

Managerial Innovations in Methodology of Solving Export-Import Activity Problems and Ensuring International Corporations Business Excellence

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Abstract

The purpose of the research is to develop a new methodological basis for identifying, analyzing and solving problems of international corporations export-import activities and to ground the directions for ensuring their business excellence. The approach originality provides introduction of a conceptual model that aims to eliminate the negative symptoms of international corporations export-import activities based on the results of comprehensive market research, effectiveness of export-import activities and calculation of the integrated indicator of business excellence. The leading corporations of Slovakia and India in the production of bi-axially oriented polypropylene (BOPP) films were the primary basis for this study. The results of the research showed the need to implement a system of managerial innovation for reasoning the directions of ensuring international corporations business excellence. This is achieved because of using logically formalized methods and provides the improvement of organizational and structural interaction of management entities in the process of solving export-import activity problems. Important factors for ensuring business excellence are also the optimization of export and import costs, as well as an increase in export revenue for Slovak companies, and an increase in market share and cost optimization for Indian companies. The practical value of the obtained results is to develop a set of managerial innovations that can improve the efficiency of export-import activities and improve international corporations business.

Keywords: managerial innovations; conceptual model; export-import activity; diagnostics; business excellence index; international corporations; logically formalized methods.

1. Introduction

Modern business of international corporations is accompanied by many problems that need to be solved urgently to ensure business excellence. Among these problems are usually misalignment between business and IT, difficulty of deriving IT goals from business goals, creating secured business PM, reengineering BPs, managing business environment and customer power (Alotaibi, Y. & Liu, F., 2017), limited use of information systems in managing business processes (Van der Aalst, W., La Rosa, M. & Santoro, F., 2016), how to adapt the approach to specific situations and to be flexible in scheduling the work (Ernst van Aken, J. & Berends, H., 2018), lack of strategic logic in the activity, implementation of ineffective strategies, insufficient level of innovation activity, neglect of crisis phenomena impact, insufficient use of strategic opportunities (Kryvovyazyuk, I. & Strilchuk, R., 2016).

In modern conditions of deepening the business internationalization, the priority is the solution of dilemma between the duration and costs of finding and solving the problems of international corporations export-import activities and the attainment of business excellence. Successful implementation of export-import activities by corporations increases the level of their sales and profits in the international markets, accelerates the modernization of technologies and business processes,

allows to gain an advantage over competitors in the foreign and domestic markets. On the other hand, the risks of doing business and the costs of export-import activities are increasing. Doing business in the international market, therefore, requires the corporations to identify the global problems that accompany the development of their activity field, the efficiency of export-import activities, to establish the degree of business excellence. Such important scientific and applied tasks are achieved through continuous improvement of management activity, which should be accompanied by implementation of new tools and technologies that can facilitate the process of identifying business problems and making effective strategic decisions.

Important role in solving export-import activity problems and ensuring international corporations business excellence at the present stage of their development belongs to management methodology application that meets the requirements of a successful business and the situation that characterizes their behavior in the market. In spite of the fact that the modern scientific school of innovative management has developed a large number of methods capable to provide high efficiency of doing business on an international level, the conditions and environment in which corporations operate are constantly changing, and the methods of doing business are constantly changing too. This requires managers to develop and implement managerial innovations, new methods of researching business

results, and reasoning the directions for ensuring its excellence.

2. Literature Review

Management innovations were used to solve many problems of international corporations various activities. It is proved that limited use of innovations in managerial activity causes a decrease in competitiveness and the risk of bankruptcy of international corporations (Kryvovyazyuk, I., 2014), which requires active implementation of managerial innovations, despite the complexity of their use and implementation (Broekhof, M. & Godillot, B., 2015). In recent years, as a new method for solving business problems and innovations the method TRIZ is proposed, which is developed as a theory and a set of applied tools to support solving so-called "nonordinary" problems (Ruchti, B. & Livotov, P., 2001; Souchkov, V., 2007). Implementing the Seeking Solutions approach, which is a type of open innovation, focuses on solving complex business problems and provides: a call for problems, problem selection, problem broadcast, and a collaborative event (Deutsch, C., 2013). Using an integrated methodological approach MIM3 in the context of best practices for improving management innovation based on key provisions of strategic management, project management, innovation methods, standards for innovation management, knowledge management, and financial management (Alfaro, E., 2017), points to expediency of using a comprehensive approach dealing with business excellence. It is determined that to improve decision-making quality we should actively use management based on evidence that includes a critical assessment of organizational data, professional expertise, stakeholder values and scientific literature (Barends, E. & Rousseau, D., 2018). The active use of various methods of quantitative and qualitative research, along with the use of mixed methods (Bell, E., Bryman, A. & Harley, B., 2019; Sekaran, U. & Bougie, R., 2016) can also improve the quality of making management decisions. Management innovation creates a long-term advantage if it is based on a new management principle, it is systemic, encompassing a range of processes and methods, and it is part of an ongoing program of invention, where progress compounds over time (Hamel, G., 2006). From this perspective, method flexons is interesting, which provides a way of shaping difficult problems to reveal innovative solutions that remain hidden, because of clearer defining and structuring the problem, generating more guesses (ideas), determine the right level of analysis, making the relations between variables of a system, along with the causes and effects of decisions, more explicit, objectivity of discussing and decision making (Leclerc, O. & Moldoveanu, M., 2013).

The issue of international corporations export-import activities is also constantly in the field of scientists view. It is proved that under market competitive conditions, under the influence of globalization factors, it is very important to have reliable and detailed information about the state of foreign economic activity, where information and analytical support of assessing foreign economic activity from the positions of competitiveness on the basis of a comprehensive approach are very helpful (Zosimova, 2018) as well as analysis and control as its management functions (Knyshek, O., 2017). Using the results of controlling export-import activity is quite logical to choose the main directions of strategy implementation at the enterprise (Malyarets, L. et al., 2017). At the same time, analytical support is very important for forming the strategies of export-import activity development. It is accompanied by using multicriterial optimization method, which uses a genetic algorithm, multi-dimensional regression analysis, and a taxonomic method for calculating the integral index of development (Malyarets, L. et al., 2018). It is proved that in the modern economy, which is integrated into the world market, export and import activity takes complex forms, and its timely diagnostics has a positive impact on its economic efficiency (Kononenko, Ya., 2018). It is determined that in order to increase the efficiency of export-

import activity, attention should be paid to the dynamics of financial indicators, which characterize the profitability of activity, financial stability and business activity of the corporation (Britchenko, I. et al., 2018). In order to optimize foreign economic activity revenues for export-oriented corporations, it is advisable to use optimization models, in particular, ABC analysis (Pitel, N. & Alioshkina, L., 2016). Identifying dependencies between effective and factor traits of export-import activity development is necessary for the managers of enterprises to substantiate the choice of management decisions related to gaining competitive advantage for enterprises, which will provide them with increase of export-import activity, increase of profit, strengthening market position and financial condition. (Krasilych, I., 2017).

The works of modern scientists, devoted to the issues of using managerial innovations in international corporations activities and identifying and analyzing the problems of export-import activity, show the lack of attention to issues of ensuring their business excellence. Therefore the development of a new methodological basis for identifying, analyzing and solving the problems of international corporations export-import activities and grounding the directions for ensuring their business excellence aims to fill this gap in the system of scientific research.

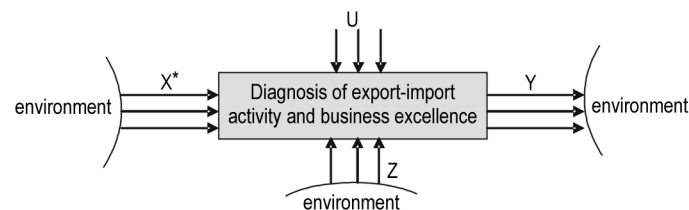
3. Methodology

The research is aimed at forming and implementing a methodology for identifying, analyzing and solving the problems of international corporations export-import activities and grounding the directions for ensuring their business excellence.

The analyzed sample consists of leading corporations of Slovakia and India in the field of BOPP films production. Increasing sample is difficult because of obstacles to access to international corporation reporting data. The research data were obtained from official reports published on the corporation websites (Terichem Tervakoski, as and Xpro India Ltd), from the reports of international organizations (UNCTADstat) and data from market research firms and consulting companies (Esticac Research & Consulting, Market Research Com, CNBC LLC). Data of the listed international organizations, consulting companies and corporations involved in the BOPP films production were auxiliary to the authors' results.

Despite the obvious use in the modern enterprises the methods of identifying, analyzing and solving the problems of international corporations export-import activities as an effective mechanism for analyzing negative phenomena and processes, and grounding the directions of ensuring their business excellence, they exist only in the form of separate components of their implementation.

We recommend a conceptual model which is aimed at eliminating the negative symptoms of international corporations export-import activities based on the results of comprehensive market research, the effectiveness of export-import activities and the calculation of business excellence integral indicator (Figure 1).



*X – input diagnostic parameters, factor signs, exogenous parameters;
Y – output diagnostic parameters, effective signs, endogenous parameters;
Z – perturbation parameters, random factors, random components;
U – parameters of business and its excellence management.

Figure 1. Conceptual model of research of international corporations export-import activity
(Source: Author's)

Where X is indicators of market dynamics and international corporations export-import activity, internal factors causing the problems of doing business, Y is a set of solutions for solving the problems of international corporations export-import activity and ensuring their business excellence, Z is sectoral obstacles to the way of business development and activity risks, and U is the results of export-import activity, efficiency and conditions of export, efficiency and conditions of import, market and competition.

Since X , Y , Z , and U will have different characteristics for different corporations, it is difficult to predict the use of a unified method for the study results, however, the general scheme of international corporations export-import activities and substantiation of the directions of ensuring their business excellent is standard.

To solve the tasks it is appropriate to use the following methods: analytical, synthesis and grouping – for comprehensive market research and identifying global problems of doing business on it; indicator, trend analysis and Pareto diagram – to determine the efficiency of international corporations export-import activities; economic comparison and taxonomic analysis – to determine the level of excellence in doing business; logic and formalized methods – to improve the organizational and structural interaction between management entities in the process of solving the problems of export-import activities.

It is proved that the systematic approach in management involves a set of measures aimed at improving management systems and improving the organizational structure of management. Therefore, one of the results of the conceptual model implementation will be improving the organizational and structural interaction between management entities in the process of solving the problems of export-import activities.

4. Results

4.1. Results of comprehensive research and analysis of global business problems in the BOPP films market

The BOPP films market is an integral part of the chemical industry. It was found that in the world chemical products exports, polypropylene film in 2018 was 6.31% (Unctadstad, 2019). In the future, the BOPP film market will grow by 5.04% to 2024 (Esticast Research & Consulting, 2018), according to the growth in the food, pharmaceutical and electronics industries. Overall, it is expected to grow by \$ 20.9 billion to 2024 (Converting Quarterly, 2019).

It is determined that the volume of the chemical industry exports in the world is constantly changing. Thus, during 2013-2014, there was a slight increase in exports, and already in 2015, exports declined. However, since 2017, exports of chemical products in the world have increased. The same dynamics is in the BOPP films export, whose share in the structure of chemical products export increased by 0.05%. Imports of polypropylene film are characterized by a slight increase during 2011-2015, a decrease in imports by 0.65% in 2016 and an increase by 7.58% in 2017 (Unctadstad, 2019). Among the countries exporting and importing BOPP films are the countries with advanced economies (China, Germany, Slovakia, the USA, UK, Japan). Much more imports than exports are in the developing countries, including Latin America, the UAE, and India. The share of exports and imports of the third world countries is insignificant, while the import of the BOPP films is much higher than exports for such countries. This tendency is explained by the fact that in the third world countries there are practically no own enterprises producing BOPP films, and the existing ones provide internal needs.

It is proved that recently many manufacturers of the BOPP films focus their attention on the production of capacitor films, as the modern progressive development of such industries as electronics and machine building is favorable for corporations

producing raw materials for these industries. Among them are manufacturers of capacitor BOPP films, the demand for which increases every year.

The analysis of the situation in the world market of the BOPP films showed that among the global problems of doing business in the BOPP films market are the following:

- significant dependence of international corporations on raw materials and their quality. Raw materials for the BOPP films production are polypropylene granules. The quality of raw materials is a key indicator that determines the quality of the BOPP film itself, and therefore the possibility of its successful sale. It is also directly proportional to the income of the manufacturing company;

- rapid development of competitors. Over the last 10 years, significant development in the BOPP films market was achieved by Asian film manufacturers (FSPG HI-TECH CO, HuanYuan Plastic Film Co. Ltd, Anhui Eastern Communication Group (China), Jiangsu Shenda Group (China), Gettel Group (China), Jindal Poly Films (India), Cosmo Films (India), Xpro India Limited (India), Samyoung Chemical Co. Ltd (South Korea), Toray Advanced Film Co. Ltd (Japan). Due to cheap labor (China, India) and significant achievements in the innovative development of the BOPP films (South Korea, Japan) enterprises have succeeded in increasing their competitiveness and threatening manufacturers from Europe and South America;

- high entry barriers for new international corporations. The BOPP films market is divided between a number of large companies, that is why it is almost unavailable for new players;

- significant need for technologically appropriate equipment. The cost of such equipment reaches tens of millions of euros. It is due to the technologically complicated process of the BOPP films production;

- currency fluctuations for raw materials and finished products prices. This is especially noticeable for developing countries producers, as the growth of the exchange rate causes the growth of polypropylene cost, leading to higher prices for the final product;

- complex international logistics and the need to comply with international payment rules. The reason for this is the natural geographical location of the enterprises and the location of major transport routes. One of the popular ways to solve the problem in the BOPP films market is to establish representative offices or branches abroad to facilitate sales. Thus, much of international corporations of the BOPP films market have their offices in the world, which allows to take into account the different features of sales;

- the problem of identifying the product and reliable information about it. Due to the high level of fraud in the BOPP films market;

- differences in approaches to doing business. This problem is special for enterprises entering the Asian market.

The need to solve these problems, as well as to study the ways to overcome them, leads to an analysis of the condition and symptoms of export-import activities of the BOPP films manufacturers.

4.2. Analysis of dynamics of excellence indicators and negative symptoms of international corporations export-import activities

The modern world market of BOPP films is geographically divided into two regions: European and Arabic-Asian. Each region is represented by powerful manufacturers of BOPP films. Terichem Tervakoski, a.s. (Slovakia) is one of the largest manufacturers in the European market of BOPP films., in the Asian market – Xpro India Ltd (India), whose share of exports and raw materials imports is very high.

To identify symptoms of negative phenomena, summary indicators were selected to reflect changes in the effectiveness of investigated international corporations export-import activity (Table 1).

Indicators	Terichem Tervakoski, a.s.			Xpro India Ltd		
	2015	2016	2017	2015	2016	2017
Export revenue, EUR million	48.35	43.91	49.67	21.92	24.88	30.23
Export costs, EUR million	44.55	41.79	46.29	21.49	24.31	29.36
Gross export profit, EUR million	3.80	2.13	3.38	0.44	0.57	0.86
Overall efficiency of export	0.09	0.05	0.07	0.02	0.02	0.03
Export profitability, %	7.86	4.84	6.80	1.99	2.30	2.86
Export conditions indicator	1.03	1.05	1.04	1.06	1.05	1.07
Import conditions indicator	1.03	1.04	1.05	1.01	1.02	1.03
Import costs, EUR million	9.00	12.00	15.00	2.00	2.50	2.90
Capacitor Films Market Share, %	25.0	27.0	31.0	11.0	10.0	9.0
Market growth rate	0.921	0.990	1.061	0.921	0.990	1.061

Table 1. Excellence indicators of international corporations export-import activities
(Source: Author's)

It is proved that the dynamics excellence indicators of export-import activity is significantly higher at Xpro India Ltd compared to Terichem Tervakoski, a.s., and it resulted in a significant increase in export profit and gross export profit.

The symptoms of investigated international corporations export-import activity were analyzed by Pareto method. It is determined that the negative symptoms of Terichem Tervakoski, a.s. export-import activity is increasing the cost for import and export of the enterprise, a growth of import conditions indicator, a decrease in gross profit on exports, decreasing the overall efficiency of exports and export profitability indicator. For Xpro India Ltd the negative symptoms were decreasing the market share, increasing import and export costs, increasing import conditions indicator. Comparing Pareto diagrams based on data before and after process improvement, you can evaluate the effectiveness of taken measures. According to this method,

about 20% of all symptoms create 80% of the consequences.

4.3. Results of the research of international corporations business excellence

Assessment of business excellence of the world BOPP films manufacturers was carried out by taxonomic analysis. To form the observation matrix the evaluation criteria were chosen, which best reflect the results and environment of doing business in the international markets: the results of export-import activity, efficiency and export conditions, efficiency and import conditions, market and competition. The data given in Table 1 are taken as the estimates. Further steps of taxonomic analysis were made using a standardized methodology (Pluta, V., 1980). The final results of the research of corporates business excellence are presented in Table 2.

Year	C_{i0}	\bar{C}_0	S_0	C_0	d_i	Integral indicator of business excellence	Level of business excellence
Terichem Tervakoski, a.s.							
2015	0.33	0.67	0.71	2.10	0.16	0.84	high
2016	1.66				0.79	0.21	Low
2017	0.02				0.01	0.99	High
Xpro India Ltd							
2015	1.83	1.17	0.54	2.26	0.81	0.19	Low
2016	1.20				0.53	0.47	sufficient
2017	0.50				0.22	0.78	high

Table 2. Results of assessment of excellence level of international corporations business
(Source: Author's)

It was proved that Xpro India Ltd was characterized by increasing the level of business excellence throughout the period of study, which was due to the small number of negative symptoms of activities that were caused mainly by the influence of the parameters of groups X and U , and it requires to retain the priority of management decisions. For Terichem Tervakoski, a.s. there are significant differences in the levels of business excellence, which is associated with a large number of negative symptoms caused by the influence of the parameters of groups X , Z and U , and it requires a change in the priority of management decisions.

4.4. Implementation of managerial and organizational innovations system to ensure the international corporations business excellence

The modern development of international business is still far from perfect and depends on the validity of management decisions made on the results of diagnostics of its condition. It is determined that for international manufacturers of the BOPP films, the negative trends in the market leads to the separation of businesses within TNC by different product groups, as well as increasing the negative symptoms of export-import activity and increasing their influence on the level of business excellence. In particular, one of the key negative symptoms is increasing import costs, as manufacturers mainly import raw materials for the BOPP films, increasing export costs, which is greatly

influenced by the increase in overhead costs, decreasing sales volumes and market share, which is caused by the rapid development of existing competitors and new ones. The existing obstacles to business development show the need to implement a system of managerial innovations to ground the directions of ensuring international corporations business excellence:

- active implementation logically formalized methods in the practice of managerial decision making, in particular the “tree of problems” and the “tree of goals”. The main goals for achieving the strategic goal of Terichem Tervakoski, a.s. and Xpro India Ltd are to optimize the cost of export (achieved by reducing the cost of export products and reducing overhead costs), to optimize the cost of import (through the search for alternative sources of raw materials supply and reducing overhead costs), to increase profits from export (by increasing the volume production and search for new markets), to increase market share (by gaining consumer loyalty). The implementation of logically formalized methods improves the organizational and structural interaction between management entities in the process of solving the problems of export-import activities (Figure 2);

- implementing a set of measures to ensure international corporations business excellence (Table 3);

- innovative projects implementation for international corporations: for Terichem Tervakoski, a.s. is a project aimed at increasing export profits by expanding the range of the BOPP films by manufacturing capacitor films for lithium-ion batteries; for Xpro India Ltd is a project aimed at reducing the cost of

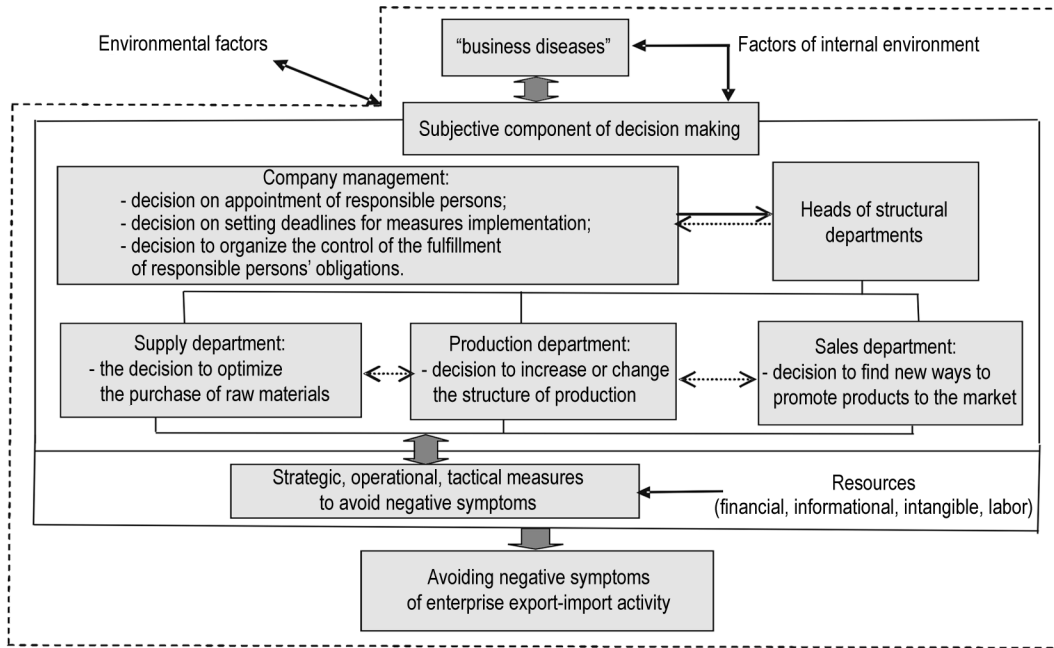


Figure 2. Organizational and structural interaction between management entities in the process of solving export-import activity problems
(Source: Author's)

Terichem Tervakoski, a.s.	Xpro India Ltd
<i>Reducing the costs of export</i>	
- improving the organization of production and labor. - development of new workshops, production units and productions.	- implementation of the "just in time" system. - change in the structure of production.
<i>Reduction of the overhead costs by exporting company</i>	
- review the terms of supply according to Incoterms 2010.	
<i>Reduction of the overhead costs by importing company</i>	
- review of contracts with suppliers in the raw material pricing sector. - independent production of necessary materials. - implementation of resource-saving technologies.	<i>Reduction of the cost of raw material import</i>
	- reduction of BOPP film waste in the production process. - purchasing materials together with other buyers from one supplier.
<i>Increase in production</i>	
- purchase of additional pieces of equipment. - expansion of the range of BOPP films.	<i>Winning consumer loyalty</i>
	- sales promotion due to lower prices. - investment in improving product quality. - forming a strong brand.
<i>Search for new markets</i>	
- access to the North American market of BOPP films and expansion of cooperation with General Electris.	

Table 3. A set of measures to ensure international corporations business excellence
(Source: Author's)

import and export through the creation of non-defective manufacturing by recycling the BOPP films waste into polypropylene.

Implementation of management innovation system will optimize export and import costs, will increase export profit and market share for international corporations.

5. Conclusion

Thus, managerial innovations are an important basis for solving many problems for international business entities. In the conditions of competition aggravation for the markets of raw materials and sales of products, the value of managerial innovations increases to solve the problems of export-import activity. The use of the conceptual model of research of international corporations export-import activity represents the necessary methodology of identifying, analyzing and solving the problems of international corporations export-import activity and grounding the directions of ensuring their business excellence. Comprehensive market research reveals global problems of doing business in the international economic environment. The analysis of the efficiency of international corporations export-import activities is the basis for revealing the dynamics of its indicators changes and the negative symptoms of export-import activities. Determining the level of excellence in doing business by taxonomy methods outlines the reserves for improving the

efficiency of export-import activities. The most important result of using this model is the development of managerial and organizational innovations system to ensure the international corporations business excellence. During the process of development and decision-making this is achieved through the use of logically formalized methods, economic and organizational measures development and innovative projects implementation in the practice of managing international corporations.

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