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Alla Dunska

D.Sc. (Economics), Associate Professor,
Igor Sikorsky Kyiv Polytechnic Institute
37 Peremohy Ave., Kyiv, 03056, Ukraine
alsu@i.ua
ORCID ID: <https://orcid.org/0000-0002-8623-4507>



Hanna Zhaldak

PhD (Economics),
Igor Sikorsky Kyiv Polytechnic Institute
37 Peremohy Ave., Kyiv, 03056, Ukraine
ann17@i.ua
ORCID ID: <https://orcid.org/0000-0003-3421-3648>

The influence of endogenous innovative sources on the development of exports of industrial enterprises

Abstract. This paper presents an in-depth analysis of the essence of economic system development, giving the understanding of the difference between the categories of social and human capital. The authors of the paper describe the composition of the structure of social capital by using the method of analysis of hierarchies basing on the example of JSC «Kyivmedpreparat» and assessing the impact of elements of social capital in the context of export activities of the enterprise. The application of this methodology provides an opportunity to ensure the effective use of social capital as a resource and an endogenous innovative source of export activities of the enterprise, and increase the level of competitiveness of the enterprise in foreign markets.

The developed methodological recommendations will be useful to experts in estimating the cost of export activities and forming a strategy for enterprise development.

Keywords: Innovations; Export; Social Capital; Innovative Sources of Development; Industrial Enterprise

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Дунська А. Р.

доктор економічних наук, доцент, кафедра менеджменту,
Київський політехнічний інститут імені Ігоря Сікорського, Київ, Україна

Жалдак Г. П.

кандидат економічних наук, кафедра менеджменту,
Київський політехнічний інститут імені Ігоря Сікорського, Київ, Україна

Вплив ендогенних інноваційних джерел на розвиток експорту промислового підприємства

Анотація. У роботі представлено поглиблене розуміння сутності розвитку економічної системи. Розмежовано розуміння категорій соціальний та людський капітали. Запропоновано декомпозицію структури соціального капіталу з використанням методу аналізу ієрархій на прикладі АТ «Київмедпрепарат» та здійснено оцінку впливу елементів соціального капіталу в контексті експортної діяльності підприємства. Застосування цієї методики надасть можливість забезпечити ефективне використання соціального капіталу як ресурсу та ендогенного інноваційного джерела експортної діяльності підприємства та підвищити рівень конкурентоспроможності підприємства на зовнішніх ринках.

Запропоновані методологічні рекомендації будуть корисні експертам при оцінці витрат на експортну діяльність, а також при формуванні стратегії розвитку підприємства.

Ключові слова: інновації; експорт; соціальний капітал; інноваційні джерела розвитку; промислове підприємство.

Дунская А. Р.

доктор экономических наук, доцент, кафедра менеджмента,
Киевский политехнический институт имени Игоря Сикорского, Киев, Украина

Жалдак А. П.

кандидат экономических наук, старший преподаватель, кафедра менеджмента,
Киевский политехнический институт имени Игоря Сикорского, Киев, Украина

**Влияние эндогенных инновационных источников
на развитие экспорта промышленного предприятия**

Аннотация. В работе представлены углубленное понимание сущности развития экономической системы. Разграничены понимания категорий социальной и человеческого капиталы. Предложено декомпозицию структуры социального капитала с использованием метода анализа иерархий на примере АО «Киевмедпрепарат» и дана оценка влияния элементов социального капитала в контексте экспортной деятельности предприятия. Применение данной методики позволит обеспечить эффективное использование социального капитала как ресурса и эндогенного инновационного источника экспортной деятельности предприятия, а также повысить уровень конкурентоспособности предприятия на внешних рынках.

Предложенные методологические рекомендации будут полезны экспертам как при оценке затрат на экспортную деятельность, так и при формировании стратегии развития предприятия.

Ключевые слова: инновации; экспорт; социальный капитал; инновационные источники развития; промышленное предприятие.

1. Introduction

Integration trends in the world economy stimulate the development of export-oriented economies, which in turn leads to the expansion of export operations of industrial enterprises which form the basis of the economy of any country.

The volume and geography of a company's exports are elements of assessing the competitiveness of the company not only in the domestic but also in the foreign markets. Therefore, companies that are interested in receiving a steady flow of cash from exports focus their efforts on finding sources and tools that can ensure the development of export activities of the company.

The evolution of economic systems shows that the competitive advantages of companies are not forever unchanging, and if, in the early industrial era, the competitive position of the region was determined by natural resources and geographical location, then in the postindustrial era of knowledge economy, human capital and innovation, information, cloud technologies and AI can become a competitive advantage.

In the context of the formation of post-industrial society in Ukraine, the development of export activities of industrial enterprises requires changes in traditional mechanisms of enterprise subsystems, taking into account the disorder of economic development, chaotic and poorly predicted changes in the external environment.

The core of innovative management mechanisms of modern industrial enterprises should be endogenous sources of development of a qualitatively new level, i.e. innovative sources that can lay the foundation for the development of all vectors of enterprise activity, including export activities.

2. Brief Literature Review

The theoretical basis for the identification of innovative endogenous sources of export development of industrial enterprises is an in-depth understanding of the essence of the development of the economic system, since industrial enterprises and their functional subsystems are separate economic systems.

Numerous scientific works by domestic and foreign authors are devoted to the study of the essence of the development of the economic system and the essence of enterprise development as economic categories.

Quite a common definition of the category of development involves interpreting it as a process of natural change, the transition from one state to another, more perfect, the transition from the old qualitative state to the new, from simple to complex, from lower to higher (Ozhegov, 1998). A similar definition is given in the paper of Yokhna and Stadnik (2015). Namely, development is «a directed natural change. As a result of development, a new qualitative state of the object, its composition or structure arises».

In the economic scientific literature, the qualitative component of development is often emphasized. Bazylevych (1989) defines development as qualitative transformations of the organization

of production and management, which leads to a significant increase in the level of scientific, technical, economic and social efficiency, improving the quality of management.

Raiko (2007) notes in his work that development is a directed process of changing the qualitative state of the object, which is accompanied by the transformation of its internal and external relations, determines stability and adaptability of the object, respectively to the requirements of the external environment and thus ensures its viability for as long as possible. According to the system approach, Tridid (2002) treats development as a separate system within the enterprise, which combines innovation processes providing qualitative and quantitative changes in the functioning of the enterprise.

M. Burmaka and T. Burmaka (2011) give an interpretation of the development of the socio-economic system, which, in their opinion, has a universal meaning and can be used for different types of systems from individual units to industries: it is «irreversible, natural, aimed at resolving contradictions between systems and the external environment or within the system, quantitative, structural and qualitative changes in accordance with the established goal, which lead to the achievement of a qualitatively new state (properties) of the system and obtaining a socio-economic effect». Figurnova (2002) and Filipenko (2007) suggest that development is the result of efficient use of basic factors of production, which include labour, land, capital, entrepreneurial skills, scientific and technological progress, resource potential and rational use of nature; development can be achieved only through their optimal combination. We can agree with Porter (1988), Denisov and Poroshin (1995) who substantiate the idea that development of enterprises is a strategy of a certain kind, and their own understanding of development is used to determine the process of increasing business efforts aimed at meeting market demand, the process of creating new areas of a business, etc. That is, the purpose of enterprise development is to increase the market value of an enterprise.

This view is supported by most scientists who base their research on the theory of endogenous growth, which assumes that the result of development is the result of endogenous, not exogenous, factors. Thus, a clearer interpretation of the purpose of development of economic entities is found in the works by Afanasyev, Rogozhin & Rudyka (2003), Vasylenko (2005), Gordienko (2001), Kuntsevich (2004), and Smolyak (2005). They propose to interpret development as qualitative changes in production, financing, marketing, management and other elements of the company's potential, aimed at increasing its value, which requires improving production activities, organizational structure and enhancing the efficiency of available resources.

However, such goals require more detailed elaboration, as described in the work by Trifilova (2005) who states that the goal of development must be determined in accordance with the main areas of economic enterprises, namely market position, productivity, availability of production resources, the degree of stability of business entities, its management system, professionalism and social responsibility of staff, as well as innovation. Belentsov (2007) testifies that by development it is necessary to understand quantitative and qualitative satisfaction of regularly growing needs of society at the expense of growth of own volume of manufacture resulting from development of technological production. It should be noted that in this study the author emphasizes the connection between the concept of development and the system of economic laws.

Therefore, in our opinion, development should be interpreted as an inverted process, a directed and natural change of the object (system), as a result of which a new qualitative state arises, based on the emergence, transformation or disappearance of elements and connections between them. In fact, development is an immanent process, the source of which is in the developing object itself.

This understanding of economic development is supported by the provisions of the theory of endogenous growth, the authors of which, in particular Romer (1994), see that economic growth and development are due to endogenous factors, and the greatest contribution to development are investments in human capital and innovation. That is, taking into consideration the development of export activities of the enterprise, the sources of its development are located in the middle of the enterprise and its export activities, and therefore the impulses to develop the enterprise can be received through the influence of endogenous factors.

However, it should be understood that export activity, unlike all other functional areas of the enterprise, depends on the direct interest of the final consumer in the products of the enterprise and the results of its activities, where the consumer is in another market or subject to other business

conditions. Yet, the way interesting, new, innovative products of the enterprise are perceived ultimately depends on its financial results, which determines the efficiency of the enterprise and the level of return on investment.

However, today resources are no longer the main factor in the functioning of the enterprise. Resources are available to any enterprise in the world economic system; the only question is the value of resources. Hence, in terms of availability of resources (raw materials, energy, personnel, funds, information) the only opportunity for an industrial enterprise to extend the life cycle of its existence is the constant updating of available technologies and transition to better technological trajectories, which can be realized only by constant implementing of innovations.

Thus, at the level of the industrial enterprise, it is expedient to consider technology not only within the production subsystem. For any industrial enterprise, production is the main component on which its success depends. In addition to the production subsystem, the criterion of innovation should apply to general management technologies and tools used in various functional subsystems: financial, personnel, marketing, information, and economic.

Yarmak (2014) emphasizes that at the present stage of economic development the characteristics of innovative development should include differences such as the production of new knowledge and the ability to transfer and transform it into real economic practice. This process is largely determined by the market of intellectual services, the volume and quality of such services, as well as by the efficiency of the mechanism of production and consumption.

Therefore, we will try to establish a link between the innovation aspect and foreign economic activity of enterprises, namely the export component.

In their work «Combining Innovation and Exports», Palandkaraya et al. (2012) make an empirical study of the causality between innovation and participation in the export market. The authors seek to determine whether firms which operate in foreign markets become more innovative than firms that focus only on domestic markets (the «learn by export» hypothesis) or they invest in innovation to become more productive before they make the decision to enter foreign markets (the self-selection hypothesis). The paper by Mayer, Melitz, and Ottaviano (2014) presents a new vision of the relationship between exports and innovation. In particular, with regard to causality, the evidence is that the process of innovation leads to activity in the export market, which then leads to a further process of innovation development (Palangkaraya, 2012).

Possible impacts of innovation on exports have already been analyzed. However, some researchers and scientists are investigating the impact of export shocks on firms' innovation development (Aghion et al., 2018). The model of trade and innovation with heterogeneous firms assumes that a positive «export shock» initially stimulates innovation for more productive firms. Such shocks stimulate both an increase in market size and the effect of competition. A larger size of the market increases the incentives for innovation for all firms, while the increased competition generated by a larger market often reduces the incentives for innovation for less productive firms. The model emphasizes that increased competition with higher demand can lead to losses and, consequently, reduce incentives for innovation for less productive firms.

Since the development of any economic system involves its transformational transition to a new qualitative state, in our opinion, it is important to identify endogenous factors that include the potential for the development of both the enterprise as a whole and export activities.

We will try to systematize factors that affect exports. Thus, we propose to investigate the following groups of endogenous factors:

1. Technical, which characterize the parameters of export transactions (qualitative and quantitative characteristics of the subject of the export agreement, product specifics, level of innovation, uniqueness level), as well the enterprise itself and its export potential.
2. Organizational, which determine the features of the organization of export activities, namely the method of supply (direct export or indirect export through intermediaries, transport used, the basic export condition), and the export strategy used by the enterprise.
3. Economic, due to the value of the export transaction, which is determined by the price of exported goods, the cost of transportation, the exchange rate used for settlements, the amount of customs and other tax payments and the economic results of export activities.
4. Social, formed by the subjects in the process of export operation on the basis of ties between them in terms of trust, in other words, the social capital of exports.

The first three groups of endogenous factors can be attributed to the traditional and quite well studied in terms of their role and impact on the development of export activities. Therefore, in

our opinion, the most innovative endogenous sources that influence the development of export activities are social factors, the research of which is primarily focused on studying the role of social capital in ensuring the development of exports.

Confirmation of this opinion can be found in the fundamental national report «Innovative Ukraine 2020» (Geets et al., 2015), the authors of which emphasize that «the human person is the main innovator and the basic resource of innovative development of society».

3. Purpose

The purpose of the paper is to study the role of social capital as an innovative endogenous source of development in ensuring the development of export activities of the enterprise.

4. Results

First of all, it is necessary to distinguish between the categories of social capital and human capital.

Human capital is usually understood as a set of formed and developed as a result of investment productive abilities personal traits and motivations of individuals who are in their possession, involved in economic activities, promote productivity and thus affect the growth of income (earnings) of its owner and national income. Unlike human capital, in terms of social capital, it is difficult to materialize and appropriate to a particular person, because it exists only when there are relationships between people (Coleman, 1988).

Social capital is less visible than human capital «because it exists only in the relationships of individuals». Just as physical and human capital, J. Coleman emphasizes, «social capital facilitates productive activity» (Coleman, 2001).

Peldem understands social capital as «...glue that allows you to mobilize additional resources of relations based on people's trust in each other» (Peldem, 2000).

Fukuyama emphasizes the mechanisms of reproduction of social capital as religion and tradition and believes that «social capital differs from other forms of human capital in that it is usually created and transmitted through such cultural mechanisms as religion, tradition or historical habit» (Fukuyama, 2002).

According to Patnam (1997), social capital consists of active relationships between people in whom trust and common values connect members of networks and communities and enable and simplify joint action.

Social capital is an integral part of real internal material values and resources. Like other forms of capital, social capital is productive, contributes to the achievement of certain goals, which cannot be achieved in its absence. Social capital includes the social component, being the quality of relationships. On the other hand, it also has a component of capital, because it is a resource that economic agents use to increase the level of efficiency of their economic activities. Various authors have defined social capital as:

- 1) a resource that increases social efficiency;
- 2) existing norms and values in society;
- 3) social ties between individuals on the basis of mutual trust (Demkiv, 2005).

We define social capital as a joint resource that enables, supports and directs individual and collective action in creating innovations, ensuring the development of the enterprise and strategic cooperation. Usually, these relationships are generated by networks of relationships, interaction, trust, common social norms and values. The functional purpose of social capital in the enterprise is to optimize the interaction of entities in the process of their economic activity.

The methodological principles of the study of the structure and the use of social capital were set out by us in the work (Dunska & Zhaldak, 2018), where the emphasis is on identifying innovative aspects of social capital. However, deepening our own research on innovative sources of development of various functional areas of the enterprise, we have formulated a hypothesis on the possibility of using social capital as an endogenous source of export activities. The focus on export activities is due to the critical challenges faced by the vast majority of exporters and importers during the COVID-19 pandemic. In view of this, we have made assumptions about the change in the structure and role of social capital in the export activities of enterprises, which requires further in-depth research.

In the structure of the enterprise, export activity is part of an integrated system of interdependent elements, which determines the direction of enterprise development on the basis of

intensification of foreign economic relations and cooperation. Along with this, social capital is an important resource of the enterprise and an integral part of real material values. Like other forms of capital, social capital is productive, contributes to the achievement of certain goals, which in its absence is difficult to achieve. According to Patnam (1997), social capital consists of active relationships between people in whom trust and shared values connect members of networks and communities and enable and facilitate joint action. From an economic point of view, social capital is a special resource that contributes to value creation by increasing the return on other resources (land, labour, capital, entrepreneurship). Despite the fact that social capital is not actively engaged, there are a significant number of scientific works in which it is shown that social capital significantly affects the economic performance of enterprises.

The export activity of enterprises is significantly influenced by a set of socio-economic parameters, in particular, such as: the size of the business network, the level of openness and integrity of the enterprise, the level of cooperation with foreign partners and world scientific and technical centers. The study also shows that the main areas of intensification of export activities of the enterprise correlate with taking into account socio-cultural factors and information asymmetry and opportunism, which is initially very difficult to detect or predict. Thus, even despite the free trade zone agreed between the EU and Ukraine, tariff and non-tariff regulation methods are still actively used in the EU member states, which significantly complicates the entry of Ukrainian producers into the markets of the European Union. Therefore, it is extremely important to use a diverse and modern management approaches, including the use and increase of social capital in the activities of enterprises.

The complexity of domestic enterprises causes unsystematic development measures, therefore the use of social capital should function interconnected and mutually agreed in order to solve the main task which is increasing the competitiveness of the enterprise through the development and intensification of its export activities.

To assess the impact of social capital on the development of export activities, it is important to determine its structure. An important measure of the level of development of social capital in the context of export activities at enterprises is the development of business (social) networks at the level of individual, team, and at the level of enterprises and associations of enterprises and their interaction with the environment. Members of business (social) networks complement each other, exchange resources, share costs, trust each other and are interconnected in social, economic and other areas, due to various reasons determined by their status, interest in such a network, etc.

The development of business socio-economic networks of enterprises provides a new level of communication between enterprises, manufacturers, consumers and suppliers, as well as between employees. Modern communication systems have become more numerous, branched, focused and interactive. The development of digital technologies has significantly changed the economic environment and the vector of innovative development, leading to changes in certain macroeconomic parameters.

It should be noted that the definition and evaluation of the structure of social capital of enterprises is a solid basis for the development of export activities of the enterprise, since the size of social capital depends on the efficiency of economic institutions and how they are «socially rooted». This means that the company always operates in a system of economic and social relations, united by the introduction of social capital in the form of channels of information on promising areas of development, general rules of their interpretation and patterns of behaviour (Kurbatova, Levin, & Kagan (2010); Dlugopolskiy (2014)).

Taking into account the results of retrospective analysis of scientific papers concerning the levels of implementation of certain components of social capital, as well as existing areas of communication of the enterprise (within and outside the organization, within one management level and between levels), we propose to structure social capital as follows in the work of Dunska & Zhaldak (2018). According to the results of our previous study, we can say that the structure of social capital in export activities is a complex system built on a hierarchical principle, as it consists of a number of elements and relationships. This leads to the inability of experts to perceive information in full, which significantly complicates the task of its assessment.

In addition, all components of the hierarchical structure of social capital are characterized by different levels of impact, which makes it objectively necessary to assess the priorities of the

components of the structure of social capital in the activities of enterprises. When determining the composition of the structure of social capital, its four components were identified (Level 2 of the hierarchy):

- internal (concentrated in the field of labour of personnel engaged in export activities);
- external (mainly the sphere of social business networks of the enterprise, the level of trust from clients, including foreign ones);
- vertical (the system of enterprise management);
- horizontal (efficiency of business processes, corporate culture, etc.).

The study of the structure of social capital was conducted by using data from the company «Kyivmedpreparat», which is a domestic manufacturer of medicines.

The origins of the company date back to the mid-19th century, since then it has evolved from a pharmacy into a large pharmaceutical manufacturer. The company currently manufactures drugs in various forms: injections in vials, tablets, capsules, sachets, ointments and gels, and is represented in 11 of the 14 pharmacotherapeutic groups. In 2005, the company became part of the Arterium Corporation. JSC «Kyivmedpreparat» has a GMP certificate (Good Manufacturing Practice) for all production sites of the plant.

As of the end of 2019, the number of employees of JSC «Kyivmedpreparat» amounted to 1,244 people.

JSC «Kyivmedpreparat» strives for long-term leadership and sustainable development of the company's values by expanding the geography of business, identifying new opportunities to meet consumer needs, continuous quality improvement and building a high level of trust in products. To understand the state of the enterprise, we present an analysis of its economic activity (Table 1). Revenues from sales are constantly growing. In fact, it is characterized by an increase in sales of HLZ from 26,693 thousand vials and 41,730 thousand packages (pills, capsules and ointments) in 2015 to 29,127 thousand vials and 47,918 thousand packaging in 2019 (an increase of almost 10% in bottles and 15% in packaging). An increase in sales prices should also be noted. This is directly related to the increase in production costs by 45% in 2019 compared to 2015, due to higher prices for raw materials, packaging materials, increased wages, etc.

The company is actively engaged in export and import operations. As of 2019, 12% of the products produced by JSC «Kyivmedpreparat» are sold in other countries. Data on the geography of sales is illustrated in Figure 1.

Table 1:
The main economic indicators of the financial activity of the enterprise JSC «Kyivmedpreparat» for 2015-2019, USD million

Indicator	Years						%
	2015	2016	2017	2018	2019	2019/2015 ±Δ	
Net income from sales of products	50.14	57.08	61.09	74.30	83.91	33.77	67.3%
The cost of goods sold	30.77	37.83	37.51	41.64	44.61	13.84	45.0%
Financial result before tax	3.14	2.14	1.73	1.76	2.24	-0.9	-28.3%
Net profit (loss)	2.15	1.81	1.38	1.37	1.72	-0.43	-20%

Source: Compiled by the authors

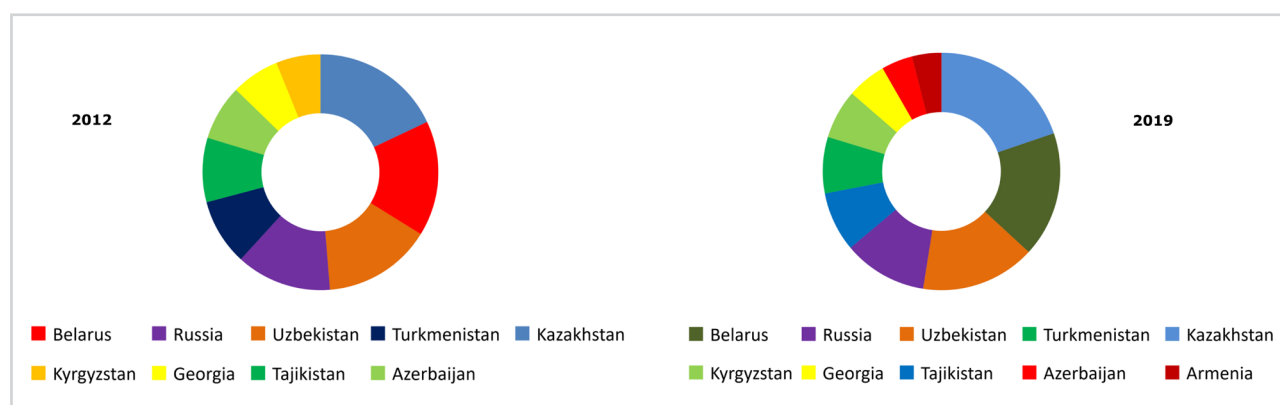


Figure 1:
Comparative structure of exports of JSC «Kyivmedpreparat» by countries in 2012 and 2019

Source: Created by the authors

The largest share in 2012 was in Belarus, Uzbekistan, Kazakhstan and Russia. This is due to the earlier start of cooperation with enterprises of these countries, as well as favourable conditions for their pharmaceutical markets. However, as of 2019, their share decreased due to the expansion of exports to the following countries: Kyrgyzstan, Moldova, Vietnam, Poland, Serbia, from 2020 to Bosnia and Herzegovina. Imports are represented by international procurement. The company imports equipment, raw materials, packaging materials, standard samples and other goods and materials.

The main indicators of foreign economic activity of JSC «Kyivmedpreparat» are given in Table. 2.

Table 2:

The main indicators of the foreign economic activities of JSC «Kyivmedpreparat» in 2015-2019, USD million

Indicator	2017	2018	2019	Deviation (2018/2017)	%	Deviation (2019/2018)	%
				±Δ		±Δ	
Revenue for goods sold	6.72	7.43	10.07	0.71	10.6	74.08	2.64
The cost of exporting	6.12	6.84	9.16	0.72	11.8	65.34	2.33
Domestic prices	22.76	26.23	28.15	3.47	15.3	53.86	1.92
The cost of imported products in the domestic market	20.32	22.79	25.29	2.47	12.1	70.24	2.50
The cost of purchasing imported products	-13.60	-15.36	-15.22	-1.76	12.9	3.85	0.14
Profit from foreign trade operations	1.82	2.27	2.59	0.45	24.6	9.15	0.33

Source: Compiled by the authors

Annually from 2017 to 2019, JSC «Kyivmedpreparat» showed an increase in revenue for goods sold. Exports increased by 10% in 2018 and by another 35% in 2019, which illustrates the growing role of exports in the geographical structure of sales.

The company's business network is expanding. In 2017, about 6.5 thousand orders were placed with contractors, including 242 orders to suppliers from Europe, 435 - to suppliers from other countries, and the rest - to domestic suppliers. In 2018, the general number of orders increased twofold due to an increase in the number of orders to Ukrainian companies. There was also a decrease in the number of orders to European suppliers and an increase with regard to other foreign contractors. This is due to the company's implementation of a strategy to reduce costs by finding and implementing alternative manufacturers for further production of medicines. It should be noted that the procurement process is optimized at the enterprise by consolidating orders (procurement of one order to reduce transportation costs).

To evaluate the identified components of social capital based on enterprise under research, we used methods of economic and mathematical modeling, in particular the method of analysis of hierarchies by T. Saati (1993), because its use allows for differences in opinion and conflict, as is the case in practice. We have identified the priorities of all components of the structure of social capital in the export activities of the enterprise. Given the essence of this method, at the first stage the problem was decomposed into simpler components. To analyze the priorities of the components at each level of the hierarchy, matrices of pairwise comparisons symmetric to the original matrices were formed. According to the method of analysis of hierarchies by T. Saati, we presented each of the components of the 2nd level of the hierarchy with a set of parameters.

Each of the levels of the hierarchy has its own set of constituent elements. Thus, the internal social capital of the enterprise in the context of export activities includes:

1. Personnel involved in export activities.
2. Empowerment of employees and teams.
3. Active cooperation between teams and groups.
4. Development of organizational training.
5. The efficiency of business processes of the enterprise.
6. Working conditions, favourable atmosphere in the team.
7. Social protection of workers.

Applying the normalized values of the indicators that are part of social capital and their respective weights were determined by their possible limits from 0 to 1. Table 3 shows the calculation of indicators that characterize the internal social capital of the enterprise. The weight coefficients of

each indicator that characterizes the internal social capital are determined. Consequently, the internal social capital can be determined by the Formula (1):

$$InSC = \sum K_{ijt} W_{ij} , \quad (1)$$

where:

$K_{ijt} = \frac{k_{ij} - k_{min}}{k_{max} - k_{min}}$ is the normalized value of the i -th indicator of the j -th group.

W_{ij} is the weight coefficient of the i -th indicator of the j -th group.

Using Formula (1) and the data in Table 3, we calculate the internal social capital in export activities, which is equal to:

$$InSC = 0.138 + 0.079 + 0.263 + 0.039 + 0.058 + 0.009 + 0.047 = 0.633.$$

The main share in the structure of internal social capital is occupied by the parameters «Personnel involved in export activities» and «Active cooperation between teams and groups», which indicates the high quality and productivity of these parameters. This is accompanied by a high level of cooperation with colleagues, providing the company with information technology and highly competent employees.

A similar approach is used to calculate external, horizontal and vertical social capital in export activities. External social capital is formed on the basis of long-term relations of the enterprise with its customers. Among the main components of external capital are:

1. Reliability and honesty in relations with counterparties in the foreign market.
2. International partnership (creation of alliances, joint ventures, etc.).
3. Interaction with competitors (including in the foreign market).
4. The population of the territory in which foreign economic activity is carried out (this includes the willingness of members of society to cooperate. For example, the majority of the population of the EU is very individualistic and has a significant level of social capital, which in some way may affect the export activity of the enterprise).
5. Relations with government agencies in carrying out foreign economic activity.
6. Image and reputation in the international market.

Using Formula (1) and the data in Table 4, calculate the external social capital, which is equal to:

$$ExSC = 0.176 + 0.091 + 0.042 + 0.013 + 0.028 + 0.026 = 0.376 .$$

According to the calculations of Table 4, the structure of internal and external social capital in export activities is graphically depicted in Figure 2.

Table 3:
Weight share of components of internal social capital in export activity

Components of InSC	K_{ijt}	W_{ij}	InSC
Personnel involved in export activities	0.581	0.237	0.138
Empowering employees and teams	0.533	0.149	0.079
Active cooperation between teams and groups	0.875	0.301	0.263
Development of organizational training	0.381	0.102	0.039
The efficiency of business processes of the enterprise	0.479	0.121	0.058
Working conditions, good atmosphere in the team	0.054	0.167	0.009
Social protection of workers	0.294	0.160	0.047

Source: Compiled by the authors based on Dunska & Zhaldak (2018)

Table 4:
Weight share of components of external social capital (ExSC) in export activity

Components of ExSC	K_{ijt}	W_{ij}	ExSC
Reliability and honesty in relations with counterparties in the foreign market	0.503	0.349	0.176
International partnership	0.502	0.181	0.091
Interaction with competitors (including in the foreign market)	0.629	0.067	0.042
Population of the territory in which foreign economic activity is carried out	0.308	0.043	0.013
Relations with government agencies in carrying out foreign economic activity	0.220	0.126	0.028
Image and reputation in the international market	0.105	0.234	0.026

Source: Compiled by the authors based on Dunska & Zhaldak (2018)

In the structure of external social capital, a significant share is occupied by such parameters as «International Partnership», «Interaction with competitors», «Reliability and honesty in relations with counterparties in foreign markets», characterized by indicators such as: share of long-term contracts for raw materials and materials, the number of signed foreign trade agreements with the company, consumer loyalty, attractiveness of the enterprise; synergistic effect of cooperation. This has a positive effect on increasing market share and growth.

Horizontal social capital is distributed among people who are at the same levels and levels of government.

This exchange of information ensures the coordination of activities (for example, between the vice presidents of marketing, finance, production). From the calculations we can say that the efficiency of horizontal communications reaches 90%, which is due to the significant level of understanding of the nature of the work of their colleagues and the problems that arise during the operation of related units. Horizontal social capital based on the common division of norms and values cannot be successfully increased without ensuring the appropriate level of interpersonal communications, as well as communications between structural units. Horizontal social capital can also be formed into horizontal relationships between business leaders, where people can negotiate for commercial purposes, bypassing intermediaries and reducing transaction costs. The components of horizontal social capital in export activities are presented in Table 5.

Using Formula (1) and the data of Table 5, we calculate horizontal social capital, which is equal to:

$$HSC = 0.036 + 0.106 + 0.068 + 0.058 + 0.055 + 0.030 = 0.353.$$

The main method of development of horizontal social capital is the use of business and social networks of the enterprise in the process of cooperation. The use of this component of social

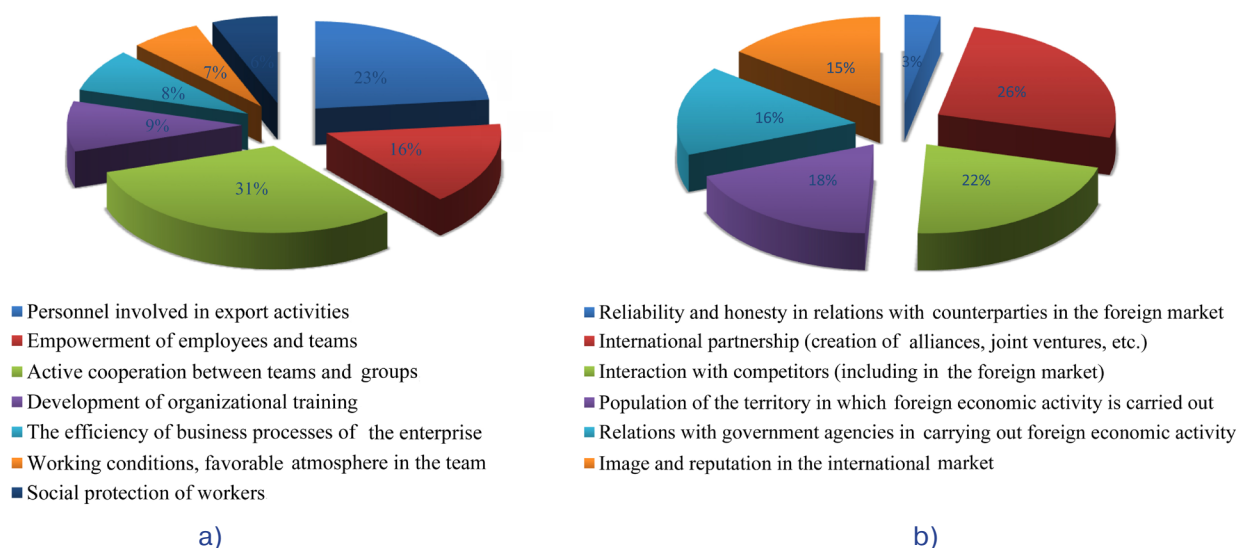


Figure 2:
Components that characterize social capital in export activities:
a) internal social capital; b) external social capital

Source: Compiled by the authors based on Dunska and Zhaldak (2018)

Table 5:
Weight share of components of horizontal social capital (HSC) in export activity

Components of HSC	K_{ijt}	W_{ij}	HSC
Communications between structural units involved in export activities	0.151	0.242	0.036
Use of business and social networks of the enterprise in export operations	0.529	0.201	0.106
Mutual control	0.441	0.155	0.068
Interpersonal communications	0.385	0.151	0.058
No possible exit of the participant from the network	0.367	0.149	0.055
Freedom of action to perform tasks in the implementation of export operations	0.301	0.102	0.030

Source: Compiled by the authors based on Dunska & Zhaldak (2018)

capital as an endogenous source of innovative development implies an understanding of the importance of transparent, stable and fair relations between all participants in export activities at the enterprise level. This understanding is often the result of special training and the establishment of professional standards that give priority to the common cause rather than personal interests.

Along with the horizontal social capital, it is also advisable to allocate vertical social capital. It is manifested in the relationship between management and staff, the company and the region, the company and the state and so on. The structure of vertical social capital in export activities is presented in Table 6.

This is an extremely important form of social capital. In this case, people's associations solve not only similar problems, but also problems at higher levels of the hierarchy. Then it becomes a benefit related both to representatives of certain enterprises and society as a whole.

Using Formula (1) and the data of Table 4, we calculate the vertical social capital in export activities, which is equal to:

$$VSC = 0.098 + 0.004 + 0.070 + 0.006 + 0.082 + 0.006 = 0.266.$$

Vertical social capital has an increased risk of emergence, functioning and development, since it depends on the quality of goals and instruments of economic policy, subjective views of government officials, the level of corruption, the level of cultural development, the degree of shadowing of the economy and politics. It is manifested in commitments, expectations and the reliability of the structure; it is relatively closed and important in making economic decisions.

According to the calculations in Table 3 and Table 4, the structure of horizontal social capital and vertical social capital in export activities is graphically depicted in Figure 3.

Table 6:
Weight share of components of vertical social capital (VSC) in export activity

Components of VSC	K_{ijt}	W_{ij}	VSC
Openness and transparency of communication networks	0.436	0.226	0.098
Opportunity to influence participants in export transactions	0.180	0.222	0.004
Common socio-ethical norms and values	0.580	0.121	0.070
Participation of government officials in making business decisions of the enterprise	0.343	0.176	0.006
Personal loss of output	0.370	0.221	0.082
Ability to control hierarchically lower members of the SC	0.230	0.024	0.006

Source: Compiled by the authors based on Dunska & Zhaldak (2018)

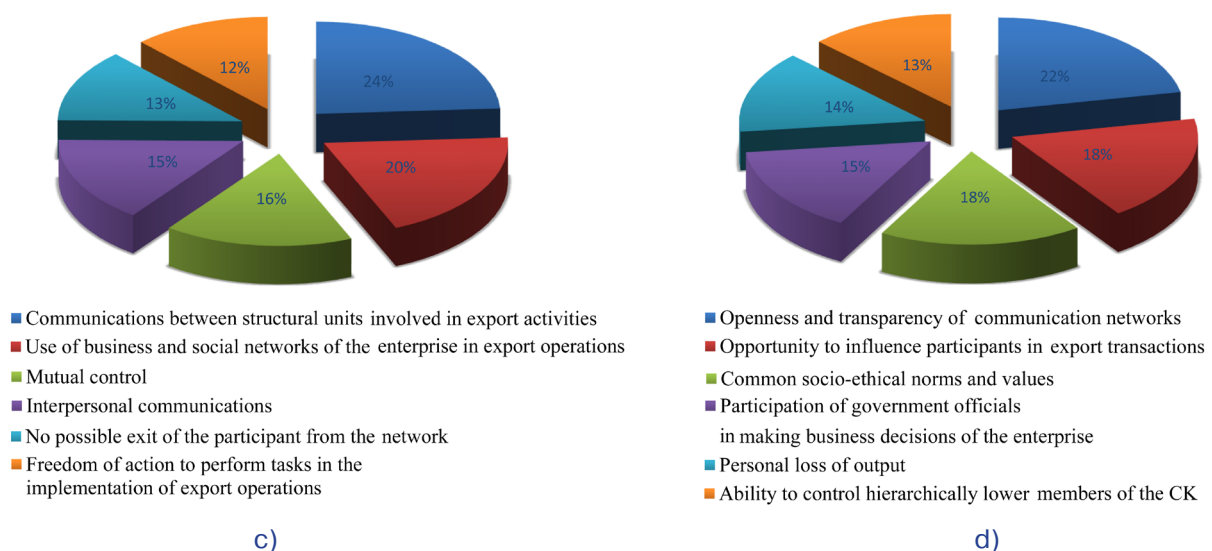


Figure 3:
Indicators that characterize social capital:
c) horizontal social capital; d) vertical social capital
Source: Compiled by the authors based on Dunska & Zhaldak (2018)

Having determined the value of indicators of the structure of social capital, in Table 7 we calculate social capital of the enterprise in export activities. Thus, using the formula, we determine social capital:

$$\text{Social capital} = 0.136 + 0.222 + 0.047 + 0.031 = 0.436.$$

According to the calculations, the current structure of social capital is as follows:

$[?][?](t) = \{0.31; 0.51; 0.11; 0.07\}$, graphically depicted in Figure 4.

It becomes clear from the calculations that for the company «Kyivmedpreparat», in the context of the development of export activities, the most important are internal and external social capital, the weight share of which is 0.31 and 0.51, respectively. However, during the pandemic and lockdown, the importance of horizontal and vertical relationships decreases because due to the introduction of remote operation in some departments the enterprise undergoes significant transformations of the organizational structure, which leads to the leveling of existing horizontal and vertical relationships. This leads to a decrease in the shares of horizontal social capital and vertical social capital to 0.11 and 0.07, respectively.

The defined structure of social capital provides an opportunity to choose a strategy for the development of export activities of the enterprise by using the following classification:

1. Balanced. It assumes that in the structure of social capital its components are developed proportionally, i.e. the proportion of 25%, 25%, 25%, 25% remains.
2. Growing (Revolutionary). It assumes that the structure of social capital of innovation is dominated by one or two of its components, and the other two occupy approximately equal shares, i.e. the ratio of the structure of the growing strategy of innovation will be as follows: 40%, 40%, 10%, and 10%.
3. Descending (Inertial). Assumes that in the structure of social capital one of the components of its structure has a minimum value, and other components of the structure have approximately equal values, i.e. the structure of the declining strategy of innovation development is as follows: 10%, 30%, 30%, and 30%.

From the given classification the strategy which has the smallest distance between the prototype of the optimum variant of development of export activity of the enterprise and the structure of social capital is chosen as well. The formation of the vector of optimal changes depends on the factors that can be used to assess the potential of the components of social capital of the enter-

Table 7:
Social capital in export activities

Indicators	Symbols	The value of the indicator	W_{ji}	Social capital
Internal social capital	<i>InSC</i>	0.633	0.214	0.136
External social capital	<i>ExSC</i>	0.376	0.534	0.222
Horizontal social capital	<i>HSC</i>	0.353	0.134	0.047
Vertical social capital	<i>VSC</i>	0.266	0.118	0.031

Source: Compiled by the authors based on Dunska & Zhaldak (2018)

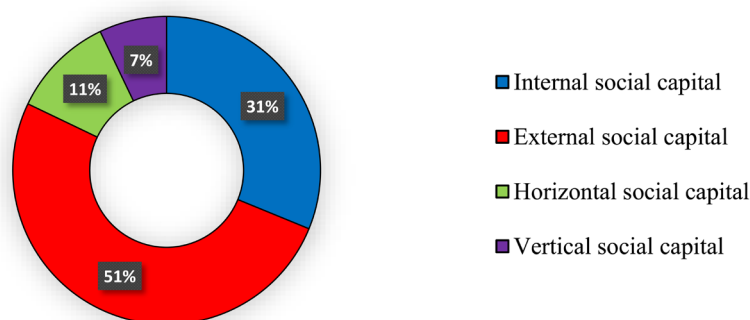


Figure 4:
The structure of social capital in export activities
Source: Compiled by the authors based on Dunska & Zhaldak (2018)

prise under appropriate conditions. It is possible to determine the changes between the optimal scenario and the corresponding changes in the structure of social capital by using the following formula (Dunska & Zhaldak, 2018):

$$v = \sqrt{\sum_{j=1}^4 (a_{ij} - k_i(t))^2} \rightarrow \min. \quad (2)$$

Thus, it is possible to assess the level of use of social capital based on an assessment of its structure. Note that the implementation of the revolutionary strategy is the most realistic for most companies. In the structure of social capital of export activity of the investigated enterprise, internal social capital and external social capital prevail, whole horizontal social capital and vertical social capital occupy approximately equal shares.

Taking into consideration the structure of social capital, JSC «Kyivmedpreparat» has chosen a growing (revolutionary) strategy, which, in our opinion, is quite appropriate and justified in terms of the events of 2020-2021. Since the company aims to implement innovations and develop exports, the expansion of the external network for further promotion in foreign markets, as well as the development of internal social capital as a basis for generating new ideas and intensifying innovation should be among its priorities.

However, for some enterprises (small businesses and services), the most optimal in the new operating conditions is to use a balanced strategy, which is directly related to the specifics of smallest businesses. Only when all the structural elements of social capital develop harmoniously will it be possible to ensure the stable position of such enterprises in the market. Unfortunately, most small businesses have already suffered losses due to the introduction of quarantine restrictions and are beginning to reorganize their work in the new regime. And those business owners who had a powerful social resource were able to quickly adapt to new conditions, find growth points and in some way reduce the quarantine losses. Thus, hairdressers and salons switched to the «customer visit» mode; restaurants switched to «online ordering», and bookstores - to delivery of books at significant discounts. In addition, we have noted that there are companies that have benefited significantly from the introduction of lockdowns. These include delivery services, online stores, postal services and more. It has also significantly affected the increase in social capital of such companies.

The proposed structural model for assessing the social capital of the enterprise and the classification of strategies for the development of export activities of the enterprise determined on its basis are quite universal and can be applied by enterprises of different industries and different countries. However, this approach to assessing the social capital of the enterprise is flexible in terms of research objectives, as it allows us to take into account the specifics of the object of study and research conditions by modifying the indicators used to assess internal, external, vertical and horizontal types of social capital.

5. Conclusions

The study confirmed that even in the new business environment and under the condition of the economic crisis due to the pandemic and lockdowns, social capital is a significant source of enterprise development. Businesses where management has been able to build trust with international market participants have real benefits, e.g. more diverse and modern management. Social capital can be increased under the condition of mutual actions of enterprises-participants of foreign economic operations. In this context, the company's staff and management should be aimed at increasing the use of social capital in export activities and promote the formation of the so called networks of trust in the external socio-economic environment. Their essential value is that they contribute to the gradual transformation of the competitive confrontation of firms into partnerships of former competitors. At the same time, in the future, such cooperation of enterprises is the property of the region, and may in some way shape the investment attractiveness of the whole country. In general, we have noted that the level of social capital revealed in the research process was not high enough. Thus, according to some positions of the assessment of the structure of social capital, the indicator was below average. The result is an outflow of capital abroad that could have been invested in domestic production. With a low level of social capital, the use of most modern management practices is not effective enough.

Assessment of social capital in the context of export activity of enterprises is based on the use of the method of hierarchy analysis and application of the model of complex assessment of its elements (internal, external, horizontal and vertical social types of capital), which allows to choose a development scenario (optimal, optimistic, pessimistic). The application of this methodology will provide an opportunity to ensure the effective use of social capital as a resource and an endogenous innovative source of export activities of the enterprise and increase the level of competitiveness of the enterprises in foreign markets. The proposed evaluation methodology can be supplemented and detailed taking into account the characteristics of economic entities and the specifics of the activities of each individual entity of foreign economic activity and used by enterprises in different countries. Such detailing can characterize branch features of enterprises, the size, etc. However, these details are not important when identifying and describing companies' strategies. Considering management and development strategies, we can say that such strategies are formed largely with regard to the specific external environment of enterprises, the population, municipal institutions, etc. This confirms the significant potential to increase the level of social capital in the implementation of export activities of the enterprise, the ability to harmonize the interaction of incentives in international markets and at the level of national economic organization.

We hope that gradually the divergence of interests of business entities and all stakeholders will be replaced by convergence and harmonious development of a single social network. This will also be facilitated by the development of new technologies and the intensification of innovative development.

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