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ОЦІНКА ПРИВАБЛИВОСТІ СЕГМЕНТІВ РИНКУ ТА ВИДІВ ПРОДУКЦІЇ ПРИ ФОРМУВАННІ ЕКСПОРТНОГО ПОРТФЕЛЯ МАШИНОБУДІВНОГО ПІДПРИЄМСТВА

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Визначено склад обмежень та вимог щодо формування експортного портфеля підприємства. Узагальнено та проведено порівняльну оцінку методичних підходів щодо визначення ємності зарубіжного ринку під час формування експортного портфеля підприємства, в межах чого наголошено на необхідності урахування суттєвих різниць у господарських операціях на різних зарубіжних цільових ринках, а також особливостей, притаманних обгрунтуванню стратегічних і поточних рішень маркетингового, фінансово-економічного, виробничо-технологічного, ресурсного характеру відповідно до різних варіантів формування товарного асортименту підприємства, склад критеріїв сегментації потрібно доповнити такими критеріями: ємність ринку (наявна та перспективна); тривалість освоєння і обсяги необхідних для цього витрат; особливі вимоги до іміджу підприємства; транспортні та інфраструктурні можливості для збуту; торгові та митні обмеження; державне регулювання господарських операцій; вимоги до якості товарів і процесів; доступність каналів реклами та маркетингових комунікацій; соціокультурні відмінності між різними групами споживачів.

Розроблено та обгрунтовано систему показників оцінки привабливості сегментів ринку та видів продукції (товарів, послуг) для забезпечення конкурентоспроможності підприємства під час формування експортного портфеля, а саме частка ринку, прибутковість (збиток) після продажного обслуговування, індекс якості комплексного продукту, середня вартість на ринку і співвідношення цін компанії коефіцієнт фінансування продаж та інші. Запропоновано підходи щодо розрахунку узагальнюючого показника привабливості сегментів ринку та видів продукції під час формування експортного портфеля машинобудівного підприємства.

Ключові слова: експорт, конкурентоспроможність, машинобудівне підприємство, експортний портфель, ємність ринку.

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EVALUATING THE ATTRACTIVENESS OF MARKET SEGMENTS AND COMMODITY TYPES TO CREATE AN EXPORT PORTFOLIO FOR A MECHANICAL ENGINEERING ENTERPRISE

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The purpose of this research is analysis and establishment of the performance indicators for the evaluation of market segments' and products' (goods and services) attractiveness to ensure the competitiveness of enterprises in the formation of the export portfolio is determined.

To achieve this goal, the following work methods and techniques of research were used: theoretical synthesis, the system analysis – for a comparative approach and identifying characteristics of foreign market's capacity, analysis and synthesis approach, expert judgment approach – to study scorecard attractiveness rating structure of market segments and

products in the creation of the export portfolio; taxonomic approach – to calculate a general attractiveness evaluation measure, graphic – for a visual image and schematic representation of the theoretical material dissertation research.

Composition of limitations and requirements are certain in relation in creation of export portfolio for a mechanical engineering enterprise. Generalized and the comparative estimation approaches were conducted in relation of foreign market's capacity evaluation for creating portfolio for the enterprise export. The market attractiveness and segment products types (commodities, services) system of the estimation indexes is working out to providing enterprise competitiveness analysis at forming export portfolio. The approach in relation to the calculation of summarizing index of market attractiveness and products types segments at creating export portfolio of mechanical engineering enterprise is offered.

Key words: export, competitiveness, mechanical engineering enterprise, export portfolio, market capacity.

Statement of the problem. The presence of the competition in the global market with its characteristic specific forms of reflexive confrontation, forcing businesses constantly fight for their rights and defend opportunities for marketing of own production and services, are an integral part of the market environment. A detailed analysis of the competitive environment as the process of identifying the strengths and weaknesses of the company and its competitors makes it possible to avoid the aggravation of competition and the emergence of numerous conflicts in the processes of interaction with competitors to more effectively plan the distribution and usage of existing capacity and economic resources. Depending on the specific goals and objectives foreign economic activities listed analytical procedures may be detailed, but of course the formation of the most optimal product proposition for the foreign markets is considered to be the most important element of the entire process of strategic planning export activity of the company.

Analysis of recent studies. The problems of international competitiveness, systemization and optimization products supply businesses in the foreign markets carefully studied in the works of local and international scientists, such as Belarus Alexander [1] N. Gorbal [4] A. Kuzmin [4] D. Lukyanenko [1] John Mayer [5] D. Olesnevych [5] L. Piddubna [6] J. Poluneev [2] V. Ponomarenko [6] K. Prahalad [7] G. Fylyuk [8] Chernega A. [3] B. Shkardun [9] and others. The study of existing theoretical approaches to analyzing the market environment and competitive position on the international level shows that the problem solving course portfolio systemization the enterprise's export carried out in two main areas: firsty, the study of the competitive analysis on foreign markets to justify decisions about the resources allocation feasibility to it, and secondly, the definition of existing, potential and target competitive advantage to become the basis for achieving sustainable market positions on those markets or in certain market segments. However, it should be noted that these are important aspects of this problem as the generalized technology formation identification features as the market segments and products (goods and services) attractiveness evaluation to ensure the competitiveness of enterprises in the creation of the export portfolio, taking into account different levels of economic aggregation remained insufficiently studied.

Formulation of the problem. The purpose of the research is to study and establish the indicators to evaluate the market segments and products (goods and services) attractiveness to ensure the competitiveness of enterprises in the creation of the export portfolio.

To achieve this goal, the following work methods and techniques of research were used: theoretical synthesis, the system analysis – for a comparative approach and identifying characteristics of foreign market's capacity, analysis and synthesis approach, expert judgment approach – to study scorecard attractiveness rating structure of market segments and products in the creation of the export portfolio; taxonomic approach – to calculate a general attractiveness evaluation measure, graphic – for a visual image and schematic representation of the theoretical material dissertation research.

Results. Export portfolio (EP) of the certain enterprise is a set of products (goods and services), which is formed according to a predefined set of consumer targets, economic characteristics and requirements for implementation in the target markets are geographically located outside the country of residence of the enterprise. Portfolio is determined by the presence of the mutual impact of: products and services, potential dependence between quantitative, qualitative and structural parameters of the individual components of a set of goods and services (or product assortment positions). Using portfolio approach in the formation of commodity supplies to overseas markets (including the systemization product lines the company in general) involves primarily the expansion areas of industrial and economic activity of the enterprise, focused on operations in foreign markets and interconnected by certain uniform resource and technological capabilities, similar personnel qualification, and other logical dependencies.

The export portfolio formation involves in systematic and concerted efforts to systemize the product offering targets to meet the effective target demand rate of consumer groups in foreign target markets (market segment). The such problem solving complexity is related to the necessity of taking into account complex set of various kinds of restrictions and requirements, including:

commercial (market share, volume and sales growth potential, the impact on the conditions of sale of goods, strengthening the competitive position in the domestic market, etc.),

financial and economic (profit; return on sales; the accumulation of finance that are needed for the import of foreign currency assets, reducing overhead and so on.)

marketing (sharpness of the competition, opportunities to increase customer loyalty and frequency of purchases, expanding the pool of potential customers and strengthening marketing communication, create unique competitive advantages including the associated with the use of recognizable trademarks ones, optimization of the distribution of goods that are produced in stages of the life cycle of commodity diversification proposals to reduce business risks, etc),

production technology (maximizing the use of production and logistics capabilities, providing conglomerate production flexibility, introducing all kind of innovations that are outstripped the competitors ones and so on),

cultural (the presence of cultural, demographic and other differences that affect business operations in different foreign markets, specific requirements to the personnel qualification and staff recruitment, etc).

Moreover, part of the key factors that are able to significantly influence the choice of the export portfolio alternative creation should also include the company's strategic goals in the area of economic integration, which may involve the use of and the development of certain forms of cooperative international cooperation, internationalization or globalization of economic activity. However, it should be noted that in practice, foreign economic activity of the most relevant factors very often evaluating the attractiveness of foreign markets are primarily projected performance capacity of the relevant markets. It is possible to use different methods, which comparative characteristics are presented in Table 1.

Capacity of the Market (Eji), is the volume (quantity) consumed (sold) products under the most favorable conditions during a certain period of time (mostly, annual). This figure is calculated, usually, in physical and value numbers, using one of the presented in Table. 2 ways. The greater the volume of sales of goods, the same or similar characteristics to the proposed enterprise, the higher the probability of selling in this market. If the number of the analyzed markets N, then the ranking will look like $Ej_{\geq 1}Ej_2 \geq ... \geq Ej$, Ej of the most attractive market₁

So, the market capacity is closely linked to demand – thus, the greater the demand for this product, the greater the capacity of the market and vice versa. If the market capacity determines its ability to consume (absorb) the goods, the demand means a desire and ability of buyers to buy a product, which is the opportunity for exporters to sell their goods in that market. Thus, the volume of demand may exceed the market capacity because the product may be used not fully in this market, but it might be exported to the others. Demand and market capacity can be active, real and potential.

Table 1

ways to assess

market size. Is faster

Disadvantages

Discontinuity of received

data, high

Comparison of methods of determining the market size Method Characteristics Advantages 1 2 3 Secondary information Includes the analysis of all records that One of the cheapest

may contain information about the

desired foreign market and can be useful

analysis

1	2	3	4
Determination of market size	It applies, if we know the capacity of a	It is quite cheap and	Produces a
on the basis of sales volumes	certain foreign market. That is the basis	fast way to	very rough
"adjustments"	for calculating the capacity of other	determine the market	data and it
	markets by adjusting it with a reduction	size. It allows you to	does not
	factor. A similar method of calculation	eliminate the need of	consider a
	used by companies that have significant	internal marketing	specific
	experience in certain geographic	information,	features
	markets. The calculations use data on	connecting free	number of the
	the actual volume of sales and the	external sources	investigated
	factors that determine sales. The latter		market. The
	coefficients are determined to bring		method's
	sales in one market to another (reduction		applicability
	factor of population, average wages,		is a subject of
	urbanization rates, the consumption		the statistical
	patterns, etc.)		sample
			availability

 $Table\ 2$ Approaches to determine the foreign market capacity

Calculation	Description		
E = P + I - B + W	E – market capacity for a given product,		
	P – output of the product on the market		
	I– the volume of imports of the product		
	B – Export volume of goods		
	W – stocks growth		
$E = \sum_{i=1}^{n} (Ni*ki*EPi) + RS - (D$	Ni – number of i-th group of consumers		
	ki – ratio of consumption of i-th group of consumers		
- FL -MZ)- A	EP – elasticity coefficient of demand at a price		
	RS -Volume of normal insurance reserve goods		
	H – market saturation (volume of products available to end users or security		
	measure consumer goods caused by expert)		
	FL – physical deterioration of the goods		
	MZ – obsolescence of products		
	A – the possibility of using alternative forms of market needs, including		
	consumption of substitutes		
$E = K \cdot T =$	K – the number of users of the product on the market		
	t – number of similar goods or consumed by one consumer per year		
$E = K \cdot D \cdot d =$	D – average annual income of one user		
	d – share of the costs for this product in the income of one user (by ratio of		
	consumption -)		

Solving management task of creating the optimal EP, whose parameters corresponds to the described complex set of goals, requirements and constraints, the company carried out on three levels: strategic (select range of products produced and offered consumers in foreign markets), operational (ordering quantity and quality of goods and services for export), current (optimization of the distribution of trade and financial flows according to the changing situation on the domestic and foreign markets). An important prerequisite to inform decisions on how to regulate the products distribution to the foreign markets and segments on each of the above levels is to assess their attractiveness, as well as to establish whether current and foreseeable their conditions it has been set goals and plans of the company. Thus, the formation of product lines is closely related to the need for in-depth analysis of operations and prospects of more (relative to the specific conditions) segmentation of target overseas markets.

Segmentation of target overseas markets involves identifying opportunities for product differentiation, which is produced, or sales techniques specific to demand for each group of customers (market segments), which are characterized by certain features of consumption and purchase of goods, territorial isolation (country, region, sector, homogeneous groups of consumers, groups of individual consumers, selected on social grounds, solvency and so on.). Selecting the segments is based on establishing differences in the demand for general (not related to the production of goods; that could be demographics, lifestyle indicators) and situational criteria (reflecting the specific conditions of the sale and use of products, shopping frequency and motivation, loyalty producers and so on.).

Necessity of taking into account significant differences in the implementation of business operations in various foreign target markets, as well as features inherent in the rationale of strategic and operating decisions of marketing, financial, economic, industrial and technological, resource character accordance with various embodiments of forming a trade production range, the composition of segmentation criteria when it should be supplemented by the following criteria: market capacity (existing and prospective), the duration and scope of the development of the necessary costs (the cost of overcoming the "barriers to entry"); competitive market specific requirements for company image; transport infrastructure and opportunities for marketing, trade and customs restrictions, government regulation of business operations, quality requirements for products and processes, the availability of channels of advertising and marketing communications, social and cultural differences between different groups of consumers. Synthesis estimates the degree of differentiation of demand for these criteria will not only identify promising segments for development, but also to harmonize the provisions of strategies and plans for the sale of goods and services on different markets and segments.

Segmentation in the implementation of the market environment (target foreign markets) seen as differentiated phenomenon, defined heterogeneous and inhomogeneous construction and complexity of connections between elements (usually groups of market participants, whose interest in the options market of certain transactions determined by the same direction), the transformation of state which may occur as a result of changes (in quantitative, qualitative and structural aspects) product offering, the composition of economic agents operating in the market, and strategies that deliberately implemented these agents. Thus, the structure of the market and its segmentation thus seen as a particular object of managerial influence and control, which should take into account the existing distribution of participants on key attributes and characteristics that reflect the nature of their interest in the formation and development of certain market conditions. Segmentation of this perspective is an important method of selective selection and concentration of administrative actions (first of all – marketing) based on determining, study and complete account of the individual needs of different consumer groups and the general laws of the market demand.

Consequently, the overseas market segmentation allows to concentrate marketing and production efforts on meeting the demand of providing a specific target group of customers. To further determine the competitive position of the company are offered for each segment of the investigated market get two estimates: the attractiveness of the segments for the conduct of operations and the competitive advantages of the investigated enterprise market. Market segmentation allows the most focused and concentrated implement marketing measures to prevent the occurrence of excessive or unnecessary and wasteful spending, promote the general improvement of the efficiency of production and sales activities on the basis of improving selectivity and selective use of marketing tools active influence on the market, which is critical because of limited resources companies that can be allocated and these goals.

Evaluating the attractiveness of the foreign market segments and products offered by this exercise based on methodological approach, based on a synthesis parameters influence the nature of enterprise operations in a particular segment (sales of a certain product type) on the formation of competitive advantage on the market (market growth rate, market share, relative concentration), production technology (return on sales, the level of capacity utilization, the rate of the financial needs of sales), product (ratio of average market prices and the prices of the enterprise, a composite index of product quality, profitability or losses after sales service) levels (see table 3).

The system of indicators for measuring the attractiveness of market segments and products (goods and services) to ensure competitiveness in the formation of the export portfolio

Index	Characteristics of influence on the competitive advantage of enterprise	Marketing tools of expansion of competitive advantages	Notes (features and requirements of the parameters calculation)
Market growth rate ration	Determines the amount of unsatisfied demand, indicates the possibility of an increase of sale without sharpening competition in market	Marketing Research, deepening the segmentation, development of communication channels	Determine or predict the results of a marketing or based on extrapolation
Market share	Characterizes the potential for economies of scale for the expansion and sustainability of competitive advantage, increase competitiveness in general	Aggressive advertising, creating "barriers to entry" (licenses, permits, additional investments, know-how, etc.).	Upon reaching the limits provided antitrust laws, it is possible to use procedures to protect the competitive
Relative concentration ratio (modified)	Indicates the possibility of impact on the conditions of sale of goods (especially for the price)	Development of marketing communications, marketing partnerships	If the calculated value is greater than 1 is taken equal to 1
sales profitability	Characterizes profitability of operations in the segment, the opportunities to increase profits by increasing production	Costs control, aggressive pricing, segmentation deepening	Need for a clear identification of costs and revenues by product (market segments)
Production capacity usage level	Measures the effectiveness of the use of industrial and technological base of the company	Synchromarketing (use of smoothing short-term fluctuations)	Should pay attention to the possibility of short-term fluctuations in output
Funding requirements sales coefficient	Determines the effectiveness of channels of sales and distribution network businesses	Development of marketing and communication channels with consumers	Should consider the impact of the stage of product life cycle
Average market price and the company price correlation ratio	Measures the capacity of the enterprise to support optimal balance between utility and consumer assessment for products (goods and services)	Selective pricing consistent with the use of non-price competition	Parameters used prices for products similar to the parameters of demand (at a value greater than 1 is taken equal to 1)
Comprehensive product quality index	Specifies the relative line quality parameters of products produced, needs and expectations of consumers	Marketing research, product- innovation policy, updating the assortment	Need to determine the reference parameters for evaluating the quality of products
Profitability (losses) of after-sale service	Measures the risk of additional costs and the possibility of additional revenue after the sale of products (with warranty and service, sales of accessories)	Selective advertising presence, quality control, implementation support measures of loyalty and commitment to consumer	Should take into account the allocation of costs to after-sales service for guarantees (costs the company – at a value less than 1 is taken equal to 0) and at its own expense of consumers (extra income)

The summary of the obtained estimates for the considered system parameters is proposed to carry out using the radar method:

$$I_{p} = \frac{P_{p}}{P_{n}} \quad , \tag{1}$$

where I_p – integral index of attractiveness market segment; P_p – the area of the polygon formed by performance evaluation of the attractiveness of market segments; P_n – square evaluating the attractiveness of market segments.

Should be noted that the described approach is focused primarily on the segmentation of markets for goods and services intermediate destination (to which belongs the vast majority of engineering products), since the study and regulation of consumer preferences, which are aimed at meeting the activities of the manufacturer marginally accounted segmentation criteria and indicators that reflect individual personality characteristics of potential buyers (physiological, demographic, emotional and so on.). The feasibility of simplifying the approach to the segmentation thus is determined by indirect communication products and services offered machine-building enterprises of final consumption.

Moreover, solving complex problems justify the selection of forms, methods and tools of marketing to ensure the competitiveness of engineering companies and develop appropriate measures to realization of these areas necessitates generalization estimates the current state of the market of machinery and equipment, identifying and considering the peculiarities of the market segmentation in the formation of marketing plans as well as establishing key benefits provided by steel manufacturers in competitive position. According to the opinion of the author, degree of openness of average of the group to the forces of market competition can be synthesis rate, calculated in the form of taxonometrical coefficient of multidimensional objects. The process of construction of the index begins with the formation of the initial data matrix in which rows are objects – average of the group company (group of companies) and column – value selected for analysis parameters strategic areas of economic integration into the global market environment and the processes taking place in this environment:

$$X_{11}$$
 X_{12} ... X_{1n} X_{21} X_{22} ... X_{2n} ... X_{2n} ... X_{m1} X_{m2} ... X_{mn} , $i = \overline{1 ...m}; j = \overline{1 ...n}$ (2)

where X_{ij} – j-th parameter for the i-th average of the group; n – number of indicators selected for evaluation; m – number of analyzed average (companies).

Modeling generalized index of influence factors of competitive advantage be based on the following number of j-th performance. To assess the impact on the competitive market segment (market rate of formation of CP) proposed to use the following indicators: the volume of sales of own products and competitive products ratio (X_{i1}); advertising budgets ratio – their own and competitors' (X_{i2}); operating profitability activity ratio (for_{i3})(X transactions in this market segment). Installing the effects of CP on factors of production and resource level involves calculation of the ratio of capacity utilization products and companies competing (X_{i4}),and the proportion of production material consumption parameters (X_{i5}) and profitability (X_{i6}). At the product level of studying the conditions of the economic activities of competitors within the strategic areas of management should be carried out by using the price of production parameters ratio (X_{i7}),and generalized technical (X_{i8}) and ergonomic position indicators relevant product lines (own and competitors).

Meaningful setting and finding ways to solve the problem of an adequate definition of the composition of the strategic areas economic involves the selection of the most promising areas of enterprise development and accumulation in these areas all the resources needed to implement the selected strategic alternatives to strengthen competitive advantage.

Conclusions. Export portfolio (EP) of the enterprise is a set of products (goods and services), which is formed according to a predefined set of consumer targets, economic characteristics and requirements for the implementation of the target markets, geographically located outside of the enterprise residence country. Products portfolio characteristics set is determined by the presence of interaction of goods and services included in its composition, i.e., existing or potential relation between quantitative, qualitative and structural parameters of the individual components of a products set and services (or product's assortment positions). Implementing the portfolio approach in the commodities formation for exporting to the overseas markets (including in the context of regulation of commodity production range in general) involves, primarily, the expansion of the industrial and economic enterprise's activity areas, focused on operations in the foreign markets and the related specific homogeneous resources and technological capabilities, only qualified personnel and other logical connections.

The necessity of taking into account a significant differences in the business transaction implementations in a various targeted foreign markets, as well as features inherent rational of strategic and operating marketing, financial, economic, industrial and technological decisions, resource character accordance with various embodiments of forming enterprise product lines, structure segmentation criteria while must be supplemented by the following criteria: market capacity (existing and prospective), the duration and scope of the development of the necessary expenses (cost of overcoming "barriers to entry"); competitive market specific requirements for the company image, transport and infrastructure opportunities for marketing, sales and customs restrictions, government regulation of business transactions, requirements for quality of products and for available channels of advertising and marketing communications, social and cultural differences between different groups of consumers.

Assessment of attractiveness of foreign market segments and products in this case could be based on the methodological approach, based on a synthesis parameters influence the nature of enterprise operations in a particular segment (on sale certain type of product) on the formation of competitive advantage in the market (market growth rate, market share, the relative concentration), production technology (return on sales, the level of capacity utilization, the rate of the financial needs of sales), product (ratio of average market prices and the prices of the enterprise, a comprehensive indicator of product quality, profitability or unprofitability aftermarket) levels.

Additional studies require defying an organizational and methodological aspects of the most proper information sources for the planning and control operations of foreign companies under the proposed approaches to evaluate the market segments attractiveness and the products export portfolio formation for the mechanical engineering enterprise.

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