Journal of Agriculture and Crops
ISSN(e): 2412-6381, ISSN(p): 2413-886X
Vol. 8, Issue. 4, pp: 251-258, 2022
URL: https://arpgweb.com/journal/journal/14
DOI: https://doi.org/10.32861/jac.84.251.258

Academic Research Publishing Group

Original Research **Open Access**

Internationalization of Sales Marketing of Agricultural Enterprises in the Conditions of Developed Informatization

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Article History
Received: 25 March, 2022
Revised: 23 June, 2022
Accepted: 9 July, 2022
Published: 15 July, 2022

Abstract

The complexity and instability of the marketing environment in which domestic enterprises operate, threats and challenges associated with the complex geopolitical situation, and the variability of the world economy force entrepreneurs to seek new areas and promising areas of development not only national but also international markets using all available tools. The article aims to develop a recommendation for the internationalization of marketing sales of agricultural enterprises using information tools. Due to the peculiarities of the agricultural sector, the authors conducted a preliminary analysis, which showed that although the structure is dominated by small enterprises with an area of up to 100 hectares (from 50% to almost 80% of the structure), still the total production falls on medium and large enterprises. Thus, the recommendations are primarily designed for such agricultural enterprises. To achieve this goal, the authors analyzed the features of agricultural enterprises and their impact on marketing and informatization and explored the characteristics of modern business digitalization. The authors used both general and special research methods; the study is based on a system-logical approach. The primary materials of the study are the reporting of agricultural enterprises, industry reports and the official world and Ukrainian statistics. All of this allowed to propose a mechanism for internationalization of marketing of agricultural enterprises and highlight the features of the use of digitalization and digitization for it.

Keywords: Agricultural enterprise; Agrosphere; Internationalization; Informatization; Sales marketing.

1. Introduction

The objective processes of developing the world economy lead to the increasing internationalization of national economies. Organizations of almost all countries of the world are directly involved in international business, carrying out this type of business, and build their activities taking into account the actual state of the world market, based on accurate knowledge of the needs and demands of consumers, as well as taking into account their possible changes in the future. Knowledge of international business is also provided by implementing the internationalization of marketing activities [1, 2].

Internationalization is an essential and decisive step for companies seeking to enter international markets with their products and services. However, the intensification of competition and expanding the boundaries of the company's presence pose new challenges, including considering the positioning of goods and services, cultural, social, historical, and economic differences, technology, and more [3, 4].

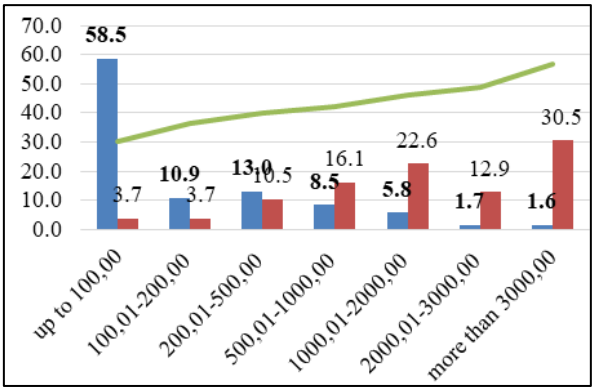
Increasing international involvement of companies is not unique to large enterprises, as globalization and technology development (including e-commerce, Industry 4.0 technology, digital platforms) allows businesses to enter foreign markets using their strengths – flexibility, responsiveness [5, 6]. However, the peculiarities of internationalization require considering the peculiarities of external marketing, and the high level of competition, market saturation – the formation of an appropriate marketing strategy.

The agricultural sector has characteristics that significantly affect both internationalization and marketing in general. Let's analyze the structure of agricultural enterprises in Ukraine in 2021 (Fig. 1).

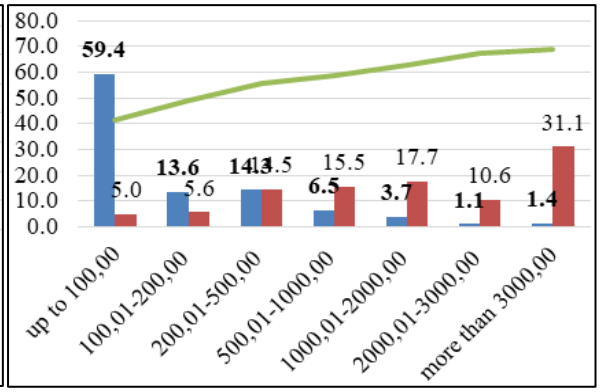
The analysis shows that the structure is dominated by small enterprises with an area of up to 100 hectares (from 50% to almost 80% of the structure). Still, the total production falls on medium and large enterprises. The dependence of yield on the size of enterprises has not been established: it is more or less the same, without significant fluctuations.

Thus, it is medium and large enterprises that should consider the issue of internationalization because they have more financial resources for this. Thus, *the aim of the article is to develop a recommendation for the internationalization of marketing sales of agricultural enterprises using information tools*.

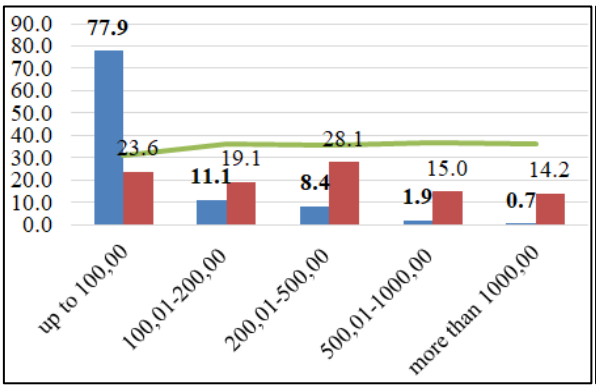
Figure-1. Grouping of enterprises by the size of the harvested area of the main crops in 2021 (based on The State Statistics Service of Ukraine [7])



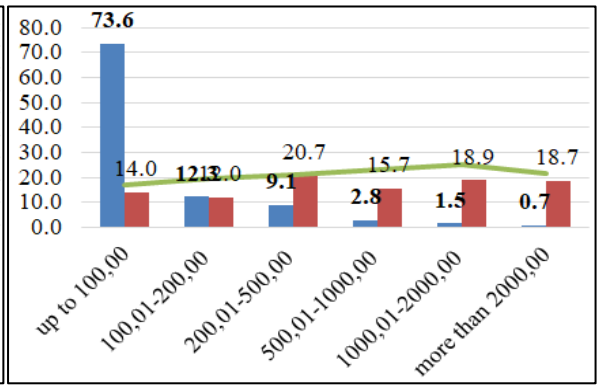
Cereal and leguminous crop



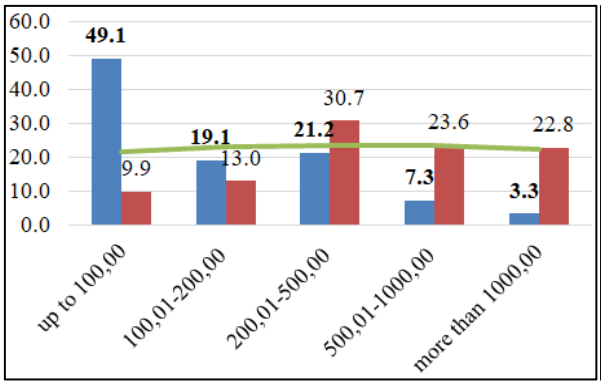
Maize for grain



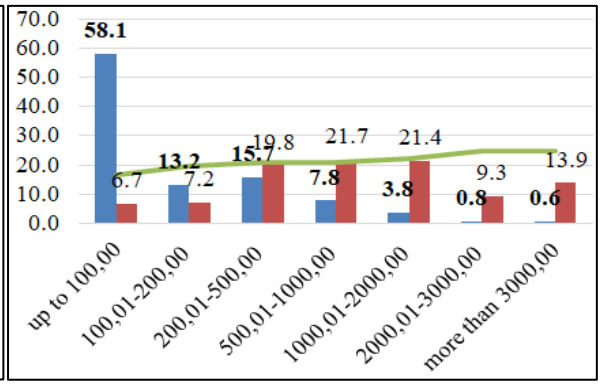
Barley



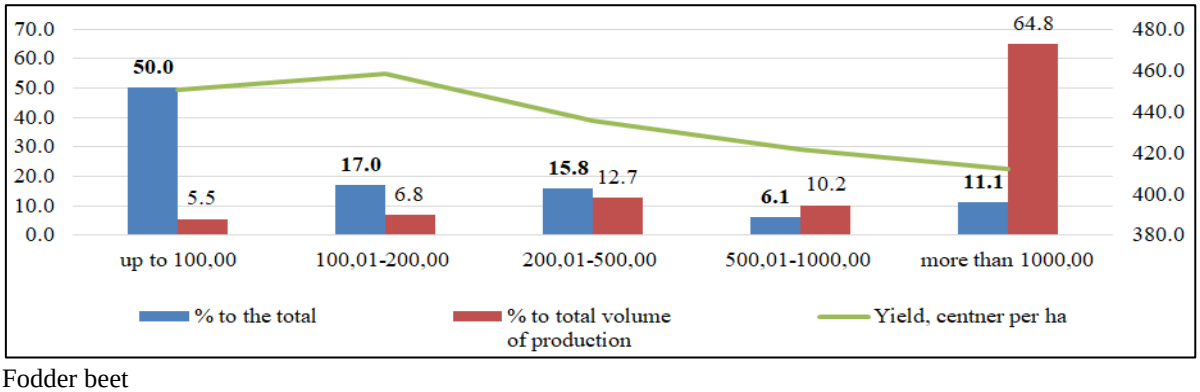
Soya beans



Winter rapeseed and colza (spring rapeseed)



Sunflower seeds



Fodder beet

2. Materials and Methods

The authors used both general scientific research methods (observation, synthesis, deduction and induction) and special ones (analysis, analytical research, statistics, didactics, interpretation and comparative analysis) in the study. The study is based on a system-logical approach.

The main materials of the study: reporting of agricultural enterprises, industry reports and the official world and Ukrainian statistics.

3. Features of Agricultural Enterprises and Their Impact on Marketing and Informatization

Consumers and producers of the agricultural sector are increasingly convinced of the practicality and necessity of effective agricultural marketing and its rational organization. Agromarketing has many features that are determined by the specifics of agriculture itself [8, 9]:

- Close relationship with biological systems,
- Sustainable consumption,
- Production diversification,
- Technological dependence of related industries,
- A large volume of perishable products,
- Monopolization of processing,
- Concentration of consumers by territory

At the present stage, the use of marketing in the agricultural sector determines the constant and active study of consumer demand, the possibility of offering consumers a better product and a high level of service, which will ensure a stable position in the market, predictable income and stability in the agro-industrial complex. When forming marketing strategies, it is advisable to proceed with an assessment of the leading market and economic factors and an analysis of the existing potential for strategic success. Among the factors limiting the development of the industry, from the point of view of the surveyed producers, it is worth highlighting the depreciation of the material and technical base, high prices for material and technical resources and agricultural products, insufficient state support, insufficient funding from the state and lack of own financial resources.

In the course of studying the issue of the formation and improvement of agricultural marketing in the context of its reform, it is necessary to highlight the dominant marketing problems in the agro-industrial complex:

- Development of models of production and marketing activities with indicative calculations;
- Diversification of production, formation of horizontal and vertical market structures;
- The need to develop a storage, processing, and sale system as soon as possible;
- The need to use environmentally friendly products and the use of biotechnologies in the production of agricultural products;
- A small market share causes the insecurity of an individual commodity producer;
- The need to develop an intermediary network;
- High demand for government regulation [10].

The positive aspects of foreign economic activity are usually considered:

- Expansion of the sales market and an increase in the amount of profit;
- Instability of the political and economic situation in the country of origin of the goods;
- Reducing dependence on the domestic market and reducing the risk of losses from possible unforeseen circumstances on it;
- Increasing the life cycle of the product due to entering new markets;
- Elimination of seasonal fluctuations in demand due to the possible sales of goods in countries with different climatic conditions;
- Improving the company's image due to its entry into foreign markets and other factors [11-13].

Considering the positive factors of foreign economic activity, it should be noted that the required positive result cannot always be achieved. Many international marketing problems that affect a positive impact are also highlighted.

1. Significant external debt. Many countries have a sizeable external obligation and experience difficulties paying interest on loans.

2. Instability of governments. Considering that inflation and unemployment, as a rule, lead to high instability of governments, a change of power can lead to expropriation, nationalization, and restrictions on the repatriation of income of foreign companies.

3. Problems with currency conversion. Economic and political instability lead to the devaluation of the national currency. Companies operating in the foreign market tend to earn hard currency with the right to repatriate income, but they are deprived of this opportunity in many countries.

4. Government requirements for foreign organizations, bureaucratic delays. Most governments have many needs for foreign companies: establishment of joint ventures with national companies, a large number of local employees, technology transfer, limiting the repatriation of profits.

5. Tariffs and other trade barriers. To protect domestic industry, many countries routinely use high duties on imported products, invisible trade barriers such as slowing critical document approval processes, requiring costly product changes, and slowing imports through customs.

6. Technological "piracy". A company that sets up production abroad runs the risk that foreign managers, who have learned production secrets and subsequently left the company, will turn into open or covert competitors.

7. High production costs and the need to adapt communication tools. The company must be sensitive to changes in the economy, politics, legislation and culture and adapt its products and communication tools.

8. Border changes. National boundaries are the basis of marketing because they dominate market relations and shape the economic behaviour of consumers within one country [14-17].

Summarizing the above, we can conclude that organizations should enter a foreign market if: *firstly, there are no opportunities to improve the results of their business activities in the national market; secondly, the foreign market is quite attractive in terms of obtaining additional profit; thirdly, there are the necessary amount of resources for the implementation of international marketing.*

4. Digitization of Agribusiness

Currently, digital technologies are spreading in many areas of agricultural production. Due to the peculiarities and specifics of crop production use:

- Remote sensing of land, providing research of soil condition, measuring field areas for cadastral and land management works, forecasting climatic conditions and optimizing irrigation, monitoring weed condition, calculating fertilizer application rates and plant protection products, developing technological maps of placement and cultivation crops, yield forecast, etc.;
- Systems of soilless cultivation - for example, programmed drip irrigation creates a particular mode of plant nutrition that maximizes their needs with all the necessary elements so that they can get a high-quality harvest;
- Microclimate support systems - as a result of creating optimal temperature regimes in greenhouses, productivity increases, electricity costs are reduced, etc.;
- Environmentally friendly tillage technologies (biologization of agriculture to improve soil fertility, reduce weeds and pests, reduce pesticides and nitrates, which contribute to food security);
- Automation of harvesting – provides minimization of human intervention in harvesting and maximization of the quality of the harvested product, etc.

In the field of animal husbandry, agricultural producers have the opportunity to introduce:

- Electronic sensors and video surveillance systems to maintain the microclimate on the premises, animal control, protection of the territory;
- Identification systems and electronic passports that help to detail the herd accounting and monitoring and control of animal health;
- Automated livestock systems, in particular, computer calculations of feed rations, as well as the computer technology in selection and breeding work;
- Robotics for milk collection, animal feeding, maintenance of livestock complexes;
- Uncrewed aerial vehicles for cattle grazing or herd movement monitoring, etc. [18-20].

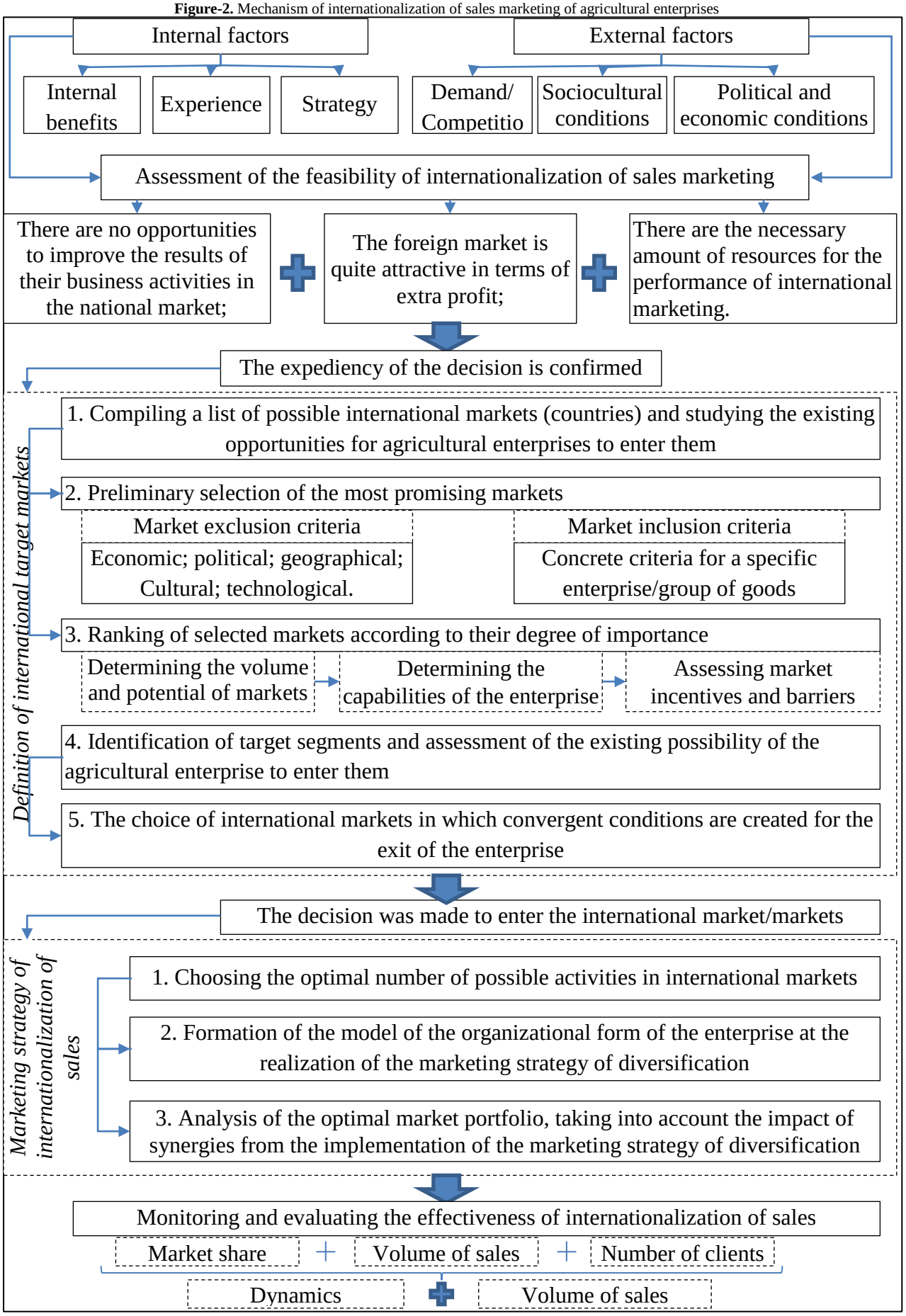
In the field of processing and maintenance, the following are typical:

- "Smart" meters are used to control energy consumption (fuel), metering, fuel and lubricants;
- Sensors and GPS navigation systems that provide computerized control of equipment or control of its location;
- Barcoding systems contribute to the careful accounting of equipment units and their wear and tear for depreciation, etc. [21, 22].

5. Results and Discussion

Based on the above, we propose the Mechanism of internationalization of sales marketing of agricultural enterprises (Fig. 2).

Figure-2. Mechanism of internationalization of sales marketing of agricultural enterprises



Digitalization in the agrosphere is the transfer to the information system of a massive array of data describing all the characteristics of the fields in which we work: agrochemical, physical and chemical, climate history, yield history, history of plant protection products, norms, the resulting yield is a huge array of data; this is the information that needs to be used so that the system, for example, correctly calculates the production plan.

On the other hand, if we are talking about monitoring, quite a lot of startups and technologies have already appeared that allow us to analyze satellite images or drone images differently. Due to the knowledge base and machine learning algorithms, the first symptoms of diseases or the appearance of weeds can be recognized from images. You can identify the problem in advance and plan and implement preventive measures.

Thus, digitalization allows us to achieve two key goals: to grow more and manage costs efficiently and to achieve optimal efficiency in each field.

The maximum yield depends on the specific climatic zone and particular soils. All fields have their ceiling, and if this ceiling is not known, the agricultural producer can "bury" super-expensive hybrids and fertilizers in this field without increasing yield.

In the current agro-economy, when product prices are not rising, good cost management is an essential aspect. But suppose all the data is not converted into digital format, not uploaded to the appropriate system. In that case, there is no need to talk about some breakthrough, an increase in domestic production and the efficiency of Ukrainian farmers.

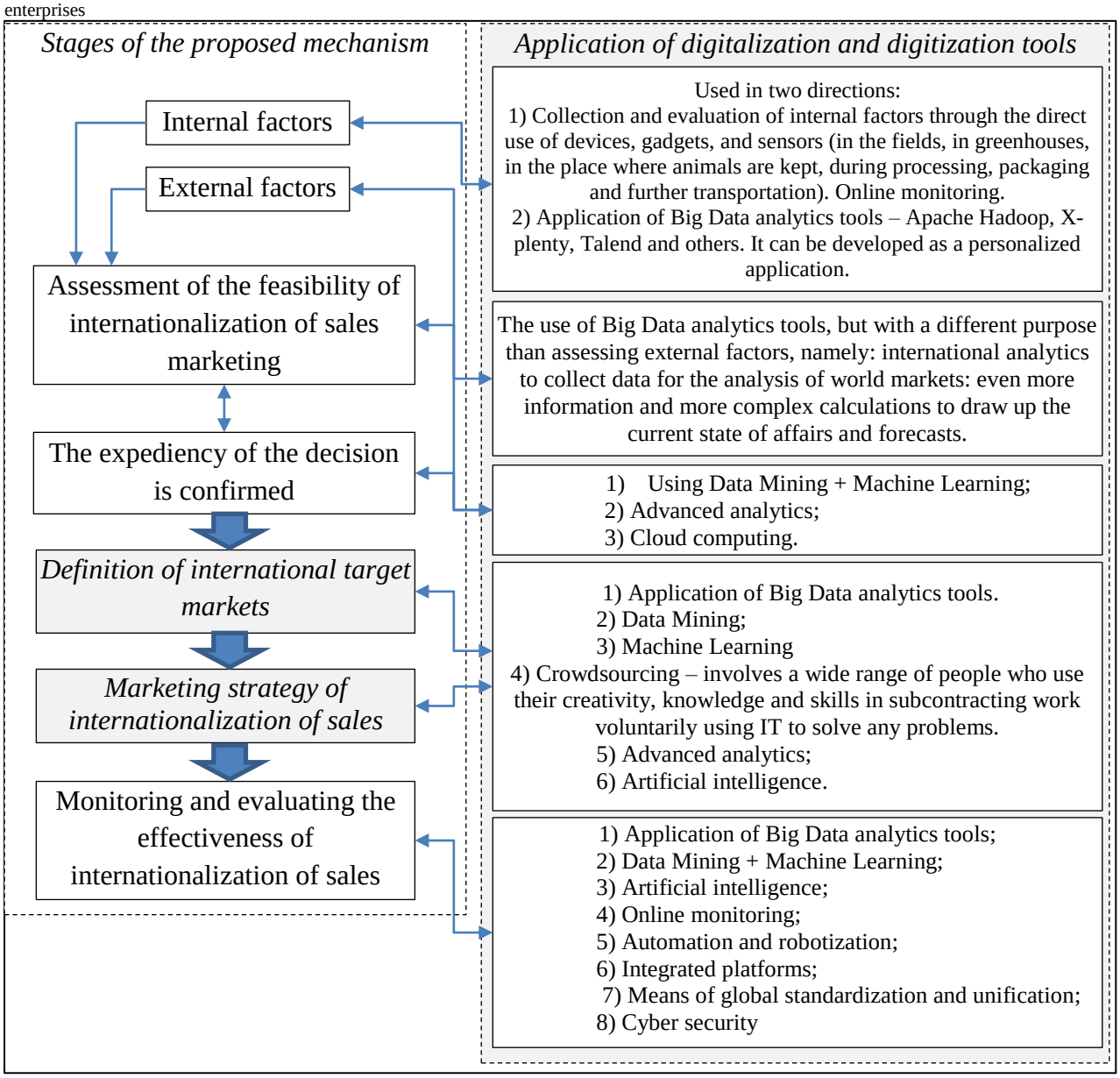
Let us outline the range of possible digitalization tools to improve the efficiency and effectiveness of the proposed mechanism (Fig. 3).

A feature of the proposed tools is, firstly, their versatility - the mechanism was developed for medium and large companies, respectively, with different budgets, and all of them will be able to afford the implementation of absolutely all the proposed tools; and secondly, the maximum comprehensiveness - the sphere of agribusiness is the most “fertile” precisely from the point of view of the need to use digitalization and digitization tools.

Such tools are already successfully used both directly in production (soil sensors, drones, sensors, sometimes full automation, for example, barns [20], processing (online monitoring, robotization and automation) and other production business processes, as well as for management and marketing. However, it is worth noting that in such cases, more "advanced" tools are used, which are mainly associated with the collection and processing of a considerable amount of information - Big Data, as well as for building trends and forecasts.

The most important aspect of digitalization, if an agricultural enterprise is going to internationalize its sales, is the connection to the global network. However, this aspect is beyond the scope of the current study and will be considered in our further studies.

Figure-3. Application of digitalization and digitization tools for the mechanism of internationalization of sales marketing of agricultural enterprises



When we talk about information tools, this is an investment that will pay off very quickly. And the more advanced the technology, the greater the return on investment.

7. Conclusion

In the current economic conditions of domestic enterprises, the expansion of the field of market relations has become a significant challenge during the crisis periods in Ukraine. Exit from the crisis, reforms of national production and its future economic growth are possible only if the introduction and coordination of marketing management for fuller implementation of foreign economic relations of the state, proper consideration of production needs for domestic and foreign sales, coordination of export opportunities and needs imports, providing for the production of competitive products, strengthening the impact on the international division of labour, international specialization and internationalization of production and, accordingly, increase the efficiency of foreign economic activity.

In the context of globalization, traditional methods and techniques of marketing are ineffective in ensuring its activities in international markets in conditions of fierce competition for consumers. At the same time, victory over competitors is becoming a significant factor in the effectiveness of international business.

The future of the agricultural business is undoubtedly Digital Agribusiness. Even if an agrarian enterprise is not going to enter international markets, introducing digital tools is just a necessity today.

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