

# Changing the Designs of Business Models of Wholesale Food Markets in the Context of the Transformation of the State Regulatory System

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**Abstract** – Wholesale food markets have always been in the focus of public administration, since they are an effective mechanism for regulating the movement of goods. This article examines the organizational, legal and economic conditions for the development of wholesale food markets on the example of 7 countries of the European and Pacific regions. The results of formalization of basic variants of business model structures that reflect the strategic priorities of the organization of the wholesale food market management system in the context of national food security strategies are presented. The modelling effects of each business model are determined and their adaptive abilities to changing environmental conditions are analyzed.

**Keywords** – State regulation of wholesale food markets, business models, consumer cooperatives, food security, Osterwalder framework.

## 1. Introduction

Recently, almost all over the world there has been great interest in the formation of a system for the circulation of agricultural products and the importance of this system in the development of agriculture.

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Having approved the 2030 Agenda for Sustainable Development in 2015, the UN member states formulated an updated list of urgent challenges for humanity, which are reflected in the seventeen Sustainable Development Goals (SDGs). Particular attention in this document is paid to the goal of "Eliminating hunger, ensuring food security and improving nutrition, and promoting sustainable agricultural development."

On November 15, 2022, the world's population reached 8 billion people, which will be an important milestone in the development of mankind. On the one hand, this fact provokes a positive reaction, since "this unprecedented growth is due to a gradual increase in human life expectancy due to improvements in public health, nutrition, personal hygiene and medicine. This is also the result of high and stable birth rates in some countries," however, on the other hand, concerns are more pronounced about whether the planet will be able to feed the population, given the fact that resources are limited [1]. Scientists ambiguously answer the question of how many people will be able to feed our planet, however, everyone is convinced that it depends on how exactly we will manage our resources in the future. It is predicted that about 90% of the expected increase in the world's urban population in the next two decades will occur in cities in Africa and Asia. Considering the fact that according to the Food and Agriculture Organization (FAO), "more than 40% of root crops, fruits and vegetables are thrown away, along with 35% of fish, 30% of cereals and 20% of meat and dairy products" [2], it makes sense to accumulate solid knowledge on how to strengthen the existing systems of wholesale food markets that can reduce post-harvest losses by about 30% (according to European experience) [3]. From this point of view, the task of "ensuring the proper functioning of markets for food products and their processed products and promoting timely access to market information, including on food reserves, in order to help limit excessive volatility of food prices" should be considered as a priority in almost every country.

This is especially true for those countries where the problem of combating hunger is not a strategic goal within the framework of national food security strategies [4].

Over the past decades, the state concept of managing the concept of wholesale food markets (hereinafter referred to as wholesale markets) has undergone widespread rethinking and rebirth in many countries, starting with European countries such as Spain, France and Germany, and ending with representatives of the Pacific region, including Australia, New Zealand, and Japan. World practice has shown that the system of wholesale food markets is able not only to solve problems related to optimizing the distribution function of the national food system, but also to bring significant public benefits, helping to improve the well-being of the community, providing wider access to local healthy food.

Wholesale food markets in many countries have gone through a similar evolutionary path of development: from a managed and regulated mechanism of commodity movement that contributes to solving the problem of national food security at the state level, to an effective element of a regional development strategy that allows providing a number of benefits for producers, consumers, cooperatives and society as a whole. The transformation of the strategic objectives of the development of national food security strategies contributed to the departure from the simplified concept of a direct state marketing channel, which they used to be, in favor of a more complex structure that includes many services and functions [5].

It is not unreasonable to argue that modern wholesale markets seek to consolidate as a multitasking platform for comprehensive business development in the field of agriculture.

The developments of the models presented below were preceded by an analysis of the evolution of the development of the system of wholesale food markets in 7 countries: Great Britain, Germany, France, Spain, Poland, Australia, and Japan.

Foreign authors distinguish 3 effects from the creation of wholesale markets:

1) Proactive regulation of redistributive centers of food products. This effect arises due to the concentration of products from disparate production sources and their distribution to retail outlets, which makes it possible to further use wholesale markets as a proactive regulatory tool, introducing through them the institute of product quality and trade standards [6].

However, at present, the impact of wholesale markets on the economy of the regions has become significantly more complicated, secondary effects have begun to manifest themselves.

They require not only separation into a separate class of effects, but also detailed study, because their contribution to the increase in overall effectiveness only grows over time.

According to the authors, the organizing and regulating functions of wholesale trade are relevant only at the initial stages of the functioning of the market, because the basic framework of the wholesale trade system is being formed, which affects the regional structure as a whole in accordance with the "quick start" effect, the essence of which is to obtain rapid positive results against the background of structural transformations.

At the later stages of the functioning of the wholesale markets, another effect begins to dominate, the role and content of which is manifested in the economic integration of various territories and overcoming the spatial gap between them. This effect gives positive results the more fragmented the producers in the regions were, and the more "discharged" the density of economic entities in the country.

Thus, at present, these are two independent in essence, and consistent in the implementation of the effect, which require completely different monitoring and evaluation tools.

2) Prompt response to market triggers by improving the competitive environment and reducing the equilibrium price.

By concentrating food suppliers and buyers within geographical and temporal boundaries, wholesale food markets facilitate the comparison of prices and product quality [3].

This effect has also passed the stage of disaggregation. Firstly, wholesale markets are an effective pricing mechanism that most fully meets the conditions of fair pricing of goods and services. He is able, on the one hand, to take into account the level of socially necessary labor costs, and on the other – the value (utility) of the goods sold. That is, the wholesale markets optimally implement the pricing function, taking into account the target functions of sellers and buyers.

Secondly, the wholesale markets work as a kind of "built-in stabilizer": a mechanism that allows you to automatically smooth out sharp deviations with strong fluctuations in the price environment. That is, in fact, wholesale markets perform a stabilizing function in the price projection.

3) A specific "sales funnel".

Within the wholesale market, economies of scale are achieved by combining physical (transportation, storage, etc.) and trade functions (sale, joint marketing, etc.) of suppliers, that is, there is actually a concentration of services that can be offered by a market agent with economies of scale [7].

That is, the effect is manifested in the fact that related services make sales not only more transparent, which increases the level of trust of customers (sellers and buyers), but also improve them. If we analyze the sales funnel according to the AIDA (Awareness, Interest, Desire, Action) consumer behavior scheme, then wholesale markets focus on expanding potential transactions through the first and last element: Attention — that is, attracting customer attention through advertising and Action — that is, providing the customer with more opportunities to buy or order a product.

As the study showed, these effects manifest themselves perfectly in different countries (in a number of regional markets within one country). First of all, the intensity of each effect depends on the institutional conditions in which the market is formed and operates. But the main factor is the strategic goal of initiating wholesale markets. Goal-setting leads to the intensive development of certain elements in the architecture of the market, which either contribute to the deployment of the described effects, or act neutrally, or vice versa - block them.

However, this effect is conditionally useful because it increases the value chain. With a developed supermarket system, as practice shows, wholesale markets may lose out in generating this effect. Of particular note is the fact that the intensity of the effects significantly depends on the specific institutional conditions and the goals that form the basis for the implementation of the model. Goal-setting leads to the intensive development of certain elements in the architecture of the market, which either contribute to the deployment of the described effects, or act neutrally, or vice versa, block them, and therefore the intensity of the effects will be different.

When creating a national wholesale market model, the strategic goal is achieved due to the model-forming effect. This does not mean that other effects are not observed, just one of them becomes the key.

The strategy implementation plan of any strategy reflects its business model. A business model is a holistic concept that "explains how firms create and fix value" for example, [8].

In a sense, a business model describes the structure of the value chain that is necessary to create and distribute a value proposition, as well as the additional assets required for this process [9], [10].

The strategy provides a direction for using the business model depending on unforeseen circumstances that may arise in a competitive environment. Therefore, the strategy consists in making decisions, while the business model is a projection of the strategic choice made and reflects the operational consequences [11].

In this regard, the extent to which individual elements of the wholesale markets business model are consistent with the tasks set within the framework of national development strategies or food security concepts determines the effectiveness of the food security system itself.

Within the framework of this work, the authors consider the business model as a system of resources, business activities and results that allows to support the sustainable creation of a sought-after value proposition for key stakeholders by ensuring the interrelationships between its knowledge, resources and competencies, technology and strategies and extract economic benefits [12]. That is, the business model describes the economic logic of the subject's activity within the framework of structural elements corresponding to the general scientific methodology chosen by the researcher. Adhering to this concept, all the variety of approaches to the formalization of the business model can be divided into 2 classes: formed within the framework of the functional approach, reflecting the system of functions of the company [13], [14], [15], [16] and business models that are formed within the framework of the value approach, reflecting the achievement of strategic goals, value creation, cash flow generation [17], [18].

Purpose and objectives of the study – the authors set the task of formalizing basic variants of organizational and functional structures and business models that reflect strategic priorities within the framework of the management system of wholesale food markets in the context of national food security strategies and analyzing their adaptive abilities to changing environmental conditions (model of state initiative, model of public initiative, mixed model, combined model with point government regulation).

The Osterwalder framework was chosen to implement this task. This model focuses on the external environment of the firm, believing that "it is the harmonious 'inclusion' of the subject in his external environment that ensures the firm's competitiveness" [19], what corresponds directly to the research task is the analysis of the adaptive abilities of the wholesale markets business models to changing environmental conditions.

The Osterwalder framework is described using 9 blocks combined into 4 business areas: customers; offer (product or service); necessary infrastructure; financial viability [17]. At the same time, one of the blocks – "Key Resources", was replaced by the authors with the "Key Processes" block as the main element reflecting the company's relationship with its internal structure, processes and systems.

## 2. Materials and methods

When writing this work, the authors used a qualitative research design based on a systematic approach, in which the research object is considered as "an entity that is a coherent whole, the boundary around which serves to distinguish internal and external elements, and also identifies the input and output, incoming and outgoing from the entity". A system can be defined as an entity, which is a coherent whole [20] such that a boundary is perceived around it in order to distinguish internal and external elements and to identify input and output relating to and emerging from the entity. [20]. This approach made it possible to develop organizational and functional schemes and formalize the existing business models of wholesale food markets in the context of a transforming institutional environment determined not only by the prevailing economic conditions, but also by the requirements of the main stakeholders (state, population, business representatives, local community). We show how models are transformed over time by the example of the practices of 7 countries, using the method of case studies, which involves the use of one or more cases to create theoretical constructions, proposals and/or intermediate theories based on empirical data based on specific cases [21]. In total, the authors analyzed more than 100 sources, while 36 were identified as potentially relevant for solving the task. The basic data sources used by the authors as illustrative examples for argumentation were the works of 3 key field studies of wholesale markets. The first work - Kadilhon et al., 2003 "Wholesale markets and food distribution in Europe: new strategies for old functions. The Center of the food chain" contains a description of the specifics of wholesale markets in Europe; second - Conacher and Conacher, 1991 "Updated information on organic farming and the development of organic industry in Australia" - Australian markets; third - Yoshitaka, 2016 "Failure of Cooperative Farming Development Policy in Tohoku, Japan. Journal of Resources and Ecology", - Markets of Japan. The key working method is the abductive method, which involves a combination of induction and deduction, which allowed combining the results of the system approach and the "case theory method" [22]. The combination of research approaches used within the framework of the chosen research design made it possible to simultaneously identify new characteristics of the phenomenon under study based on the use of existing basic theories [23]. The result was the creation of the author's basic organizational and economic schemes for the functioning of wholesale food markets, which made it possible to sufficiently understand the research phenomenon to explain some of the patterns of its development.

Since the research question concerned the analysis of changes in the business models of wholesale food markets, this situation required a historical longitudinal analysis, in which the business model of wholesale food markets before the change differs from the business model after the change [24].

## 3. Results and Discussion

### *Model 1 – "State Initiative".*

Within the framework of this model, the wholesale market is created as an instrument for the implementation of the state policy of national food security. Its strategic goal is the efficient distribution of food. Most often, this model arose in conditions of market demand, when consumer demand for food products significantly exceeded supply.

The main tasks solved within the framework of this model by the state are: the creation of a mechanism that helps reduce distribution costs, ensuring quality control of products and food prices. The wholesale market as a tool of state regulation was considered as an effective infrastructure superstructure focused on providing facilities and services adapted for sellers and buyers in the same market [7]. That is, the key activity is the management of infrastructure and real estate, and the value proposition being formed can be formulated as "Affordable food at an affordable price."

Within the framework of this model, the institution of the wholesale market is considered as a public good, where the ownership rights to the market belong to the state and where it has a controlling stake. The main source of funding was initially the state. But then, due to fees from the goods sold, and later from suppliers and flows from other sources, such markets not only became self-sufficient, but also began to make a profit. Since within the framework of this model, the role of the regulator belongs to the state, the function of quality control of food products sold in such markets is carried out either by special state structures or organizations authorized by the state.

Cooperatives in this model are considered as one of the central customer segments along with farmers and other agricultural enterprises. Sometimes the state assigns the function of product quality control and trade organization to cooperatives in case of their interest and active participation in trade [25]. However, this is typical for those countries where a similar experience has already been formed within the framework of the cooperative movement and cooperatives have a prestigious and recognizable brand [26].

The organizational and functional model of the wholesale market, created and operating on the basis of a state initiative, is presented at (Fig. 1). The model-forming effect in this case becomes a "sales funnel", therefore, the key processes in the activities of wholesale markets are those that are able to provide economies of scale:

– Supply and management of the assortment  
 This is a key function for wholesale markets, within which the main processes are formed, such as: accumulation, redistribution and provision of goods [27]. For the rational distribution of trade conditions, wholesalers need to have specific data on the current

state and prospective changes in the situation in regional and industry markets. Making a decision on the formation of assortment policy is always associated with the risk of accumulation of excess stocks. Given the specifics of the goods – food – it is also worth considering the spoilage factor.

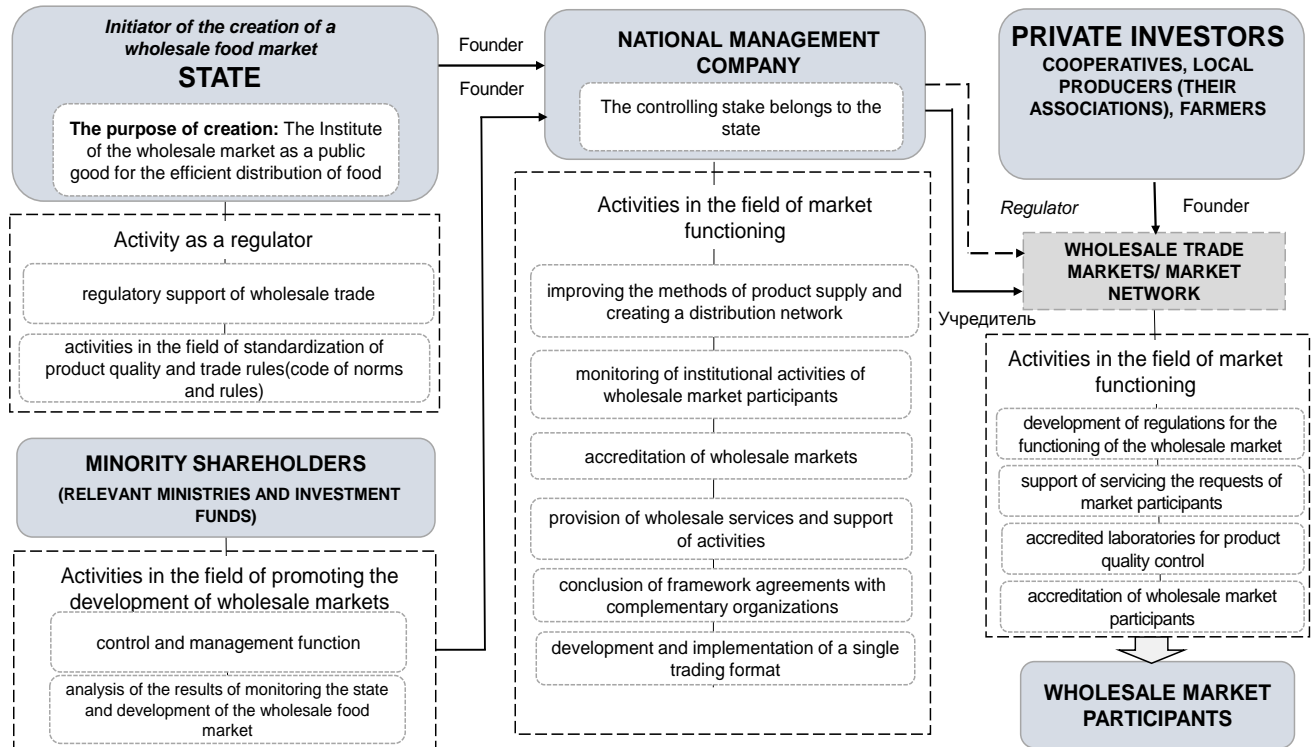


Figure 1. Organizational and functional scheme of the wholesale food market "Model of the state initiative" (Source: developed by the authors.)

The main difference and competitive advantage of wholesale markets is that, unlike a distributor, they can provide a wide interchangeable/complementary assortment provided by a wide range of suppliers.

– General infrastructure management

This activity includes several areas, the main of which are: area management, trade rules, quality control system.

– Transportation

The purpose of this group of processes is to deliver the products needed by consumers with minimal financial and time costs. These processes are associated with the movement (transportation) of goods, their shipment and acceptance. This functionality is often outsourced, other counterparties are connected to the value chain.

– Warehouse services and storage

This group of processes is related to the storage, warehousing and management of inventory balances. The complexity of these processes in wholesale food markets is due to the fact that the bulk of goods belong to the category of perishable, which is why most wholesale markets operate within the framework of such business models that provide for their own warehouses focused on the specifics of such products and are within walking distance for sellers.

– Sorting, scattering and processing

In addition, buyers often want packages that meet their needs (a semi-bottom or a separate box).

The basic business model of the wholesale market, which, as a rule, is formed within the framework of this system of organization of wholesale markets, is presented in Fig. 2.

<b>8. Key partners</b> ✓ State ✓ Sanitary-epidemiological and veterinary service; ✓ Service organizations: primarily transport. ✓ Banking, legal, accounting and auditing, cleaning	<b>6. Key type of activity</b> Infrastructure and real estate management	<b>2. Value proposition</b> Affordable food at an affordable price	<b>4. Customer relations</b> Clear, simple, transparent contractual terms	<b>1. Customer segments</b> ✓ Farmers and other agricultural enterprises; ✓ Cooperatives; ✓ Regional wholesalers ✓ Retail facilities and networks; ✓ Logistics and distribution centers
	<b>7. Key processes</b> ✓ Supply and assortment management ✓ General infrastructure management ✓ Transportation ✓ Sorting, scattering and processing. ✓ Warehouse services, storage		<b>3. Sales Channels</b> ✓ Administrative resource; ✓ Industry exhibitions; ✓ Trade representative offices; ✓ Media	
<b>9. Main items of expenditure</b> ✓ Operational, ✓ Depreciation, ✓ Interest on loans, ✓ Taxes			<b>5. Sources of income</b> ✓ Government subsidies ✓ Rent of premises in pavilions OR fees from actual sales	

Figure 2. Business model of the wholesale food market (state initiative)

Studying the experience of organizing foreign models of organizing wholesale food markets by other researchers also proves that "the development of wholesale food markets requires not only the creation of modern warehouses, but also platforms for interaction between sellers and buyers, as well as the capacity to refine products to generate added value" [28].

This model includes many European wholesale markets, which were the main component of the food security policy of national governments [7], and many wholesale markets were built with funding from the Marshall Plan. Examples are the model of wholesale markets in Spain [25], where in the 1960s the government created the MERCASA enterprise to create a network of 22 modern wholesale markets. A similar model existed in France and Japan.

However, since the emergence of such a model was situational, subsequently, when key results were achieved, the state began to attract investors to wholesale food markets, focusing primarily on producers: cooperatives and farmers. The experience of Europe in this regard is interesting. To increase the attractiveness for investors, preferred shares of wholesale markets gave shareholders 5 votes (instead of the traditional 1), then the bar was lowered to 2 [29].

*Model 2 – "Public Initiative".*

The second model is also formed in the conditions of the demand market. But the task facing the regulator is becoming somewhat different: improving the quality of life of the population and meeting specific regional needs. In this situation, the development of food wholesale markets was left to the discretion of local authorities. As a rule, this was due to the fact that specific regions had different needs both in intensity and content. Initiation, funding and the degree of support depended on the local government. Such a scheme of development of food wholesale markets was typical for Italy, Germany and the UK.

Countries could have come to such a model in the course of a natural change in the paradigm and goals of public administration. This approach was typical for Australia, where over time the state ceded its ownership shares to regional authorities [30]. The main source of funding in this model was initially local authorities. In addition, the institute of sponsorship is actively used here. Of course, fees on goods sold also play an important role in their financial model.

The organizational and functional model of the wholesale market, created and operating on the basis of public initiative, is presented at Fig. 3.

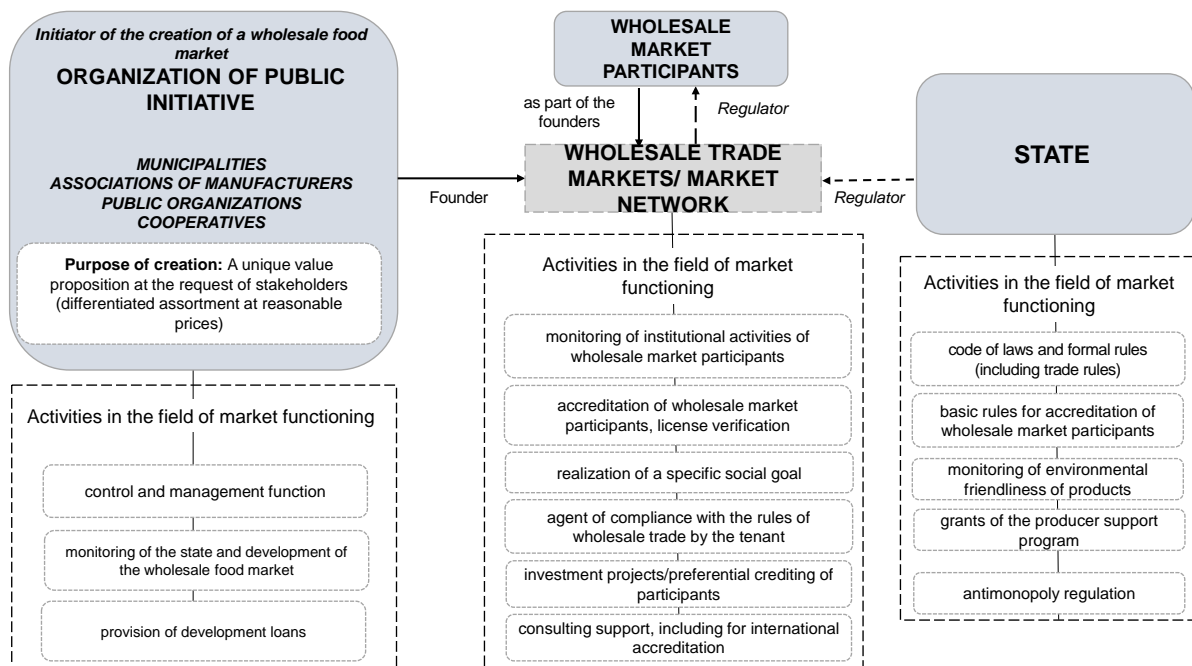


Figure 3. Organizational and functional scheme of the wholesale food market "Model of public initiative"

Source: developed by the authors.

The effect of rapid response to market triggers becomes model-forming here. Accordingly, the basic business model of wholesale markets formed within this organizational structure is focused on maximizing this effect, taking into account the specifics of the requests of owners of wholesale markets: A group of processes that meet regional needs is added to the group of main processes aimed at ensuring economies of scale and described in

Model 1: achieving sustainable development Goals, mainly related to ecology and improving the quality of life; maintaining traditions; developing tourism; supporting producers of a particular region, promoting local goods, etc.

The basic business model of the wholesale market, which, as a rule, is formed within the framework of this system of organization of wholesale markets, is presented on Fig. 4.

<p><b>8. Key partners</b></p> <ul style="list-style-type: none"> <li>✓ Regional authorities</li> <li>✓ State</li> <li>✓ Sanitary-epidemiological and veterinary service;</li> </ul>	<p><b>6. Key type of activity</b></p> <ul style="list-style-type: none"> <li>✓ Infrastructure and real estate management</li> <li>✓ Specified for a regional request</li> </ul>	<p><b>2. Value proposition</b></p> <ol style="list-style-type: none"> <li>Improving the quality of life of the population and meeting specific regional needs</li> <li>Guaranteed product quality</li> </ol>	<p><b>4. Customer relations</b></p> <ul style="list-style-type: none"> <li>✓ A socially-oriented approach towards local producers and tenants and buyers</li> <li>✓ Partner: a platform for start-ups</li> <li>✓ Loyalty programs</li> </ul>	<p><b>1. Customer segments</b></p> <ul style="list-style-type: none"> <li>✓ Farmers and other agricultural enterprises</li> <li>✓ Cooperatives</li> <li>✓ Regional whole: Retail facilities &amp; networks;</li> <li>✓ Target groups of buyers</li> <li>✓ Processing enterprises;</li> <li>✓ Service organizations;</li> <li>✓ Intermediaries: avtobazar</li> </ul>
	<p><b>7. Key processes</b></p> <ol style="list-style-type: none"> <li>A group of basic processes aimed at achieving economies of scale</li> <li>A group of processes that meet regional requirements                     <ul style="list-style-type: none"> <li>✓ Implementation of the Sustainable Development Goals: eco-friendly food.</li> <li>✓ Maintaining traditions.</li> <li>✓ Development of the national fast food system</li> <li>✓ Tourism development</li> <li>✓ Support for manufacturers of a specific region.</li> <li>✓ Promotion of local products</li> <li>✓ Formation of public opinion, through the creation of a single brand, primarily symbolizing quality.</li> </ul> </li> </ol>		<p><b>3. Sales Channels</b></p> <ul style="list-style-type: none"> <li>✓ Administrative resources</li> <li>✓ Mobile markets;</li> <li>✓ Targeted mailing list;</li> <li>✓ Individual meetings with owners/directors of potential tenants;</li> <li>✓ Industry exhibitions;</li> <li>✓ Meida;</li> <li>✓ Internet</li> </ul>	
<p><b>9. Main items of expenditure</b></p> <ul style="list-style-type: none"> <li>✓ Operational,</li> <li>✓ Depreciation,</li> <li>✓ Interest on loans,</li> <li>✓ Taxes,</li> <li>✓ Brand promotion expenses</li> <li>✓ Transport</li> </ul>		<p><b>5. Sources of income</b></p> <ul style="list-style-type: none"> <li>✓ Funding from local authorities</li> <li>✓ Sponsors</li> <li>✓ Income from administration</li> <li>✓ Rent of premises in pavilions</li> <li>✓ Rental of related infrastructure (warehouse, refrigeration, transport, etc.)</li> <li>✓ Entrance to the territory</li> <li>✓ Rent a place for sale with cars</li> <li>✓ Other services, including advertising</li> </ul>		

Figure 4. Business model of the wholesale food market (public initiative)

(Source: developed by the authors.)

To the group of main processes aimed at achieving economies of scale and described in the framework of Model 1, a group of processes that meet regional needs is added:

- Achieving sustainable development goals, mainly related to ecology and improving the quality of life.

Some buyers are distrustful of mass producers of food products, believing that they are unable to provide "environmentally friendly" products in conditions of mass production. But farm products are also treated with distrust, believing that small farms are not able to strictly follow the technological process and guarantee the proper level of quality.

- Maintaining traditions

For example, the native Dutch prefer to buy products at wholesale markets. Retailers, supporting the traditional activities of wholesale markets, mostly buy food products there [7], another example is the preservation of traditions within the framework of maintaining the national fast food system.

- Tourism development

The wholesale market as one of the attributes of a tourist destination contributes to the economic development of regions, including the creation of additional jobs, the preservation or opening of production of individual products, as well as their implementation, helps to improve the image of the regions. The gastronomic offer of the territory should be based on the features and advantages that the destination possesses and which favorably distinguish it from other destinations. Usually, tourists visiting markets are focused on exploring the area at a certain time in order to participate in public and cultural events of gastronomic topics, therefore, advertising of other enterprises and products of the region is very often presented at such markets, as well as leisure places [31].

- Support for manufacturers of a specific region

For example, the French food culture is based on products coming from certain areas of the country and produced in a certain way. Accordingly, chicken from Saint-Sever in southwestern France and chicken from Loup will be considered as completely different products for consumers. [7]

For some buyers, this is partly due to the belief that local food is tastier and more nutritious, since the

buyer knows exactly where the products came from and how they were grown or produced. Other consumers support local producers out of a sense of belonging to a certain community.

- Promotion of local products

In some cases, the wholesale food markets sell not only food, but also unique local goods – handicrafts, tableware, handmade products – which further strengthens local communities. Also, a single brand of the market strengthens the confidence of buyers in the products, being a certain marker of quality: This played a big role in restoring consumer confidence in France after the discovery of a number of dangerous viruses in farm products.

For this model, an administrative resource acts as an important sales channel within the organization. Very often, such markets are focused on regular customers from the surrounding area and their requests: kindergartens, schools, etc. There is a practice of creating special loyalty programs for certain categories. For example, for pensioners and large families.

*Model 3 is a "Mixed model".* This model appears within the supply market when the buyer is interested in promoting their products. The role of the state here is reduced to the usual regulation. The value proposition formed by this model is focused on the formation of a diversified range of products at an affordable price (without additional intermediaries) within one trading platform, these products must meet the demand of consumers.

Such markets are usually owned directly by producers and interested parties (for example, cooperatives), sometimes a small share may be owned by a municipality.

An example of such a market is the wholesale market in Perth, created on the initiative of urban industrialists in Australia.

The state and local authorities can provide loans for the construction of such markets, which are then covered by profits. Often the task of such markets is to export products.

The organizational and functional model of the wholesale market, created and operating on the basis of a mixed form of interaction between private and public partners, is presented at Fig. 5.



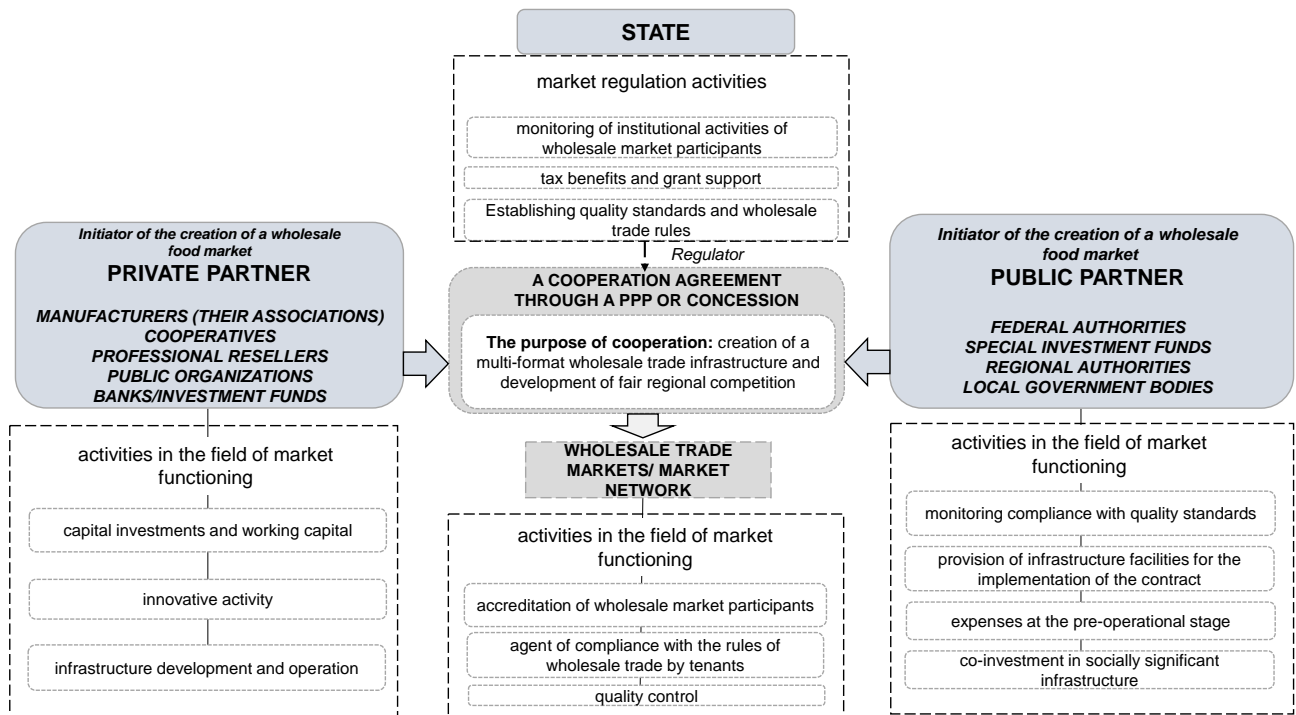


Figure 5. Organizational and functional scheme of the wholesale food market "Mixed type model" (Source: developed by the authors.)

For example, the wholesale market in Verona was created by the decision of travel agencies and local authorities in order to cope with a sharp increase in demand for food products during the tourist season. And now about 50% of the products sold on the market are exported, only 10% of today's sales are accounted for by consumers in Verona [7].

The main source of financing in this model are fees from suppliers and sponsorship, membership fees (there may be from buyers, a discount is provided in return), a self-financing mechanism is actively used by creating a network of business incubators within the framework of the formation of local markets (business plans for the creation of prefabricated and even terminal markets within this territory are being considered).

The business model of wholesale markets in this case is aimed at maximizing two effects: "Proactive regulation of redistributive centers of food products" and "Prompt response to market triggers". Accordingly, a group of maintenance and control processes is added to the group of main processes aimed at ensuring economies of scale:

– Delivery

Currently, the number of wholesale markets owning vehicles for the delivery of products is growing. This is an effective way to develop customer loyalty. Delivery activities can also significantly increase profits.

– Processing

This is a fairly new feature, typical for wholesale markets in Europe. [7]. International practice shows that sorted (calibrated) and processed food products, especially vegetables and fruits, can be offered to consumers at differentiated prices. Traditional processing processes typical for wholesale markets include washing, polishing, cleaning and slicing vegetables and fruits. Cleaning and slicing vegetables, as a rule, is in demand from catering companies.

– Marketing and merchandising

Thanks to a deep understanding of the specifics of their products, wholesale markets can successfully promote food products using cross-marketing and cross-promotion for similar products and target audience.

– Management of financial and administrative flows

Within the framework of the administration function, classical processes peculiar to wholesale markets are considered, such as: hiring staff for trade, managing infrastructure elements.

The specifics of wholesale markets is that in order to achieve a balance of incoming and outgoing financial flows, it is important to keep records of receipts and expenditures of funds both in the context of individual sellers, suppliers and product groups. Now, within the framework of this function, risk management in relation to late payments for wholesale market participants is being considered.

But this function is rather auxiliary and is observed within the framework of models of European markets. [7].

– Trial sales of new products

Wholesale markets can be used by sellers in order to test the viability of a new product for the market in practice

– Formation of public opinion by creating a single brand symbolizing quality

The basic business model of the wholesale market, which, as a rule, is formed within the framework of this system of organization of wholesale markets, is presented on Fig. 6.

<b>8. Key partners</b> 1. Stakeholders: ✓ manufacturers ✓ cooperatives ✓ trade associations ✓ World Union of wholesale markets ✓ public organizations. 2. Sanitary-epidemiological and veterinary service; 3. Customs 4. Self-regulating organizations	<b>6. Key type of activity</b> ✓ Infrastructure and real estate management ✓ Marketing and advertising activities	<b>2. Value proposition</b> 1. A diversified product at the consumer's request at an affordable price 2. Flow without intermediaries 3. All in one place 4. Information and consulting support	<b>. Customer relations</b> ✓ Customer-oriented approach towards the tenant ✓ Partnerships as a potential recipient	<b>1. Customer segments</b> ✓ Farmers and other agricultural enterprises ✓ Cooperatives ✓ Wholesalers: import export ✓ Regional wholesalers ✓ Retail facilities and networks ✓ Logistics and distribution centers; ✓ Processing enterprises; ✓ Service organizers; ✓ Intermediaries: avtobazar
	<b>7. Key processes</b> 1. A group of basic processes aimed at achieving economies of scale 2. Group of maintenance and control processes: ✓ Shipping ✓ Processing. ✓ Marketing and merchandising ✓ Management of financial flows and administrative flows ✓ Trial sales of new products ✓ Formation of public opinion through the creation of a single brand, primarily symbolizing quality		<b>3. Sales Channels</b> ✓ Targeted mailing list; ✓ Individual meetings with owners/directors of potential tenants; ✓ Industry exhibitions ✓ Trade representative offices; ✓ Media; ✓ internet ✓ Online trading platforms	
<b>9. Main items of expenditure</b> ✓ Operational, ✓ Depreciation, ✓ Brand promotion expenses interest on loans, ✓ Taxes, ✓ Transport ✓ Advertising		<b>5. Sources of income</b> ✓ Club fees ✓ Income from administration ✓ Rent of premises in pavilions ✓ Rental of related infrastructure (warehouse, refrigerator, transport, etc.) ✓ Entrance to the territory ✓ Rent a place for sale with cars ✓ Other services, including advertising		

Figure 6: Wholesale Food market business model (mixed type model) (Source: compiled by the authors)

All of the above allows the wholesale market to act in this case as a business incubator, and in 2 directions.

- 1) Incubators for small businesses, farmers and food processors. They allow new businesses to become established, and entrepreneurial skills to develop at low cost and little risk.
- 2) Incubators for the creation of new markets (more often mobile, but also terminal). Wholesale markets provide grants for the expansion or creation of new markets under the appropriate feasibility study for a new or existing market. Sometimes this function is performed by the Association of Wholesale Markets.

Model 4 – "Combined model with point government regulation". When there are "markets of public interest" and markets run by interested parties, including the government, local authorities, cooperatives and even trade unions. Markets of state interest are most often protected by the so-called exclusion zone [32]. Thus, the Rungis market (France) is protected by an exclusion zone with a radius of 20 km. Within this sales area, all major wholesalers must come to this market to trade. The main source of funding in this model depends on the composition of stakeholders and the degree of their participation. Markets of public interest are usually financed either by the State or by local authorities. In fact, this is a special form of combining models 1 and 2 (Fig. 7.).

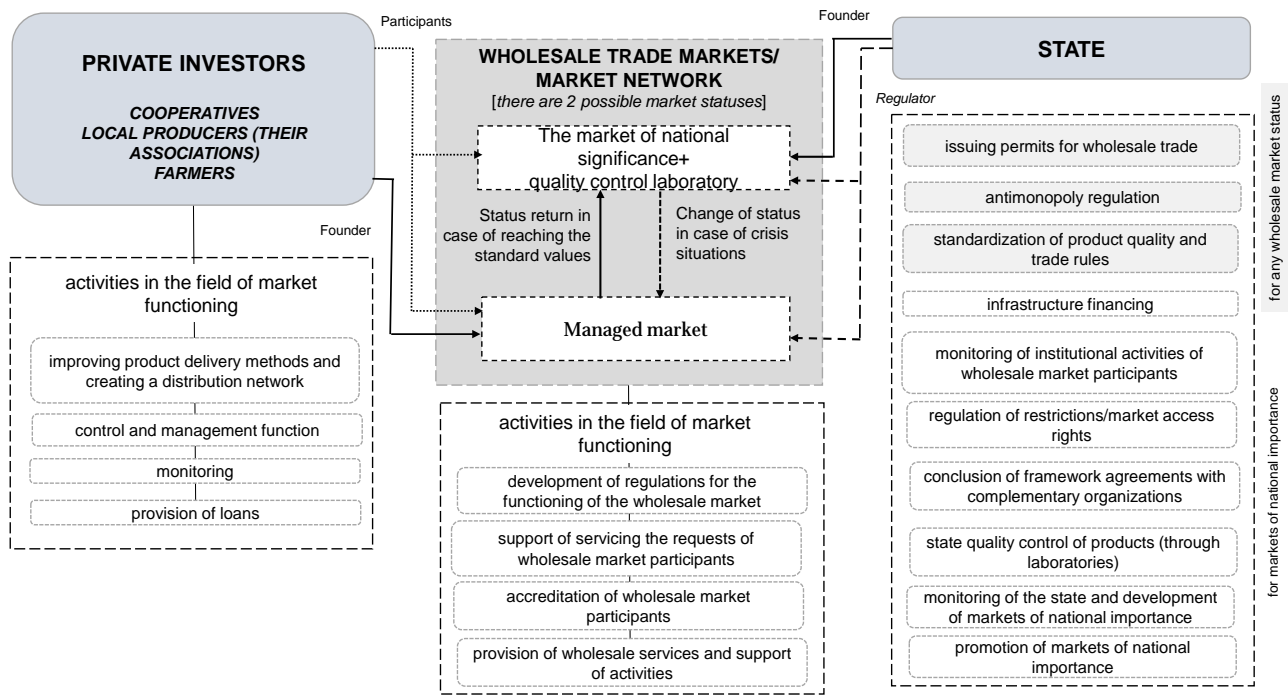


Figure 7. Organizational and functional scheme of the wholesale food market (Combined model with point government regulation)" Source: developed by the authors.

#### 4. Conclusion

In conclusion, we would like to note that the national wholesale markets of most countries do not correspond to any particular model of wholesale markets. The practice of Australia, Germany, and the United Kingdom shows that in these countries 1, 2, and 3 models can be implemented simultaneously (on a territorial basis) or sequentially (on a temporary basis).

Even if initially the characteristics of the wholesale market correspond to Model 1, over time its "contours" are blurred. The initiator of changes is usually the state itself. Achieving the initially set goal of organizing the functioning of the wholesale food market and reaching the level of its self-sufficiency, further administration by the state is not required, it is advisable to introduce market mechanisms, while transferring the title of ownership to investors and interested parties. And this, in turn, changes the goal-setting of the market, it adapts to new demands within a specific institutional system, transforming into a new model. However, such processes occur only if the regulatory framework protecting the buyer and society is already mature and does not need development and active regulatory support.

In addition to the development of entrepreneurship, wholesale markets have a positive impact on social development: they improve the well-being of residents by providing them with high-quality and healthy food at an affordable price.

Also, wholesale markets in many countries, for example, in France or Australia, serve to achieve regional development goals: they participate in the promotion of tourism or in the preservation of traditional dishes.

Dynamic analysis of business models of wholesale food markets in different countries allowed us to identify their similarities and differences and features of implementation within the framework of various management models.

The change in business models of behavior is partly due to the achievement of the initially set strategic goal and the expansion of the number of services provided, the shift of emphasis to the sphere of technically less complex operations that bring higher profits, as well as the transformation of wholesale markets in the course of its evolution into a multitasking platform for comprehensive business development not only in the field of trade and agriculture. In the formation phase, when market conditions require the intervention of the regulator, the first model is most often implemented. When the institutional contour changes, and the consumer becomes interested not so much in the product or service, but in its consumer value, the business model begins to transform. So, in addition to the product or service, consumers become important: they value the service, brand, relationships, impressions (consumer experience), etc.

At the moment of transformation of the ERP business model, for a smoother transition, without the formation of gaps between the strategic and operational levels, it is recommended to use a flexible functional and organizational model that allows you to quicker respond to changes in the external environment, promptly make the necessary adjustments by including new elements and/or changing priority areas of activity [33]. In the current conditions, it is relevant to constantly monitor changes and transform the business model in accordance with changing environmental conditions [34]. Only in this case, the business model will act as a tool for achieving strategic goals within the framework of the development concept.

### Limitations and future research

The purpose of this work was to attract the attention of researchers to the peculiarities of the interaction of the state, business and society in the framework of national concepts of the development of wholesale food markets. At the same time, the authors understand that the described organizational, functional and business models reflect only the basic elements of the functioning of wholesale food markets in various countries and do not give a detailed idea of the organizational and economic mechanism of the markets. Future studies could supplement the author's list of models by the example of systematization of the experience of other countries (especially developing countries), include new elements in the analysis, such as financing tools and channels, management methods and their suitability for the successful management of wholesale markets development initiatives.

An interesting direction is the creation of systems for monitoring the level of efficiency of wholesale markets. From the authors' point of view, the creation of a monitoring system should develop along two tracks: monitoring indicators according to the financial statements of the wholesale markets and the creation of non-financial reporting. Monitoring of financial statements is more focused on the requests of wholesale markets investors, i.e. internal stakeholders, non-financial reporting satisfies the interests of many stakeholders at once, whose goals often differ and are not related to the financial results of wholesale markets. As the practice of sustainable development management of various companies from Western Europe, the USA and leading Asian countries shows, the advantages of developing non-financial reporting are: activation of the dialogue with all stakeholders and increase of customer loyalty; improvement of the company's reputation by making a positive contribution to the socio-economic and environmental development of the region; creation of

favorable conditions for the implementation of a long-term strategy by balancing the interests of the main stakeholders of the company [35] and etc.

In addition, it is interesting to study the types of organizational and functional models presented from the point of view of their effectiveness - the degree of achievement of the set strategic goals within the framework of national food security concepts.

The study offers two main conclusions for practitioners.

Firstly, the study gives an idea of the required changes in the main elements of the business models of wholesale food markets, when faced with the need to adapt them to new strategic tasks implemented by the state in the process of developing the concept of food security.

Secondly, the study allows us to take a fresh look at the system of public administration in this area. The conclusions made during the analysis lead to the need to initiate a transition from a static model of public administration to a dynamic one, which takes into account the phenomenon of reverse interaction. The implemented values dictated by the current state regulation of wholesale food markets, on the one hand, create some restrictions in their functioning, are a kind of barrier to the entry of new companies. On the other hand, these values, in turn, allow the wholesale market system to create additional competitive advantages and expand its strengths in new areas.

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