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Mamonov K.
Doctor of Economics, Professor,
O. M. Beketov National University of Urban Economy in Kharkiv, Ukraine;
e-mail: kostia.mamonov2017@gmail.com; ORCID ID: 0000-0002-0797-2609
Grytskov E.
Ph. D. in Economics, Associate Professor,
O. M. Beketov National University of Urban Economy in Kharkiv, Ukraine;
e-mail: grytskov@kh.gov.ua; ORCID ID: 0000-0003-4766-7155
Prunenko D.
Doctor of Economics, Associate Professor,
O. M. Beketov National University of Urban Economy in Kharkiv, Ukraine;
e-mail: dmytro.prunenko@kname.edu.ua; ORCID ID: 0000-0001-7322-9998
Velychko V.
Ph. D. in Economics, Associate Professor,
O. M. Beketov National University of Urban Economy in Kharkiv, Ukraine;
e-mail: hcsms.07@gmail.com; ORCID ID: 0000-0002-0282-368X
Achckasov A.
Doctor of Economics, Professor,
O. M. Beketov National University of Urban Economy in Kharkiv, Ukraine;
e-mail: achckasov.a@ukr.net; ORCID ID: 0000-0002-4908-2516

STAIKHOLDER-ORIENTED ENTERPRISE MANAGEMENT MODEL ENTERPRISES

Abstract. The level of interaction between stakeholders is determined on the basis of research on the theory of stakeholders and their types, generated expert assessments obtained from experts, the use of modern methods, which suggested ways to increase the level of interaction between stakeholders in enterprise management systems.

The study formed a quantitative basis for making informed management decisions in enterprises according to the model focused on stakeholders. For each type of stakeholders, the quantitative parameters of the application of local strategies and the possibility of transition to the implementation of strategies that increase the effectiveness of interaction between stakeholders to ensure the development of transport enterprises are identified. At the same time, the possibilities of implementing the directions of development and implementation of the stakeholder model of management of transport enterprises at domestic transport enterprises are decreasing, as no organizational measures have been taken. Therefore, it is proposed to transform the management structure by optimizing it and creating a structural unit to manage the interaction of stakeholders in transport enterprises.

The proposed directions for the development of a stakeholder-oriented management model should also be used by transport companies in the context of stakeholder types, based on a quantitative basis, through the use of organizational and managerial measures (use of roadmap and transformation of company management structure).

The necessity of increasing the efficiency of the level of stakeholder relations and the transition from anti-crisis strategy to development strategy is proved. In this context, it is necessary to implement a set of measures in the management system of enterprises, namely: ensuring a change in the trajectory of interaction between central and local authorities, social security, internal and external regulators, NGOs, media, other enterprises and organizations; further increase the effectiveness of cooperation with enterprises and organizations of railway, industrial, institutional, enterprises and organizations of pipeline transport, provision of public communications, employees responsible for the work of enterprises and organizations of the transport sector, managers at various levels, owners; constant increase in traffic volumes; changing the direction and

effectiveness of interaction with stakeholders to ensure the volume of passenger traffic; areas of growth and efficiency of communications; reducing the number of road accidents and their victims.

***Keywords*:** stakeholders, transport sphere, stakeholder-oriented management model, stakeholder interaction, directions for increasing stakeholder engagement

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Мамонов К. А.
доктор економічних наук, професор,
Харківський національний університет міського господарства
імені О. М. Бекетова, Україна;
e-mail: kostia.mamonov2017@gmail.com; ORCID ID: 0000-0002-0797-2609

Грицьков Є. В.
кандидат економічних наук, доцент,
Харківський національний університет міського господарства
імені О. М. Бекетова, Україна;
e-mail: grytskov@kh.gov.ua; ORCID ID: 0000-0003-4766-7155

Пруненко Д. О.
доктор економічних наук, доцент,
Харківський національний університет міського господарства
імені О. М. Бекетова, Україна;
e-mail: dmytro.prunenko@kname.edu.ua; ORCID ID: 0000-0001-7322-9998

Величко В. А.
кандидат економічних наук, доцент,
Харківський національний університет міського господарства
імені О. М. Бекетова, Україна;
e-mail: hcsms.07@gmail.com; ORCID ID: 0000-0002-0282-368X

Ачкасов А. Є.
доктор економічних наук, професор,
Харківський національний університет міського господарства
імені О. М. Бекетова, Україна;
e-mail: achckasov.a@ukr.net; ORCID ID: 0000-0002-4908-2516

СТЕЙКХОЛДЕРНО-ОРІЄНТОВАНА МОДЕЛЬ УПРАВЛІННЯ ПІДПРИЄМСТВОМ

Анотація. Рівень взаємодії між зацікавленими сторонами визначається на основі наукових досліджень з теорії зацікавлених сторін та їхніх видів, сформованих експертних оцінок, отриманих від експертів, використання сучасних методів, що дозволило запропонувати напрями для збільшення рівня взаємодії між зацікавленими сторонами в системах управління підприємствами.

У результаті дослідження сформована кількісна основа для ухвалення обґрунтованих управлінських рішень на підприємствах за моделлю, орієнтованою на зацікавлені сторони. Для кожного типу зацікавлених сторін визначено кількісні параметри застосування місцевих стратегій і можливість переходу до реалізації стратегій, що дозволяють підвищити ефективність взаємодії між зацікавленими сторонами для забезпечення розвитку транспортних підприємств. Водночас на вітчизняних транспортних підприємствах можливості реалізації напрямів розвитку і впровадження зацікавленої сторони моделі управління підприємствами транспортної сфери зменшуються, оскільки організаційних заходів не вжито. Тому пропонується трансформувати структуру управління шляхом її оптимізації та створення структурного підрозділу для управління взаємодією зацікавлених сторін на транспортних підприємствах.

Запропоновано напрями для розроблення моделі управління, орієнтованої на зацікавлені сторони, також повинні використовуватися транспортними підприємствами в

контексті типів зацікавлених сторін, виходячи з кількісної основи, за допомогою використання організаційних та управлінських заходів (використання дорожньої карти і перетворення структура управління компаніями).

Доведена необхідність зростання ефективності рівня стейкхолдерних відносин і переходу від антикризової стратегії до стратегії розвитку. У цьому контексті варто здійснити комплекс заходів у системі управління підприємствами, а саме: забезпечення зміни траєкторії взаємодії центральних і місцевих органів влади, органів соціального забезпечення, внутрішніх і зовнішніх регулятивних органів, громадських організацій, засобів масової інформації, інших підприємств та організацій; подальше підвищення ефективності співпраці з підприємствами та організаціями залізничних, промислових, інституційних, підприємств та організацій трубопровідного транспорту, забезпечення засобами зв'язку загального користування, працівниками, відповідальними за роботу підприємств та організацій транспортного сектору, керівниками різні рівні, власники; постійне збільшення обсягів перевезень; зміна напряму та ефективності взаємодії із зацікавленими сторонами для забезпечення обсягу пасажирських перевезень; області зростання та ефективність комунікацій; зменшення кількості дорожньо-транспортних пригод і жертв у них.

Ключові слова: зацікавлені сторони; транспортна сфера, орієнтована на зацікавлені сторони модель управління, взаємодія між зацікавленими сторонами, напрями для збільшення залучення зацікавлених сторін.

Формул: 4; рис.: 3; табл.: 5; бібл.: 13.

Introduction. In the modern economy has created some difficulties for the selection criteria of growth and system of the priorities of the transport sector, shaping the direction and determining the characteristics of the development of the state and ensures its functioning of the arteries. It has a complex structure, which is determined by the characteristics and development of transport modes: rail, road, pipeline, sea, river, air. According to experts, the functioning and development of the transport sector due to the influence of complex factors: technological progress, planned pace of development of the whole transport and its separate sectors, global trends in the transport sector, growth of the material welfare and cultural level of workers, the socio-historical conditions in which the development of transport, concentration, specialization, cooperation and combination of production [1]. The impact of these factors determines the complexity of the relationship between the stakeholders (stakeholders) in the transport sector.

Directions of formation and implementation of interaction among stakeholders leads to the functioning of the transport sector. Describing its performance determined that in recent years there has been a reduction in freight volumes. In particular, from 1996 to 2018, the volume of cargo transportation by railway transport decreased by 26%, marine — 91%, river — 71%, road — 34%, pipeline — 55% [2]. Only the volume of cargo transportation by air transport increased by more than 5 times. at the present stage of economic reforms, a decrease in the number of passengers carried by types of transport. For 1995 — 2018 there is a reduction of carriage of passengers by railway transport 63%, sea — 99%, of the river — 83%, automobile — 45%, tram 19%, trolley — 25% [2]. The growth of passenger traffic over the period studied was observed only in the sector of air transport and metro. Mixed trends are observed in the use of Railways. In particular, the operational length of Railways for General use, 1980 — 2016 decreased by 7%, similar trends are observed in the operating length of river navigable routes in General use and operational length of tram routes in General use (one-way basis) [2]. Growth is observed in the field: forming the length of public roads with hard surface, operational length of trolleybus lines of General use (one-way calculation), operational length part of the metro routes in General use (double-track basis). For 1980 — 2017 a decrease in road accidents and casualties in them.

In the European Union for 2011—2017 a decrease in the volume of passenger transport relative to GDP from 97,8% to 94.1% [3]. Presents the dynamics due to the reduction of this indicator in: Belgium, Bulgaria, Germany, Spain, France, Croatia, Lithuania, Hungary, Malta, the Netherlands, Poland, Romania, Slovenia, Slovakia, Finland. Along with this, in some sectors of the

transport sector in most countries of the European Union, the growth of passenger transportation: rail and sea transport. The decline is observed in the sphere of transportation of passengers by aircraft. So, the analysis shows mixed trends in the development of the transport sector of countries of the European Union. However, in the domestic transport sector there are more «deep» problems in the functioning in comparison with the countries of the European Union, which is associated with a significant decrease, in particular, increased passenger traffic.

It should be noted that the functioning of the transport sector influence the direction and the peculiarities of stakeholders and public institutions that ensure: the timely, full and qualitative satisfaction of needs of the population and social production in transportation and defense needs of Ukraine; protection of the rights of citizens during their transport service; safe operation of vehicles; observance of necessary rates and proportions of development of the national transport system; protection of economic interests of Ukraine and legal interests of enterprises and organizations of transport and users of transport services; creating equal conditions for development of economic activity of transport enterprises; limitation of monopolism and competition development; coordinating the work of various types of transport; licensing certain types of activities in the field of transport; the protection of the environment from the harmful effects of transport [4]. Implementation of the state policy is carried out through the prism: the conduct and implementation of economic (taxation, financial-credit, tariff, investment) and social policy, including the provision of subsidies for passenger transport [4].

Characterizing directions of interactions of stakeholders in the transport sector, it should be noted that the relationship of the enterprises of public transport with Central and local Executive authorities and local governments are based on taxes, tax incentives, established standards and other economic resources according to the current legislation of Ukraine [4].

The formation of interaction for the implementation and provision of transport services aimed at transporting passengers, cargoes, Luggage and mail, the provision of other transport services, operation and maintenance of railways, shipping companies, business entities in seaports, automotive, aviation, road enterprises and organizations, if it is provided by their charters [4]. In addition, the interaction between stakeholders in the transport sector is based on contracts, state orders and contracts for the transportation of passengers, cargoes, Luggage and mail taking into account the economic efficiency of carrying and processing capabilities of the transport.

Modern trends of interaction between stakeholders and state institutions is the reduction of its impact on the operation of transport enterprises. Transport enterprises, state-owned, are characterized by a low level of effectiveness and efficiency.

Thus, modern tendencies of functioning of Ukrainian and European enterprises of the transport sector require a rethinking of approaches to ensuring their development, one of the important directions of which is the increase of efficiency of interaction between stakeholders by applying stakeholdern-oriented management model.

Literature review.

The definition of stakeholders of enterprises of the transport sector

Development stakholders-oriented model of management enterprises of the transport sector requires the formation of a theoretical platform regarding the definition of stakeholders. It is based on existing theoretical provisions and scientific developments of the authors. In Particular, E. Freeman focuses on providing the management of the interaction between groups or individuals who affect or can affect the achievement of the goals for the operation of companies or organizations [5]. Extending the presented theoretical provisions of Clause Anselm, determines the direction of the management of stakeholders from a position of risk to people or groups arising from the operation of the company [6]. In the control system stakeholdersin relations deserves attention point T. Donaldson and L. Preston, which determine the level of effectiveness of interaction between stakeholders [7]. The importance of management interaction with stakeholders indicates George. Post which characterizes this process as a source of organizational wealth of companies [8]. Summarizing the existing theoretical provisions of K. Mamonov has defined the modern model to control the interaction of stakeholders:

Anglo-Saxon (Australia, New Zealand, USA, Canada, UK): formed directions and instruments of collaboration management stakeholders to meet the interests of shareholders and owners of companies with ensuring maximization of profits. Applying this model of management creates conditions for attracting investment resources, given the law and interaction with shareholders;

Sino-German (most countries in Western Europe, Japan): provides a balance of interest between groups of stakeholders based on definitions and their interests develops and implements the strategic direction of their cooperation on the principles of partnership [9]. Along with this, the introduction of these models have certain problems associated with the formation of information-analytical providing of management process interaction with stakeholders, with the fullness of pleasure and of balancing the interests of all stakeholders, the identification of factors that can be used to assess the level stakeholdersin relations.

Research and development scientists describe the theoretical principles form the theoretical framework defining stakeholders and managing their interaction. However, there remain unresolved issues of ensuring efficiency of interaction of stakeholders in transport enterprises on the basis of stakholders-oriented model management. In this context, deserves attention the definition of stakeholders of the transport companies as physical and (or) legal persons or groups of persons that interact in the transport sector on the basis of partnership relations, ensuring satisfaction of their interests to achieve the development of companies.

The types of stakeholders of enterprises of the transport sector

To develop stakeholdere management model of enterprises of the transport sector sistematizirovat the theoretical principles and sets out the types of stakeholders. In Particular, E. Freeman identifies the following stakeholders interacting with the company:

owners and shareholders;

customers, consumers of services;

supplying of inventory;

workers of the company;

state institutions at different levels;

social group [10].

John Newbold and George Luffman identify the types of stakeholders according to their functionalities:

interested persons providing investment processes and financing activities of the company (internal and external investors, owners, shareholders);

stakeholders, defining the contours and realize the management function of companies (top managers of different levels);

performers of certain functions, and provide for the interests of various stakeholder groups (workers);

stakeholders, ensuring the fulfillment of contractual and partnership relationships (suppliers commodity-material values, financial institutions);

 consumers of the results of operations of the company;

stakeholders implementing the social partnership with the company (charities, socially oriented organizations) [11].

A. Mendelow forms the types of stakeholders through satisfaction of their interests and provision of power, shaping the direction and determining the level of their impact on enterprises [12].

Defining types of stakeholders, the City of Mitchell, Would. Egle, D. woods emit signs of grouping: the level of power and influence on how businesses operate, opportunities to exercise managerial functions and requirements [13].

On the basis of generalization of the existing theoretical approaches and based on the provisions of the regulatory legal support (Law of Ukraine «On Transport») and the peculiarities of the functioning of the transport sphere, the types of stakeholders are determined:

 - enterprises and organizations of public transport (railway, sea, river, road and aviation, as well as urban electric transport, including the subway);

- enterprises and organizations of industrial railway transport;
- enterprises and organizations of departmental transport;
- enterprises and organizations of pipeline transport;
- enterprises and organizations providing public access routes;
- workers who ensure the functioning of enterprises and organizations of the transport sector;
- managers of different levels, who interact at enterprises and organizations of the transport sector;
- owners of transport enterprises;
- central state authorities;
- local state authorities;
- social security bodies;
- internal and external controlling bodies;
- NGOs;
- mass media (S_{t14});
- other enterprises and organizations involved in the transport sector (S_{t15}).

On the basis of certain types of stakeholders, a system of factors characterizing the interaction at the enterprises of the transport sphere is constructed (*Table 1*).

Table 1

The system of factors that characterize the level of interaction of types of stakeholders in transport enterprises

Factors	Designation of the factor
Level of engagement with:	
public transport enterprises and organizations	S_{t1}
enterprises and organizations of industrial railway transport	S_{t2}
enterprises and organizations of departmental transport	S_{t3}
enterprises and organizations of pipeline transport	S_{t4}
enterprises and organizations providing public access routes	S_{t5}
workers who ensure the functioning of enterprises and organizations of the transport sector	S_{t6}
managers of various levels who interact with enterprises and organizations in the transport sector	S_{t7}
owners of transport enterprises	S_{t8}
central government bodies	S_{t9}
local state authorities	S_{t10}
social security bodies	S_{t11}
internal and external control bodies	S_{t12}
public organizations	S_{t13}
mass media	S_{t14}
other enterprises and organizations involved in the transport sector	S_{t15}

The factors presented form a system of local indicators that determine the level of stakeholder relations of transport enterprises and the quantitative basis for the development of a stakeholder-oriented model for managing their development.

Development of a stakeholder-oriented model for management of transport companies
Development of a stakeholder-oriented model of transport enterprise management includes a set of interrelated stages:
1. Formation of information-analytical support of stakeholder-oriented management model.
2. Determination of quantitative basis for the development of a stakeholder-oriented model based on the application of the method of integrated assessment of the level of interaction between the stakeholders of transport enterprises.
3. Defining local strategies for the level of stakeholder relations of transport enterprises.

4. Development of a roadmap for the implementation of a stakeholder-oriented model of transport enterprise management.

5. Formation of scheme of implementation of stakeholder-oriented management model.

Research Method. In order to develop a stakeholder-oriented model of management of enterprises in the transport sector, taking into account certain directions, it is proposed to use local factors characterizing the level of interaction of types of stakeholders in the formation of information and analytical support. They are determined by the use of the peer review method, which is implemented using a combined approach, the essence of which is to use either a remote survey (providing answers based on telephone and internet) or directly interacting with experts (interviewing).

In this context, the selection of experts, which is carried out by:

1. Forming the total number of persons who claim to be an expert ($n_{is} = 25$).

2. Definition of criteria (k_{s_i}) by which experts are selected:

2.1. Profile education (k_{s_1}).

2.2. Experience in transport enterprises (k_{s_2}).

2.3. Experience as a top manager at transport enterprises (k_{s_3}).

2.4. Presence of a scientific degree and (or) scientific title (k_{s_4}).

2.5. Experience in participating in expert groups and conducting expert surveys (k_{s_5}).

2.6. Experience in participating in transport development programs (k_{s_6}).

2.7. Experience in developing directions for the development of transport enterprises (k_{s_7}).

2.8. Experience in managing stakeholder interaction across businesses (k_{s_8}).

3. Formation of a scale for the evaluation of expert selection criteria, the values of which range from 0 to 1.

4. Construction of expert quality assessment questionnaire on a defined scale and assessment of the average value of expert selection according to established criteria ($\overline{E_i}$).

5. Deciding on the selection of experts. If the average of the corresponding expert is equal to or greater than 0.5, then the decision is made to include him in the expert group. Otherwise, it shuts down.

The results of the selection of experts for the assessment of local factors characterizing the level of interaction of species of stakeholders (*Table 2*).

Table 2

Results of the selection of experts for the assessment of local factors characterizing the level of interaction of species of stakeholders, rel. units

Experts (E_i)	The average value of the criteria	Decision making
E_1; E_3; E_6; E_7; E_9; E_{12}; E_{13}; E_{16}; E_{17}; E_{18}; E_{20}; E_{23}; E_{24}; E_{25}	0,875; 0,5; 0,875; 0,5; 0,5; 0,5; 0,5; 0,5; 0,875; 0,5; 0,5; 0,5; 0,875; 0,5	included in the expert group
E_2; E_4; E_5; E_8; E_{10}; E_{11}; E_{14}; E_{15}; E_{19}; E_{21}; E_{22}	0,375; 0,25; 0,375; 0,25; 0,25; 0,375; 0,375; 0,375; 0,25; 0,25; 0,375	excluded

Thus, the selection of experts for the formation of a group of 14 people. Selected experts are numbered from 1 to 14.

The development of a method of integrated assessment of the level of interaction between transport business stakeholders includes the following steps:

- formation of a set of local factors that influence the integral indicator of the level of interaction of stakeholders in the transport sector (S_t):

$$\left\{ \begin{array}{c} S_{t1}, S_{t2}, S_{t3}, S_{t4}, S_{t5}, S_{t6}, S_{t7}, S_{t8}, \\ S_{t9}, S_{t10}, S_{t11}, S_{t12}, S_{t13}, S_{t14}, S_{t15} \end{array} \right\} \subset S_t; \qquad (1)$$

- development of a model of evaluation of the integrated indicator of the level of interaction of stakeholders of transport enterprises:

$$S_t = \sum_{i=0}^{n} k_{s_i} x S_{t_i} ; \qquad (2)$$

S_{t_i} — local factors of the level of interaction between stakeholders of transport enterprises, relative units;

k_{s_i} — weighting factors that determine the influence of local factors on the integral indicator of the level of interaction of stakeholders in transport enterprises, relative units;

n — number of local factors, relative units;

i — local factor number and weight factor, relative units.

Assessment of local factors of the level of interaction of stakeholders of transport enterprises is carried out in accordance with the proposed scale: 0 — no interaction; 1 — low level of interaction; 2 — insignificant; 3 — insignificant; 3.01—6.99 — moderate; 7 — significant; 8 — significant; 9 — high; 10 is absolute. A similar scale is also applied to the values of the integral indicator of the level of stakeholder interaction;

- estimation of weight coefficients, which is determined using the method of hierarchy analysis, which is realized by:

formation of experts to determine the mutual influence of local factors of the level of interaction between stakeholders of transport enterprises;

identifying local factors;

pairwise comparison of the level of influence between local factors on the T. Saati scale (*Table 3*);

Table 3

The scale of indicators of pairwise comparison of the level of influence between local factors according to the method of T. Saati

Value	Level of interaction between local factors of the level of interaction of stakeholders in transport enterprises
0,111	missing
0,143	minor
0,2	low
0,333	irrelevant
1	moderate
3	essential
5	high
7	considerable
9	absolute

Note: [14].

- development of a matrix characterizing the mutual influence of local factors:

$$
A_{S_t} = \begin{bmatrix}
1 & S_{t_1}/S_{t_2} & S_{t_1}/S_{t_3} & S_{t_1}/S_{t_4} & \cdots & S_{t_1}/S_{t_{15}} \\
S_{t_2}/S_{t_1} & 1 & S_{t_2}/S_{t_3} & S_{t_2}/S_{t_4} & \cdots & S_{t_2}/S_{t_{15}} \\
S_{t_3}/S_{t_1} & S_{t_3}/S_{t_2} & 1 & S_{t_3}/S_{t_4} & \cdots & S_{t_3}/S_{t_{15}} \\
S_{t_4}/S_{t_1} & S_{t_4}/S_{t_2} & S_{t_4}/S_{t_3} & 1 & \cdots & S_{t_4}/S_{t_{15}} \\
\cdots & \cdots & \cdots & \cdots & 1 & \cdots \\
S_{t_{15}}/S_{t_1} & S_{t_{15}}/S_{t_2} & S_{t_{15}}/S_{t_3} & S_{t_{15}}/S_{t_4} & \cdots & 1
\end{bmatrix}; \tag{3}
$$

- evaluation of the components of the eigenvector K_{S_i} of local factors of the level of interaction of stakeholders in transport enterprises (*Table 4*);

Table 4

Models of estimation of components of the eigenvector K_{S_i} of local factors of the level of interaction of stakeholders in transport enterprises (developed by the author)

Local factors	Evaluation model
S_{t1}	$K_{S_1} = \sqrt[15]{1 x \left(S_{t_1} \middle/ S_{t_2} \right) x \dots x \left(S_{t_1} \middle/ S_{t_{15}} \right)}.$
S_{t2}	$K_{S_2} = \sqrt[15]{\left(S_{t_2} \middle/ S_{t_1} \right) x \dots x \left(S_{t_2} \middle/ S_{t_{15}} \right)}.$
S_{t3}	$K_{S_3} = \sqrt[15]{\left(S_{t_3} \middle/ S_{t_1} \right) x \dots x \left(S_{t_3} \middle/ S_{t_{15}} \right)}.$
S_{t4}	$K_{S_4} = \sqrt[15]{\left(S_{t_4} \middle/ S_{t_1} \right) x \dots x \left(S_{t_3} \middle/ S_{t_{15}} \right)}.$
S_{t5}	$K_{S_5} = \sqrt[15]{\left(S_{t_5} \middle/ S_{t_1} \right) x \dots x \left(S_{t_5} \middle/ S_{t_{15}} \right)}.$
S_{t6}	$K_{S_6} = \sqrt[15]{\left(S_{t_6} \middle/ S_{t_1} \right) x \dots x \left(S_{t_6} \middle/ S_{t_{15}} \right)}.$
S_{t7}	$K_{S_7} = \sqrt[15]{\left(S_{t_7} \middle/ S_{t_1} \right) x \dots x \left(S_{t_7} \middle/ S_{t_{15}} \right)}.$
S_{t8}	$K_{S_8} = \sqrt[15]{\left(S_{t_8} \middle/ S_{t_1} \right) x \dots x \left(S_{t_8} \middle/ S_{t_{15}} \right)}.$
S_{t9}	$K_{S_9} = \sqrt[15]{\left(S_{t_9} \middle/ S_{t_1} \right) x \dots x \left(S_{t_9} \middle/ S_{t_{15}} \right)}.$
S_{t10}	$K_{S_{10}} = \sqrt[15]{\left(S_{t_{10}} \middle/ S_{t_1} \right) x \dots x \left(S_{t_{10}} \middle/ S_{t_{15}} \right)}.$
S_{t11}	$K_{S_{11}} = \sqrt[15]{\left(S_{t_{11}} \middle/ S_{t_1} \right) x \dots x \left(S_{t_{11}} \middle/ S_{t_{15}} \right)}.$

Table 4 (continued)

Local factors	Evaluation model
S_{t12}	$$K_{S_{12}} = \sqrt[15]{\left(S_{t_{12}}/S_{t_1}\right) x \ldots x \left(S_{t_{12}}/S_{t_{15}}\right)}.$$
S_{t13}	$$K_{S_{13}} = \sqrt[15]{\left(S_{t_{13}}/S_{t_1}\right) x \ldots x \left(S_{t_{13}}/S_{t_{15}}\right)}.$$
S_{t14}	$$K_{S_{14}} = \sqrt[15]{\left(S_{t_{14}}/S_{t_1}\right) x \ldots x \left(S_{t_{14}}/S_{t_{15}}\right)}.$$
S_{t15}	$$K_{S_{15}} = \sqrt[15]{\left(S_{t_{15}}/S_{t_1}\right) x \ldots x \left(S_{t_{15}}/S_{t_{14}}\right)} x1.$$

- estimation of weight coefficients that determine the influence of local factors on the integral indicator of the level of interaction of stakeholders of transport enterprises:

$$k_{S_i} = \frac{K_{S_i}}{\sum_{i=1}^{n} K_{S_i}};\qquad(4)$$

- determination of the integral indicator of the level of interaction between stakeholders of transport enterprises (*model 2*);
- interpretation of the results.

The directions for developing a roadmap for the implementation of a stakeholder-oriented model of managing transport companies include the results of evaluating the integrated indicator of the level of stakeholder interaction and the proposed local strategies.

Results and discussion. Applying the method of integral assessment of the level of interaction of stakeholders in transport companies, local factors have been identified to form a quantitative basis for the stakeholder-oriented management model (*Fig. 1*).
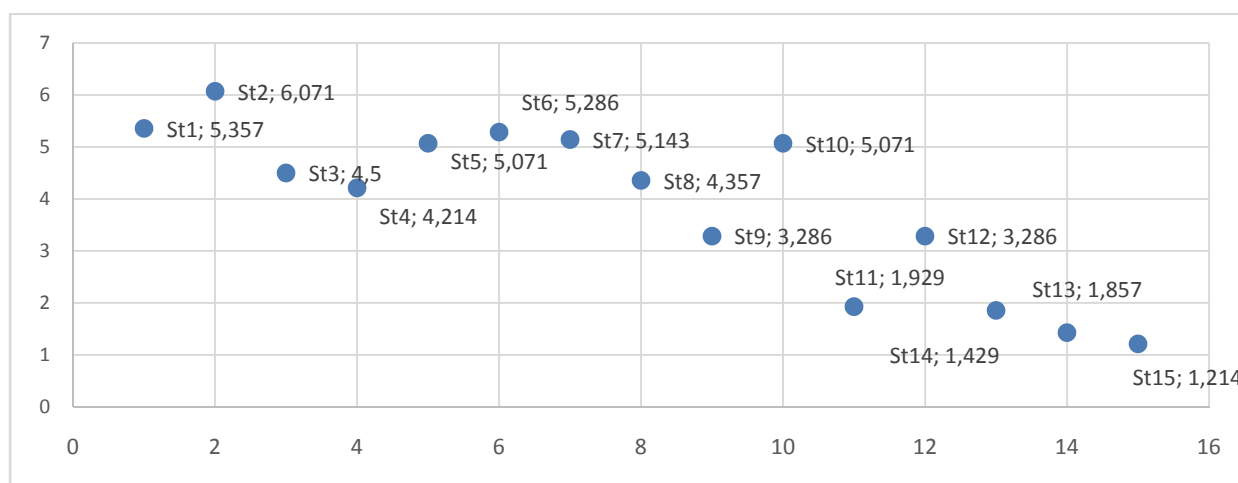

Fig. 1. **The stakeholder field of the level of interaction of stakeholders of transport enterprises, rel. units**

As a result of the assessment of local factors of the level of interaction of interested persons of transport enterprises, a moderate level of relations between: enterprises and organizations of public transport, industrial railway, pipeline, departmental transport, enterprises and organizations

providing public transport routes, workers and enterprises providing transport organizations, managers of different levels, owners, central and local governments their bodies, internal and external control uthorities.

This indicates that there are potential opportunities for the development of stakeholder relations in the transport sector with low efficiency of their activity, with a significant impact on this process of state institutions, external and internal control bodies, while ensuring relationships between workers, owners and managers of different levels. Other stakeholders (social security agencies, NGOs, mass media, other businesses and organizations), at low or low levels, interact in the transport sector. This indicates the absence or slow development of socially-oriented relationships at transport enterprises, their certain information closeness to society, and the low level of social responsibility.

As a result of applying the method of hierarchy analysis, the weight coefficients were estimated according to the ways of its realization in the study (*Table 5*).

Table 5

The results of the estimation of weight coefficients that determine the mutual influence of local factors of the level of interaction of stakeholders in transport enterprises, rel. units

Weighting factors	Value
k_{s_1}	0,117
k_{s_2}	0,164
k_{s_3}	0,066
k_{s_4}	0,069
k_{s_5}	0,123
k_{s_6}	0,116
k_{s_7}	0,116
k_{s_8}	0,07
k_{s_9}	0,023
$k_{s_{10}}$	0,111
$k_{s_{11}}$	0,005
$k_{s_{12}}$	0,008
$k_{s_{13}}$	0,004
$k_{s_{14}}$	0,004
$k_{s_{15}}$	0,003

As a result of the research the greatest influence and interaction in the transport sphere of enterprises and organizations of industrial railway transport, providing the ways of interconnection of the general use, the enterprises and organizations of the general use, the workers providing the functioning of the enterprises and the organizations of the transport sphere, the managers of different level, the workers providing the functioning of enterprises and organizations of the transport sphere by managers of different levels, local authorities.

Applying the estimation model (2), an integral indicator of the level of interaction of stakeholders of transport enterprises is determined:

$$S_t = 5,045.$$

The value of the integral indicator indicates a moderate level of interaction and development of stakeholder relations between the enterprises of the transport sphere. The interaction between individual groups of stakeholders is defined, but they are non-systemic in nature, some areas of their interaction are implemented, without providing partnerships. In addition, as already noted, in recent years, the efficiency of the functioning of transport enterprises has been diminishing, which is, inter alia, a consequence of slowing down the development of stakeholder relations.

Describing the level of interaction with stakeholders in the transport sector, in the stakeholder-oriented management system of these enterprises, local strategies are defined:

Crisis: determined by the conditions of escalation of crisis phenomena at transport enterprises, the main indicators of their functioning are reduced, the production and economic potential is diminished, internal and external factors, interrupted economic and international

relations between companies are adversely affected. In these circumstances, radical action is needed to counteract negative phenomena and create opportunities to move to a moderate local strategy. Anti-crisis local strategies correspond to the values of the integral indicator of the level of stakeholder relations from 0 to 3;

Moderate (stabilization): corresponds to the absence of directions of development of the transport industry, however, the basic indicators of their activity are either at the same level, or slightly decrease or grow. Enterprises are non-systemic relationship among stakeholders used production and business potential, identified opportunities to strengthen it. There is certain on-farm communication between transport companies, however, identified the problematic aspects of international development cooperation do not exist or are subject to different partnerships. Within a reasonable local strategy is underpinned by the stabilization of areas of activity of transport enterprises by increasing the level of interaction with stakeholders, identifies the potential opportunities for growth of key indicators and the transition to the local development strategy. Moderate local strategy corresponds to the values of the integral indicator of the level stakeholdersin relations from 3.01—6,99;

– development determines a permanent increase of indicators of activity of transport enterprises, to develop systematic relationships between the stakeholders, and strengthened on-farm and international relations between stakeholders, based on partnerships, increasing the level of production and economic potential. The local development strategy provides for further implementation of the system actions of growth efficiency stakeholdersa relations. Quantitative basis of the local development strategy is formed by the values of the integral indicator of the level stakeholdersin relations 7 to 10. Based on the developed quantitative framework and informed the local stakeholdersin strategies transport enterprises built road map for the implementation stakeholdern-oriented management model (*Fig. 2*).
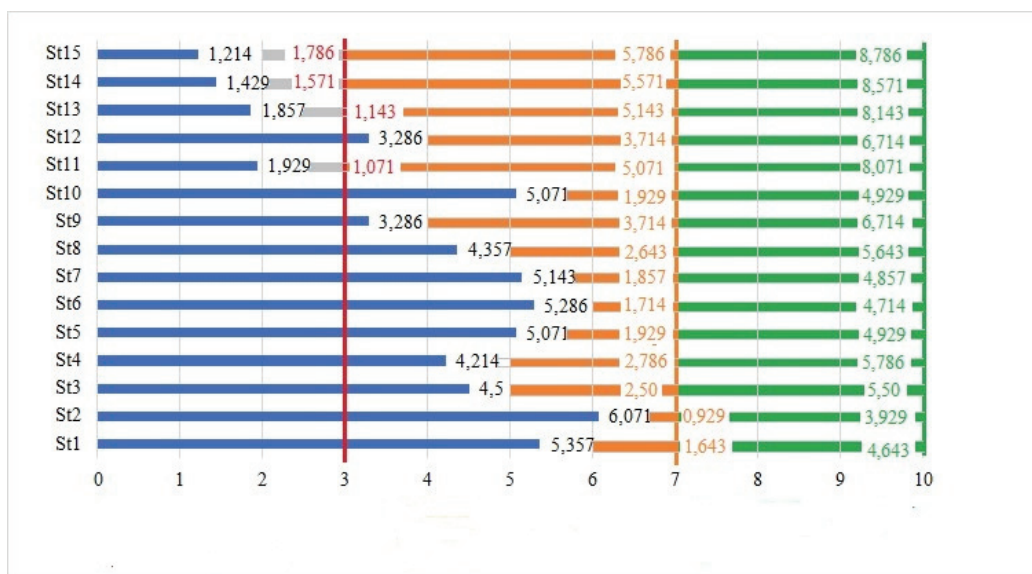

Fig. 2. **Roadmap for the implementation of a stakeholder-oriented model of management of transport enterprises, rel. units**

The developed roadmap for the implementation of a stakeholder-oriented model of management of transport enterprises indicates the need for application of:
local crisis stakeholder-oriented strategy for stakeholder engagement ($S_{t_{11}}, S_{t_{13}}, S_{t_{14}}, S_{t_{15}}$). To move from a local anti-crisis strategy to a local stakeholder-oriented stabilization strategy, it is necessary to ensure an increase in the level of interaction between stakeholders (from 1,071 to 1,786 units);

local stakeholder-oriented stabilization strategy for stakeholder engagement ($S_{t_1}, S_{t_2}, S_{t_3}, S_{t_4}, S_{t_5}, S_{t_6}, S_{t_7}, S_{t_8}, S_{t_9}, S_{t_{10}}, S_{t_{12}}$). Moving on to a local development strategy requires steps to be taken to increase stakeholder engagement (from 0.929 to 3.774 units) and, in the long run, to engage with stakeholders. ($S_{t_{11}}, S_{t_{13}}, S_{t_{14}}, S_{t_{15}}$) to ensure its growth (from 5,071 to 5,786 rel. units).

Formation of scheme implementation stakeholdern-oriented management model is based on the generalization of the results of the analysis of the level of interaction between the stakeholders of the enterprises of the transport sector (*Fig. 3*).
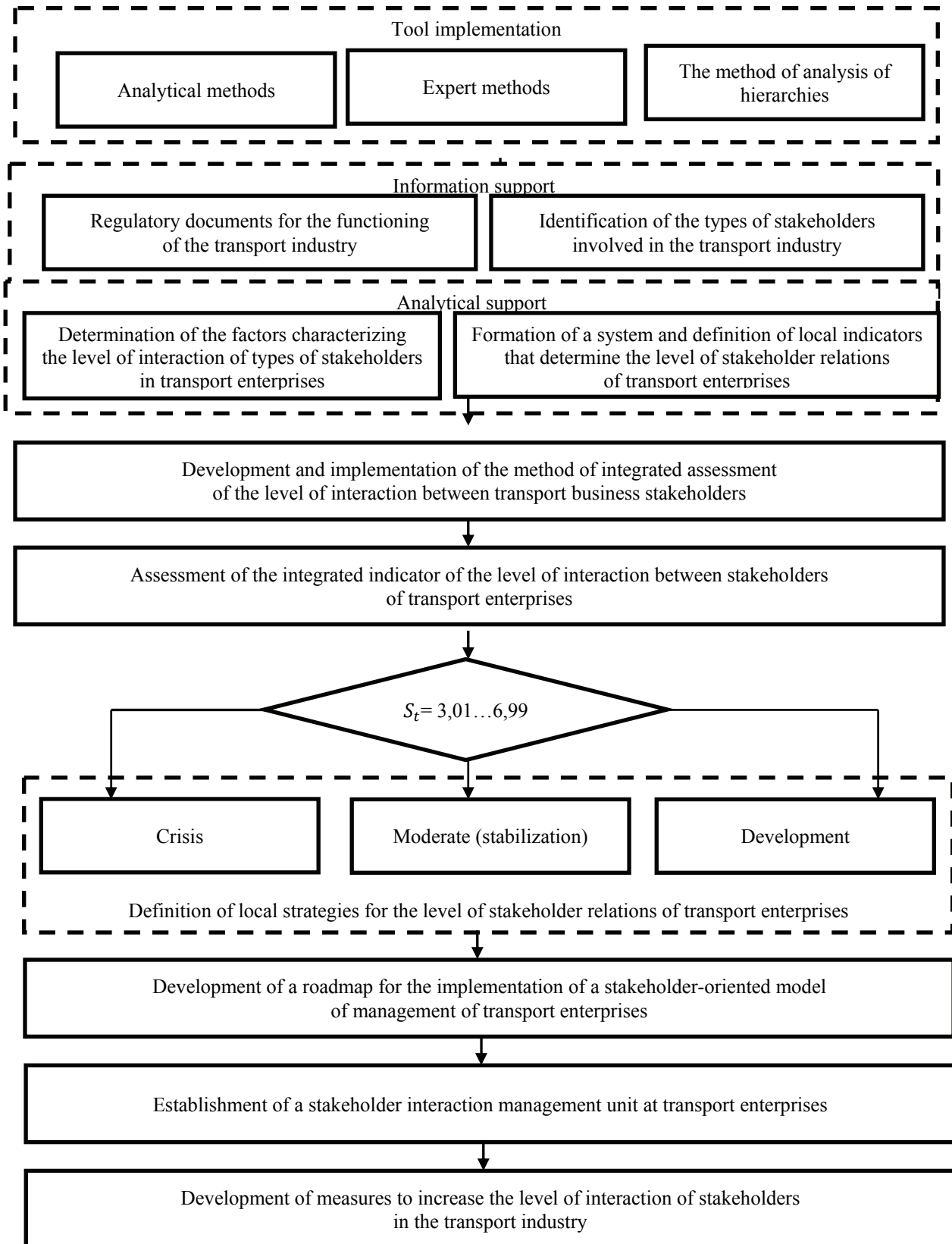
Fig. 3. **Scheme of implementation of a stakeholder-oriented model of management of transport enterprises**

According to the developed scheme certain levels which manage the interaction of stakeholders in transport enterprises: instrumental, informational, and analytical support for the development and implementation of the method of integral evaluation and determination of the generalized indicator of the level of interaction between stakeholders, the formation of strategic control circuits by application of local strategies and functional areas on the basis of the roadmap. Of particular importance is the creation of structural units to control the interaction with stakeholders in the enterprises of the transport sector through the transformation of the existing management system with the implementation of optimization procedures (without an increase in workers and due to the reduction of less efficient units).

The result of applying stakeholdern-oriented management model is the development of actions for increase of efficiency of interaction of stakeholders in transport sector: ensuring change the trajectory of interaction between central and local authorities, social security bodies, internal and external regulatory bodies, public organizations, mass-media, other businesses and organizations that interact in the transport sector; a further increase of efficiency of cooperation with enterprises and organizations of railway, industrial, institutional, pipeline transport enterprises and organizations, providing a means of communication for general use, the workers responsible for the operation of enterprises and organizations of the transport sector, managers of different levels, owners; permanent increase in traffic volumes; change of the direction and effectiveness of interaction with stakeholders to ensure the volume of passenger traffic; growth areas and efficiency of communications; reduction in the number of road accidents and casualties in them.

Conclusions. As a result of the research, a theoretical and methodological platform of a stakeholder-oriented model of management of transport enterprises was formed, which is based on theoretical provisions on the definition of stakeholders, directions of interaction of their types, information-analytical and instrumental support, and includes a road map of its implementation strategy. approach that enhances the effectiveness of stakeholder engagement.

In the stakeholder-oriented model of transport enterprise management, it is proposed to transform (optimize) the existing organizational system by creating a structural unit that ensures stakeholder interaction. It will allow to focus attention on organizational, economic, financial and other aspects of relations between stakeholders of transport enterprises to ensure their development and make informed management decisions on a quantitative basis (by the values of local factors and integral indicator) and the implementation of strategic contours (by strategic level relations).

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