn a lot of profit in this sector as well.

In the section on the barriers of the product distribution system, the gardeners expressed several factors as barriers and risks, including; Technical risk, distribution cost risk and the risk of lack of laws and regulations in the product distribution system. In the production chain of agricultural products, a distribution channel, in addition to transferring goods from the producer to the consumer, is an important factor in saving time, connecting producers of goods to customers. The people interviewed said that there is no proper distribution system to bring the product to the market, and if there is a distribution system or channel, they demand a lot of money for this, and most importantly, there is no monitoring in this area. This issue has caused disruption in the final price of the product and also leads to not sending the product to the customer on time. One of the most important problems faced by producers of garden products is the existence of price differences in the market. When the price difference increases, customers and consumers lose their purchasing power. This issue causes the product to remain in the target market and the producer suffers a lot of losses (Mullah Hosseini and Jabbarzadeh, 2011). In the context of this obstacle, the interviewees stated that there is no supervision by the government on the selling price and due to the presence of brokers and dealers, the finished

price of the product increases significantly and a little profit goes to the producer. On the other hand, they said that the government is not able to prevent the activity of dealers and their number is increasing day by day in the market of selling products.

The most important central category in this research, based on the opinions of the gardeners and the surveyed people, is the existence of barriers and producer risks (internal and external risks) which play a fundamental role in the occurrence of the weakness of the production chain. Meanwhile, the three factors of grounded conditions, intervener and causal conditions also have a significant effect on the central category. In the producer's obstacle and risk section, a producer of horticultural products faces many types of internal and external barriers, including: strategy barriers (lack of supervision of the production process, lack of support from the government, etc.), market competition barriers (lack of the ability to recognize domestic and foreign customers, the inability to compete with foreign countries, the lack of competitive spirit, etc.), environmental risk, managerial barriers, informational barriers, time risk, operational barriers (lack of automation of the horticulture system, technical problems in construction and design) structure, financial-credit barriers, and all these barriers and risks are influenced by three background factors, causal and mediating conditions. Causal conditions include internal and external supplier risks. According to the findings regarding laws and regulations, it can be said that the lack of laws and written instructions regarding export, as well as the lack of laws regarding price stability and monitoring in the market, or the lack of a product packaging system. Another obstacle is the distributor (external risk) which affects the producer in the production chain.

Conclusion and Suggestions

According to this study, among the 12 weakness factors in the production chain of horticultural products, i.e. input supply, production barriers, product distribution and sales such as the risks of providing input resources, lack of laws and regulations in input supply, production information barriers, production strategic barriers, competition barriers in production, climate risks, planning-management, financial-credit, technical barriers, lack of laws and regulations in the distribution system and sales barriers; and barriers related to the production sector have a lot to do with weakness. As the research findings show, the product production chain has six weakness factors that play an important and key role in the product production process and is considered as the main weakness factor in the production chain. For example, the lack of information about horticultural activities, as well as the lack of skilled and specialized labor or worker, plays an important role in planning cultivation methods and improving the quality of products, and will create internal barriers. The lack of government support and the lack of coordination between organizations and institutions related to the agriculture sector are also one of the external barriers to production, because if these conditions occur, business owners will not be able to control the affairs of gardens when faced with changes and critical conditions.

Regarding the barriers and dangers of competition in production, we should also pay attention to the fact that globalization requires better and more knowledge of the domestic and foreign markets. Therefore, the members of the production chain must be able to identify the market and be able to compete with their other competitors at different levels. This weakness factor can lead to the increase of competition barriers in product production.

Regarding the environmental risks, the atmospheric and geographical location of the region, the coldness and warmth of the air, the amount and intensity of light, the intensity of strong winds and the fall of snow and rain, water resources and water quality, the conditions and characteristics of the soil in the region are some of the most important points that failure to pay attention to them can lead to creating barriers and making the gardening environment vulnerable. Regarding the climate

risks, the atmospheric and geographical location of the region, the coldness and warmth of the air, the amount and intensity of light, the intensity of strong winds and the fall of snow and rain, water resources and water quality, the conditions and characteristics of the soil in the region are some of the most important points that Failure to pay attention to them can lead to creating barriers and making the gardening environment vulnerable.

In general, the results of the research confirmed that weakness management can be considered as the first step in the management of barriers in the production chain of horticultural agricultural products, because according to the available results, it is clear that the risks of product production in the production chain play the most important role. The existence of production vulnerabilities and awareness of them can implement appropriate measures to manage them and make appropriate decisions for the conditions of the chain during occurrence-disruption. Based on the findings of this research, the following are suggested in order to reduce the barriers to the development of the production chain of horticultural agricultural products and to reduce the level of weakness and increase its productivity; Creating a culture of obstacle and risk management in business in order to identify all types of risks and barriers, make decisions according to crisis conditions and be flexible against barriers in order to reduce the level of sensitivity in high-risk situations; Creating a platform in order to register documents and documents related to business information along the production chain and specify each member of the production chain and the relationships between them as a single source of information for each part of the production chain; Creating a system for monitoring and tracking barriers in the production chain; Responding to weakness through accurate identification of barriers and risks and determining activities that strengthen the infrastructure and reduce barriers and vulnerabilities related to horticulture business goals. These reactions should be based on the degree of importance and the amount of each weakness and be effective in terms of cost when dealing with the risk.

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طراحی مدل موانع توسعه زنجیره‌های تولیدی محصولات کشاورزی (مطالعه موردی: باغات مشگین شهر)

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چکیده

کشاورزی یکی از مهم‌ترین بخش‌های تأثیرگذار در اقتصاد هر کشور است که نقش مهمی در استقلال سیاسی و اقتصادی آن ایفا می‌کند. عدم وجود یک سیستم اطلاعاتی جامع و مدلی کاربردی در زنجیره‌ی تامین محصولات کشاورزی سبب شده است این بخش از اقتصاد کشور با وجود استعداد بالقوه، کارایی لازم را نداشته باشد. بنابراین، هدف پژوهش حاضر بررسی موانع زنجیره‌های تولیدی محصولات کشاورزی (باغداران) استان اردبیل بود. برای گردآوری داده‌های تحقیق از مصاحبه‌های نیمه‌ساختاریافته استفاده شد و تجزیه‌وتحلیل اطلاعات به روش استراوس و کوربین و مدل پارادایمی و به کمک نرم‌افزار مکس کیو دا انجام شده است. نمونه‌گیری به روش نمونه‌گیری نظری بود و با بهره‌مندی از روش‌های هدفمند و گلوله برفی انجام شد که بر مبنای آن، ۱۶ مصاحبه با باغداران، اساتید دانشگاه و مدیران در زمینه موانع توسعه زنجیره‌های تولیدی محصولات کشاورزی انجام شد. نتایج تحلیل داده‌های به‌دست‌آمده از مصاحبه‌ها، طی فرایندهای کدگذاری باز، محوری و انتخابی به شکل‌گیری مدل موانع توسعه زنجیره‌های تولیدی بخش کشاورزی بر مبنای نظریه‌پردازی داده‌بنیاد انجامید. بر اساس رهیافت نظامند در نظریه داده‌بنیاد کدهای شناسایی‌شده در ۶ طبقه هسته‌ای شامل شرایط علی، مقوله محتوایی، شرایط زمینه‌ای، عوامل مداخله‌گر، راهبردها و پیامدها قرار گرفتند. کدهای باز، شامل ۳۸ مفهوم و کدهای محوری نیز شامل ۴۴ مقوله عمده بود که در نهایت، به چهار گروه مقوله گزینشی: موانع تولید محصول، تأمین نهاده، توزیع محصول و مشتری در قالب موانع داخلی و خارجی برای هرکدام شناسایی گردید. براساس یافته‌های تحقیق ریسک تامین منابع نهاده، ضعف مقررات و ضوابط در تأمین نهاده، موانع اطلاعاتی تولید، موانع راهبردی تولید، موانع رقابت در تولید، خطرات زیست محیطی، برنامه‌ریزی- مدیریتی، مالی- اعتباری، موانع فنی- تکنیکی، موانع هزینه توزیع محصول، موانع فقدان مقررات در سیستم توزیع و موانع فروش؛ موانع مربوط به بخش تولید، از موانع توسعه زنجیره‌های تولیدی محصولات کشاورزی هستند.

واژه‌های کلیدی: باغات مشگین شهر، محصولات کشاورزی، موانع زنجیره‌های تولید

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