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METHODICAL APPROACH TO DEFINE EXTERNAL ENVIRONMENT FRIENDLINESS LEVEL OF ENTERPRISE DEVELOPMENT

The methodical approach to determining the level of environmental friendliness to the development of machine-building enterprises is proposed, which takes into account the distribution of the environment to the general and innovation-investment. The expediency of using multivariate factor analysis for the partial system substantiation and generalizing indicators of profitability is proved. The results of the study are illustrated by the example of the machine-building enterprises in Kharkiv industrial region.

Keywords: enterprise management, development, innovation-investment environment, favorableness level, integral assessment.

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Problem statement in general form. The successful functioning and development of the national economy in the modern complex market space requires the revision of methodological approaches to the formation of the strategic management system at the machine-building enterprises as a leading branch of the national economy, and needs its adaptation to the peculiarities of conducting Ukrainian business. The directorship desire is not only to survive in the present, but also to gain sustainable advantages in the future, to increase the competitiveness of its enterprise and to solve a number of socio-economic problems, all these items demand to improve the approaches to the formation of appropriate and effective strategies for industrial enterprises development, taking into account the current conditions of their functioning. All these issues make the chosen topic of research relevant.

Recent research and publications analysis. The theoretical and practical foundations of strategic management and enterprise development strategies have been developed in some way in domestic and foreign scholars research, among which it is advisable to identify Ansof I. [1], Grant R.M. [2], Giannopoulos J. [3], Dolzhansky I.Z., Yagnuk I.M. [4], Ilyashenko S.M [5, p. 4.2], Manoylenko O.V. and Stokov Ye.M. [6], Mintzberg G. [7], Mosenkov O.V. [8], Rigby D.K. [9] Pererva P.G. [10-11], Ponomarenko V.C. [12], Raevneva O.V. [13], Tkacheva N.P. [5, p. 4.2], Thompson A.A, Strickland A.J. [14], Shmatko N.M. [15], Yastremskya O.M., Vereshchagina G.V. [16] and others.

In particular, enterprise strategic management problems and its development, outlined at the beginning of the XXI century [1; 7; 14], were developed and supplemented by modern scholars taking into account the current conditions of enterprise development.

Scientists sufficient attentions devoted to the study of the development process essence [12; 13], development concept clarifications of an economic and philosophical category, generalization and expansion of the development types classification [13; 16]. Many works devoted to the development of methodical tools for mechanism to strategic management formation of enterprise development using various scientific approaches: from the waves and cycles theory [8; 13], from the competent approach standpoint [6], from the resource-oriented approach standpoint [2; 11], on the basis of the design-matrix approach [15] etc. Due to the further development, it's important to take into account the issue of innovation activities management [5; 6; 10, p. 5; 16] and the formation of enterprise competitive advantages [10, p. 6; 12], as important components of its strategic development in innovation orientation terms. The research results on the tools development and strategic management methods of enterprise development are reflected in the contemporary authors writings [3-5; 9].

In particular, surveys results on the implementation and effectiveness of the latest strategic management tools among large, medium and small companies from different countries of the world [9] were investigated and the feasibility of introducing into Ukrainian management of the Balanced Scorecard (BSC) practice as a method for evaluating the enterprise management strategy was substantiated [3; 4] and the use of benchmarking (benchmarking) in the competitive advantages formation [5].

Despite the scientific contribution great value made by scientists, one can note insufficient research into the problems of the formation and adaptation of enterprise development strategies to the impact of rapidly changing environmental conditions. The need for in-depth study of the above-mentioned problem is also actualized and the need to determine and evaluate the environmental friendliness to the enterprise development, which will allow it to provide a greater degree of managerial decisions substantiation on cooperation with market actors and will provide an opportunity for timely response to external environment threats.

The study main purpose is to develop practical tools for determining the environmental friendliness level in relation to the industrial enterprises development in the machine-building industry.

Research results. During working with the modern machine-building enterprise development strategy, it is expedient to introduce into the practical activity of enterprises the strategy formation conceptual scheme [17, p. 84-86], which has the following stages: 1st Stage "Formation, justification and selection of the necessary and sufficient system in indicators reflecting the state of the enterprise development environment"; 2nd Stage – "Diagnostics and evaluation of current state in the machine-building enterprise functioning and development"; 3d Stage "Formation of the development strategies matrix"; 4th Stage "Formation of the enterprise strategic development" and 5th Stage "Strategic plan formation of measures for the selected strategies implementation". In our opinion, the most important task in environment analysis is to obtain sufficient information about the state and prospects of its development, the market needs and requirements, the enterprise goals and capabilities, the environment favorable environment for the enterprises development, special attention is desirable. 2nd Stage and its component – P .2.3 "Indicators calculation and evaluation are characterizing the environmental friendliness level for enterprise development".

Taking into account proposals [18, p. 77], the environmental friendliness analysis is proposed by the authors from the point of view of its distribution into the general and innovation-investment environment (direct and indirect influence). We note that in this case, the analysis general objects in the environment are the tendencies of social and political and economic development, which do not have the character of individual manifestations in relation to the enterprise. The external innovation and investment environment of indirect influence objects are the system of conditions and factors that are manifested at the regional level and reflect the innovation and investment attractiveness in the region, and the external innovation and investment environment of direct influence objects is the system of conditions and factors that characterize the enterprise the position of the active participant of the innovation and investment market.

The structural model for determining the overall level of environmental friendliness to the future machine-building enterprise development opportunities is proposed as an integral estimate of the overall index of $I3_{зовн_ср}$, taking into account the proposed distribution of the medium into components (1):

$$IC3_{зовн_ср} = \sum_{j=1}^n I3_j \times V33_j, \quad (1)$$

where $I3_j$ – is a partial integral indicator of the development favorability to the j component of the external environment (economy, innovation and investment environment of indirect and direct influence general state); $V33_j$ – coefficient of significance of the j partial integral index for the determined components of the external environment; their quantitative value should be determined using expert methods.

The favorability level in each component of the external environment can be estimated in directions by partial integral indexes ($I3_{макро.}$, $I3_{інв-ін_непр.}$, $I3_{інв-ін_пр.}$), using the additive convolution method as follows (2):

the development level of the economy general state, reflecting the current macroeconomic situation in the country – $I3_{макро.}$;

the favorableness level to the external innovation development and investment environment of indirect and direct influence, which allows the company to adapt to the threats and use the opportunities associated with changes in the external environment – $I3_{інв-ін_непр.}$, $I3_{інв-ін_пр.}$.

$$I3_j = \sum_{i=1}^n N3_{ij} \frac{Z_{ij}}{Ze_{ij}}, \quad (2)$$

where $I3_j$ – is a partial integral favorability indicator for the development of the j component in external environment (economy general state, innovation, investment environment of indirect and direct influence); $N3_{ij}$ – significance coefficient of the i partial index to the j component of the external environment, calculated as its normalized factor load; Z_{ij} – actual value of the i partial index in the j component of the environment; Ze_{ij} is the reference (desirable, expected and practically achievable) of the i partial indicator; j – external environment component; n – partial indices number of the j component of the external environment.

In order to obtain the information necessary for the information calculation, it is necessary to form a set of indicators that are the most informative, statistically interrelated and consistent. The solution of the task was done by the authors due to the multidimensional factor analysis using the STATISTICA 6.0 package. using the data of the general statistical reporting of Ukraine [19, 20, 21] and the financial statements of 18 machine-building enterprises of the Kharkiv region for 2009-2015. The results of calculations are presented in the table. 1. The formed indicators set is sufficient and necessary for carrying out further quantitative diagnostics and assessing the environmental friendliness level, since each received factor contains only quite significant indicators that are most significant and important in terms of the favorable impact on the selected machine-building enterprises development by the

components of the environment.

We note that when using the additive convolution method (2), the significance coefficients of the i partial index of each j component to the external environment (economy general state, the innovation-investment environment of indirect and direct influence) to assess the level of their favorableness, are proposed to be chosen as normalized factor load (Table 2), the values of which were obtained by the authors during multivariate factor analysis of the indicators of the level of favorable.

Table 1 – Indicators validated list for assessing the level of profitability external environment
(calculated on the basis of the conducted factor analysis)

№ of the factor	Signification index within the factor		Index interpretation within the factor
	Name of the index	Index code	
1	2	3	4
The set of indexes, which characterize the general situation of economic development in the country			
1	Gross domestic product (in actual price), billion UAH	X1	They Influence to the production and realization of the machine-building products, including the outlet widening, exaggeration of occupational level, and as a result social stability increasing, forming the image of a developed industrial state and a reliable partner in the international market in the country
	Investments in fixed assets (in actual prices), billion UAH	X2	
	Direct foreign investment in Ukraine, mln. USA	X3	
	Export, mln. USA	X7	
	Import, mln. USA	X8	
	Gross value added of industry in the total gross value added	X9	
2	Industrial producer price index, %	X5	Characterize the structural transformations in industry and the impact level on ensuring the updating of the production process
	Cost-effectiveness of enterprises operating activities, %	X11	
3	The growth rate of the real salary, %;	X6	Characterize the impact on the enterprises development in the sectoral competition level and the incentives level for the enterprises personnel
	Industrial production output in the total volume output	X10	
Indicators group which characterizes the favorableness level for the external innovation development and investment environment of indirect influence			
1	Expenses financing for carrying out scientific and scientific works according to financing sources	X13	Characterize the innovation level – Kharkiv region investment attractiveness in terms of financing scientific and scientific-and-technical works cost.
	The financing volume of innovative activity by domestic investors	X17	
	Industrial enterprises number which implemented innovations in the Kharkiv region	X20	
	Industrial enterprises number that introduced new technological processes	X21	
	The industrial enterprises number that introduced the innovative product types production in Kharkiv region	X22	From the point of view of the investment profitability level, the export-import orientation of new and innovative products, the investment risks and scientific potential level, technology competitiveness level and development level of information, patent-and-licensing of NDDKR on the regional market
	The realized innovative products volume beyond the borders of Ukraine	X23	
	The applications number for utility models in Kharkiv region	X25	
	The applications number for inventions in Kharkiv region	X26	
	The patents number for utility models in Kharkiv region	X27	
2	Number of performed scientific, scientific-and-technical works on the creation of new products in the Kharkiv region, total	X14	Characterize the development level influence of market infrastructure, namely the dependence of the machine-building enterprises development on their financing and lending
	The innovation activity financing volume in Kharkiv region through loans	X19	

Table 1 (Continued)

1	2	3	4	
3	The innovation activity financing volume in Kharkiv region from the state budget	X16	Financial support to the field of fundamental and strategic research by the state and foreign investors and the expansion of the science relationship with production	
	The innovation activity financing volume in Kharkiv region by foreign investors	X18		
	Enterprises number that have implemented innovative products outside Ukraine	X24		
Indicators group which characterize the favorableness level to the development of an external innovation-investment environment of direct influence				
1	Investments relative share of domestic investors in the total volume of expenses on innovations	X33	Characterize the dependence on the scientific and research works and innovations financing level by domestic and foreign investors on activity level of the enterprise and the attractiveness of its innovative - investment image.	
	Investments relative share of foreign investors in the expenses total amount for innovation	X34		
2	Relative share of the realized innovative products volume (works, services) which are the new ones only for the enterprise in the total volume of realized innovative products	X28		
	New product relative share which put on export in the total volume of new products	X31		
3	Relative share of sold innovative products volume that are new for the market in the total volume of realized innovative products	X29		The innovative- investment market direct influence on the development of the machine-building enterprise, depending on its awareness as the manufacturer of new and innovative products (works and services) and its activity and capabilities both in the domestic market and in the near and far abroad market.
	Relative share of sold innovative products volume, transferred from Ukraine to the total volume of realized innovative products	X35		
4	Relative share of sold innovative production volume, transferred to the countries of distant foreign countries	X30		

Table 2 – Partial indicators significance for the integral indicators calculation of components (distribution directions) of the environment (calculated on the basis of the conducted factor analysis)

Index	Significance coefficient
1	2
Indicators characterizing the general state of the country's economy development	
Gross domestic product (in actual prices), billion UAH.	0,109522
Investments in fixed assets (in actual prices), UAH billions.	0,104777
Direct foreign investment to Ukraine (at the end of the year), mln. USA	0,107752
Industrial producer price index, %	0,084725
Temp of real wage increase,%	0,092393
Export, mln USA	0,109318
Import, mln USA	0,107634
Gross added value of industry in the total gross added value	0,080136
Industrial production turnout in the total volume of issue	0,099653
Operating activities cost-effectiveness of industrial enterprises,%	0,10409
Indicators which characterize the favorableness level to the development of an external investment and innovation environment of indirect influence	
Expenses financing for performing scientific, scientific-and-technical works on sources of financing in Kharkiv region (ths. UAH).	0,080006

Table 2 (Continued)

1	2
Number of performed scientific, scientific-and-technical works on the creation of new products in Kharkiv region	0,079076
Financing volume of innovation activity in Kharkiv region from the state budget	0,065421
Financing volume of innovation activity in Kharkiv region by domestic investors	0,069345
Financing volume of innovation activity in Kharkiv region by foreign investors	0,064859
The financing volume of innovation activity in Kharkiv region through loans	0,069968
Number of industrial enterprises that implemented innovations in the Kharkiv region	0,067715
Number of industrial enterprises that introduced new technological processes in the Kharkiv region	0,080943
The number of industrial enterprises that introduced the production of innovative products types in the Kharkiv region	0,072096
The volume of sold innovative products beyond the borders of Ukraine in the Kharkiv region	0,072464
Number of enterprises that implemented innovative products outside Ukraine in the Kharkiv region	0,080103
The number of applications for utility models in the Kharkiv region	0,059936
The number of applications for inventions in the Kharkiv region	0,064732
The number of patents for utility models in the Kharkiv region	0,073335
Indicators which characterize the favorableness level to external investment and innovation environment of direct influence development	
Relative share of sold innovative products volume (works, services) which are new only for the enterprise in the total volume of sold innovative products	0,140834
Relative share of sold innovative products volume (works, services) that are new for the enterprise market in the total volume of the sold innovative products	0,148984
Relative share of sold innovative products volume, transferred to the foreign distant countries in the total volume of sold innovative products	0,135641
New products relative share which were put on export in the total volume of new products	0,142151
Domestic investors investments relative share in the total volume of expenses on innovations	0,145832
Relative share of investments of foreign investors in the total amount of expenses for innovation	0,15187
Relative share of sold innovative products volume, transferred from Ukraine to the total volume of realized innovative products	0,134687

Using the developed dependence (2) and taking into account the significance coefficients, the authors calculated the partial integral indicators of environmental friendliness level to the development of a selected machine-building enterprises set in the selected directions (components). The results of calculations are presented in Table 3-5.

Table 3 – Integral index ($I_{\text{макро}}^*$) of general situation country's economic (calculated on the basis of statistic acts [19-21])

Item	2009	2010	2011	2012	2013	2014	2015
$I_{\text{макро}}$	0,7206	0,7639	0,6303	0,7132	0,7930	0,8288	0,8013

* macroeconomic integral general index

Table 4 – Integral index ($I_{інв-ін_непр.}^{}$) of favorableness level to the development of an external innovation and investment environment of indirect influence**
(calculated on the basis of statistic acts [19-21])

Item	2009	2010	2011	2012	2013	2014	2015
$I_{інв-ін_непр.}$	0,6207	0,5621	0,5742	0,6736	0,7039	0,8062	0,7639

** integral general index of innovative investment in indirect influence

Received integrated assessment of the favorableness level in the first two directions (Table 3-4) shows the existence of certain conditions for the further machine-building enterprises development in the economy and in the innovation and investment sector in Kharkiv region, as there is a gradual growth and dynamics an increase in the integral indicators of the overall state in the country's economy and the external innovation and investment environment of indirect influence from 2009 to 2015, with a small crust tion of their values in 2010-2011 (due to the echo of the financial crisis in the world and in the country).

At the same time, according to the results of our research (Table 5), the low level of the integral indicator of the favorable external innovation investment environment of direct influence testifies to the very low innovation and investment activity of the machine-building enterprises of the Kharkiv region. Only 61.1% of enterprises from the totality of the analyzed have an innovative orientation of their activity and can be recognized in the innovation investment market as its active participants, which can attract the attention of domestic and foreign investors.

On the basis of the proposed model for determining the overall level of environmental friendliness to development (1), the authors calculated the integral index of $I_{зовн_сп.}$.

It should be noted that the importance of the proposed three components of the environment profitability: the economy general state, the innovation and investment environment of indirect and direct influence is not identical. Proceeding from this, we propose to determine the importance level of the components using expert methods.

The conducted survey of 18 experts – the heads of enterprises and financial managers of the studied machine-building enterprises testifies to the greatest influence on the indicator characterizing the general state of the country's economy development (coefficient of significance 0.3368), which embodies the influence peculiarities of macro factors: economic, political, social, legal environments that have a permanent impact on the company, shaping the conditions for its existence in the market place of the country.

But the other two components of the environment – the innovation and investment climate of the region (coefficient of significance 0,3289) and the activity level of enterprises as participants of the investment-innovation market (the coefficient of significance 0,3092) – are not important and influential.

The consistency of expert opinions during the survey is confirmed by the calculated concordance coefficient, the value of which is 0.897, which allows to assert about the randomness of the answers of selected experts, their significant consistency and the feasibility of use in further research.

The calculation results of the integral index in the environmental friendliness overall level in general, taking into account the significance coefficients of each environment component, obtained by expert survey, according to formula 1 is reflected in Table 6.

Analyzing the data obtained (Table 6), the following should be noted: the calculated integral indicators of the favorable development of the external environment for the analyzed period for all enterprises tend to decrease from 2009 to 2010 - 2011, due to the global financial crisis that has affected

the economy our country and led to the development of crisis phenomena both in the financial environment of Ukraine, as well as in the production, commodity, innovation and social environment.

Table 5 – Integral indicator ($I_{\text{інв-ін пр.}}^{*}$) of favorableness level to the development of external innovation and investment environment on direct influence**
(calculated on the basis of enterprises financial reporting data)

Company	2009	2010	2011	2012	2013	2014	2015
PAT "HMZ "Svitlo Shahtarya"	0,0191	0,0123	0,0203	0,1475	0,1723	0,1445	0,1443
PAT "HELZ "Ukrelectromash"	0,1276	0,0970	0,1120	0,1509	0,1441	0,2296	0
PAT "Electromashina"	0,1025	0,0983	0,1086	0,2356	0,2837	0,2818	0,2379
PAT "Kharkivskiyi verstatobudivnyi zavod"	0,1032	0,0939	0,0874	0,1408	0,1408	0,1408	0,1408
PrAT "Kharkivskiyi zavod shtampiv ta presform"	0,0398	0,0362	0,0525	0	0	0	0
PAT NVP "Teploavtomat"	0,0607	0,0155	0,0476	0,1490	0,0089	0,0272	0,0412
PAT "Zavod im. Frunze"	0,0553	0,0586	0,0821	0,1424	0,1566	0,3006	0,2847
PAT "Kupianskyyi mashinobudivnyi zavod"	0	0	0	0	0	0	0
VAT "Izjums'kyyi teplovozoremontnyi zavod"	0	0,0317	0	0	0	0	0
PAT "Kharkivskyyi electrotehnichnyi zavod "Transzviyazok"	0,0301	0,0181	0,0655	0,1921	0,4177	0	0
PAT "HTZ im. S. Ordjonikidze"	0,0558	0,0493	0,2506	0,3152	0,1977	0,2125	0,3000
VAT "Turboatom"	0,2620	0,3510	0,3440	0,4763	0,5825	0,5609	0,4937
PAT "Kharkivskyyi electroaparatnyi"	0,1384	0,0923	0,0935	0	0	0	0
PAT "Kharkivskyyi Pidshyprykovyyi zavod"	0,2068	0,0834	0,2027	0,3642	0,3951	0,4293	0,4130
PAT "Zavod Promzvyvazok"	0,0285	0,0380	0	0	0	0	0
PAT "Vovchanskyyi agregatnyi zavod"	0,0957	0,0006	0,1121	0,2837	0,2837	0,2837	0,2837
PAT "FED"	0	0,0025	0,0065	0,1408	0,1408	0,1408	0,1408
VAT "Merefianskyyi mechanichnyi zavod"	0,0018	0,0009	0,0006	0,1408	0	0	0,1408

*** integral general index of innovative investment in indirect influence

As you can see, from 2012 to 2014 there is an improvement and increasing in the integral indicator of developmental friendliness level, which indicates the emergence of certain prerequisites to overcome the crisis phenomena and unresolved contradictions in the external environment.

But, already from 2015, we see an opposite tendency – decreasing tendency of environmental friendliness level to industrial, including machine-building enterprises development, which testifies to

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positive trends instability in the Ukrainian economy, which is aggravated by negative influence from external factors in the country, a decrease in the confidence of foreign investors in the financial and banking sphere, a low level of development and stock market low transparency, macroeconomic instability tions, inefficient regulatory and tax system and lack of effective mechanisms to attract investment and investor protection).

Table 6 – Integral indicator ($I_{306H_cp}^{**}$) of the environmental friendliness overall level to future capabilities of the operation and machine-building enterprise development**

Company	2009	2010	2011	2012	2013	2014	2015
PAT "HMZ "Svitlo Shahtarya"	0,4707	0,4651	0,4232	0,5252	0,5717	0,6097	0,5858
PAT "HELZ "Ukrelectromash"	0,5043	0,4913	0,4515	0,5262	0,5630	0,6360	0,5411
PAT "Electromashina"	0,4965	0,4917	0,4505	0,5524	0,6061	0,6521	0,6147
PAT "Kharkivskiyi verstatobudivnyi zavod"	0,4968	0,4903	0,4439	0,5231	0,5620	0,6085	0,5847
PrAT "Kharkivskiyi zavod shtampiv ta presform"	0,4772	0,4725	0,4331	0,4796	0,5184	0,5650	0,5411
PAT NVP "Teploavtomat"	0,4836	0,4661	0,4316	0,5256	0,5212	0,5734	0,5539
PAT "Zavod im. Frunze"	0,4819	0,4794	0,4423	0,5236	0,5668	0,6579	0,6292
PAT "Kupianskyyi mashinobudivnyi zavod"	0,4648	0,4613	0,4169	0,4796	0,5184	0,5650	0,5411
VAT "Izjums'kiy teplovozoremontnyi"	0,4648	0,4711	0,4169	0,4796	0,5184	0,5650	0,5411
PAT "Kharkivskiyi elektrotehnichnyi zavod "Transzviyazok"	0,4742	0,4669	0,4371	0,5390	0,6476	0,5650	0,5411
PAT "HTZ im. S. Ordjonikidze"	0,4821	0,4765	0,4944	0,5770	0,5796	0,6307	0,6339
VAT "Turboatom"	0,5459	0,5698	0,5233	0,6269	0,6985	0,7384	0,6938
PAT "Kharkivskiyi electroaparatnyi"	0,5076	0,4898	0,4458	0,4796	0,5184	0,5650	0,5411
PAT "Kharkivskiyi Pidshyprnykoviyi zavod"	0,5288	0,4871	0,4796	0,5922	0,6406	0,6977	0,6688
PAT "Zavod Promzvyazok"	0,4737	0,4730	0,4169	0,4796	0,5184	0,5650	0,5411
PAT "Vovchanskyyi agregatnyi zavod"	0,4944	0,4615	0,4516	0,5673	0,6061	0,6527	0,6289
PAT "FED"	0,4648	0,4621	0,4189	0,5231	0,5620	0,6085	0,5847
VAT "Merefianskyyi mechanichnyi zavod"	0,4654	0,4616	0,4171	0,5231	0,5184	0,5650	0,5847

**** integral general index of external environment

It should also be noted that, despite the fact that a large-scale scientific complex has survived in Ukraine, it is capable to produce world-class results effectively, the scientific-technical and innovation sphere does not properly play the role of a source of economic growth.

There is a danger of national science reorientation to solve innovative development problems of other countries and transformation of Ukraine into an goods exporter goods and services with added value low level, including in the field of intellectual labor.

Conclusions. The methodical provisions to determine the environmental friendliness level to the machine-building enterprises development, the basis of which is the assessment of the general economic and innovation-investment environment impact of direct and indirect influence, can improve management decisions effectiveness on cooperation with market actors and the adaptation of the enterprise to changes in the external environment.

The practical implementation of the developed proposals for assessing environmental friendliness level to enterprises development suggests that with the help of the proposed complex of integral indicators with the allocation of its individual components, a more objective and effective analysis and assessment of the environment can be carried out, which in turn will facilitate a more complete picture of market infrastructure on the one hand, and, on the other hand, provide an adequate assessment and prediction of the environmental impact in choosing the appropriate strategy. scrolls, which should be focused on the use of and protection against threats associated with changes in the environment.

The authors further attributed **the further development** of the above-mentioned provisions to introduce a methodical approach to assessing the environmental friendliness level in the choosing strategies practice for the machine-building enterprises development, whose positioning in the matrix of strategies will be ensured by matching the values of calculated integral indicators: enterprise development level and favorable development level in the external environment.

1. Ансофф И. Новая корпоративная стратегия : монография / И. Ансофф. – Санкт-Петербург : Питерком, 1999. – 416 с.
2. Grant R.M. The Resource-Based Theory of Competitive Advantage : Implications for Strategy Formulation / R.M. Grant // California Management Review. – California : SQD, 2008. – Vol. 33-3. – P. 114-134.
3. Giannopoulos G. The Use of the Balanced Scorecard in Small Companies [Electronic resource] / G. Giannopoulos, A. Holt, Eh. Khansalar // International Journal of Business and Management. – Ottawa : Canadian Center of Science and Education, 2013. – Vol. 8. – Issue 14. – P. 1-22. – Access mode : <http://dx.doi.org/10.5539/ijbm.v8n14p1>.
4. Должанський І.З. Стратегія управління діяльністю підприємства на основі збалансованої системи показників : монографія / І.З. Должанський, І.М. Ягнюк. – Донецьк : СПД Купріянов В.С., 2012. – 213 с.
5. Проблеми і перспективи ринково-орієнтованого управління інноваційним розвитком : монографія / С.М. Ілляшенко, Н.П. Ткачова та ін. / за ред. д-ра екон. наук, проф. С.М. Ілляшенка. – Суми : ТОВ "Друкарський дім "Папірус". – 2011. – 644 с.
6. Манойленко О.В. Формування методичного підходу фінансової оцінки реалізації цілей інноваційної політики підприємства / О.В. Манойленко, Є.М. Строков // Вісник Національного технічного університету "ХПІ" : Технічний прогрес і ефективність виробництва. – Харків : НТУ "ХПІ". – 2013. – № 21 (994). – С. 135-145.
7. Минцберг Г. Школы стратегии : стратегическое сафари : экскурсия по дебрям стратегии менеджмента / Г. Минцберг, Б. Альстрэнд, Д. Лэмпел; пер. с англ. Д. Раевская, Л. Дарук. – Санкт-Петербург : Питер, 2002. – 300 с.
8. Мозенков О.В. Управління стратегічним розвитком підприємства: методологія, інструментарій, організація : монографія / О.В. Мозенков. – Харків : Видавництво "Одіссей". – 2008. – 288 с.
9. Rigby D.K. Management Tools 2013 [Electronic resource] / D.K. Rigby. – Boston : Bain & Company Inc, 2013. – Access mode : <http://www.bain.com/publications/articles/management-tools-2013-an-executives-guide.aspx>.
10. Товажнянський В.Л. Антикризисний механізм сталого розвитку підприємства : монографія / В.Л. Товажнянський, П.Г. Перерва, Л.Л. Товажнянський, І.В. Гладенко, Т.О. Кобелева, Н.П. Ткачова ; за ред. проф. П.Г. Перерви П.Г. та проф. Товажнянського Л.Л. – Харків : Віровець А.П. "Апостроф". – 2012 – 705 с.
11. Перерва П.Г. Визначення ефективності використання виробничого потенціалу машинобудівного підприємства / П.Г. Перерва, Н.М. Побережна // Маркетинг і менеджмент інновацій. – 2012. – № 2. – С. 191-198.
12. Пономаренко В.С. Стратегічне управління розвитком підприємства / В.С. Пономаренко, О.І. Пушкар, О.М. Тридід. – Харків : Вид. ХДЕУ. – 2002. – 640 с.
13. Раєвнева О.В. Управління розвитком підприємства: методологія, механізм, моделі : монографія. / О.В. Раєвнева. – Х. : ВД "ІНЖЕК". – 2006. – 496 с.
14. Томпсон А.А. Стратегический менеджмент. Искусство разработки и реализации стратегии / А.А. Томпсон, А.Дж. Стрикленд ; пер. с англ. под ред. Л.Г. Зайцева, М.И. Соколовой. – Москва : Банки и биржи, ЮНИТИ, 1998. – 576 с.
15. Шматько Н.М. Організація планування структурних змін у процесі розвитку промислового підприємства /

Розділ 1 Маркетинг інновацій

Н.М. Шматько // Збірник наукових праць ХНЕУ імені С. Кузнеця : Управління розвитком. – Харків : ХНЕУ імені С. Кузнеця. – 2016. – № 4. – С.138-143.

16. Ястремська О.М. Стратегічне управління інноваційним розвитком підприємства / О.М. Ястремська, Г.В. Верещагіна. – Харків : ВД "ІНЖЕК". – 2010. – 392 с.

17. Побережний Р.О. Алгоритмічна модель формування стратегічного профілю машинобудівного підприємства: практичний аспект / Р.О. Побережний // Бізнес Інформ. – Харків : ХНЕУ. – 2015. – № 3. – С. 83-92.

18. Побережний Р.О. Напрями аналізу зовнішнього середовища з позиції сприятливості до розвитку сучасного підприємства / Р.О. Побережний // Забезпечення стійкого економічного розвитку країни: можливості та перспективи : матеріали Міжнародної науково-практичної конференції (21–22 жовтня 2016 року). – Львів : ЛЄФ. – 2016. – С. 75-77.

19. Стратегія сталого розвитку "Україна-2020" : офіційний текст ухвалений Президентом України 12 січня 2015 року [Electronic resource] / М-во юстиції України. – Київ : Ін Юре, 2015. – Access mode : <http://zakon3.rada.gov.ua/laws/show/5/2015>.

20. Україна-2015 : статистичний збірник [Electronic resource] / відп. за вип. О.А. Вишневська. – Київ : Державна служба статистики. – 2016. – 27 с. – Access mode : https://ukrstat.org/uk/druk/publicat/kat_u/publ1_u.htm.

21. Україна в цифрах 2015 року : статистичний збірник [Electronic resource] / за ред. І.М. Жук ; відп. за вип. О.А. Вишневська. – Київ : Державна служба статистики. – 2016. – 239 с. – Access mode : https://ukrstat.org/uk/druk/publicat/kat_u/publ1_u.htm.

1. Ansoff, I. (1999). *Novaia korporativnaia stratehiia [The new corporate strategy]*. Saint Peterburg: Piterkom [in Russian].
2. Grant, R.M. (2008). The Resource-Based Theory of Competitive Advantage : Implications for Strategy Formulation. *California Management Review*. Vol. 33, No.3, 114-134.
3. Giannopoulos, G. (2013). The Use of the Balanced Scorecard in Small Companies. *International Journal of Business and Management*. Vol. 8, Issue 14. 1–22. dx.doi.org. Retrieved from <http://dx.doi.org/10.5539/ijbm.v8n14p1> [in Canadian].
4. Dolzhanskiy, I.Z., & Yahniuk, I.M. (2012). *Stratehiia upravlinnia diialnistiu pidpriemstva na osnovi zbalansovanoi systemy pokaznykiv [The strategy of management of company activity based on the balanced scorecard]*. Donetsk: SPD Kupriianov V.S. [in Ukrainian].
5. Iliashenko, S.M., Tkachova, N.P. et al. (2011). *Problemy i perspektivy rynkovo-oriyentovanoho upravlinnia innovatsiinym rozvytkom [Problems and prospects of market-oriented management of innovative development.]*. Sumy: TOV "Drukarskyi dim "Papyrus" [in Ukrainian].
6. Manoilenko, O.V., & Stokov, YE.M. (2013). Formuvannya metodychnoho pidkhodu finansovoi otsinky realizatsii tsilei innovatsiinoi polityky pidpriemstva [Formation of the methodical approach of the financial evaluation of realization of aims innovative enterprise policy]. *Visnyk Natsionalnoho tehnicnoho universitetu "Harkivskiy Politehnicnyi Instytut". Tehnicnyi prohres i efektyvnist vyrobnytstva – Bulletin NTU "Kharkov Polytechnic Institute". Technical progress and efficiency*, 21, 135-145 [in Ukrainian].
7. Mintzberg, H., Ahlstrand, B., Lampel, J. (2002). *Shkoly stratehii : stratehicheskoe safari : ekskursiia po debriam stratehii menedzhmenta [School of strategy: Strategy Safari: A Guided Tour Through The Wilds of Strategic Management]*. Saint Peterburg: Piter [in Russian].
8. Mozenkov, O.V. (2008). *Upravlinnia stratehichnym rozvytkom pidpriemstva: metodolohiia, instrumentarii, orhanizatsiia [Management of strategic development of the company: methodology, tools, organization]*. KH.: Vydavnytstvo «Odyssey» [in Ukrainian].
9. Rigby, D.K. (2013). *Management Tools 2013* Bain & Company Inc. bain.com. Retrieved from <http://www.bain.com/publications/articles/management-tools-2013-an-executives-guide.aspx>.
10. Tovazhnianskiy, V.L., Pererva, P.H., Tovazhnianskiy, L.L., Gladenko, I.V., Kobeleva, T.O., Tkachova, N.P. (2012). *Antykrizovyi mekhanizm staloho rozvytku pidpriemstva [Antirecessionary mechanism for sustainable development of enterprise]*. Kharkiv: Virovets A.P.: Apostrof [in Ukrainian].
11. Pererva, P.H., Poberezhna, N.M. (2012) Vyznachennia efektyvnosti vykorystannia vyrobnychoho potentsialu mashynobudivnoho pidpriemstva [Determining the effective usage of production potential engineering enterprise]. *Marketynh i menedzhment innovatsii – Marketing and Management of Innovation*, 2, 191-198 [in Ukrainian].
12. Ponomarenko, V.S., Pushkar, O.I., Trydid, O.M. (2002). *Stratehichne upravlinnia rozvytkom pidpriemstva [Strategic management of enterprise development]*. Kharkiv: Ed. HDEU [in Ukrainian].
13. Raievnova, O.V. (2006). *Upravlinnia rozvytkom pidpriemstva: metodolohiia, mekhanizm, modeli [Management of enterprise development: methodology, mechanism, model]*. Kharkiv: Publishing house «INZHEK» [in Ukrainian].
14. Thompson, A.A. (1998). *Stratehicheskyy menedzhment. Iskusstvo razrabotki i realizatsii stratehii [Strategic Management. Crafting & implementing strategy]*. Moscow: Banks and stock exchanges, UNITY [in Russian].
15. Shmatko, N.M. (2016). Orhanizatsiia planuvannia strukturnykh zmin u protsesi rozvytku promyslovoho pidpriemstva [Organization of the planning of structural changes in the process of industrial enterprise development]. *Zbirnyk naukovykh prats Kharkivskoho natsionalnoho ekonomichnoho universytetu imeni Semena Kuznetsia : Upravlinnia rozvytkom – Collection of scientific works of Kharkiv National University of Economics named after Seeman Kuznets: Development management*, 4, 138-143 [in Ukrainian].
16. Yastremska, O.M., Vereshchagina, H.V. (2010) *Stratehichne upravlinnia innovatsiinym rozvytkom pidpriemstva [Strategic*

О.П. Косенко, Р.О. Побережний, М.С. Пантелєєв, Н.М. Побережна. Методичний підхід щодо визначення рівня сприятливості зовнішнього середовища до розвитку підприємств

management of innovative enterprise development]. Kharkiv: Publishing house "INZHEK" [in Ukrainian].

17. Poberezhnyi, R.O. (2015). Alhorytmichna model formuvannia stratehichnoho profilu mashynobudivnoho pidpriemstva: praktychnyi aspekt [Algorithmic model of forming the strategic profile of machine-building company: Practical aspect]. *Business- Inform – Business-Inform*, 3, 83-92 [in Ukrainian].

18. Poberezhnyi, R.O. (2016). Napriamy analizu zovnishnoho seredovyscha z pozytsii spriyatlyvosti do rozvytku suchasnoho pidpriemstva [The directions of the analysis of the environment from a position favorableness to the development of the modern enterprise]. Proceedings from The sustainable economic development opportunities and prospects '16: *Mizhnarodnaia naukovopraktychnaia konferentsiia (21-22 zhovtnia 2016 roku) - International Scientific and Practical Conference*. (pp. 75 – 77). Lviv: LEF [in Ukrainian].

19. Ofitsiinyi tekst ukhvalenyi Prezydentom Ukrainy 12 sichnia 2015 roku Stratehiia staloho rozvytku «Ukraina – 2020» [The official text approved by the President of Ukraine January 12, 2015 Sustainable Development Strategy "Ukraine - 2020"] (2015, January). *zakon3.rada.gov.ua*. Retrieved from <http://zakon3.rada.gov.ua/laws/show/5/2015> [in Ukrainian].

20. Ukraina-2015: statystychnyi zbirnyk [Ukraine-2015 statistical compendium]. (2016). Kyiv: State Statistics Service. *ukrstat.org*. Retrieved from https://ukrstat.org/uk/druk/publicat/kat_u/publ1_u.htm [in Ukrainian].

21. Ukraina v tsyfrakh 2015 roku: statystychnyi zbirnyk [Ukraine in numbers 2015: Statistical compendium]. (2016). Kyiv: State Statistics Service. *ukrstat.org*. Retrieved from https://ukrstat.org/uk/druk/publicat/kat_u/publ1_u.htm [in Ukrainian].

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Методичний підхід щодо визначення рівня сприятливості зовнішнього середовища до розвитку підприємств

Запропоновано методичний підхід до визначення рівня сприятливості зовнішнього середовища до розвитку машинобудівних підприємств, який враховує розподіл середовища на загальне та інноваційно-інвестиційне. Доведено доцільність використання багатомірного факторного аналізу для обґрунтування системи часткових та узагальнюючого показників сприятливості. Результати дослідження проілюстровано на прикладі машинобудівних підприємств Харківського промислового регіону.

Ключові слова: управління підприємством, розвиток, інноваційно-інвестиційне середовище, рівень сприятливості, інтегральна оцінка.

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Методический подход к определению уровня благоприятности внешней среды к развитию предприятий

Предложен методический подход к определению уровня благоприятности внешней среды к развитию машиностроительных предприятий, который учитывает разделение внешней среды на общую и инновационно-инвестиционную. Определена целесообразность использования многомерного факторного анализа для обоснования системы частных и обобщающего интегральных показателей уровня благоприятности. Результаты исследования проиллюстрированы на примере машиностроительных предприятий Харьковского промышленного региона.

Ключевые слова: управление предприятием, развитие, инновационно-инвестиционная среда, уровень благоприятности, интегральная оценка.

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