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EXPENDITURES ALGORITHM FORMATION ON EXPORT ACTIVITIES BASED ON ECONOMIC ENTITY INVOLVEMENT STAGES TO FOREIGN MARKET

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Abstract. This article provides a detailed analysis of Infographic Association Agreement with the EU in the context of the author's approach, mainly a series of export activity involves separation of the four stages of economic entity involvement to external market (the stage of initial involvement to a foreign market; export activity increase stage; stage of export activities full formation and stage of the company export reduction). The algorithm of expenditures on export activities based on stages of economic entity involvement to foreign market using software Statistica was designed. An example of such an algorithm for JV "Spheros-Electron" and PC "Promprylad" is exemplified which allows to identify expenditure composition and the factors that influence the formation of such expenditure in a particular stage of involvement, to identify their level of influence identify the key expenses, to calculate the rate of total expenditure on each stages and build a functional relationship between the amount of expenditure and efficiency levels of exports for the next period.

Key words: economic entities remains export, algorithm formation on export, foreign market.

Statement of a problem. In the current environment of uncertainty and dynamic development environment, as well as in installation and configuration of relations with the European Union (EU) one of the priority and promising areas of domestic economic entities remains export.

However, as it was mentioned in our previous publications, this interpretation does not cover the totality of other issues related to manufacturing and exports production services, and therefore, accordingly, it does not answer the question concerning expediency of exports and the size of the potential benefits that the exporter receives in the case of products intended for export.

Also, according to this interpretation leadership of economic entity does not receive information on the actual amount of incurred expenses and complete data for full price of consumption. Therefore for an economic entity with a full or partial production cycles implementation of this approach to the interpretation of exports is inappropriate. Consideration of exports in the light of possible operations is only for selling company or intermediary organizations that do not participate directly in the process of manufacturing, after-sales service and exports production disposal. Exports should be seen as a type of economic activity that is not possible without implementing of complex operations based on the four phases of the export products production cycle (preproductional phrase, productional, realization and phase of postrealization maintenance and disposal) and stages of economic entity involvement to the external market as an integral characteristics of export activities. Logical that such an activity like any other activity entity provides aggregate incurred expenditures, the composition and size of which depends on the specifics of its operations and stage of involvement. However, it should be mentioned that the formation of expenditure on export activities will be identical for all economic entities with full or partial production cycles, regardless of activity (the only changes are in composition of the expenditures, on export activities and key expenditures, of such activities). Therefore particularly relevant today is not only the identification of the nature of expenses for export but to determine their typology, positioning of such expenditures among other economic entity expen-

ditures and it is also appropriate to design algorithm of expenditures stages involving foreign market based exports cycle activity.

Analysis of recent research and publications. A large number of domestic and foreign scholars are dealing with expenditures formation, including export activity. Among them, it is advisable to allocate works of F. Gunther, John Zimmerman, M. Minor, A. Morrison, L. V. Bazaliyeva, Y. M Velykyi, A. M Vichevych, P. A Havrys, A. P Grechan, M. G Hreschak, N. V Grishko, I. E Davidovich, G.M Zaharchyn, U.I Kohut, R. O. Kostyrko, A. V Maksymets, V. M Panasiuk, G. A Partyn, Y. M Petrovyuch., L. V. Popovic, V. V. Prokhorov, T. V Sklyaruk, Y. S Tsalko-Tsalko, L. G Tsymbaliuk A. V Cherep, A. I Yasinska etc.

However, the issue of expenditures algorithm constructing on export activities in terms of entity involvement stages to foreign markets is studied not enough in theoretical and applied aspects.

Article aims. The aims of this article are:

- Infographic analysis to conclude Ukraine Association Agreement with the EU in spending on export activities;
- Export activities expenditures algorithm development including stages of economic entity involvement to foreign market;
- Realization of developed algorithm is made on example of CP Ltd. “Sphera-Electron” and PC “Promprylad”;

The main material of research. Signature of the Economic Association Agreement with the EU in June 27, 2014 is one of the factors that stimulates and activates the export activity of domestic economic entities. That is why it is an economically justified decision on export activity expenditures formation and analysis of the potential obtained benefits in case of such proceedings under this agreement, is extremely important. Export activity [2, p. 7-8; 3, p. 7-9] involves four stages of economic entity involvement to external market (the stage of initial involvement to a foreign market; stage of export activity increase; stage of enterprises export formation and stage of company export reduction), they all together form a complete (full) cycle of

exports activity. The infographics will be analyzed that were posted on the Internet website [1], in the context of the author's approach:

- access to most of the world markets through the introduction of EU standards in Ukraine. This will allow domestic economic entities to minimize the initial stage of involvement in temporal perspective, but it may lead to a sharp increase in expenditures. In its turn activates a mechanism of export activity diversification, expenditures optimization for it, and decrease the transition probability to the stage of export activity reduction as the final stage of the cycle such activities through the sale of surplus product or products which is under recession according to the concept of product life cycle, in market in which demand exceeds supply these products for which there is no considerable need adaptation or modification in existing exporter production. Thus, using the proposed, idea of export activity separation cycle stages of involving to foreign market, the domestic economic entity receives a competitive advantage for the restructuring possibility of its export activity according to each stage; optimization of the expenditures structure for export activity; determine the required number of resources; strategy selection for implementation export activities; identify possible options for the development of such activities; pros and cons of the enterprise, potential opportunities and threats to the environment and so on. This in combination allows domestic economic entities do not hesitate to start operations in the foreign market and avoid the most common mistakes;
- optimization of domestic products to EU requirements, which makes contribution to the national economy modernization and enables potential exporters realization of manufactured products to foreign markets of most countries without additional certification. It eliminates the negative impact under non-tariff barriers as one of the factors limiting access to new markets through the introduction of common technical regulation of production and approval of legislation on sanitary and phytosanitary measures. Thus, according to the proposed concept review export activity based on export production cycle and stages of involvement economic entity to a foreign market it is made to optimize the structure and size of expenditures on

export activities at all stages of involvement according to the developed matrix of expenditures occurrence on export activity [2, p. 9]. In particular, the expenditures value on certification of products will be reduced according to international standards as one of the expenditures elements for presale export production which arise on implementation phase. It is well known that the process of certification is costly, as it involves attracting more number of employees and other organizations and a number of activities which are prior to obtaining a certificate of compliance and license to use it (submission of required documentation, its consideration and analysis, inspection, certification of production depending on the chosen scheme (model) of certification, certification testing, analysis of the results, the publication of a certificate and license to use such a certificate, technical supervision of certified products, etc.). Therefore, by reducing the amount of expenses for certified products will help simplify and speed up the economic entity to foreign markets and it will reduce the duration of a stage to attract and speed up the transition from one stage to another (possible options for the transition from one stage to attract foreign market to another presented in [3, p. 8]);

– abolition of state standards and specifications. This benefit is an undoubted advantage and activation factor for medium-sized enterprises with high export potential, as it helps to simplify the products certification procedure and setting lower prices for domestic products. This in turn stimulates a number of domestic economic entities to review export activity as one of the promising areas of business development;

– reduction or elimination of import duties on products to EU countries according to developed charts. It should be mentioned that “for Ukraine the transition period will last up to 10 years, while the EU tariff schedule change will take place after the entry into force of the agreement, and a gradual reduction will apply in relation to the base duty rates that is fixed in the agreement”[4]. For example, engineering products advalorem import duty rate reduced from 2.8% to 0.4%, while for the EU – from 2.0% to 0%. [4]. Significant reduction in tariff barriers to EU domestic producers, including engineering, will facilitate

activation of export activity, enhance market access of certain EU countries, facilitate the release of new economic entities in foreign markets, accelerate the transition from one stage to another and also enhance the competitiveness of products due to the possibility of establishing lower price. According to the agreement for the engineering industry the tariff quotas will not be applied and it will allow domestic exporters to sell their products in unlimited quantities without raising the price of it (scale effect), in case there is demand for such products;

– enhance of consumer protection by introducing European standards of quality control is indirect benefit for local economic entities, as it stimulates domestic producers to manufacture better products with less percentage of marriage and increases the competition between both the domestic and foreign markets. Separation of these benefits is appropriate to consider the position of export activity as a cycle of manufacturing export production and consideration production phase and production expenditures on export production as one of the key expenditures in system expenditures for export activities. Thus, under modern conditions the concept that was proposed is extremely important and necessary from a practical point of view;

– simplification of procedures and the VAT return. According to Article 200 of the Tax Code of Ukraine regulates order of determination VAT refund and the probable time of calculation that is 30 calendar days from the date of presentation of documents on actual sales outside the customs border of Ukraine and calculations on the amount of the export refund from the budget. However, it is generally known that in Ukraine there is a considerable export VAT refunds debt and the procedure itself is quite complex and involves the emergence of a number of formalities only after which it is possible to submit conclusion to the State Treasury of Ukraine stating the VAT refund, including: procedure for filing tax returns and statements to obtain compensation; detailed calculation of VAT refund; presence of the original customs declarations; conduct cameral tax audits within 30 days; probability of documentary unscheduled audit of taxpayer for authentication charging of certain VAT refund [5]. All these

nuances complicate and delay time process of VAT refunds from the budget and require corresponding changes in tax legislation of Ukraine, which is possible due to signing of the agreement. Simplification of procedures under the agreement contributes to the efficient return of VAT on export procedures and improves its return.

Another indisputable advantage is that the process of entering the foreign market of certain product, company or industry will not last more than 1.5 years, which is pursuant indicates the optimistic strategy selection variant for export activity of the economic entity based on scenario approach [3, p. 385–387].

The application of the new requirements under the Association Agreement indicates the need to consider domestic enterprises production phase as a key element of exports as well as export consideration not only from the standpoint of transfer of ownership of the products, but from the position of export production manufacturing cycle.

Overall, all benefits received after agreements ratification will facilitate activation of domestic enterprises in the export. Economic ground of the activation can be considered as expenditures formation on export activities which are based on the stages of the economic entity attraction to foreign market as a universal approach to all domestic enterprises, including engineering.

As mentioned earlier, the export activity involves four phases of the production cycle (preproductional phrase, productional, realization and phase of postrealization maintenance and disposal) that are implemented at certain stages of the economic entity involvement to the foreign market. In its turn export activity is assessed by number of indicators, among which expenditures are prominent. Formation of expenditures on export activities, that we offer, take into account the stages of involvement in a foreign market that allows to company management not only affect the amount and composition of these expenditures, but also to coordinate current (at each stage of export activity in particular) and strategic (within a cycle of export activity) goals.

Algorithm of expenditures formation on export activity based on economic entity involvement stages to foreign markets is universal tool that will be used at any stage within the cycle of export activity and for each economic entity, regardless of the type of ownership, type of

organizational structure, etc. and will also include a sequence of expenditures occurrence on export activity according to a standard matrix of such expenditures depending on the stage of economic entity involvement to foreign market based on the phases of the production cycle [2, p. 9]. Application of this algorithm allows domestic entities to identify the moment and sequence of the certain groups of expenditure occurrence on export activities, identify their key elements in order to calculate overall cost-effectiveness level of export activity and also enable harmonization strategy of such activities within a stage attraction to the external market.

According to the definition given in the explanatory dictionary of the Ukrainian language, the algorithm is “a set of rules for calculating process that leads to the solution of a certain class of problems after a finite number of operations” [6, p. 24].

It should be mentioned that the structure of the algorithm is identical for all economic entities. However, it is possible to change the expenditures to the export activities in the expenditures matrix taking into account certain enterprises specific activities (type of product, the method of functioning in the foreign market, the involvement of other organizations, the application of certain rules of INCOTERMS, the number of foreign markets or market segments, etc.).

Algorithm of expenditures formation on export activities taking into account stages economic entity attraction to foreign market is represented in Figure. Let's consider all elements of the proposed algorithm. The first block of algorithm of expenditures formation on export activities taking into account stages of economic entity attraction to foreign market involves a preliminary stage to identify a particular economic entity in accordance with the export activity cycle [3, p. 8].

The next item involves identifying key characteristics of qualitative and quantitative feature stages of attraction to foreign market, namely the length of the stage, the strategy of functioning in the foreign market, aims to attract foreign market, main economic indicators, etc. [3, p. 8].

The next item involves identifying key characteristics of qualitative and quantitative feature stages involving foreign market, namely the length of the stage, the strategy of the foreign market, aims to attract foreign market, main economic indicators, etc. [3, p. 8].

Identification of the expenditures to export, as the following element of the proposed algorithm of such expenditures is to detect groups of expenditures on export activities and their elements according to complete export production manufacturing cycle. The results are recorded in expenditures occurrence matrix on export activity depending on economic entity involvement to foreign market based on the phases of the production cycle [2, p. 9]. It should be mentioned that this matrix is the basis for all economic entities. However, this does not mean that the list of expenditures grouped in this matrix is not exhaustive and may be supplemented or reduced. It is possible to change the composition of expenditures on export activity, because it depends on the number of phases in the export production manufacturing cycle, attracting foreign organizations or individuals in the manufacture, sale and service of products for export, the application of certain rules of INCOTERMS, the specifics of economic entity performance, etc.

Based on results of the export activities identification of expenditure composition in a particular stage of involvement to external market the number factors were defined for internal and external environments that influenced the formation of such expenditures. Detailed list of factors shaping the expenditures of export activities presented in [7, p. 126-132]. The proposed factors are the result of generalizations based on analysis and systematization of literary sources. In its turn, presented groups of factors are aggregated and can include many additional factors, depending on the specifics of a particular economic entity and market conditions.

It should be mentioned that the process detection of certain factors that influence the formation of expenditure on export activities is based on a survey of expert groups on a pre-designed questionnaire [3, p. 434-438].

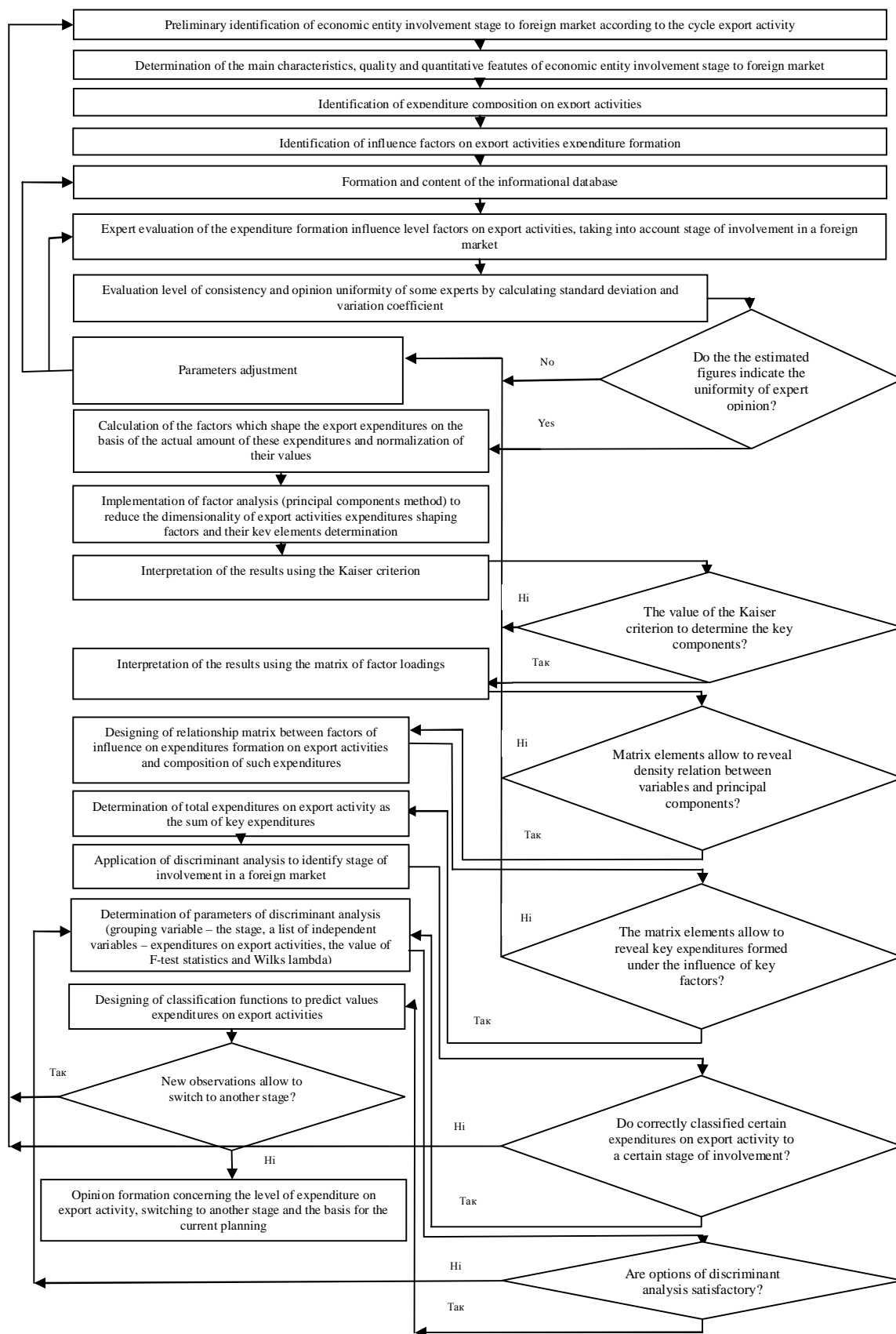
Identification of involvement stage to foreign market, key features and characteristics of this stage, composition of expenditures on export, as well as the factors influencing the formation of such expenditure which were provided for creation of the optimal data base as the next element of the proposed algorithm. MS Access will be used as tool of formation and content of information database and it will cover the main indicators of export of the entity during a specified time period.

Detailed description of the information formation of database is presented in [3, p. 314–323].

The next step of the proposed algorithm is expert evaluation of factors influence the formation of expenditure on export activities of the economic entity, depending on the stage of involvement to foreign market using three point scale (3, 2 and 1 points – respectively high, medium and low degree of influence of certain factors on expenditure formation on export activities). Conducted questionnaire survey of managers at different levels makes it possible to identify the significant influence of certain factors on a certain stage of involvement a foreign market by the sum of ranks. The number and qualifications of the experts involved depends on the existing phases in the cycle of manufacturing production export.

Calculation of the factors shaping the expenditures on export activity on the basis of the actual amount of data is made by using MS Access and it is based on expenditure structure and value of such activities, the involvement stage to the external market and the factors shaping the average rank of expenditures for export activities. The resulting information covers a large amount of data that needs to be grouped by building PivotTable using MS Excel. Data summary table should be normalized in order to bring an array of information to another normal form by discarding unnecessary values. An example of the normalization procedure is presented in [3, p. 328–330].

The normalized value factors in the expenditures formation on export activity at a certain stage of the economic entity involvement to foreign market is the basis for statistical data processing using software Statistica using the factor analysis module, mainly: the method of principal components. This method helps to optimize the number of factors in the expenditures formation on export activities, identify key factors and costs that are influenced by these factors. Matching results of factor analysis to certain criteria (Kaiser Criteriaa, the matrix of factor loadings) make it possible to determine the rate of total expenditure on export activity as the sum of core costs of such activities on each of the four stages of the proposed economic entity involvement to the external market. In case of discrepancy of the results established criteria should be correction parameters using a different set of data during analysis.



*Expenditures Algorithm design on export activities in stages of involvement to foreign market**

* developed by the authors

Table 1

Summary table of results of algorithm formation on export activities for JV "Spheros-Electron" and PC "Promprylad"*

Name of the enterprise	Cycle of export activity	Stages of involvement to a foreign market	The main features of stage involvement to foreign market						Significant influence factors of the expenditures formation on export activities			The results of intermediate calculations to assess factors shaping the expenditure on export activities	
			Duration of stage, years	Income (loss) from sales of export production, thousand, UAH.	Income from of export activity, thousand, UAH.	Total expenditure on export activities, thousand, UAH.	The level of efficiency of export activity	Sum of ranks according to the expert survey	Standard deviation	Coefficient of variation, %			
JV "Spheros-Electron"	2	3	Initial stage of involvement to foreign market (2004-2006 years)	4	5	6	7	8	9	10	11	12	
				3	2004	18763,92	1573,315	17190,605	0,09	Method of involvement to foreign markets	27		
					2005	29649,96	2288,88	27361,075	0,08	Organizational and operational factors	27	5,62	31,91
	2006	38824,43	5434,465		33389,965	0,16	Managerial quality of employees	26					
	3	The increase of export activity (2007-2009 years)	2007	52082,73	9960,98	42121,75	0,24	Different kinds of resources availability	26				
			2008	56198,6	10251,8	45946,8	0,22	Organizational governance structure of export activity	22				
			2009	12640,35	-382,75	13023,1	-0,03	Suppliers	27	3,91	20,68		
	3	Formation stage of export activity (2010-2012 years)	3	2010	34865,3	5631,23	30301,5	0,19	Socio-cultural conditions	27			
									Objectives of export activity	24			
									Marketing Strategy	28			
									The level of control over the export operations	27			
									Consumers	24			
Competitors									26				
2011	40650,4	7435,8	34482,38	0,22	State authorities and legislative acts	26	6,52	32,28					
2012	50367,94	9681,585	41983,695	0,23	Infrastructure	25							
								Peculiarities of international relations	25				

Continuation of table 1

1	2	3	4	5	6	7	8	9	10	11	12		
PC "Prom-priklad"	Partial (1,2,3 stage)	Initial stage of involvement to foreign market (2005-2007 years)	2005	1504,096	-52,805	1556,901	-0,034	Method of involvement to foreign markets	27	5,51	31,39		
			2006	2278,597	22,024	2256,573	0,010		Organizational and operational factors			26	
			2007	2056,044	109,261	1946,783	0,056		Managerial quality of employees			26	
			The increase of export activity (2008-2010 years)	2008	2254,009	485,473	1768,536	0,275	Different kinds of resources availability	26			
				2009	906,397	198,697	707,7	0,281		Organizational governance structure of export activity			23
				2010	1176,877	280,859	896,018	0,313		Consumers			23
			Formation stage of export activity (2011-2012 years)	2009	906,397	198,697	707,7	0,281	State authorities and legislative acts	27	5,3	23,65	
				2010	1176,877	280,859	896,018	0,313		Suppliers			27
				2011	666,868	114,711	553,27	0,207		SP			23
				2011	666,868	114,711	553,27	0,207	Socio-cultural conditions	27	7,11	32,04	
				2012	1580,209	175,636	1405,913	0,125		Structure			26
										Marketing Strategy			26
			2012	1580,209	175,636	1405,913	0,125	The level of control over the export operations	26				
									Consumers			26	
									Infrastructure			27	
			2012	1580,209	175,636	1405,913	0,125	Socio-cultural conditions	27				
									International events			27	
									SP			27	
			2012	1580,209	175,636	1405,913	0,125	International relations	26				
									Socio-cultural conditions			26	
									International relations			27	

*Formed by the authors on the basis of the calculations

Таблиця 2

Summary table of results of factor and discriminant analysis as part of the expenditures algorithm formation on export activities for JV "Spheros-Electron" and PC "Promprylad"***

Name of the enterprise	Cycle of export activity	Stages of involvement to a foreign market	Results of factor loadings shaping the expenditure on export activities based on stages of involvement to a foreign market			The integral indicator of expenditure on export activities, taking into account stage of involvement to a foreign market	The variables that included in the model	Results of discriminant analysis of economic evaluation expenditure on export activities
			1 component	2 component	3 component			
1	2	3	4	5	6	7	8	9
JV "Spheros-Electron"***	Partial (1,2,3 stage)	The initial involvement to foreign market	1,2,4,13	5,12,19	-	$I_{R_{in}} = x_5 + x_7 + x_8 + x_9 + x_{10} + x_{11} + x_{12} + x_{13} + x_{17}$	8	$G_1 = 0,114Var_{11} + 0,149Var_{9} + 11,498Var_{3} + 0,086Var_{5} - 0,796Var_{17} + 0,484Var_{7} + 2,117Var_{8} - 577,380Var_{21} + 0,005Var_{4} + 0,269Var_{13} - 1,558Var_{10}$ Const = -77,886
		The increase of export activity	1,2,3,4,5,9,10,12,13,14,15,19	-	6	$I_{g_{in}} = x_5 + x_6 + x_7 + x_8 + x_9 + x_{10} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17}$	3,4,5,7,8,9,10,11,13,17,21	$G_2 = 0,037Var_{11} + 0,084Var_{9} + 16,667Var_{3} + 0,028Var_{5} + 0,802Var_{17} + 0,587Var_{7} + 1,954Var_{8} - 546,650Var_{21} + 0,005Var_{4} + 0,198Var_{13} - 1,858Var_{10}$ Const = -63,966
		Formation of export activity	5,8,9,11,14,16	6,7,13	-	-	$I_{h_{in}} = x_1 + x_2 + x_3 + x_4 + x_5 + x_6 + x_7 + x_8 + x_9 + x_{14} + x_{15} + x_{16} + x_{17} + x_{18}$	8

Continuation of table 2

1	2	3	4	5	6	7	8	9
PC "Prom-prylad"	Partial (1,2,3 stage)	The initial involvement to foreign market	5,12,15,19	8	9,10	$I_{R_{10}} = x_5 + x_6 + x_7 + x_8 + x_9 + x_{10} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15}$		$G_1 = 594,593Var_{10} + 7,075Var_3 + 38,533Var_8 - 73,288Var_{21} - 28,604Var_7 + 10,826Var_{17} - 152,170Var_{11} + 0,105Var_4 + 113,118Var_5 + 155,914Var_{15} + 3,439Var_{12}$ $Const = -172,688$
		The increase of export activity	1,2,3,4,5,9,10,12,13,14,15,19	-	6	$I_{R_{10}} = x_5 + x_6 + x_7 + x_8 + x_9 + x_{10} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17}$	3,4,5,7,8,10,11,12,13,17,21	$G_2 = 287,9868Var_{10} + 11,8006Var_7 + 18,6424Var_8 + 93,8296Var_{21} + 18,2607Var_5 + 2,7356Var_{17} - 95,7622Var_{11} + 0,0666Var_4 + 65,9867Var_5 + 124,6535Var_{15} + 2,9293Var_{12}$ $Const = -83,2832$
		Formation of export activity	1,2,3,4,5,7,9,10,12,14,15,18,19	11,16	8	$I_{R_{10}} = x_1 + x_2 + x_3 + x_4 + x_5 + x_6 + x_7 + x_8 + x_9 + x_{10} + x_{11} + x_{12} + x_{13} + x_{14} + x_{15} + x_{16} + x_{17} + x_{18} + x_{19}$		$G_3 = 144,4096Var_{10} + 5,0879Var_3 + 8,851Var_8 - 136,1878Var_{21} + 8,1657Var_7 + 0,8640Var_{17} - 51,2479Var_{11} + 0,0587Var_4 + 42,3325Var_5 + 60,4393Var_{15} - 1,7248Var_{12}$ $Const = -27,5311$

* Formed by the authors on the basis of the calculations

Notation conventions:

- 1 purposes of export activity; 2 way of involvement to foreign markets; 3 structure; 4 organizational factors; 5 marketing strategy / objectives; 6 level of control over export operations; 7 technology; 8 production factors; 9 workers;
- 10 Quality of managerial employees; 11 supply various kinds of resources; 12 consumers; 13 vendors; 14 competitors; 15 public authorities and legislative acts; 16 infrastructure; 18 NTP; 19 social and cultural circumstances;
- R & D expense in the period;
- Expenses in the period in invention and rationalization;
- (Var3) - expense in the period for preparation and development of export production;
- (Var4) - the cost of production of export production;
- (Var5) - the cost of a comprehensive study of the external market;
- Presentation costs;
- (Var7) - the cost of an advertising campaign in the foreign market;
- (Var8) - the cost of preparation of export production, to shipment;
- (Var9) - storage costs;
- (Var10) - the cost of preparing the export of goods to be shipped;
- (Var11) - the cost of registration of export activity, preparation, execution and conclusion ZTK;
- (Var12) - the cost of transportation of exported products;
- (Var13) - the cost of cash management services;
- The cost of changing its management structure;
- The cost of maintaining export department, sales representatives, affiliates and subsidiaries;
- The cost of control over the implementation of the export transaction;
- (Var17) - the cost of certification of export production;
- The cost of repair, after-sales service;
- Var21 - the efficiency of export of the company.

Determination of total expenditure on export activities at each stage of involvement in a foreign market is the basis for discriminant analysis to determine the probability of stage attraction identification, attribution of certain expenditures to a particular stage, and to predict the values of expenditures that will arise in the next time intervals, and thus determine the time of transition to another stage of involvement.

If discriminant analysis parameters are satisfactory the probability of switch to another stage of the economic entity involvement to foreign market within a cycle of exports will be determined.

If there is no switch a summery on the level of expenditures on export activities and the basis for planning future export activities in terms of a certain stage of involvement to a foreign market will be made. It should be mentioned that the algorithm design and its practical application is crucial under modern conditions based on the results of the research it was found that for certain groups of information users false impression to identify certain key expenditure on export activities at some stage is included, and well as the formation rate of total expenditure of such activities. Therefore, clarification of key expenditure selection process on export activity using the algorithm is particularly relevant. It should be also emphasized that the totality of the key expenditure on export activity for each economic entity will depend on the factors influencing the formation of such expenditure, vector impact of these factors, the results of expert evaluation, the proportion of certain expenditure elements in export activities in the total expenditures structure, stage of involvement to external market, strategy of activity in foreign markets and so on.

Applied aspects of expenditure algorithm on export activities in involvement stages to foreign market is provided for Ltd "Spheros-Electron" and PC "Promprylad" for which the presence of a partial cycle of export production manufacturing is typical. The result of the proposed algorithm is presented in Table. 1 and 2.

Application of the developed algorithm for expenditures on export activities in involvement stages to foreign market on in two analyzed companies allowed to identify the expenditures and

the factors that influence the formation of such expenditures in a particular stage of involvement, to identify their level of exposure, identify the key expenditures, calculate the rate of the total cost of each stages and design a functional relationship between the amount of expenditures and efficiency levels of exports for the next period. The application of developed algorithm in practice is the basis for further export planning of economic entity.

Conclusions and perspectives of research.

Using the proposed algorithm in practice allows the management of an economic entity to identify important factors that influence the formation of expenditure on export activities, key expenditure of such activities at some stage involvement in a foreign market, and the point of transition to the next stage, which ultimately will help increase the efficiency of export activities as strategic and operational planning and more. In further research is planned to investigate the behavior of costs on export activities within a particular stage of involvement in a foreign market.

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