

AGRICULTURAL UNIVERSITY

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MANAGEMENT OF AGRICULTURAL PRODUCTS SUPPLY CHAIN

SUMMARY OF DISSERTATION

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scientific specialty "Organization and Management"

Scientific supervisor:
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The dissertation consists of 134 pages, of which 126 pages are an exposition, 13 tables and 26 figures. 45 literature sources were used.

The dissertation was discussed and directed for defense by the Department of Management and Marketing at the Agricultural University - Plovdiv.

The defense of the dissertation will take place on year from hours in the hall of Agraren University of Plovdiv.

The materials on the defense are available to those interested in the library of the University of Plovdiv.

CONTENT

INTRODUCTION

CHAPTER ONE THEORETICAL FOUNDATIONS OF DISTRIBUTION SYSTEMS

- 1. Characteristics of production structures in agriculture**
- 2. Business relations with intermediaries**
- 3. Agricultural supply chains**
- 4. Research methodology**

Conclusions from Chapter One

CHAPTER TWO ANALYSIS OF FRUIT AND VEGETABLE SUPPLY CHAINS IN BULGARIA

- 1. Status of production and trade in fruits and vegetables in Bulgaria**
- 2. Assessment of the factors determining the market status of agricultural producers in the supply chain**
- 3. Identifying the potential of different fruit and vegetable supply chains in Bulgaria**

CHAPTER THREE IMPROVING THE MARKET STATUS OF AGRICULTURAL PRODUCERS IN THE SUPPLY CHAIN

- 1. Business formats for the sale of fruits and vegetables**
- 2. Agricultural supply chain model**

CONCLUSION

LITERATURE

APPLICATIONS

I. GENERAL CHARACTERISTICS OF THE DISSERTATION

1. Relevance of the topic

The increasing integration of Bulgarian agriculture into global markets has created significant trade opportunities, but also increased risks associated with market imperfections and price volatility. To counter these negative consequences, a number of issues need to be discussed with a view to strengthening the position of farmers in the agricultural supply chain.

2. Aim and tasks of the dissertation

The aim of the dissertation research is to establish the integration of agricultural producers in the supply chains of agricultural products and its impact on the results of economic activity.

The goal is achieved by solving the following research tasks:

1. The specifics of production structures in agriculture and business relations with intermediaries in the sale of production will be clarified.
2. The mechanism of action of agricultural product supply chains will be clarified.
3. A methodology for researching agricultural product supply chains will be developed.
4. The factors determining the market status of agricultural producers in the supply chain will be identified.
5. The potential for shortening supply chains from agricultural producers will be identified.
6. Recommendations will be made to improve the market status of farmers in the supply chain.
7. A supply chain model for agricultural products will be developed.

3. Thesis thesis

Main research thesis: Marketing management of agricultural supply chains leads to an improvement in the market status of agricultural producers.

Leading subtheses in the study are:

- Managing business relationships with agricultural intermediaries is an important part of farm management. Implementing this process requires taking into account the specifics of the farm.
- The costs associated with the realization of the production are high when it is carried out independently.
- There is market potential for short supply chains at the regional level.

4. Subject and object of the dissertation

Object of scientific research are agricultural farms growing fruits and vegetables on the territory of Southern Bulgaria.

Subject of scientific research are the management activities in planning, implementation and control of the sale of agricultural production.

5. Research methods

The systematic approach, retrospective analysis, situational analysis, comparative analysis, statistical methods, diagnostic analysis, prognostic analysis, etc. were applied during the research.

II. MAIN CONTENT

Chapter One Theoretical Foundations of Distribution Systems

1. Characteristics of production structures in agriculture

The agricultural production system is a multifactorial open system, maintaining a stable dynamic equilibrium state through multiple connections of its constituent elements and interactions with other systems in the environment. It functions in conditions of uncertainty, predetermined by the economic and ecological factors of the individual micro-regions of the country.¹ These features also determine the essence of the agricultural production system. It can be defined as a complex of interconnected and subordinated to varying degrees natural, biological, material, technical and other elements, combined (combined) into a complex dynamic unity, ensuring the production of agricultural products through the implementation of numerous interconnected processes. The specificity of the agricultural production system is determined, on the one hand, by the characteristics of its constituent elements and their combinations, and on the other hand, by the interaction of the system itself with its surrounding environment. The immobility of the production base is the main prerequisite for the mobility of the means of labor, unlike other industries, where the object of transportation is more often the subject of labor.²

The restructuring of agricultural holdings is a relatively long process for most EU countries, but for Bulgaria the rates of change in the structure of agricultural holdings are one of the most significant. According to data from the 2020 census, the number of agricultural holdings in Bulgaria meeting the threshold criteria specified in the Law on the Census of Agricultural Holdings in the Republic of Bulgaria in 2020 is 132,400 (Figure 1), which is 64% less than their number reported during the 2010 census.

Economic activity in agriculture can be considered as a process in which a person interacts with nature to create material goods and at the same time interacts with other people in carrying out this process. The process is based on the creation of consumer value and its realization on the market. Therefore, agricultural economic activity includes two interrelated activities. One is directly related to the attraction and use of resources to obtain a final product. And another activity concerns the offering of the product on the market and facilitating its consumption by taking into account the specifics of the market. These two activities are dynamic in nature and it is imperative to be coordinated in order to achieve the goal of economic activity.³ These activities are subject to management by the agricultural producer to overcome the differences between the desired and actual state of the economic activity. Management is decision-making for the rational use of resources to achieve certain goals. Management is a process that is carried out under the influence of the results of the already implemented decisions and their evaluation by the agricultural producer. In order to form his assessment, the

¹Bashev, H. Assessment of the sustainability of agricultural holdings of individuals in Bulgaria. Economic Thought. 2017, No. 5

² Yovchevska, P. Vulnerable sectors in Bulgarian agriculture. Economics and management of agriculture. 2015, No. 3

³ Doychinova, Y. Agribusiness and Rural Areas - Economy, Innovation and Growth: Collection of Reports from a Scientific and Practical Conference, organized by the Department of Agricultural Economics at the University of Economics - Varna, jointly with the Association of Agricultural Producers in Bulgaria, October 12-13, 2017.

farmer (manager) must be well acquainted with the structure and functioning of the farm (the object of management) and the purpose of its existence. This is a condition for clearly defining criteria for the development of economic activity. The presence of appropriate assessment criteria allows, after development options are developed, to make a justified and correct choice and make a decision.

In the process of making management decisions, the agricultural producer proceeds from the understanding that his business activity is determined by consumer demand and in the long term should be viewed as satisfying needs.⁴ Concentrating the producer's attention solely on the production process will limit his opportunities to participate in delivering consumer value in the marketing chain, but it is also a possible strategy for farm management. Each farm has its own characteristics that have an impact on the organization and management of business activities. Most often these are the type of product produced, the geographical location of the farm, the markets served, the technology used, the management philosophy and the market image of the farm.

The analysis of the production potential of the agricultural holding is an important prerequisite for developing a strategy for the realization of production.⁵ In this context, a number of questions should be answered:

- what is the technological level of production;
- what resources does the farm have at its disposal;
- what is the nature of the production;
- can production be diversified;
- what production and economic results does the agricultural sector achieve;
- what is the quality of the produced products and what criteria are used to determine quality;
- what are the fixed and variable costs associated with each production and how they are managed over time.

The human factor is an integral part of any business activity and is often of key importance for the successful functioning of the agricultural holding. In this sense, the qualities of the farmer and his philosophy on how to manage his farm are important when making management decisions. When assessing the potential of the farmer, the purpose of his business activity, his experience, his technological knowledge, knowledge of consumer behavior, his ability to motivate, his attitude towards economic entities in the marketing chain, interest in innovations are taken into account.

⁴ Kopeva, D., Strategic Management in Agribusiness, Economy, 2003

⁵ Nikolov, D., Hr. Bashev, Iv. Yanakieva. How to effectively manage our money in agriculture?. Energy Print, 2008

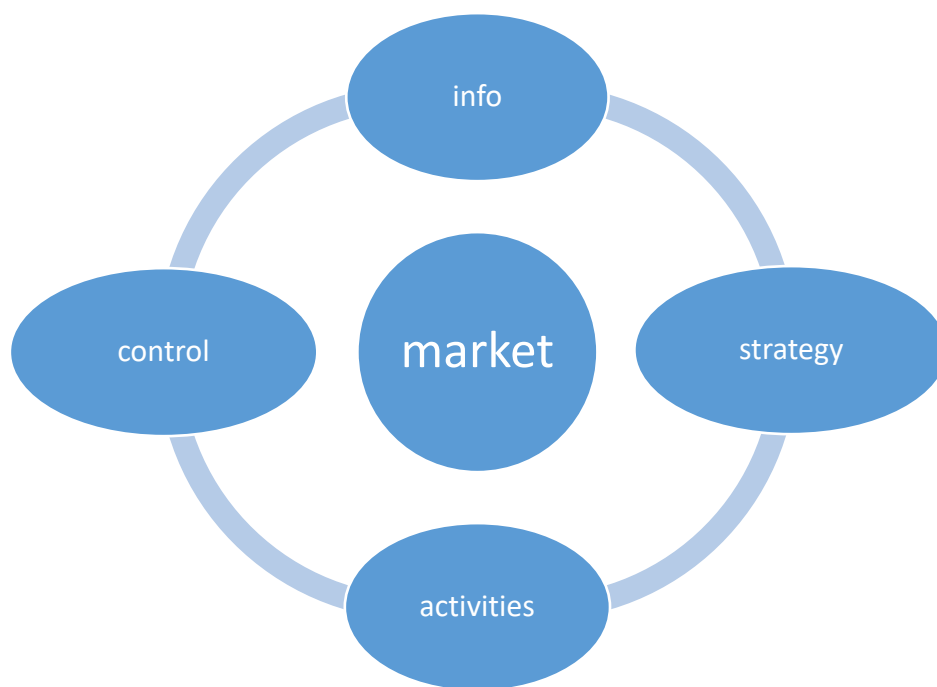


Figure 1 Stages in the farm management process

Source: own

Changes in market conditions require a corresponding change in the strategic and current management of the farm. The strategy must have flexibility to take into account the uncertainty and conditions under which it develops and to allow for changes when necessary. In modern market conditions where market demand is a critical factor for the development of an agricultural business, it is imperative to conduct regular research and analysis of market requirements.

The environment or business environment has a significant impact on the development of agricultural activity. This is because every agricultural enterprise operates within the conditions imposed by its business environment.

These conditions are determined by a multitude of factors that are external to the business entities. Characteristic of these factors is that they are always dynamic. Therefore, changes in the business environment create conditions for success, but also for uncertainty and threat.⁶ Although the future is unpredictable, marketers must be able to determine what is most likely to happen. Entrepreneurs who fail to respond to changes in the business environment leave the farm unprepared to deal with the changes that have occurred, which may lead to undesirable results. Therefore, monitoring business environment factors is vital for the survival of the farm and the achievement of its long-term goals. To monitor changes in the marketing environment, marketers will need to perform scanning and analysis.

Scanning the marketing environment is the process of gathering information about the factors of that environment.⁷ It involves monitoring secondary sources such as: business, trade, government and other publications and marketing research. It is necessary to determine well

⁶ Manov, V. The new paradigm of the firm-environment dialogue - Economic Alternatives, 2005, No. 2

⁷ Vladimirova, K. et al. Strategic Management and Strategic Planning. Economy, 2005

what information they need, since not always a lot of information allows to draw accurate conclusions.

The analysis of the marketing environment is a process of evaluating and integrating the collected information. Through it, the marketing manager must be able to determine the upcoming changes, which in turn are the likely threats and opportunities for the company. All this helps the company's management to assess the marketing conditions at the moment and develop a marketing strategy for the future. Marketers use two general approaches to respond to changes in the marketing environment. One of them allows them to consider the factors of the marketing environment as completely uncontrollable and difficult to predict. In this approach, companies are passive towards the environment. In the second approach, they treat the environment aggressively and try to influence the factors that determine the marketing environment⁸. It is not possible to say which approach is better. The choice of one or the other is influenced and depends on the company's management philosophy, goals, financial capabilities, markets, skills, etc.

Table 1 lists the objective and subjective characteristics of the consumer market segmentation, as well as the general and specific features of consumers. Knowing them facilitates the selection of marketing policy and is especially important when making decisions about marketing strategy. The goal is to find a good client (buyer) who pays well and on time, expanding their own markets and appreciating the importance of the offered products.

Table 1 User research characteristics and metrics

Characteristics of the division on the market	User traits	
	General	Specific
A. Objective	1. Demographic factors: /gender, age, profession, education, standard of living, place of residence/ 2. Socio-economic factors /volume of consumption, income, traditions, etc./	1. Consumption pattern – often, occasionally, in large quantities, in small quantities, in medium quantities 2. Loyalty to certain product brands – brand, stores, method of sale and purchase
B. Subjective	3. Personality traits 4. Lifestyle	3. Behavior when buying – decisiveness, indecisiveness, naturalness, phlegmaticness, etc. 4. Response to marketing tools – price, advertising, who makes the purchasing decision and who implements it, etc.

Source: J. Dietl “Basic Elements of Marketing Tactics and Strategy”, p. 67 “International Marketing”, “Informa Intellect”, S., 1992.

2. Business relations with intermediaries

The role of small farms in agricultural production is particularly important for less developed economies with a high share of agriculture in GDP and a lower level of national

⁸ Todorov, K. Strategic Management in Small and Medium-Sized Companies. Ciela, 2001

income. The main interest of the dissertation work is the process of market realization of agricultural products. In essence, this type of realization means that agricultural products become the subject of market relations. Farms that strive for market realization of their production pursue certain economic effects from their activities. Effective market realization of production is the most important aspect of any business in the agricultural sector, as it generates revenue and is the basis on which profit is formed.

In specialized literature in Bulgarian, "market" is defined as "a system of relationships between sellers and buyers, a set of actual and potential agreements and arrangements for the exchange of goods and services"⁹, "a place where the subjects of the acts of buying and selling products meet"¹⁰, "the totality of the actual and potential buyers of the product"¹¹, "a place where the compensation of factors of production and the distribution of income take place"¹². Deriving a definition of the sale of agricultural goods, based on the achievements of researchers in the field of agrarian economics to date, turns out to be problematic, due to the lack of expressed views on the essence of this concept. Considered in the field of agrarian economics, the definitions of sale can be summarized as follows: the sale of agricultural products covers the activities of selling the same and moving it from producers to end consumers. As a result of the theoretical work, some generalizations can be drawn about the process of selling fresh vegetables. This process begins with identifying potential buyers with whom to conclude a deal. The sale itself covers specifying all elements of the deal, including the seller's offer. This means that a basic element of the sale process is the decision of what will actually be sold. In other words, before the sale occurs, producers decide what products to produce and offer in what quantity, quality, preparation, etc. The other basic activities in the market sale process are related to the movement of the product from the seller to the buyer. This movement concerns the physical movement and transfer of value of the products. In relation to the physical movement, the main question is where the products will be offered. Essentially, this involves configuring the distribution and logistics system. In this sense, the implementation process includes the selection of specific distribution channels and the arrangement of relationships with intermediaries. The aim of agricultural holdings is to implement a model that could strengthen their positions in the distribution channel structure. The Analytic Hierarchy Process (AHP) method allows for an effective evaluation of distribution channels and to derive criteria for selecting the most appropriate distribution channel.¹³ Literature data show that small farms mostly market their products to green markets and processing plants and that the quality and price of agricultural products are the dominant criteria for channel selection. The results of the research on the subject show that distribution channels are stable over time and that small farms rely on traditions when choosing a distribution channel. The choice of a distribution channel in the agricultural sector depends on a number of factors: the first is the market for agricultural products, the second is existing regulations and finally established practices. This is a specific task for small farm owners, which encourages them to find the answer to the question: "Which distribution channel is the best or most efficient?" This should be a distribution channel (one of

⁹ Andreeva, M. Strategic Management. Compass, 2001

¹⁰ Grigorova, V. Marketing solutions in distribution. Denov Svishtov, 2019

¹¹ Stancheva, A. On the competitive behavior of companies. - Izvestiya, 2006, No. 3

¹² Vasileva, L. Distribution Management. Varna University, 2002

¹³ Petrov, V. et al. Methods for analysis and management in agribusiness. Abagar, 2004

the alternatives) that offers consumers a high-quality product at the best price, paid and delivered on time (one of the criteria). However, these two goals are very different and difficult to achieve at the same time. Therefore, our goal is to test the following two hypotheses: Practice shows that in less developed economies with underdeveloped markets, there are numerous problems in the agricultural sector.¹⁴ The vulnerability of the agricultural sector is reflected in the trend of decreasing employment and aging of the agricultural workforce, the greater influence of seasonality in agriculture, difficult and expensive processes of adaptation of production, instability in the production of cultural products and the growing role of the hotel industry. At the same time, small farms are vulnerable because they have multiple factors affecting them such as their limited capacity, insufficient capital, outdated equipment, strong competition, lack of labor and skills, greater dependence on foreign markets, etc. Under these circumstances, the choice of the best distribution channel is made, which is difficult and even more complicated due to the large number of options for available distribution channels, different effects of the chosen distribution channel, assessment of advantages and disadvantages for a certain channel allocation, as well as the potential choice of several simultaneously used channels for distribution of agricultural products¹⁵. The greater the number of distribution channels, the more complex it is to make the right choice decision. The uncertainty in the operations of small farms and the difficulty in choosing the best distribution channel in an unfavorable environment are the motivations for our analysis. In general, problems with positioning products from small farmers arise from the fact that many farmers are scattered to live in remote villages, far from the market for agricultural products, they are usually located in semi-urban and urban areas. Each commodity group has a slightly different distribution channel, so small farmers are often forced to produce certain products¹⁶. Thus, the overall structure of distribution channels in certain parts of the country changes according to the required crops planted. In addition, the perishability of agricultural products forces farmers to use direct distribution channels, such as sales in a village, city or in local shops. Therefore, the optimal allocation of available distribution channels is of paramount importance for the distribution of products on the market. It is carried out according to a relevant set of criteria, which have different meanings and depend on the requirements of the product.

3. Agricultural supply chains

The food supply chain ensures the supply of food and drink to the general public for personal or household consumption. It affects all consumers in the EU every day and represents a significant part of the average household budget. The food supply chain is a collection of a wide variety of products and companies operating in different markets and selling different food products¹⁷. This idea is built on the understanding that an organization is more than just a random combination of machines, equipment, people, and money.¹⁸ The food value chain is a business model in which agricultural producers form strategic alliances with other supply chain participants, such as processors, distributors, and retailers, to collaborate and achieve greater returns by selling large volumes of high-quality products. In this model, farmers, consumers,

¹⁴ Copoeland, D., A. Koller. Factors of farm development. Murin, 2002

¹⁵ Maxwell, A. Agricultural marketing. Callisto reference, 2020

¹⁶ Brooks, I. Organizational Behaviour: Individuals, Groups and Organizations. Pearson; 5th edition, 2018

¹⁷ Tonkova, E. Distribution Management. Science and Economics Varna, 2015

¹⁸ Kalinov, K. Aspects of the Theory of Organizations. Varna University, 2017

distributors, and others along the chain of business activities from crop planning to processing and sale see the results of their joint efforts and benefit from them.¹⁹ Thus, the benefits for farmers do not come at the cost of the benefits for traders and vice versa, as the value chain structure serves the sale of a wide range of differentiated products that better meet the requirements of different market segments. Business products will be available for purchase by end users only if certain activities have been carried out to move them. These activities are the essence of the company's distribution policy and are an important tool, the skillful management of which is an important prerequisite for market success. Each company can choose from a variety of channels through which its products can reach end users. The choice of a distribution channel or a combination of them is one of the main decisions when developing a distribution policy. The company must consider whether to enter the market directly or use intermediaries, whether to use short or long channels, wide or narrow channels, what form of logistics to prefer, etc. The choice of distribution channels is influenced by many factors, which can be divided into the following groups:

- a. Goals and resources of the business enterprise – the goals set in terms of distribution are part of the overall goal-setting process, which requires their coordination and linking to each other. The resources available to the enterprise can also be decisive for making one or another decision.
- b. Market situation – all elements of the external business environment relevant to the distribution of products are taken into account. For example, the existence of regulatory restrictions or a large market power of a given distributor may force a given company to choose a channel with intermediaries.
- c. The company's marketing mix - distribution is one of the four elements of the marketing mix, therefore decisions made here must be in harmony with those made for the other elements. For example, implementing large-scale advertising campaigns to stimulate broad interest in the company's products will only be appropriate if wide distribution is used.

Depending on the three groups of factors, it will be appropriate for the company to use its own or independent distribution, taking into account what is described in Table 2.

Table 2 Considerations when choosing a distribution channel

OWN DISTRIBUTION	INDEPENDENT DISTRIBUTION
company goals and resources	
<ul style="list-style-type: none"> - quick time to market - control over placement - financially strong company - availability of competences 	<ul style="list-style-type: none"> - wide market coverage - production control - insufficient financial strength - lack of competence
market situation	
<ul style="list-style-type: none"> - familiar market - great market potential - concentrated market - occasional and large deliveries - nearby market - stable search 	<ul style="list-style-type: none"> - new market - small market potential - mass market - frequent and small deliveries - remote market - fluctuating consumption

¹⁹ Nikolov, D., I. Boevsky, P. Borisov, T. Radev. Opportunities for joint marketing of farmers from the region of Smolyan. Bulgarian journal of agricultural economics and management. 2020, #1

the company's marketing mix	
<ul style="list-style-type: none"> - perishable products - high product quality - need for specialized transport - special installation required - stable price - profit through high price - concentrated advertising activities - priority of personal sales 	<ul style="list-style-type: none"> - durable products - standard quality - no need for special transport - no special installation required - unstable price - profit from turnover - large-scale advertising campaigns - personal selling is not a priority

Source: Golubin, E. Effective Distribution: Formation and Optimization of Sales Channels. SoftPress, 2007

Once a choice has been made about the distribution channels they will use to reach consumers, each company must answer the following two questions:

- 1) Which company structure will handle sales through direct channels?
- 2) What and how many intermediaries should be covered by indirect channels and what should be their status?

Extending the distribution channel to include wholesalers and retailers also brings benefits to the company, which are mainly the result of the functions they perform.²⁰. Wholesalers buy goods and sell them either without modification or with minor modifications. Their activities focus on creating an assortment, maintaining stock, securing credit and physical distribution. The main reason why manufacturers are interested in selling through wholesale is that in this way their products can be offered as part of a complete assortment, fine distribution can be carried out more economically and the risk is borne by the wholesaler. Alongside traditional wholesale delivery, a special form of “Cash and Carry” trade has developed. In this form, traders and large consumers select the products directly in a self-service manner in the wholesaler’s warehouse and take care of the transport of the goods themselves.

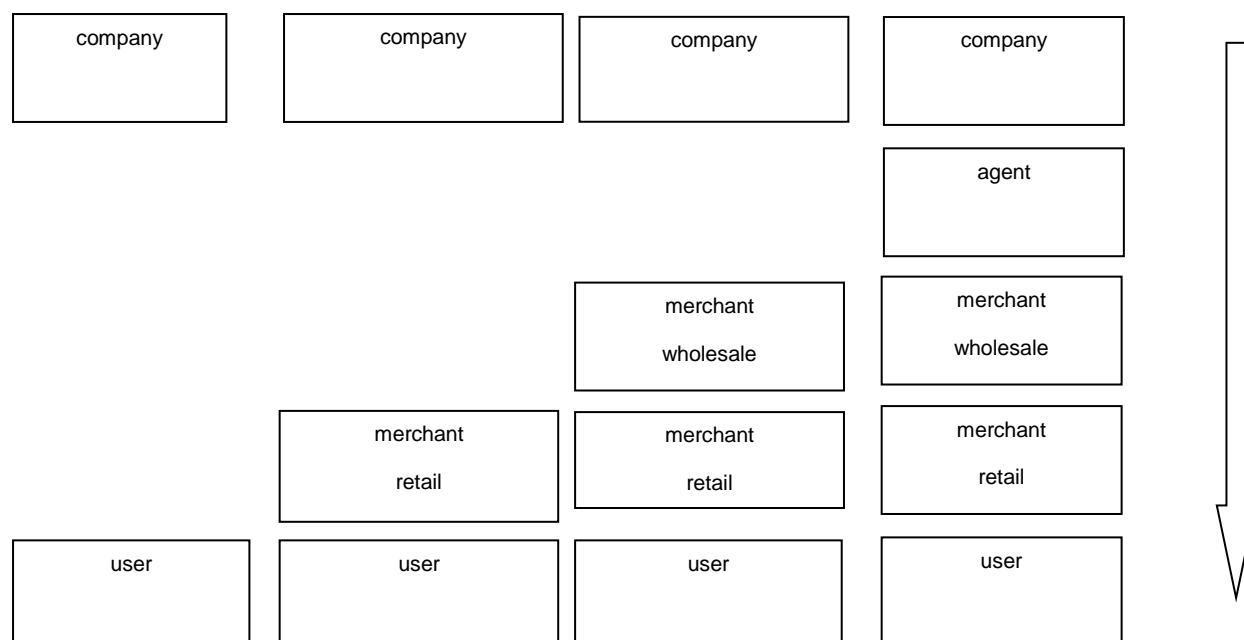


Figure 2 Distribution channels

Source: Tonkova, E. Distribution Management. Science and Economics Varna, 2015

²⁰ Tonkova, E. Distribution Management. Science and Economics Varna, 2015

Food supply and distribution are complex systems of activities, functions and relationships (production, handling, storage, transport, processing, packaging, wholesale, retail, etc.) that enable the population to meet its food needs. These activities are carried out by a variety of actors: producers, importers, transporters, wholesalers, retailers, processors, shopkeepers, street vendors, service providers (credit, storage, carrying, information and extension), packaging suppliers, public institutions (e.g. city and local governments, public food trade councils, Ministry of Agriculture, Ministry of Transport) and private associations (e.g. traders, transporters, shopkeepers and consumers). These actors need infrastructure, facilities, services and laws, as well as formal and informal regulations to govern their decisions, where each element influences other elements in a system of cause, effect and reciprocal relationships. The goal of food distribution is not only to connect producers, such as farmers and fishers, with consumers, but also to distribute food accordingly. Challenges arise in deciding how food will be distributed to people, who has the authority to distribute it, and what methods should be used for distribution. In low-income countries, current problems include a lack of markets, inadequate transport to markets, and the inability to cover the costs of production and consumption. Rural populations in low-income countries are particularly hard hit, with 16% of the rural population lacking convenient access to a market and only a third of farmers selling their crops. Transport is often very limited, with few high-quality roads or railways to transport goods and people to centralized markets. Transport routes are expensive and require public funding and maintenance. Historically, international trade has helped reduce food insecurity and diversified consumers' access to food by connecting regions with limited agricultural production with regions with increased agricultural production. However, for trade to improve food security for the greatest number of people, greater international cooperation is needed to create a fair and market-oriented system for trading agricultural products.

In the context of sustainable development and local consumption, short chains are popular with consumers just like the direct chain, long chains are those that involve more than one intermediary. Their main advantage is that they free the producer from the costs associated with marketing and sales.²¹ It also makes it possible to reach customers who are otherwise inaccessible due to their geographical distance, their consumption habits, or other factors.

The disadvantages of long chains are real, the issue of the profit margin that is returned to the producer is the problem posed mainly by this type of chain. In this case, for farmers, long chains can prove disastrous, since the producer is not free to determine the selling price to the final customer and even to the various intermediaries. Thus, many farmers, due to the lack of sufficient distribution channels, find themselves forced to sell at a loss, when at the same time the main distribution brands and the food industry are making significant profits. Therefore, control over the distribution of their products and services is essential for the vitality of an agricultural enterprise.

The development of modern food supply chains, especially those of supermarkets and/or hypermarkets, has attracted much attention in past research on developing countries. The literature on modern food supply chains has generally followed two lines. The first concerns

²¹ Boevsky, I. The role of stakeholder management for the development of Bulgarian credit cooperatives. Bulgarian journal of agricultural economics and management. 2020, #1

the identification of factors determining the motivation for choosing modern marketing channels. The second focuses on examining the economic outcomes (farm income, profitability, farm household income) for farmers selling their agricultural produce to modern food distributors. A significant portion of the research has examined the factors determining the choice of supermarkets as a food distribution channel. For example, in Bulgaria, farmers who sell to supermarkets are predominantly well-educated operators with medium-sized commercial farms. One study found that tomato producers who sell their agricultural produce to supermarkets are larger, more capital-intensive, and more specialized, and use more channels. Rather than focusing on supermarkets, some other studies have focused on examining the choice between different marketing channels. It was found that the level of education, household and farm size, and farm types were determining factors for households' choice of marketing channel. In identifying the key factors driving the choice of modern food retailers over traditional marketing channels, vegetable producers who are younger and more experienced and have higher education were found to be more likely to choose to sell their agricultural produce to supermarkets.

Farmers are also inclined to choose modern marketing channels if they can obtain a higher price for their product and reduce transaction costs. Empirical evidence on the economic effects of modern food distribution channels, especially those of supermarkets, is mixed. For example, a study of Bulgarian vegetable producers found an average increase in income of 48% when participating in supermarket channels. Similarly, it was found that there were differences in profitability as a result of different marketing practices, and supermarket channel farmers earned 40% higher gross profit than farmers in the traditional channel. However, it was found that the profit margins of tomato producers in Bulgaria were similar to those when selling through traditional marketing channels due to the higher use of raw materials.²² Also, when studying distribution channels, the following three features should be considered: First, modern food supply chains are undergoing continuous changes, including consolidation of the retail sector, a process of sector expansion, and the growth of the service sector. The existing literature on modern food supply channels focuses mostly on the first aspect of change. Motivated by the nascent expansion and/or growth of the food and service industries, it will be relevant to examine whether the choice of a modern food distribution channel by agricultural households contributes positively to the welfare of agricultural households on two dimensions – farm income and income inequality, based on a broader definition of modern marketing channels. In the studies, modern marketing channels consist of supermarkets, hypermarkets, other downstream retailers, and medium-sized distributors. Second, while some studies have examined the welfare implications of food distribution channel choice in terms of poverty reduction, per capita consumption expenditure, multidimensional poverty, and food security, this study adds to the existing body of knowledge by examining its income equalization effects. Furthermore, it is appropriate to use a large and unique dataset of farm households containing information on farm income shares across multiple distribution channels in southern Bulgaria. Therefore, the study will provide a more generalized and comprehensive picture of the inequality-reducing effects of modern food supply chains.

²²Kulchev, K. Theoretical and applied problems of the analysis of physical distribution. Tsenov Svishtov, 2023

4. Research methodology

The study used a stratified random sampling approach in the selection of the sample, with households as primary sampling units, stratified by products²³The data is suitable for the present study for three reasons. First, the study was aimed at in households that are not engaged in agriculture, which allows us to examine the status quo and trend of primary agricultural operators in Bulgaria. Second, the study was conducted through observations in 4 settlements. Thus, it is considered reliable and representative data source. In addition, the dataset contains income data from different sources and shares of agricultural production sold through different marketing channels, who are doing research on the distribution effects of the main marketing channel possible choice.

Eight main marketing options used by farm households: consumers, supermarkets/hypermarkets, wholesalers, wholesale markets, processors, farmer organizations and government purchases, retailers and households' own consumption were categorized in the original study. In this study, we categorized the main marketing channels into traditional retail outlets (wholesalers and wholesale markets), modern distributors (supermarkets(hypermarkets and processors), consumers and farmer organizations. In addition, the main marketing channels of agricultural households were identified as those with a share of over 50% in the total sales of agricultural produce of agricultural households.

4.1. The empirical model

Research methods are divided into two large groups – qualitative and quantitative. These two groups are complementary – the strengths of one group compensate for the weaknesses of the other. The strengths of qualitative methods are that they enable us to understand the subject of the study; to decompose it into its component parts and to understand the relationships between them; to understand what factors influenced it and what the mechanisms of influence are. The weaknesses of qualitative methods are that they do not give us a quantitative description, they do not allow us to use ratios, proportions and coefficients. The strengths of quantitative methods are that they allow us to measure, to use ratios, proportions and coefficients, to build models.

4.2 Secondary data analysis

Secondary data analysis is the analysis of data collected by other researchers, usually with completely different purposes, but suitable for our goals and hypotheses. Secondary analysis has common features with desk research, because it also lacks fieldwork, and the data is sought in available printed or electronic sources. Data can be of two types – primary data or partially processed data. Nowadays, many data providers (e.g. the National Statistical Institute, Eurostat, etc.) allow users to do their own processing and receive the results in electronic format, without having direct access to the primary data. In secondary analysis, the most important tasks are two. First, to find appropriate data from the point of view of our research goal and our hypotheses.

4.3 Case analysis

As the name suggests, it is a study of one or several individual cases. Usually in practice, the cases studied are organizations/companies, but it is possible to be individual individuals. In

²³Saykova, Iv. Statistical study of dependencies. Economy, 2002

practice, case analysis is a combination of all other qualitative and quantitative methods – desk research, observations, in-depth interviews, focus group discussions, secondary data analysis, questionnaire surveys, content analysis. However, it is not mandatory to use all possible methods, as it is possible to apply different combinations of them. It is extremely important in case analysis, which distinguishes it from the simple sum of different methods, that each individual case is placed in context. It is desirable to describe every possible context – economic, social, educational, environmental, etc.

Conclusions from Chapter One

In conclusion, the following generalizations can be made:

First, Agricultural holdings as a production structure are characterized by large-scale production, non-diversified output, and simple management structures. They are subject to management and coordination aimed at achieving personal (household) goals.

Second, The study shows that the market environment has a critical role as a factor in the development of agricultural holdings, i.e. business conditions are a prerequisite for forming management decisions regarding the organization and management of production on the farm.

Third, the specifics of the agricultural business often require working with intermediaries, which necessitates adequate management of business relationships by seeking a balance in the interests of the agricultural sector and the intermediaries.

Fourth, Farm management is part of the overall marketing chain for a specific product and decisions related to the sale of production imply the implementation of marketing activities dictated by the specifics of the market served.

Fifth, planning supply chains for agricultural products requires that the principles of distribution systems be observed. In our case, it is of vital importance for agricultural farms to clearly define the distribution functions that will be performed by each level of the marketing chain, and so that they are performed in a certain sequence, accurately and meaningfully (completely).

The distribution decisions of agricultural producers are the result of the manager's assessment of the characteristics of the market. They show how the farm will meet the requirements of the market and will implement the connection between the farm and the buyer, while setting the requirements that the farm must meet in order to realize the desired business-consumer interaction and achieve business goals.

Chapter Two Analysis of Fruit and Vegetable Supply Chains in Bulgaria

1. Status of production and trade in fruits and vegetables in Bulgaria

Greenhouse production in the country is determined by several main vegetable crops - tomatoes, cucumbers, peppers, gherkins, salads. Its development is determined based on market demand. Part of the production is intended for export. The trend of modernizing existing greenhouses with the application of new and more modern technologies for quality vegetables - greenhouse production continues. In 2021, 690,104 tons of vegetables were produced in the country (see Fig. 5), which is 5.9% more on an annual basis. Of the total vegetable production in 2021, just over 15% was produced in greenhouse conditions, with an increase of 17.2% in

absolute terms compared to 2020, with growth reported for all main greenhouse vegetable crops.

Of the vegetables produced in Bulgaria, nearly 20% are sold on foreign markets. At the same time, the Bulgarian market has imported vegetables in quantities nearly twice as large as the exported quantities (see Fig. 6). The imported quantities represent nearly 1/3 of the vegetables produced in Bulgaria, which gives them a significant market share. It can obviously be concluded that domestic vegetable production does not satisfy the demand on the Bulgarian market, which determines the potential for development of Bulgarian vegetable producers in the domestic market niche.

Of the fruits produced in Bulgaria, over 50% are sold on foreign markets. At the same time, more than twice as many fruits are imported into the Bulgarian market as exported quantities (see Fig. 7). Imported quantities exceed the fruits produced in Bulgaria, which gives them a leading market share. However, it must be taken into account that some fruits cannot be grown in Bulgaria (citrus fruits, for example, and these traditionally have a large share in imports). It can obviously be concluded that domestic fruit production does not satisfy the demand of the Bulgarian market, which determines the potential for development of Bulgarian agricultural producers in the domestic market niche.

In the product range of Bulgarian vegetable producers, potatoes occupy a leading position with quantities of approximately 200,000 tons per year, followed by tomatoes (see Fig. 8). These two crops form nearly half of the total amount of vegetables grown in Bulgaria and are considered the most desirable by agricultural producers. Pepper, cucumbers and cabbage are produced in significantly smaller quantities, and these crops have traditionally strong demand on the domestic market.

The largest relative share of the total fruit production during the year was formed by plums and lingonberries - 28.8%, followed by cherries - 23.3% and apples - 19.5%. Compared to 2020, there was a significant increase in the production of apricots and almonds - more than twice and by 75.1%, respectively. The harvested quantities of peaches and nectarines, pears, plums and lingonberries, apples and cultivated rose hips were also significantly higher - by between 4.6% and 37.3%. At the same time, the production of sour cherries, raspberries and hazelnuts decreased from 8.2% to 18.2%. The production of cherries and walnuts is close to that reported in the previous year.

In conclusion, the production and trade of fruit and vegetables in Bulgaria have great potential for economic development and success at the national and international level. To realize this potential, modernization of production, support for small producers, promotion of sustainable agriculture and development of effective marketing strategies are necessary. The combination of these measures can contribute to improving the state of production and trade of fruit and vegetables in Bulgaria and ensure the well-being of farmers and regions with agricultural production.

2. Assessment of the factors determining the market status of agricultural producers in the supply chain.

The profile of the studied farms is presented through 9 criteria, which aim to describe the main characteristics of the target entities. The size of the farm is of great importance in the

process of making management decisions, and for the needs of this study we have defined the farms in two groups - up to 5 decares of arable land and over 5 decares of arable land. According to this criterion, referring to the area on which agricultural crops are grown, the farms that cultivate areas up to 5 decares are 84 in number, and the farms cultivating larger areas are 39 in number. The results give priority to small farms, which are typical of Bulgarian agriculture. Depending on the production specialization, farms growing vegetables and those growing fruits were studied. The possibilities for optimizing supply chains are greater precisely in these 2 production areas. Agricultural producers engaged in these productions are definitely interested in strengthening their market positions and are actively looking for opportunities to make this happen. Of the respondents, 68 farmers grow vegetables and 55 grow fruits. In the studied population, the farms are highly specialized and correspond to the soil and climatic conditions in the regions where they are located. The personal characteristics of the farmers are represented by their age and education. The largest share is held by people between 41 and 60 years old (44%), followed by those up to 40 years old (31%), and the least are over 60 years old (25%). These results give reason to believe that the sample is balanced in terms of the age of the farmers and is representative based on the fact that it corresponds to statistical data on this indicator at the national level in the Republic of Bulgaria. In addition, the indicated age structure includes people and gives grounds for expecting a long-term interest in continuing productive agricultural activity in the future. According to their education, nearly 2/3 of the surveyed farmers stated that they do not have an agricultural education, which reflects the national trend in the agricultural sector and provides opportunities for future actions in this aspect.

Modern agricultural business needs support because it is carried out in an extremely variable environment, often with unpredictable impacts. In this sense, agricultural producers are looking for opportunities for interaction and mutual assistance with each other, in order to facilitate the management of their business and its functioning. Participation in professional associations is an approach to make this happen in practice. Among the 123 agricultural producers surveyed, 69 are members of a professional association or the majority of them see a benefit in seeking joint solutions to improve their business. This, in turn, is a prerequisite and an opportunity for the construction and functioning of marketing chains in which agricultural producers can add value to their products.

The share of income generated by agriculture can be used to judge the commitment and importance of the economic activity that agricultural producers are engaged in. When income is generated entirely from one source, such individuals definitely have a stronger incentive to develop their business and seek innovative solutions. Agricultural producers often rely on other sources of income, which is why the respondents are distributed approximately equally into two groups. For 44%, agriculture is not a main source of income, and another 37% generate their income mainly from agriculture. The study also includes 23 individuals (19%) for whom this agricultural production is the only source of income. We believe that the sample structured in this way adequately represents the producers for the needs of a study related to the management of distribution channels.

The Rural Development Program has an extremely important role in maintaining agricultural producers in Bulgaria. It provides opportunities for the implementation of innovative, working business ideas, with the production of both vegetables and fruits being among the priorities. This is because the specificity of these productions allows for a large range

of management decisions to improve the market position of the producer. Of the surveyed farmers, the majority have participated in the RDP measures and positively assess their impact on the development of their business.

Business experience is an important characteristic when analyzing and designing new opportunities for future development. The study sample includes three groups. The first group is those that were created in the last 5 years and are defined as new farms. The second group includes farms that have already established themselves in this business, operating between 6 and 10 years. The third group includes those farms that have more than 11 years of production experience. The structure of the sample according to the years of operation of the farm is balanced, with a slight predominance of farms with more production experience. This gives us reason to expect good knowledge of the specifics of the business and an attitude to continue the activity on the part of the respondents. It is no coincidence that over 60% of them answer affirmatively to the question of continuing agricultural production in the long term.

For the purposes of the analysis, marketing determinants are defined as outcome indicators, and the 9 general characteristics of the farm (listed in the questionnaire) are factor indicators. The research task is to determine the profile of farms that have the potential to participate in new promising supply chains.

For Performing the analysis based on the data with responses from the survey conducted among the surveyed individuals, nine statistical groupings were formed according to the factorial indicators. Based on the statistical groupings made, which in essence represent frequency distributions, the factors that have a non-random (objective) relationship with the performance indicators (identified marketing determinants) can be revealed using the Chi-square statistical method. When interpreting the results of statistical analysis, it is necessary to take into account that there are many other factors that were not studied in the current sample. The results of the performed Chi-square analysis are shown in Table 12. The statistical evaluation was made at a statistical error $\alpha = 0.05$.

Table3
Results of statistical data processing

marketing determinant s	area	production	age	education	membership	income	RDP	experience	plans
Knowledge of market trends and consumer preferences	connectio n	connectio n	no connectio n	connectio n	no connectio n	connectio n	connectio n	connectio n	no connectio n
Access to information	no connectio n	connectio n	connectio n	connectio n	no connectio n	connectio n	connectio n	no connectio n	connectio n
Need for innovation	no connectio n	connectio n	connectio n	no connectio n	no connectio n	connectio n	no connectio n	connectio n	connectio n

Variety identification	connection	no connection	connection	no connection	connection	no connection	no connection	connection	connection
Use of product branding	no connection	connection	no connection	no connection	no connection	no connection	connection	no connection	no connection
Use of packaging	connection	connection	connection	no connection	connection	no connection	connection	connection	no connection
Production costs	no connection	connection	connection	connection	connection	connection	no connection	no connection	connection
Bargaining power	no connection	no connection	no connection	connection	no connection	connection	connection	no connection	connection
Market communication	connection	connection	no connection	no connection	no connection	connection	connection	no connection	no connection
Clear competitive advantage	connection	connection	connection	no connection	connection	connection	no connection	connection	no connection
Distribution channel length	no connection	connection	connection	connection	no connection	no connection	no connection	connection	connection
Relationship with the intermediary	no connection	no connection	no connection	connection	no connection	connection	connection	no connection	connection
Performance analysis	connection	no connection	no connection	connection	no connection	connection	connection	no connection	connection

Source: own research

Table 12 shows that each marketing determinant is related to at least one of the factors covered in this study. This gives us reason to create a profile of the agricultural producer who would participate in activities to optimize the supply channels of his production. Thus, for each marketing determinant, a profile of the target agricultural producer was formed and they are presented in Table 13. Based on the formed profiles, it can be determined how each of them can be included in a management model of an agricultural product supply chain. For each supply chain, the implementation of specific marketing determinants will be provided, which are consistent with the profile of the agricultural producer. Of course, an important part of this process is its organizational development, which requires the establishment of certain fundamental rules, without which the implementation of the marketing determinants would hardly meet the expected positive effects on the agricultural product supply chain.

Table 4 Farmer profile for participation in joint marketing activities

marketing determinants	characteristics
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Knowledge of market trends and consumer preferences	small agricultural holding; vegetable production; agricultural education; basic income; participates in the RDP; experience over 11 years
Access to information	vegetable production; age up to 40 years; agricultural education; basic income; participates in the RDP; long-term plans
Interest in marketing innovations	vegetable production; age up to 40 years; basic income; experience between 6 and 10 years; long-term plans
Independent determination of the variety to grow	small farm; age up to 40 years; member of a professional organization; experience over 11 years; long-term plans
Use of product branding	fruit production; participates in the RDP
Independent determination of product packaging	large agricultural holding; fruit production; age between 41 and 60 years; member of a professional organization; participating in the RDP; experience between 6 and 10 years
Production costs	fruit production; age between 41 and 60 years; agricultural education; member of a professional organization; basic income; long-term plans
Bargaining power	non-agrarian education; basic income; participates in the RDP; long-term plans
Market communication	small farm; vegetable production; basic income; participates in the RDP
Clear competitive advantage	large agricultural holding; fruit production; age between 41 and 60 years; member of a professional organization; basic income; experience between 6 and 10 years
Participation in long supply chains	vegetable production; age between 41 and 60 years; agricultural education; experience between 6 and 10 years; long-term plans
Relationship with the intermediary	non-agrarian education; basic income; participates in the RDP; long-term plans
Independent analysis of results	small farm; non-agricultural education; basic income; participates in the RDP; long-term plans

The analysis shows that not all factors have the same weight in determining their relationships with marketing determinants. For the factor "membership in professional organizations", a statistically significant relationship is established with only 4 marketing activities, which determines its minor influence in the studied problem. The size of the farm and experience in the agricultural business show a statistical relationship with less than half of the studied marketing determinants and their influence can also be determined in this way. On the other hand, the production direction and income are determined with the strongest influence on marketing determinants, and participation and the presence of long-term plans for continuing the business activity shape the profile of the target agricultural producer.

All these findings give us reason to believe that the analysis confirms the research thesis that it is nalice potential for shortening supply chains at a regional levelby agricultural producers, taking into account the specifics of their farms.

3. Identifying the potential of different fruit and vegetable supply chains in Bulgaria

The offer of vegetables and fruits at this time is very diverse, both from a quantitative and qualitative point of view, and the existing trend in the market is diversification of the assortment and innovation. All this materializes in a percentage increase in sales, which is perceived differently depending on the reference channel taken, respectively 20% on the Bucharest wholesale market, the turntable of the category, an increase of 60-70% felt by the representatives of modern trade and an increase of over 100% by traditional stores that relied on the presence of fresh vegetables and fruits, arranging a special space for them. Both traders and importers/producers say that in the last two years some specialties have been opening up such as: iceberg lettuce, cherry tomatoes, arugula, Chinese cabbage, endive, avocado, but also for exotic fruits such as pineapple, pomelo, mango, lime, kiwi, as well as for herbs and convenient products - rosemary or fresh basil, for example, plants available on the shelf in various packages.

Last but not least, farmers should be aware that the responsibility for filling these market gaps lies on their shoulders. They have sufficient European funds and two niche markets in this category that are already in demand - organic vegetables and fruits and products that revive the traditional taste of Romanian vegetables and fruits.

Chapter Three Improving the market status of agricultural producers in the supply chain.

1. Business formats in the sale of fruits and vegetables

The fruit and vegetable market is quite dynamic, especially in the segment of imported goods. The competition here is almost always high, and to create a confident business, a novice entrepreneur will have to make a lot of effort. The initial stage is quite complicated, establishing relationships with profitable and reliable suppliers of goods, organizing logistics and attracting regular customers is not easy, but if you achieve the first victories, the following steps are not so difficult.

Sale of vegetables and fruits - a promising direction. But a newcomer, especially with a shortage of investments, will be quite difficult to take its niche in the market. Firstly, in almost every city tough competition is formed, and secondly, for a successful start of the case, it is necessary to immediately establish contacts with reliable suppliers, find regular customers and can achieve high-quality logistics. But if a novice entrepreneur will solve the difficulties of the initial stage, a small vegetable business is quite relatively quickly expanding, thereby increasing the amount of net profit.

The advantages of creating your own vegetable trading business, consider a high demand for goods (even seasonal), relatively small investments for opening a retail outlet or a small store and good profitability. Among the minuses, experienced entrepreneurs noted the difficulties associated with the search for reliable wholesale suppliers who will agree to an affordable price, the organization of the business (you need to find it in time, bring and decompose the goods, prevent damage to the products), the need for a warehouse, as well as relatively high competition. But if willing and thorough preparation for the creation of their

case, consulting with experienced entrepreneurs and experts, the most serious problems will be avoided. Without a competent start take your niche in the segment of vegetable and fruit sales, as well as to achieve real profit is simply impossible. These rules are relevant for all market participants, as in the case of organizing tea sales, etc.

Possible business formats

Selling vegetables as a business can be organized in several forms. The choice depends on the available investments, the experience of the entrepreneur (if not, it is not worth starting with the most difficult and expensive ones), the characteristics of the economic situation in the region and the needs of potential customers.

The most popular formats of the fruit and vegetable business:

- **At the stall.** This is one of the most affordable formats that does not require significant investments. It will take to issue entrepreneurial activities, find investments for the purchase of a minimum set of equipment (stall, counter, scales, packaging, etc.), as well as the first parties. To attract regular customers and strengthen the growth of your business, it is necessary to ensure a good range and quality of the product. If you focus on seasonal positions, it will be possible to significantly increase turnover.
- **By car.** The advantage of this format of work is its mobility. The entrepreneur can change several localization points per day, taking into account the traffic location of the place of trade and other factors (but do not forget about the penalty for violating the rules of trade with non-standard trade). In order to fully work and develop the prospect of business expansion, it is necessary to immediately issue permits, without hoping for a lucky chance. Trading on the car, the entrepreneur saves on renting a trading place, warehouse and the number of staff.
- **In the pavilion.** As a rule, in this case, a place is allocated in warehouses, which can completely solve the problem of product storage. The entrepreneur will have to pay for the trade and make a certain amount for renting a warehouse area, but at the same time it becomes possible to work in a place with excellent throughput, and also to find regular customers faster, although the level of competition is more difficult. It is important to remember about the conditions for proper storage of vegetables and fruits, to export to the pavilion such a volume of products that will be sold, while avoiding its damage and losses.
- **Opening a specialty store.** The ideal format of work in the sale of fruits and vegetables is the opening of a specialized store of vegetables and fruits. But at the same time there are several serious obstacles, especially for a novice entrepreneur. This concerns the need for significant investments and the availability of work experience, otherwise it will be very difficult to properly organize the case. The procedure for obtaining permits is also not easy, but if you achieve all the permits, competently organize logistics and storage of goods, find a reliable and profitable supplier, providing customers with a high level of service at an affordable price, a vegetable store can be a successful start to a big business.

Trading in vegetables and fruits is also possible from a market stall - such an organization of the business will initially be ideal for providing a stable income. Renting a square in a residential area will cost the cheapest and, having proven your products, you will even acquire regular customers. In a small town, this form of trade is often the most optimal form of activity. In a big city, the main obstacle is competitors focused on one place and the

difficulty of finding a truly convenient and noticeable place on the market. It is clear that a stall that is lost among many similar ones and does not differ in high-quality service and product assortment is unlikely to attract their buyer. But if the latter will know that only you will find the "exotic" product you need (and each product always has its own, albeit limited, customer audience), he will inevitably come to you.

Storage Ideas for Ideas, Farms and Organic Grocery Store

Today, the vegetable business can be built not only at the expense of volume - but also by building an interesting concept. Due to the fashion for organic food, fear of fertilizers and pesticides, people's reluctance to buy tasty products in supermarkets and a kind of "return" to the roots, the demand for farm products has increased. It is one thing to trade bags of products grown "soullessly" on the vast territories of agrarian companies using chemicals to protect themselves from weeds and pests - and completely different to sell a product grown by a specific person who invested all his talent and ability to grow large and juicy potato tubers, beets or onions. This marketing, supported by a good story today, inevitably hits right in the heart of its consumer. Naturally, the audience of organic products is concentrated in large cities, and to reach it, you need special tools - a concept, storage design and sufficiently large investments in external effects. But the benefit that can be obtained from such vegetables - is immeasurably higher.

Deliveries of vegetables and fruits to retail chains

Perhaps the most profitable wholesale trade in vegetables and fruits is possible in the form of supplies to large supermarket chains. However, in terms of bureaucratic cables, the number of necessary permits and other procedural nuances, this is the most unfavorable strategy. This way is worth going if you want to organize a truly stable and large supply, and for the sake of a few goods, you should not start. Yes, and it is no secret that it is almost impossible for a person "from the street" to get into large retail chains.

Online store or delivery to address

Is it profitable to trade vegetables and fruits via the Internet? Yes, profitable. More and more people today have a catastrophic lack of time even for an elementary hike. They will be happy to just go to your site, put the necessary goods in the basket, indicate a convenient time and delivery format, and pay and receive everything they need, right on the doorstep of their own apartment. However, such a format of work may have its own pitfalls:

- Limited supply channels due to perishable products;
- it is advisable to expand the scope at the expense of other food products;
- it will not work at a low price due to the mandatory costs of delivering goods.

At the same time, in online trading there is no need to maintain a large warehouse - a fairly extensive network of suppliers.

Assortment formation

The right policy and pricing policy is already half the success. It is hardly possible to earn a lot, selling expensive greenhouse pineapples in a small village. But in the central market of a big city, tomatoes from closed farming will certainly be in demand. If you have firmly decided to raise the buyer and change their tastes - think about supplying your exotic products from branded recipes for their preparation. Do not forget that our market is full of alternative products that can be replaced with something more expensive. So, beans once became popular

as an alternative to expensive meat products, and the promotion of a healthy lifestyle has created popularity such unprecedented fruits as avocados, celery, etc.

Quality service from packaging to the kitchen

If you do not have a means of promoting the brand, but you want to look worthy in the eyes of your customers - use these tools that can offer good service. A smile and a neat look of the seller, neatly leaving the goods, but what is there - packaging in paper packaging instead of the boring cellophane, with which we are so actively fighting - and your point already looks "expensive" and prestigious in comparison with nearby ones.

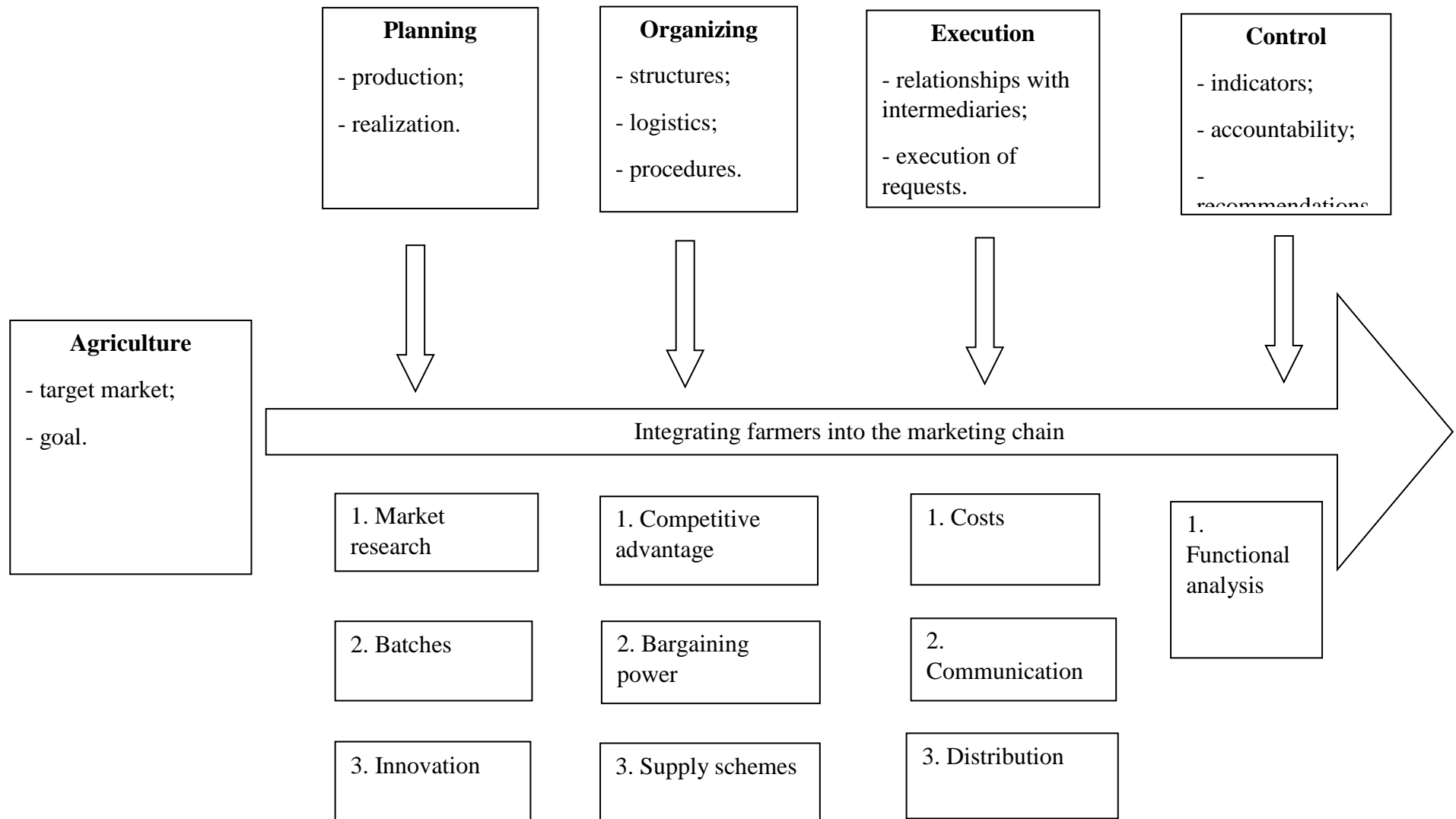
Additional direct customers

Don't forget about traditional marketing tricks, thanks to which you can "leave" even at peak moments of seasonal competition:

- Discounts for regular customers - people value personal relationships and love when they are isolated from the crowd;
- although insignificant, the discount for seasonal goods is especially in the absence of municipal years, when your neighbors multiply the price, hoping that the buyer will buy goods at any price in the absence of an alternative;
- small bonuses or gifts - a bunch of greens or an apple of a new variety offered for tasting, a dried fruit bag or a seasonal spice. These little things are enough to lift the mood towards your client and make him come back again.

2. Agricultural supply chain model

The results of the study, as well as the recommendations made for increasing the integration of agricultural producers, are the basis on which a model for organizing and increasing the integration of agricultural producers in the marketing chain has been developed. The model can be part of the activities of both small agricultural producers who want to strengthen their market positions and achieve a higher share in the final price of the produced products, and for large agricultural holdings seeking to increase their economic results. The length of the channel for the sale of agricultural products can be different, but must always be consistent with the characteristics of the target markets. The developed model presents the main management functions performed by agricultural producers and the activities necessary for their effective implementation. The central place in the model is occupied by the agricultural holding, which, through coordination of activities with intermediaries, facilitates the sale of production and achievement of the goals of the agricultural holding. The scheme of the model for organizing and increasing the integration of agricultural producers in the marketing chain is presented in the following figure:



Stage "Planning" - The functioning of a market information system is an important part of increasing the integration of agricultural holdings in the marketing chain. Information about the business environment is needed to be processed and stored for making informed management decisions. Providing distribution activities with the necessary resources aims to ensure their feasibility. Providing the necessary resources is an important prerequisite for the successful implementation of activities and achieving goals. Developing a marketing mix for each target segment aims to meet the needs of existing and potential customers by offering them products, packaging, etc. tailored to their requirements. The implementation of these activities is influenced by both the profile of the target market and the results of the analysis of the business environment, due to the influence of various entities on the final decision on what marketing mix to develop.

Stage "Organization" - The clear definition of the marketing strategy aims to select a specific strategy for implementation. Its choice is influenced by the set business and marketing goals. The main goal of the analysis of the business environment is to determine the characteristic features of the micro- and macro-environment and the resulting opportunities and threats to the competitive position. Also, the results of the analysis help assess the attractiveness of the target market and outline its profile, as well as set quantitative marketing goals. The activities include an analysis of the internal environment, which evaluates the activities of agricultural holdings in a multi-faceted manner. The goal is to establish their strengths and weaknesses. The results of this analysis help set quantitative marketing goals and ensure that marketing activities are provided with the necessary resources. The analysis of the interaction between producers aims to assess how their strengths combine to utilize the opportunities of the external environment and minimize the impact of its threats. These activities help set sound marketing goals and choose sound marketing strategies.

Stage "Implementation" - When setting prices, a five-step procedure is followed: 1) choosing a price target; 2) determining demand; 3) analyzing the pricing factors; 4) choosing a pricing method and 5) forming the final price. Issues related to product distribution relate to how to structure the unit that will carry out sales, how many associates will be involved in this process, how orders will be processed, the place of delivery and customer service schedules. An important part of joint marketing activities is conducting a communication policy towards consumers and society as a whole. When developing a communication policy, eight steps are followed: 1) identifying the target audience; 2) determining communication objectives; 3) composing the message; 4) deciding on the communication structure; 5) selecting communication channels; 6) determining the total communication budget; 7) measuring the results of communication; and 8) to manage the integrated marketing communications process.

Stage "Control" - The purpose of building a system for controlling the implementation of the marketing strategy is to control the implementation of joint marketing activities and, based on identified significant changes in the external environment, to support the initiation of measures to improve its implementation. This sub-stage affects the choice of the company's organizational structure and the delegation of rights and responsibilities for the implementation of the marketing strategy.

Conclusion

The market status of farmers in the supply chain is determined by several factors that have an impact on their success and competitiveness. Based on the field research conducted, the following ten key factors for improving the market status of farmers in the supply chain can be identified:

1. **Price and bargaining power:** The price that farmers receive for their products plays a role in determining their market status. The bargaining power of producers is determined by the balance of supply and demand, the size of production, competition in the sector and the availability of alternative markets. If farmers have greater bargaining power and can negotiate better prices and terms with distributors, this can improve their market status.
2. **Quality and standards:** High quality of agricultural products is essential for achieving good market status. Agricultural producers must meet national and international standards for food safety, quality and sustainability of products. Having certificates and accreditations can increase market trust and improve the market status of producers.
3. **Market access:** Access to different markets and trade channels can significantly impact the market status of agricultural producers. The ability to penetrate new markets, as well as the presence of a well-developed logistics infrastructure, can increase producers' access to consumers and increase their market share.
4. **Marketing and branding:** Effective marketing strategies and branding of agricultural products can enhance the market status of producers. Building a unique brand, communicating product values and differentiation, and targeting specific market segments can help producers rise above the competition and attract consumer attention.
5. **Market trends and requirements:** Compliance with market trends and requirements is important for the market status of agricultural producers. Consumers are increasingly interested in healthy, environmentally friendly and sustainable products. Producers who can meet these requirements and offer innovative products have a greater chance of establishing themselves in the market and improving their market status.
6. **Capital and financing:** Access to capital and financing is essential for the development and competitiveness of agricultural producers. The availability of financial resources can allow them to invest in modernizing production, building new infrastructure or improving the quality of products. Financial stability and easy access to credit can improve the market status of agricultural producers.
7. **Innovation and research:** The development of innovative solutions and the application of scientific research in agriculture can improve the market status of producers. Innovations in cultivation, production and environmental protection technologies can increase the efficiency and quality of products. Technological advances can also provide opportunities for the development of new types of products or the improvement of existing ones.
8. **Legislation and Regulations:** Various laws and regulations related to agriculture and food can affect the market status of farmers. For example, food safety and labeling regulations may require specific standards and certifications, which can increase the

cost and complexity of production. Reasonable and effective enforcement of legislation can help protect producers and ensure a level playing field in the marketplace.

9. Competition and the Value Chain: Farmers are located in a value chain context where competition is a significant factor in market status. Understanding the competitive landscape and interacting with the various players in the supply chain, such as distributors, packaging manufacturers, retail chains, and others, can help farmers better position themselves in the market and increase their market share.
10. Demand and consumer preferences: The market status of farmers is also strongly linked to consumer demand and preferences. Market orientation and adaptation of products to the needs of a specific market can lead to greater success and competitiveness. For example, the growing interest in organic and environmentally friendly products can create opportunities for farmers who can meet these needs.

All of these factors interact and influence the market position of farmers in the supply chain. Understanding and effectively managing these factors can help producers establish their market presence, improve their market share, and achieve sustainable growth and success. Assessing these factors is important for understanding the market position of farmers in the supply chain. Each of these factors can influence their success and determine their position in the market. Implementing strategies that focus on these factors can help farmers improve their market position and compete successfully in national and international markets.

Also a very important factor is the shortening of the supply chains of agricultural products in Bulgaria, which can contribute to more efficient and sustainable agricultural production. One of the possibilities to achieve this is through the direct sale of agricultural products from producers to end consumers. A possible scheme for shortening the supply chains includes the following stages:

1. Local production: Supporting and encouraging local agricultural production, where products are grown and produced locally. This may include support for small and medium-sized farmers, training in good agricultural practices, and promoting sustainable farming methods.
2. Creating local markets: Developing local markets where farmers can sell directly to end consumers. This could include creating farmers' markets where producers can display their products and sell them without intermediaries. Local markets create a connection between producers and consumers, shorten the length of the supply chain, and provide an opportunity for more direct contact and communication.
3. Organizing cooperation: Creating cooperation between farmers, allowing them to come together and market their products as a group. This can take the form of cooperatives or producer associations, which have greater bargaining power and better opportunities for promoting and marketing their products. Cooperation can also provide opportunities for sharing resources, developing joint projects, and training.
4. Direct sales and delivery: Farmers can offer direct sales and delivery of their products to end consumers. This can be done through online platforms, home delivery or through specialized stores for local and agricultural products. Direct sales and delivery reduce the number of intermediaries and their associated costs, thus shortening supply chains.
5. Government support: Government institutions and organizations can provide support and incentives for shortening agricultural supply chains. This can include financial

assistance, tax breaks, training and consulting on marketing and management issues, as well as the creation of special programs and initiatives to develop local agricultural production.

The scheme for shortening agricultural supply chains in Bulgaria is based on direct sales and the promotion of local production and markets. It aims to provide a more direct connection between producers and consumers, reduce costs and delivery times, improve the quality and freshness of products, and promote sustainable agriculture.

III. REPORT ON CONTRIBUTIONS

The dissertation "Management of Agricultural products supply chain" contains the following more significant ideas and solutions for the theory and practice of corporate governance:

1. The specifics of production structures in agriculture and business relations with intermediaries in the realization of production are clarified.
2. The mechanism of action of agricultural product supply chains has been clarified.
3. A methodology has been developed for the study of agricultural supply chains.
4. The factors determining the market status of agricultural producers in the supply chain are identified and recommendations are given for its improvement
5. The potential for shortening agricultural supply chains is identified and a model for agricultural supply chain management is proposed.

IV. LIST OF PUBLICATIONS ON THE TOPIC

1. **Penchev, Y.**, Distrubution management of agricultural production. Economics and management of agriculture. 2022, № 2
2. **Penchev, Y.**, Profile of farmers in shortening supply chains. Journal of Bio-based Marketing. 2025, № 1
3. **Penchev, Y.**, Functioning of agricultural supply chains. Journal of Bio-based Marketing. 2025, № 1