VERITICAL INTEGRATION IN MEAT INDUSTRY: 
CASE OF UKRAINE

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The meat industry is strategically important sector of Ukraine national economy due to its role in providing the country food security as well as its entering into international markets. The problem of research is connected with the need of meat industry in a new vision of management principles, organizational design and internal interaction mechanism as well as the changing development motivation. The aim of the research is the substantiation of the meat industry organizational structure development based on different models of vertical integration. The research methodology supposes the use of statistical analysis, the logical model construction, monographic analysis, the method of expert appraisals. As the study results, five organizational models have been proposed for vertical integration in meat industry (contracting, corporation, holding, cluster and a vertical marketing system). The models’ advantages and the ways of their development as well as the problem points and the possibilities to overcome them have been specified. The role of vertical integration in the creation of value-added products has been discovered.

Key words: marketing chain, value-added products, vertical integration.

JEL Codes: Q02, Q13, M13.

1. Introduction

The fundamental market transformation of agriculture has opened for domestic meat producers the possibility to participate in the forming marketing chains not only regarding to their raw materials but also for the finished product and its promotion to the final consumers including foreign markets. The ensuring profitability of meat industry in a competitive environment is achieved primarily by three major factors – animal productivity, cost management and the adding value to products in the marketing chains. The motivation of meat producers to create value-added products becomes more effective because of the activation of vertical integration processes. The value-added products are considered as a defining theme of creating vertically integrated structures. It explains the need to develop scientific approaches to manage this process.

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The research problems on vertical integration appeared in the focus of economic science since the second half of the last century when agribusiness has been introduced as an interconnected and interdependent chain of vertical movement of food and raw materials which starts with supply of farms and ends with the final consumer (Sherman, 1951). The ideas of the Neo-institutional economics school especially contributed to the formation of this scientific direction including the origins and appropriateness of vertical integration (Adelman, 1955; Grossman & Hart, 1986), the nature of the “contract economics” (Williamson, 2002), corporations as vertically integrated business (Williamson, 1985), the mission of vertical cooperatives (Barton, 1989), origins and development of clusters (Porter, 1998), the institutional support for vertical integration (Norton, 2000). All of these authors in one degree or another relate to the concept of value-added production. The reason for this study is justified by the depth and versatility of the problem, as well as the specific conditions of countries with economies in transition which Ukraine also belongs to.

The market transformation of the agricultural sector of the national economy requires a radical change in the organizational structure of their industries. It needs a new vision of management principles, organizational design and internal interaction mechanism as well as the changing development motivation. This should be provided by specific types of organizational arrangements named in this study as the models of vertical integration. None of them is absolutely perfect and universal. It is therefore advisable to discuss these models in order to accelerate the integration processes in the optimal direction.

The research is devoted to an introduction of the models of vertical integration in meat industry with discovering their various organizational and institutional aspects, and other specifications such as advantages and disadvantages. The study takes into consideration the heterogeneous nature of the organizational structure of Ukraine agricultural sector represented by companies of different business scope and legal status. The institutional framework of the study suggests the process of market transformation of vertical integration participants has been de-jure completed.

2. Methodology

The methodology of the study is based on a synergistic approach, according to which the integrated association provides the appearance of new qualities for the system while any of its elements does not possess that. The synergetic paradigm suggests the possibility to impact on a dissipative system at the time it reaches the point of bifurcation. The meat industry of Ukraine is approaching the bifurcation moment of choosing between two alternatives for further structural development: a) strengthening the role of intermediary links in the marketing channels with the increase of their share in the adding value of final products, or 2) activation of integration mechanisms to preclude the unnecessary intermediaries, to reduce transaction costs and, most importantly, to provide for agricultural producers a possibility to participate in the adding value to their raw materials as well as enjoying other benefits of vertical integration.
In the course of research it was used special economic methods, in particular statistical analysis (to determine the level and development trends of meat industry of Ukraine), the logical model construction (for building organizational models of vertical integration), monographic analysis (discovering experience of a successful vertical marketing system), the method of expert appraisals (to study and summarize the different views on controversial issues). The empirical confirmation of the abstract models based on the experience of 32 processing companies in the Zhytomyr oblast and as well as their partners (agricultural producers and market outlets). The conclusions about the marketing stage of vertical integration are connected with a meat market research in the North-Western region of Ukraine. The study period covers the last decade.

3. Results of research

Over the course of the recent years Ukraine annually produces up to 2.5 million tonnes of meat (in slaughter weight). The level of its consumption is steadily increasing, however is still lagging behind the level of developed countries (table 1) as well as the physiological need (52 kg – minimum, 80 kg – optimum). In addition, the problem is the structure of meat consumption. In particular, according to the rational structure of meat consumption 40% of meat diet should belong to beef and veal, 34.5–35.0% – to pork, and the rest – to poultry (Alshanina, 2011). In Ukraine the part of beef and veal (so called “red meat”) is only about 15% of all consumed meat. It caused not only by the national diet traditions, but, above all, by the limited purchasing capability of the population (Shlapak, 2012). It can explain the fact that Ukrainians consume more pork and poultry that is recommended by standards healthy nutrition. These two sectors of meat production have more internal capabilities for development in modern conditions, while the increase of beef and veal consumption is only possible due to the rising imports (Skrypnyk, 2014).

Table 1. Meat consumption in the USA, EU and Ukraine, 2014

<table>
<thead>
<tr>
<th>Types of meat</th>
<th>USA</th>
<th>EU (28 countries)</th>
<th>Ukraine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kg/per capita</td>
<td>%</td>
<td>kg/per capita</td>
</tr>
<tr>
<td>Beef and veal</td>
<td>24.5</td>
<td>27.2</td>
<td>10.5</td>
</tr>
<tr>
<td>Pork meat</td>
<td>20.7</td>
<td>23.0</td>
<td>30.9</td>
</tr>
<tr>
<td>Poultry meat</td>
<td>44.5</td>
<td>49.4</td>
<td>21.6</td>
</tr>
<tr>
<td>Sheep meat</td>
<td>0.4</td>
<td>0.4</td>
<td>1.6</td>
</tr>
</tbody>
</table>


At present agricultural enterprises and individual subsidiary farms are two major producers of raw materials for meat industry (figure 1). Agricultural enterprises passed through the turbulent times of market transformation and actually become market-oriented companies with the different legal status. After total restructuring (privatization of land and collective property, and change of legal status), they are faced with a sharp decline in government financial assistance, lack of own funds for
expanded production, reduction of livestock numbers, increased competition caused by uncontrolled expansion of imports, etc. However, over the last decade there is an evident increase of their share in the total production of meat (almost 2.5 times). The subsidiary farms practically do not change their absolute share of the total meat production. Their limited development prospects are out of doubt because of primitive production technologies, innovative isolation and the lack of broad involvement in integration processes.

![Graph showing meat production in Ukraine by different types of producers](https://ukrstat.org/uk/druk/publicat/kat_u/publ1_u.htm)

**Figure 1. Meat production in Ukraine by different types of producers**

Source: The State Statistics Service of Ukraine. Mode of access: https://ukrstat.org/uk/druk/publicat/kat_u/publ1_u.htm

To make clearer understanding of integration in meat industry, especially with the focus on adding value to meat products, it would be appropriate to consider this process from the perspective of marketing chain formation. Before reaching the final consumer, meat and its products undergo through a series of transformations and pass stages when their initial value increases due to additional costs and margins of the intermediaries and sellers (figure 2). The production stage of added value formation includes the participation of meat producers (as well as feed producers including producers of feed components). Choosing between build-up of raw production and participation in the adding value to their raw products becomes an increasingly obvious dilemma for them. Small producers usually do not carry out slaughter and use intermediaries to sale their live animals to meat processing companies or provide direct marketing. Slaughter and disassembling of carcasses are carried out at slaughter points owned by consumer unions and private meat processing companies. Chilled or frozen meat (carcasses and half-carcasses) is the final product on this stage.
At the next stage the meat processing enterprises, as key players, seek how to minimize the participation of intermediaries in the chain of the adding value formation. Therefore their key tasks are to establish cooperation with raw producers on the basis of written contracts (Williamson, 2002) or/and to start their own raw production. Both options are the beginning of the vertical integration process. Logistics also adds value in this period because small producers usually do not have specialized means of transportation, freezing equipment and proper storage facilities. However, at present their joint actions in logistics are not common because of the relatively significant need for starting capital and high responsibility for maintaining the raw products quality. Agricultural enterprises have their own refrigerators, processing workshops, specialized transportation and its own sales network. They significantly benefit comparing to the small producers separated from the opportunities to add value to its raw products in this way. For example, the price of processed pork meat and meat products, depending on the variety, in 2–3 times the price of raw products (meat in carcasses).

At the marketing stage the adding value is mainly associated with the marketing costs and trade margins. The marketing chain of processed meat includes wholesale companies, the trading houses of large meat processing companies, etc. Wholesale companies mainly market sausages and other deep processing meat products, e.g. chilled and frozen ready meals and half-finished products. Supermarkets and specialized retail stores complete the marketing stage. Of course, a certain part of the raw meat is sold at retail market places. The share of marketing stage’s adding value in the final market of meat products reaches 30–40%.

The study found that in meat industry of Ukraine vertical integration can occur in a variety of organizational models (figure 3), including: 1) contracting (based on a written agreement with the preservation of the juridical independence of the business participants as legal entities); 2) corporation (group actions through the creation of a new legal entity of economically independent participants); 3) holding (implies the existence of a hierarchy “parent company – subsidiary”); 4) cluster (regional dominance orientation of integration process), and 5) vertical marketing system (full control of marketing channel from feed and raw meat production up to a final consumer). The overall goal of any integrated structure in meat industry is obtaining the synergistic effect of mutually beneficial cooperation in the form of ensure uninterrupted supply of raw materials, access to stable markets, ensuring investment attractiveness (or overcome failure of investment), desire the rational use of resources, search of a competitive market niche, to benefit from the creation of value-added products and more.

Figure 2. The marketing chain in meat industry
Contracting is a type of vertical integration (so called „soft integration”) which provides by the conclusion of written agreements that allow establishing stable relations between different participants of a marketing channel. Meat producers conclude contracts in order to reduce the risk associated with the production and market situation, to weaken their dependence on processing companies and to enhance competitiveness of own business. Meat processing companies, in turn, also seek to secure stable incomes due to the reliable raw supplies, better resource management, improving
quality of their final products, expansion into new market segments. For both producers and processors the saving transaction costs is recognized as the most important motive of integration interactions (Williamson, 1979).

However, the contract model of integration does not always make possible to achieve all the benefits provided for integration because the partners get to certain interdependence. In addition, they may have different economic interests. Sometimes it prevents independent companies come to an agreement because of the high costs of negotiating or threat of further controversy. Therefore, vertical integration should combine contractual, organizational and institutional means of coordination (Brousseau, 2002), which is especially true for industries of agro-food sector. This is due to the fact they are dealing with products with the limited time use which fully relates to meat industry. D. North points to the need to involve a third party (the judiciary) to resolve conflicts related to violation of contracts (North, 1990). Under modern conditions the judicial system of Ukraine is only in the process of forming according to the standards of civil society. That is why it looks more appropriate for the moment is to provide the shift from contracting to more advanced models of vertical integration, which are able to effectively motivate participation in the creation of value-added products.

A corporation is one of the mentioned above models. It supposes the creation of a new separate legal entity with limited liability for obligations of their founders (Miller, 1990). Built due to the incorporation, the newly established organizational structure holds the individual producers from selfish motives that might lead to an imbalance of the market system. This partly explains the logic collective actions in competitive markets (Olson, 1971). Hence, the existence of corporations is justified from the standpoint of strengthening the competitive behavior and the establishment of vertical control over the industries and markets. By the use of their lobbying capabilities the corporate structures accelerate the implementation of important integration projects. D. Barton shared the corporations to investors-oriented firms and cooperatives (Barton, 1999).

In Ukraine meat industry the majority of contemporary corporations appeared in the process of privatization and modernization of former state owned large scale enterprises and the consumer unions’ production capacities. In terms of organizational pluralism they have preferably chosen form of a limited liability or joint stock companies. But very quickly such corporations faced with the shortage of qualitative raw materials which occurred after the restructuring of the agricultural sector. This is also true for those start-ups that have emerged due to investment projects in recent years. Overcoming problems is achieved in three key ways: 1) strengthening contractual relationships with producers of raw materials, 2) involvement of raw producers among the co-owners of the business, and 3) investing in its own production of raw materials. As proved by A. Yarmak (2014), the recent positive results in meat industry of Ukraine have been primarily achieved due to agricultural vertically integrated corporations especially in the pig and poultry subsectors.

Given that significant amounts of raw produce by small subsidiary farms, an important direction of the vertical integration development is connected with the establishing marketing cooperatives. Currently this cooperation is limited only by joint
operations with the procurement of live animals and, in small extent, slaughter of animals. However, the government intends to reinforce the control over the slaughter of animals for allowing the use of only the certified slaughterhouses. This can speed up the creation of meat marketing cooperatives (or/and other corporations) of vertical type in order to resist the emergence of unnecessary intermediaries and keep the relevant value-added of the products.

The last decade the holding model of vertical integration (agro-holdings) has successfully spread in the agricultural sector of Ukraine. An agro-holding can be formed on the basis of parent company (regardless of its legal status and type of activities) which controls the operation of other companies (subsidiaries) through ownership or controlling interests under conditions of a relevant contract. Such vertical integration model is created by successive additions or gaining control of the companies that merged in one business to get new marketing segments. This occurs most often within a particular marketing chain (e.g., feed production, meat production, meat processing, logistics, and financial sector). Agro-holdings may arise through the consistent creation of new businesses and further their involvement in a vertically integrated structure.

In Ukraine agro-holdings are mainly specializing in the crop production which leads to a high concentration of agricultural land. However, these companies have significant potential to increase meat production and processing, creating value-added products. The attractiveness for agricultural enterprises and private farms to entry agricultural holdings is determined by an ability to support the scale of commodity production, to avoid bankruptcy, to get access to investments and working capital, provide renewal of their machinery and equipment, get guaranteed marketing channels for meat and other products. Nevertheless, excessive concentration of land and capital by agro-holdings is increasingly criticized by society for ignoring the social and environmental problems (Lupenko, 2013).

The development of integration in meat industry allows justifying the need to find new forms and approaches to create vertically integrated structures in conditions of insufficient developed market infrastructure and limited resources which causes the need for elaboration and implementation of creating clusters. According to M. Porter, a cluster is a critical mass of companies in a particular field in a particular location and includes a group of companies, suppliers of specialized inputs, and services, and firms in related industries, specialized infrastructure providers and other institutions such as universities and others (Porter, 1998). The key point of the cluster, that its principal members are in proximity to each other, and due to the fact have unique opportunities for active interaction. The cluster model on vertical integration in meat industry provides the possibility of efficient use of local resources, reduces the cost of communications and logistics, and ensures the best conditions for storage and delivery of products to final consumers. The spread of clusters is constrained by the lag in establishing the legal framework for the institutional regulation of their formation and operation (as in the case of agricultural holdings). However, this does not stop the emergence of clusters de-facto.

It is no exaggeration to state that each integrated structure in its ideal strives to become a vertical marketing system, namely to be a sole proprietor of business and to
obtain full vertical control of a marketing channel – from feed and meat raw production up to the final consumer. The distinction of the vertical marketing system, first of all, is in fact that its main task this model assumes in the complete dominance within the marketing channel unlike other models allow it but do not consider it as the main goal. In the meat industry, the creation of vertically integrated systems, as the embodiment of the highest level of integration (the above can only be a complete merging of business), really can be achieved by a combination of different models discussed above. This is understandable from the perspective of evaluating the advantages and disadvantages of each existing models of vertical integration in meat industry (table 2).

<table>
<thead>
<tr>
<th>Models of vertical integration</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>what is to expect</td>
<td>how to develop</td>
</tr>
<tr>
<td>Contracting</td>
<td>decrease of transaction costs, saving resources</td>
<td>search for closer forms of integration</td>
</tr>
<tr>
<td>Corporation</td>
<td>limited liabilities, independent marketing policy, synergy of interaction</td>
<td>professional management, attraction of investments, transfer of innovations</td>
</tr>
<tr>
<td>Holding</td>
<td>full production and marketing harmonization, increasing scale of business</td>
<td>resource and financial maneuvering, internal price control policy</td>
</tr>
<tr>
<td>Cluster</td>
<td>compact physical location of business, reduction of logistics costs</td>
<td>strong value added product orientation, maximum mobilization of local resources</td>
</tr>
<tr>
<td>Vertical marketing system</td>
<td>control of entire marketing channel, strong vertical coordination</td>
<td>strategy of diversification, business internationalization, global positioning</td>
</tr>
</tbody>
</table>

Table 2. Basic advantages and disadvantages of the different models of vertical integration in meat industry

An example of a successful vertical marketing system can be illustrated using the experience of “Myronivsky HliboProdukt” (or MHP) which is one of the largest agricultural holding in Ukraine. MHP brings together 30 companies that specialize in the production of chicken meat (50% of broiler meat in the country, popular brand "Nasha Ryaba"), fast food chicken products, hatching eggs, sunflower oil, animal feeds, cattle breeding and production of finished products. MHP cultivates 320000 ha of arable lands to grow corn, sunflower and soybeans its own feed production, and also wheat and oilseed rape for the market purposes. The processing segment focused on primary processing and packaging of meat, the production of sausages, smoked
meats and other foods. MHP started several projects on waste utilization and its energy independence. In marketing segment the company controls the products delivery to retailers by using 15 logistics centers and more than 2600 franchised outlets. In 2012 the MNP’s net income reached 311 million USD (MHP: official site).

Vertically integrated structures, similar to MHP, are able to ensure the transition to high standards of product quality and management, a control over the costs of the final products, the competitive position of national producers in international markets due to the large scale production, which is especially important for the Ukrainian developing economy. But society using the Parliament and the Government should avoid monopolization of markets, restriction of competition and other forms of economic discrimination because of vertical integration development and the appearance of powerful businesses. The formation of more perfect institutional environment of vertical integration enhances social responsibility of its participants without prejudice to their new economic opportunities.

4. Conclusions

1. The positive trends are observed in the meat industry of Ukraine, although the meat production per capita is still below the level of the developed countries and the physiological human needs as well. This is especially true for beef and veal. The problems of the meat industry are largely determined by the fundamental changes which occurred due to the market transformation of the agricultural sector.

2. The formation of the new organizational structure in the meat industry is a result of the vertical integration of production, processing and marketing segments of marketing chain mainly motivated by the participation in creation of adding value of their products. Here, on a massive scale the choice of integration organizational models will occur on the basis of transmission from a contractual (“soft”) model to a closer and more organizationally dependent structure associated with the establishing new legal entities. This applies to corporations, including marketing cooperatives, agro-holdings, clusters and vertical marketing systems.

3. Holdings have effectively motivated investments, show relatively high results in crop production, but at present are less interested in the production of livestock products. Their activities are critical evaluated in terms of their involvement in solving social problems of the rural population and environmental safety. Regional clusters in this regard are more preferred, but have faced with institutional and motivational problems in their development.

4. In general, the integration structure of each possible model aspires to its transformation into a vertical marketing system to be capable of controlling the entire marketing chain. Such intentions are fraught with the monopolization of certain markets, which may negatively affect the public and the government's assessment of vertical integration. Preventing the conversion of vertical integration into an instrument of market monopolization should be based on antitrust regulations and other institutional limitations without compromising the positive economic mission of vertical integration.
References


VERTIKALIOJI INTEGRACIJA MĖSOS PRODUKTŲ KOMPLEKSE:
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