Profiling of agro-industrial enterprises as a prerequisite for efficient strategic management

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Abstract. In this research, the main twenty-three profiles of agro-industrial enterprises were identified as a result of considering various businesses and using a number of classification characteristics. Profiling agro-industrial enterprises is a prerequisite for efficient strategic management at these companies.

1. Introduction
Within the past forty years, new technologies of genetic engineering, innovative methods of molecular chemistry and physics, as well as nanotechnologies and other achievements of fundamental science were widely introduced in the food industry [1]. All this has led to the formation of a complex process of consumer behavior in the food market, due to the multiplicity of choices available, in particular, organic, functional synthetic, genetically modified, dietary and difficult to prepare recipes for food [2, 3]. In addition, current conditions are determined by global pollution and depletion of the natural resource base under the combined influence of cyclical and economic laws. Therefore, radical changes can be expected in connection with the likely onset of a cluster of interrelated global crises, to which the food industry is most exposed due to the characteristics of its resource base and potential radical changes in consumer behavior. The constantly increasing complexity of the dynamic and uncertain poly-cyclical environment and the expected potential for its future changes explain the need for a complex and effective adaptation of agro-industrial enterprise, the instrument of which is the strategy viewed as a long-term optimal response to these changes. The main prerequisite of strategic management in this case is profiling of agro-industrial enterprises [4 - 8].

2. Materials and methods
Forming of an optimal strategy for an agro-industrial enterprise presumes identification its profile. The profile of a company is a set of set characteristics that identify its type or category depending on the scale, industry (market), position in the food production chain, the nature of influence on the market, the level of diversification, organizational and legal structure, and so forth. The term “profiling” in this context will be the identification of a set of specific characteristics of a company, that allows for placement of any company into a similarly situated group (a profile).

One of the main determinants of the company’s profile is its place in the food production chain and industry (market). The whole set of processes related to the production and sale of foodstuffs can be
classified depending on the stage (link) of the chain of creation of food products or food chain, which will be understood as a list of processes that consistently create value for the consumer.

Further, we will identify the elements of the food production chain and define the essential characteristics of each link in the chain. The first element (1) of the food chain is the auxiliary chain that creates materials and equipment for agriculture which include suppliers (producers and intermediary firms) of; agricultural engineering products (1.1), diesel fuel and low-octane gasoline (1.2), seed and planting material (1.3), mixed fodder products and premixes (1.4) and agrochemicals (fertilizers and plant protection products) (1.5).

In the next stage (2) of the food chain, the processes for the direct production of agricultural products are implemented. These processes are carried out by agricultural producers of three groups of the agricultural sector. The first being agricultural production, the second, animal husbandry and the third, hunting and fishing enterprises.

The link (3) of the food chain includes specialized transport, procurement and trade organizations: 3.1. Dealers and distributors (intermediaries), 3.2. Retail chains and shops, 3.3. Catering establishments, 3.4. Enterprises engaged in storage (procurement) of agricultural products, 3.5. Enterprises exporters and importers of agricultural products.

Two levels of intermediaries are being formed in agricultural markets: small private intermediaries who purchase directly from farmers and large local intermediaries who often block access to raw materials to buyers from other regions who are forced to use their services only. In many cases, there is also the integration of processes 2 and 3 in the chain within the same organization.

Eighty-five per cent of agricultural production goes to the food industry while the remainder goes to non-food industries such as textile and paper manufacturers. Therefore, the main processors of agricultural raw materials are the following: 1. Mill and cereal flour industry; 2. Baking industry; 3. Pasta industry; 4. Sugar industry; 5. Fat and-oil industry; 6. Wine industry; 7. Alcohol and liquor industry; 8. Beer and non-alcoholic beverages; 9. Confectionery industry; 10 Fruit and vegetable industry; 11. Yeast industry; 12. Starch producers; 13. Tea and coffee processors; 14. Food concentrates and fast food products; 15. Meat; 16. Milk; 17. Fish.

Enterprises in these sectors (4.2) are included in link (4) "Food processing enterprises, producers and packers" along with processors of agricultural raw materials (4.1). This link (4) has a complex internal structure, combining several interlinked internal chains of sequential value creation processes (4), e.g. "cereal processors - flour mills - bakeries" and "flour mills - confectionery producers".

The flour-milling and grain-crushing industry is one of the largest and oldest branches of the food industry, in which more than 5,000 grain-processing enterprises are registered in Russia today. Between nine and ten million tons of raw product is milled annually. Flour production is strategic because it is a raw material for basic foodstuffs and is characterized by a consistently high demand. In the structure of flour consumption, on average, about 85% is accounted for by the bakery industry, while the remaining share is used for pasta production, confectionaries, in the catering industry and in household use.

An example of a diversified company operating in this market is the Russian Trading House "Russian Field", the main activity of which is wholesale trade in groceries (cereals, vegetable oils, flour, sugar and pasta), as well as their packaging, transportation and retail trade. Wide assortment of high-quality grocery products under the common brand "Fair" [http://www.td-ruspole.ryazan.gd/news/prezents/tmyarmarka.html] includes lines of cereals, legumes, sugar, flour, breadcrumbs and bread:

- cereals of the highest quality in the traditions of Russian national cuisine, including portions of cooking bags (oatmeal, rice, buckwheat, semolina, wheat grits, etc.);
- instant cereals and vegetable oil;
- a collection of new exotic varieties of rice and legumes from many countries: wild rice, jasmine rice, Japanese white beans, red beans, red lentils, couscous, mixtures of cereals and legumes, etc.
The pasta industry is represented mainly by 10-12 large specialized domestic enterprises (producing annually at least one thousand tons of pasta).

Also, in this market there are large highly diversified foreign companies such as AXA Lantmannen which provide imported product. At large pasta factories either Italian pasta lines of the Braibanti company, or pasta lines of the Swiss company Buhler exist. However, up to 50% of the market capacity is currently occupied by small producers with lower quality products.

The chocolate and chocolate industry is currently the most popular trend in the confectionery market in the world. In the Russian Federation, chocolate consumption accounts for 7.5% of the confectionery market or 1.2-1.3 kg of chocolate per capita per year.

The enterprise of a similar profile is the company "Nestlé", founded with the purpose of conducting commercial activity and development of the national distribution network.

An example of another leading company is the international confectionery corporation Roshen [http://roshen.com], which produces about 200 types of confectionery products: chocolate and jelly sweets, caramel, chocolate, cookies, waffles, sponge-cake rolls and cakes. The total production volume is 400 thousand tons per year. ROSHEN includes four Ukrainian factories (Kiev, Vinnytsia, Mariupol, Kremenchug); two production sites of Lipetsk confectionery factory "Lifcon" (Russia), Klaipeda confectionary factory (Lithuania), as well as butter-milk plant "Bershadmoloko" and "Litynskiy plemzavod", providing the factories with raw materials. The products are produced in Ukraine, Russia, Kazakhstan, Uzbekistan, Kyrgyzstan, Armenia, Azerbaijan, Moldova, Estonia, Latvia, Lithuania, USA, Canada, Germany, Israel and other countries.

Small manufacturers of confectionery products is represented by companies such as "Chocolate Souvenir" Ltd. [http://www.choks.okis.ru], specializing in chocolate jewelry for confectionery, including the application of images of different shapes and sizes, and the manufacture of chocolate souvenirs and gifts in the form of paintings, figures, and so forth.

About 70% of the meat and dairy industry is represented by small and medium producers. An example of a medium regional enterprise is "Sausages Kamo" (Sevastopol), which produces a wide range of sausage products: cooked sausages, semi-smoked, cooked-smoked, raw smoked and dried, sausages, sardels, ham, delicacies, by-products [http://kamo.com.ua/].

One of the largest regional meat producers in Crimea is LLC Skvortsovo, a meat processing complex in the vicinity of Simferopol, specializing in sausage and meat products.

The suppliers of equipment for the food industry include the international concern Festo, which is the world's leading manufacturer of pneumatic and electro-mechanical systems for the automation of the production of various industries [http://www.festo.com/cms/ru-uk_ua/10388.htm], including components and systems for the automation of food production: packaging systems in the beverage sector, products and systems for the processing of milk and bakery production, as well as automation systems in the field of meat processing, and so forth.

At the final stage (5) of the food chain the processes of transportation, storage and sale of food products of domestic and foreign production. These functions are carried out by specialized and universal enterprises-distributors, dealer organizations, large national networks of retail shops, Internet-shops and catering enterprises.

3. Results and discussion

In summarizing the above material, we have identified the main profiles of agro-industrial enterprises, using the following classification characteristics: place in the food chain and industry (sphere of activity), the organizational and legal form of the enterprise, the size of the enterprise, trade turnover, the volume and innovation level of the technical and technological base of the enterprise (production facilities and technologies used), the features of the structure of the company (complexity, the presence of vertical and horizontal integration), the level and potential possibility of production diversification, the price segment of the enterprise, the level of product differentiation, the width and geography of the market of presence, the nature of influence on the market (the position of the enterprise in the market).
Profile 1: Large highly specialized producer of materials and equipment for agriculture (agricultural machinery, energy, etc.), placed in link (1) of the food chain. In connection with the need to solve complex production tasks, the characteristics of this profile are: highly technically equipped, the presence of complex innovative production facilities, and high-tech production processes. Therefore, these enterprises require significant investments for the continuous implementation of scientific developments and the use of sophisticated modern technology. The possibilities of diversification of the main product are limited by the existing technology and capacities. The main production remains at the heart of the business, and if there is a new one, the new one comes from the possibilities of the existing production.

Examples of enterprises belonging to this profile can be:

- Tractornye Zavody;
- St. Petersburg Tractor Plant;
- Rostselmash;
- CLAAS (Germany);
- Bryanskseimash;
- CNH-Kamaz Industry (U.S.-Russian venture);
- John Deere (USA).

Profile 2. A highly specialized distributor of a large domestic or foreign producer of material and technical resources of agriculture (agricultural machinery, agrochemistry, seed, etc.) within the framework of the food chain (1).

For example, representative offices of international corporations Nunhems and Agso - Your Agricultural Company.

Profile 3. Distributor of several large international producers of material and technical resources of agriculture of various branches from agricultural machinery to agrochemistry and seeds. As a result, the company carries out the process of complex agro-supply, covering most of the processes of the food chain (1).

An example is the representative office of the international company AMAKO (American Machinery Company LTD.).

Profile 4. Large multi-structural company, which provides complex supply of agricultural enterprises with all basic material and technical resources and services (domestic and foreign fertilizers, plant protection products, seeds, agricultural machinery, services of research and consulting firms), covering most of the processes of the food chain (1) and (6). The company is a group of concentrated enterprises: manufacturers and distributors of various categories of material and technical resources, as well as consulting firms and research centers.

Profile 5. A large vertically integrated diversified agricultural company consolidating under a single ownership a certain sequence of processes of a fragment of the food chain, the majority of which are placed in link (2). In particular, the stages of production of material and technical resources (mainly fodder and premixes) (1), production of animal and/or crop products (2) and sale of agricultural products (3). Full integration of the food chain can also be observed: 1(6)-2-3-4-5, where ancillary activities also include the industrial production of certain foodstuffs (4) and their marketing (5). In both cases, the main activities (key business areas) relate to the production of animal products and/or crop production of several related or heterogeneous categories within a link (2). In the general structure of the enterprise it is possible to distinguish feed mills, horticultural companies, diversified agro-industrial complexes, grain companies, the system of distribution of products, and so forth. Most of these enterprises are highly specialized and assume a rather simple production process in terms of organization, scientific capacity, requirements for technical equipment (volume of production capacity). The scale, nature of production processes and structure of the company of this profile allows further diversification of production, vertical and horizontal integration. For example, this profile includes Sagro agricultural holding, Nibulon LLC, Agroton Ltd.
Profile 6. A highly specialized (concentrated) large agricultural company that focuses on the production of one or a few product lines within a single agricultural industry. At the same time, the production process is relatively simple and there is a possibility of expanding the geographical presence of the company and its entry into world markets for these products. This profile includes agrarian enterprise "Ukrzernoprom Agro" LLC.

Profile 7. Small or medium family or group farming or private subsidiary farming characterized by small production volumes, low or medium level of product diversification, operating in the regional market. The form of organization of work, typical for this profile, is individual or small group, mainly family. Possibilities of increasing the volume of production and diversification are limited by the scale, while the quality (naturalness) of products for final consumption is one of the key competences. Products can be brought to the level of "pre-industrial" production of foodstuffs and individualized according to the requirements of consumers. The example is the Edelweiss farm.

Profile 8. Large, highly specialized food company with a powerful production complex, producing one or a small number of adjacent food lines (the length of which varies) within a link (4). A wide geography of sales within the country and, in most cases, abroad is typical. The company is one of the leaders in the market of products of a separate category, is horizontally integrated and unites several separate highly specialized enterprises producing the same product. For example, the company group of companies "New Products", Ltd "Monomakh".

Profile 9. Large or medium single-industry food company, which produces a wide range of products in a separate area - one of the commodity groups of dairy, flour, cereal, meat, confectionery products or soft drinks. The company is characterized by a wide geography of sales within the country and abroad, a large number of related product lines in the structure of the assortment (products manufactured jointly from the same resources). The company is horizontally integrated and unites several separate identical (eponymous) highly specialized productions, vertical integration is also possible within the framework of (4) food chain. For example, Roshen Corporation, Coca-Cola Beverages Russia LLC.

Profile 10. Highly diversified multi-structural food producer of various groups (branches), which has a large number of adjacent and non-adjacent food lines (products) in its assortment structure, as well as, in some cases, non-food products. The company is horizontally integrated and unites several leading enterprises of both one and different profiles within a tier (4). There may also be vertical integration of both a fragment of the food chain and within a complex structure (4), within which the main lines of business are carried out. The company is one of the leaders in the respective markets of operation, using modern high-tech equipment and high-quality raw materials of domestic and foreign origin. The Company is a major exporter and/or, in some cases, an importer-distributor as an auxiliary activity. For example, Nestlé Russia LLC, Kraft Foods Russia LTD.

Profile 11. A medium narrow (concentrated) business that produces one or a small number of adjacent or unrelated wide product lines for a local or regional markets. For example, the Galka coffee factory, Sausages Kamo, and MPC Skvortsovo.

Profile 12. A small business is a manufacturer and/or food filler whose product range includes one or a small number of broad product lines or individual products. Compared to traditional products, the product produced is new, has improved properties (such as healthier) or has a greater variety within its category. An enterprise operates in a regional market (one or more cities or regions) where it has a significant share. For example, a mini-bakery "Khlebushek", LLC "Chocolate souvenir".

Profile 13. A medium diversified, vertically integrated large company, whose main activity consolidates the sequential processes of links 1-2-3-4-5 of the food chain in the context of the creation and sale of one main product or product line, in which the company is the market leader. There may also be a range of related and auxiliary products of various branches of chains (2) and (4).

Profile 14. Representative office of a foreign food company in Russia, which is a part of a large foreign structure (including a global concern, an international corporation). The scale of the company
varies depending on the form of presence: distributor, manufacturer, investor in Russian business. This profile also includes joint ventures and enterprises, which initially exist as large domestic producers and subsequently purchased by a foreign company.

Macfa-Ukraine LLC, Nestlé Russia LLC, Coca-Cola Beverages Russia LLC, Red Bull Russia LLC.

Profile 15. Company producing ingredients and food additives for the food industry: glazes and chocolate masses, spices, fats and margarines, flavors and emulsions, dry mixes, and so forth. Companies may be representative offices of multinational companies; independent distributors of imported products; or small local producers of narrow product groups

For example, the concern "Bears Food Ingredients", Private Enterprise "Kimak", Chocolate Factory "Mir".

Profile 16. Manufacturers of equipment and supplies for the food industry, such as packaging, cleaning and sanitary products equipment.

For example, the international concern Festo.

Profile 17. Food and Agriculture Service Organizations: advisory, research, veterinary, technical, cleaning and sanitation services, etc., food chain links (6) and (7).

Profile 18. Large or medium highly diversified enterprise is a distributor of a wide range of food products of domestic and foreign production, including large international producers of various industries within the food industry. The auxiliary sphere of activity is self-production, processing and/or packing of separate items of assortment. Thus, the company's activities cover (4) and mainly (5) the food chain, and the range is represented by a large number of broad product lines.

For example, "Krupyanoy dom" LLC.

Profile 19. The company is an importer and independent universal distributor of a wide range of high quality food products (premium class) of various industries of foreign production in the national market.

For example, LLC United Foods.

Profile 20. An average company is a specialized distributor of a wide range of domestic or foreign food products of one or a few related categories.

For example, "Trading House "Our Product" LLC.

Profile 21. A separate retail store or a large chain food retailer in the supermarket format, each of which offers a wide range of food products in all or most parts of the country. Some of the outlets have their own bakeries, kitchens producing finished products in portioned packages, and catering departments.

For example, Fozzy Group (Silpo chains), Furshet Group, individual boutique stores.

Profile 22. Catering chain or separate catering enterprise (elite restaurants, cafeterias, fast food, bars, pastry shops, coffee shops, canteens and Soviet-style cafeterias, (separate points/kiosks) of different sizes and price segments, national and foreign; classical, "healthy" or fast food.

For example, the "Chocoladnitsa" network, a network of fast food Potato House.

Profile 23. Specialized or universal Internet-shop that sells food products wholesale and retail within the region or throughout Russia. The assortment can include both a wide range of goods of one category, and a large number of categories of all food industries.

4. Conclusion

As a result, the main profiles of agro-industrial enterprises were identified in this study using a number of classification characteristics. This will contribute to the enhancement of strategic management at these companies.

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