

Integrative Viewpoint for Implementing Sustainable Management Agricultural Business Excellence

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Abstract – The article proves that at the present stage of economic development the agro-industrial sector of Ukraine is one of the most important sectors of the domestic economy. Taking into account the integration processes, agribusiness increases the volume of innovation, as it operates in conditions of high energy analysis methods, mysterious processing methods, small technological research methods. In the course of the study, it was determined that we observe a tendency to a gradual decline of domestic agriculture. It was found that important for agribusiness, which let's use synergistic factors of agricultural enterprises external environment forms and use dynamic opportunities of industrial agriproduct's in Ukraine. The proposed use of scientific and methodological tools for business excellence evaluation within agricultural enterprises on the basis key indicators of importance, with market features duality.

Keywords – quality, business excellence, competitiveness, negative aspects, Baldrige Model, EFQM excellence model, key factors of innovation is substantiated

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1. Introduction

The relevance of the topic of our study is due to the need for innovative renewal of domestic agriculture, which is especially important in the European integration process of Ukraine. Undoubtedly, the quality standards, market conditions and needs of the European Union create challenges for our agriculture, encouraging domestic producers to innovate their activities, which in turn will increase the level of competitiveness of our products. It should be noted that agriculture is an important sector of Ukraine's economy, as it forms the lion's share of GDP and promotes the development of related production. It is interesting that our state is associated in economic and political statements as an agrarian country, but at the same time, this sector has a negative tendency to reduce its efficiency and effectiveness.

Technical, technological and economic decline of domestic agricultural machinery is due to long-term reasons, the main of which are:

- ✓ high degree of wear of technological equipment of agricultural machinery enterprises;
- ✓ inadequate quality of construction materials and components;
- ✓ low level of funding for research and development;
- ✓ imperfection of regulatory, pricing, budget and tax policy;
- ✓ inaccessibility to credit resources and their high cost;
- ✓ inconsistency of production management methods with the conditions of a market economy;
- ✓ low level of marketing, information and educational work;
- ✓ not developed network of technical service;

- ✓ insufficient level of material and technical support of agricultural education and science, moral and physical deterioration of their base;
- ✓ imperfection of depreciation policy.

A comprehensive solution to these problems is impossible without proper state support and coordination of central and local executive bodies, as well as legal regulation of ways to solve the main problems of the industry [1], [2].

The realities of today allow us to say that the agricultural sector of Ukraine needs to update the tools, mechanisms and other postulates of development in the process of achieving business excellence. Therefore, the study of the essential content of the elements, foundations and objectives of "business excellence" [3], [4], in our opinion, is a key postulate for the development of our agribusiness, given the scientific advances on this issue.

At a time when countries are working together to recover, grow and overcome the global economic and financial crisis associated with COVID-19, scholars and practitioners are focusing on updating the development of agricultural enterprises as a key sector to support global survival [5], [6]. It is the stabilization of the agricultural market that will lead to economic growth, promote job creation, and in the long run will reduce poverty and hunger, which in turn will solve key social problems. Ensuring the effectiveness of economic entities in modern conditions of operation requires a timely review of the needs of the external and internal environment and finding ways to meet them, which is possible through the use of innovation, competencies of the XXI century and successful resource combinations [7], [8]. In modern conditions, the role and place of innovation is determined by the degree of scientific realization and technical potential, in particular the achievement of macroeconomic stability, revival of entrepreneurial activity with subsequent transformation processes, characterized by fundamental changes in the structure of the innovative economic system.

It should be noted that in order to ensure business improvement of agricultural enterprises it is necessary to intensify innovative development, maintain market positions and scale in the future. The development of the modern international market environment is characterized by a high level of competition based on the use of effective management of resources, including intellectual and financial. The realities of today allow us to say that the life of a modern agricultural enterprise can be considered as a constant process of improving its economic activity [9], [10].

However, it should be noted that the assessment of business excellence in business quality is quite popular in most developed countries, but given the current realities of today, it should be noted that this method requires refinement and innovative adaptation to the needs of the agricultural sector of Ukraine. It should be noted that special attention should be paid to defining the role and addressing the needs of innovative development of agricultural engineering, as a key indicator of agro-industrial complex development, as total mechanization and attracting innovative tools to the sector is a key driver of quality and volume.

2. The Purpose of the Article About Integrative Viewpoint for the Implementing Sustainable Management Agricultural Business Excellence

The dynamism of the external environment forms for agricultural enterprises new goals that meet modern market demands, the main of which is the use of dynamic opportunities. To combat the negative factors of a turbulent environment, it is necessary to develop the flexibility and innovation of enterprises, which is possible through the achievement of business excellence.

Given the scientific developments, it should be noted that along with the existing variety of management and marketing tools, the model of business excellence EFQM makes it possible to identify methods and elemental characteristics of the enterprise, which in turn will objectively assess the efficiency of any business unit.

The set of indicators and the share of influence are determined expertly within each measurement. The assessment is based on the degree of compliance of the situation at the enterprise on a scale:

- compliance with the situation at the enterprise (strong) - [1];
- conditional correspondence of the situation at the enterprise (relatively strong) - most of the characteristics of the indicator correspond to the situation at the enterprise (0,75-0,99)
- average correspondence of the situation at the enterprise (average) – (0,5 - 0,74)
- low correspondence of the situation at the enterprise (low) - most of the characteristics of the indicator do not correspond to the situation at the enterprise (0,01– 0,49)
- absolute inconsistency of the situation at the enterprise (cast-off) – (0)

After that we find the level of each component of the measurement of the business excellence management system of the enterprise according to the formula:

$$EMA_{RS} = \sum_{i=1}^n (SWRS_i * IVRS_i) * 100\% \quad (1)$$

where EMARS_j - level j -th dimension of business management perfection of the enterprise;
 SWRS_i - the importance of the i-th - an indicator of the level of measurement of business management perfection of the enterprise;
 IVRS_i - the value of the i-th - an indicator of measuring the management of business excellence of the enterprise;

Given the uniqueness of each enterprise in the agricultural segment, it is necessary to pay attention to the basic principles of adjustment:

- ✓ the higher the measurement score, the more weighty and better it is;
- ✓ balanced resource profile is able to provide more effective management of business excellence of the enterprise;
- ✓ identification of significant elements of the management system of business excellence of the enterprise, as asymmetry.
- ✓ priority is to achieve the optimal ratio of all dimensions of the management system of business excellence of the enterprise.

To further determine the integrated indicators of achieving the task for agricultural enterprises it is necessary: distribution and identification of indicators by groups, determining the weight of the components within the group and each unit. Accordingly, each subgroup of indicators within each group of indicators is calculated by the formula:

$$P_i = \sum_{i=1}^n [(M_i * X_{ij})], \quad (2)$$

where P_i is the degree of realization of the goals of a certain group of indicators;

M_i - weighting factor of each indicator;

X_{ij} - indicators that characterize the achievement of strategic goals within the i-th group.

Taking into account the weights, the integrated indicators will look like this:

$$PRS = 1 * prs_1 + 1 * prs_2 + 0.4 * prs_3 + 0.6 * prs_4 + 1 * prs_5 + 0.4 * prs_6 + 0.4 * prs_7, \quad (3)$$

$$PrRS = 0.9 * prrs_1 + 1 * prrs_2 + 0.8 * prrs_3 + 1 * prrs_4, \quad (4)$$

$$OSRS = 1 * osrs_1 + 1 * osrs_2 + 0.6 * osrs_3 + 0.9 * osrs_4 + 0.5 * osrs_5, \quad (5)$$

$$NRS = 1 * nrs_1 + 0.7 * nrs_2, \quad (6)$$

$$IRS = 1 * irs_1 + 1 * irs_2 + 0.7 * irs_3 + 1 * irs_4 + 1 * irs_5, \quad (7)$$

$$DRS = 1 * drs_1 + 0.7 * drs_2 + 0.9 * drs_3 + 1 * drs_4, \quad (8)$$

$$LRS = 1 * lrs_1 + 0.4 * lrs_2 + 0.4 * lrs_3 \quad (9)$$

$$CRS = 0.7 * crs_1 + 1 * crs_2 + 1 * crs_3 \quad (10)$$

$$EMARS_j = 4.8 * PRS + 3.7 * PrRS + 4 * OSRS + 1.7 * NRS + 4.7 * IRS + 3.6 * DRS + 1.8 * LRS + 2.7 * CRS \quad (11)$$

The trend of improving the efficiency of management of business excellence within the

enterprise, prognostic research methods were used, taking into account statistical data on the development of the studied sample of enterprises and general market trends. The complexity of the system and its structural component for each company is determined individually, based on its needs, the specifics of production of goods, services and industry characteristics. It is worth noting that the appropriate model can be used in combination with any set of tools depending on the needs of the organization, acting as a unified structure to achieve the goal, in the context of a sound strategy. Given the latent relationship between all subjects of market relations, a key aspect of using the appropriate model is to systematize, the entity itself, all elements of economic activity, especially those that need priority improvement and refinement.

Thus, to motivate and encourage the systematic improvement of economic activity of the enterprise, there are many effective ways to train and retrain employees, setting basic goals, the achievement of which allows the organization to demonstrate success to employees, suppliers and consumers.

3. Results and Discussion

Given the vector of digitalization, we consider it appropriate to include in the quality management system the goals of the innovation plan, to modernize the entire management system of agricultural engineering. Given the prospects not only of the industry but of the enterprises themselves, in the future we consider it appropriate to build a table for assessing the innovative excellence of Ukraine agricultural enterprises in accordance with these criteria. For clarity, we present the results as a petal diagram in Figure 1.

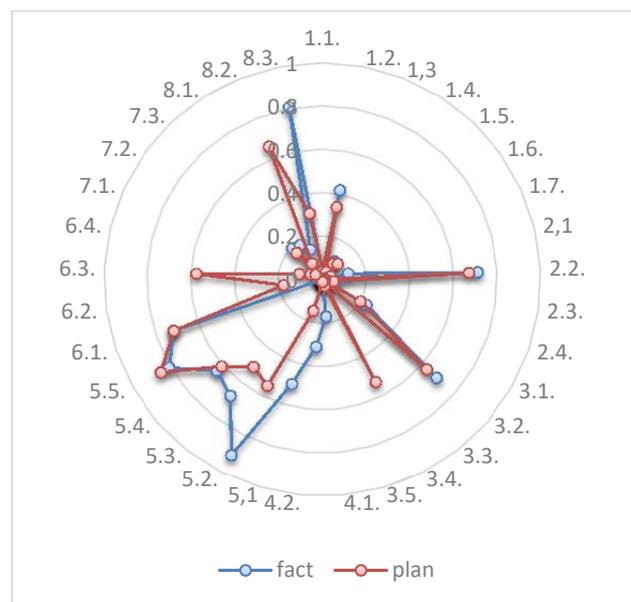


Figure 1. Dynamics of efficiency of providing resources to the activities of "Kobzarenko Plant" LLC
 Source: Formed by authors

On the basis of the conducted research of forecast indicators regarding the activity of agro-enterprises of the first group, it is possible to draw a conclusion about increase in efficiency of level of business economic perfection within 5%.

Given the economic and political trends, including instability of the environment and market consolidation, leading corporations are forced to constantly innovate in order to maintain a competitive position. Such tendencies cause "organizational spraying", trying to develop all activities and at the same time automatically reduces efficiency. In general, the main feature of LLC "Ukr.Agro-service" and "Kobzarenko Plant" LLC is that they are the undisputed leaders in the market, which increases the level of competition between them, Figure 2. Next, we can consider the dynamics of the level of management efficiency of business excellence of enterprises [11], [12].

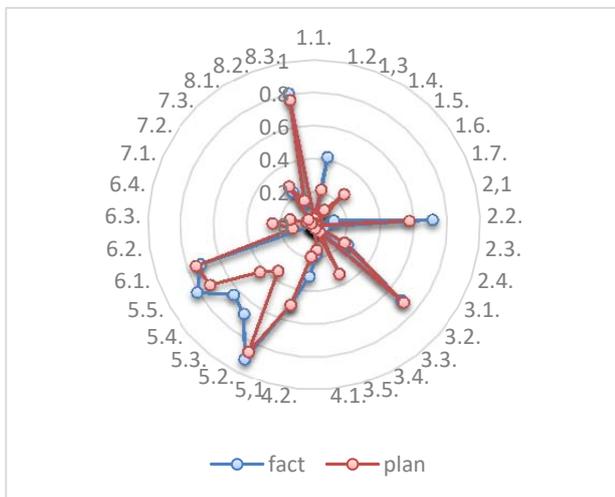


Figure 2. Dynamics of efficiency of providing resources to the activities of LLC "Ukr.Agro-service"
Source: Formed by authors

According to the results of the study, the growth of the level of business excellence within the enterprises of the second group was proved, which is shown in Figure 3. This trend is due to the policy of consolidation among leading corporations and increasing competition among them.

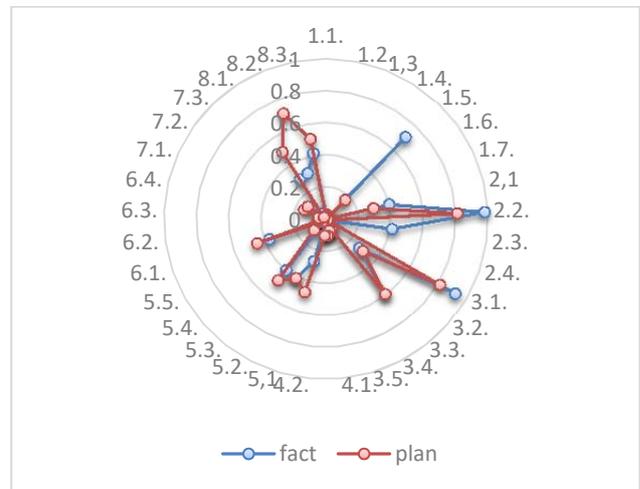


Figure 3. Dynamics of efficiency of providing resources to the activities of LLC "NVF" Aeromech".
Source: Formed by authors

The authors of the draft Law on Amendments to the Ukraine Law "On Stimulating the Development of Domestic Mechanical Engineering for the Agro-Industrial Complex" note that to improve the situation in this sector of the economy, primarily by providing farms with mobile energy, primarily tractors, Figure 4, thousand units, which in turn will significantly increase the level of technical equipment of farms and reduce the average load per 1 tractor, which today is more than 105 hectares, while in Canada - 64 hectares, in the US - less than 38, in France - less than 16, and in Great Britain - less than 12 hectares [13]. It should be noted that for the revival of domestic agricultural engineering in the country's budget for 2018 investments were provided in the amount of 550 million. UAH, and in 2019 this amount has doubled; the corresponding trend was predicted for 2020.

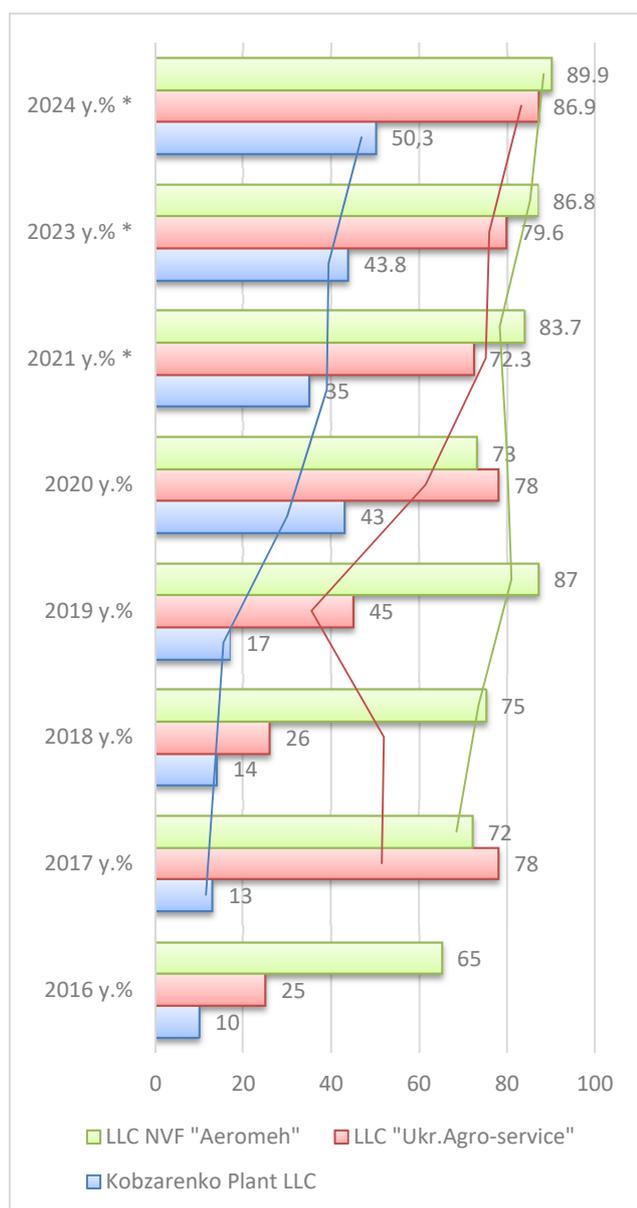


Figure 4. RABE of agricultural business excellence of Ukraine

Source: Formed by authors

Undoubtedly, for agricultural enterprises the introduction of innovations opens new horizons of development, through the renewal of material and technological base, the use of advanced technologies in animal husbandry and crop production, the use of biotechnology, which allows to obtain new, useful and higher quality products.

The use of the proposed algorithm for assessing the level of business excellence allowed the assessment on the basis of agricultural enterprises, namely: LLC "Kobzarenko Plant", LLC "Ukr.Agro-service", LLC "PKP TECHAGROLUX", LLC "NVF" Aeromeh ". According to the results, it can be noted that the level of business excellence is positive in all enterprises, with a high level of probability of further development, [14], [15].

The study of key trends in the innovative development of domestic agribusiness, indicating the positive and negative aspects of their operation, allowed to predict an increase in business excellence for Kobzarenko Plant LLC, with a probability level of $R^2 = 0.8961$, the lowest is LLC "PKP TECHAGROLUX" with a level of 0.4 LLC "Ukr.Agro-service" with probability level $R^2 = 0.4881$, LLC NVF "Aeromeh" with probability level $R^2 = 0.7174$. During the approbation, the key aspects of achieving business excellence were summarized and an action plan to ensure the innovative development of agricultural enterprises was proposed [16].

Agricultural activities aimed at improving economic, social, organizational, technological and environmental efficiency. Separately, it should be noted the aspect of the use of innovative energy-saving technologies, environmental innovations, which, accordingly, allow to increase yields, productivity, minimize losses and ensure environmental safety. Assessment of the innovative development of Ukrainian agricultural holdings indicates that of the implemented technology innovations, the largest share falls on production technologies (68.1%), most of which are related to the introduction of new methods and ways of applying fertilizers and plant protection. Therefore, among the significant shortcomings of innovation in agriculture is the lack of innovative projects, which include the creation of breeding and genetic innovations aimed primarily at increasing the productivity of crops and animals, the introduction of new resource-saving technologies and the creation of innovation and consulting systems in science, technology and innovation.

According to the Prime Minister of Ukraine, the government is primarily interested in increasing the competitiveness of the domestic agro-industrial complex. In turn, a program to support our farmers was introduced, first of all, about UAH 1 billion was provided to compensate 25% of the cost of agricultural machinery, which in turn provides an opportunity for 20% growth of the agricultural machinery market and modernization of agricultural enterprises including farms.

The input of the study, for the development of domestic agricultural engineering, is possible through the implementation of the following measures, namely:

- ✓ identification of innovative technical and technological solutions, analysis of the market of foreign and domestic equipment, study of development trends and the establishment of a priority list of machinery and equipment, as well as the establishment of requirements for the latest technology;

- ✓ innovative provision of agricultural machinery by developing and implementing specific business plans for the development of competitive machinery, justification of terms of reference, technical conditions, design of new equipment using modern computer technology, use of the declared element base, production of prototypes, certification and development;
- ✓ formation of investment attractiveness of machine-building enterprises and conditions of sustainable innovative production of machinery due to modernization of production facilities, customs-tariff and tax regulation, export-import, depreciation and preferential financial and credit policy with variable by years and volumes taxation of domestic manufacturers of modern priority equipment by declaring producers about their intentions of production with determination of degrees and dynamics of localization;
- ✓ regulation of the agricultural machinery market by stimulating the renewal of the technical park by improving financial leasing, reducing medium and long-term loans, improving the procedures for putting machinery into operation, protecting the domestic market of agricultural machinery, equipment and introducing a state register, setting up technical service systems;
- ✓ legislative and regulatory support based on amendments to existing legislation, customs and tax codes, technical regulation in the system of engineering and technical support, harmonization of regulatory acts in accordance with the requirements of the European Union;
- ✓ optimization of the general management system and coordination of the interests of the state, farmers and machine-building enterprises, in the context of increasing the level of investment attractiveness, which in turn will increase the competitiveness of domestic products through import substitution.

Given the above, it is appropriate to note the prospects for the development of the agricultural industry of Ukraine, as the lion's share of the criteria certainly encourages increasing the innovative key principles of business. The introduction of innovative technologies in agricultural enterprises can be carried out primarily through the interaction of external and internal environment, taking into account the resource potential, integrations and configurations that will ensure the successful implementation of this mechanism taking into account Ukraine's European integration.

4. Conclusions

At the present stage of economic development, the agro-industrial sector of Ukraine is one of the most important sectors of the domestic economy. Taking into account integration processes, agribusiness should be developed through the introduction of innovations in its activities, as it operates in conditions of high energy dependence, as well as taking into account the environment using modern energy and saving technologies, methods and techniques of reclamation.

The production base of the agro-industrial sphere is based on an extensive infrastructure network and a system of research support for its development. Ways of development of the agro-industrial sector of Ukraine provide balanced and interconnected structural restructuring of all branches, maximum introduction into production of the most important achievements of scientific and technical progress, world experience, the most progressive forms of economy and organization of production on the basis of priority solution of actual problems property, including the deepening of land ownership relations and the introduction of mechanisms for the realization of property rights; privatization of processing enterprises; restructuring of enterprises and forms of management; development of cooperation; introduction of market management methods - management and marketing; state regulation of the agricultural economy through more efficient use of price levers, financial and credit and tax systems; development of markets for agricultural products, material and technical resources and services; intensification and diversification of foreign economic activity, etc.

It should be noted that a number of advantages we receive from the use of this model: the structure of fundamental values; holistic general idea of management on the functioning of the enterprise; a valuable tool for analysing and evaluating the development of the business entity; expediency of continuous improvement based on the improvement of business processes; formation of the enterprise management system on the basis of a balanced system of key performance indicators; benchmarking; excellent base for motivation; the potential for forming a common language for the entire organization.

Thus, the current dynamic conditions for the development of science and technology, production of high-tech goods and new services in a diverse socio-economic environment are accompanied by the search for new ways to establish and maintain long-term relationships between stakeholders. That is why the business excellence model, which is the main tool for evaluating the company's activity, is relevant for European and Ukrainian companies. Perfect companies use the criteria of the business excellence model to improve certain aspects of their activities,

including: to define goals and strategies, establish partnerships with consumers and suppliers, motivate and attract staff, produce and sell competitive products.

As the innovative development of this sector of the economy is updated today, and taking into account significant competition, a necessary condition for success is the use of new approaches and mechanisms to achieve business excellence. Therefore, in the course of the research we formed a factor-result matrix with the indication of key identifiers for the assessment of innovative skills in the business of the agricultural industry in Ukraine.

We believe that the observance of the relevant identifiers will contribute to the innovative development of domestic agribusiness, which in turn will increase the efficiency of both the sector and the economy as a whole. The priority of innovative development of the agro-industrial sector of Ukraine and its leading industries makes it possible to provide the population with food products, industry with raw materials, and foreign trade with export goods, which will increase the competitiveness of domestic products and promote economic growth.

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