

**COMPLEX APPROACH TO THE INNOVATIVE PRODUCT
PROSPECTIVITY FORECASTING OF A COMPANY-DEVELOPER'S
OF A UNIQUE NEW TECHNIQUE**

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The article considers the problem of providing prospects of unique new technique as innovative product that being developed for individual orders. A complex approach to prospectivity forecasting allows to combine rational assessment of competitive advantages and market positioning of the planned innovative product.

Introduction. Mission specificity of the companies, focusing on the technical novelty development in the frame of R&D projects realization is appropriately reflected in management. Reasonability assessment of the R&D possible directions, based on the innovative product (IP) market prospective is especially important from an aspect of justification of the company's strategic priorities of development. The most objective forecast of prospectivity of the IP would be obtained by means of integral assessment of all the competitive advantages as well as market and non-market restrictions that will play a role while promoting the IP on the market. Elaboration of the forecasts should be based on the product- and industry sector specifics. In particular, significant features of creation and introduction of the IP as the samples of unique new technique (UNT) in the market, in the form of the complex engineering-and-economical objects, to be developed for individual needs, should be taken into consideration.

The analysis of publications. By the early 21st century an idea that developing a sense for users' functionality and benefits, rather than mere product characteristics, the key to success of the developers has been formed [1].

Assessment of the balance between the requests of the customers and developers' capabilities is considered to be one of the most important tasks of modern management. Thus, as it was defined by Eversheim, the purpose of the "idea evaluation" or rating phase is the identification and evaluation of all product ideas that might be successful or look promising [2]. Herewith, the evaluation should be based not only on the market- and technology aspects, but also includes strategic conformity and the advantages for the company. This allows the allocation of all the data both in terms of time and content into the Innovation RoadMap as one of concepts of a process approach in management.

Concept of S-curves analysis (life-cycle of a technology) is widely applied method of prospectivity forecasting of the technology in the early stages of its development. Fleisher & Bensoussan remarks that this concept provides the analyst with a structured approach to decision making under the uncertainty conditions [3]. As they write, despite the fact that the analysis of S-curves may

not provide an absolutely accurate results, it is very valuable for the technological strategy development.

As Baek with co-authors points it out, valuation models thus far have assessed the value of technology from the perspective of the firm in possession of the technology, but such assessment is greatly influenced by the firm's technological capability, capitalization, brand, and human resources, because there is a need for a new way of appraisal [4]. On the basis of stated above, a few words concerning the remark stating that financial analysts and investors increasingly recognize IP as a key element in the value of a firm and as an indicator of its technological capabilities may be in order [5].

Previously Archibugi & Pianta noted that innovation can be analysed and measured. There are, at least, four different criteria, which can be used in both patenting and innovation surveys: technology (technical characteristics of the innovation), product, in which the innovation is likely to be embodied, sector of production (activity of the firm) sector of the users of the innovation [6].

On the basis of comprehensive survey of the sources Kamiyama with co-authors summarize that indeed many researchers do report that the use of patents has evolved in stages [5]. It started from a focus primarily on defensive applications, as the competitive obstacles, to exploitation as part of business and management strategy as well as exploitation as a financial asset to attract external sources of finance. In those authors' opinion, these stages are cumulative and each stage has a different implication for its valuation.

In particular, Fleisher & Bensoussan believe that transformation of patent data into competitive information allows company to identify a level of technological competitiveness, to predict technology trends and to plan potential competitive position based on new technologies [3]. Using this analysis the companies can then integrate this information for analysis of S-curves while developing its future technology strategy.

Martinez-Ruiz note that until now research involving patent data has been associated with the analysis of information contained in the patent document, such as backward and forward citations or number of claims, and the relationship between patents and R&D, innovation or economic growth [7].

WIPO analysts ascertain that in the process of intellectual property price valuation, the problem of a choice of the most appropriate evaluating method of the particular intellectual property asset, because, according to specialists in this field, more than 50 price valuation techniques are been developed and used today [8]. Analyzing the causes and solutions Greenhalgh & Rogers note that a large number of potential measures of innovation, as well as their complex and overlapping nature, has led to the development of methods for combining these into an innovation index [9]. As they write: "the major problem in constructing any such index is how to combine the measures, and one of the possible ways to solve this problem is to form a weighted sum according to the importance of each measure on some performance measure."

As it is stated by Rouse & Boff, central to the question of economic valuation is the fact that the nature, magnitude, and timing of returns from R&D investments are highly uncertain [10]. According to them, it is common to

discount the projected financial returns from R&D due to these high uncertainties, and the analysis has allowed them to conclude that this discounting is often severe, ranging from 20% to 50%. Kamiyama et al. display the results of the studies, conducted by Japan Institute of Invention and Innovation in 2003, according to which the valuation of present and future marketability of the products, which employ the subject patented technology, was seen as the most difficult issue (reported by 71% of respondents) followed by valuation of the contribution of the patented invention to products (67%) and choice of the best method for conducting the valuation (42%) [5].

In a number of recent studies a strong influence of managerial innovations over the technical ones has been underlined [2, 11, 12, 13, 14]. As it is stated by Volberda et al.: “Successful technological innovation heavily dependent on what has been called 'management innovation', which refers to changing a firm's organizational form, practices and processes in a way that is new to the firm and/or industry, and results in leveraging the firm's technological knowledge base and its performance in terms of innovation, productivity and competitiveness”[11]. They do support and develop the opinion that more active stimulation of management innovation and its leverage of technological innovation will be crucial to improve the competitiveness of the firms.

While agreeing that in order to capture the full benefits of technological innovation, needs to be combined with management innovation, Hollen et al. give a slightly different definition as “the generation and implementation of a management practice, process, structure, or technique that is new to the state of the art and is intended to further organizational goals” [12].

A role of managerial innovations in the implementation of technical innovations was noted previously also by Eversheim, who writes that the goal of the innovation organization is to establish structures that lead to an optimal innovation ability of the enterprise [2]. Besides that, based on this goal, influence factors like task positioning and information exchange as well as budgeting and resource assignment are the dimensions of the innovation organization.

Moreover, even earlier Hamel suggested that the management innovation is recognized as an important source of sustainable competitive advantage [13].

Hecker & Ganter underline that a relationship between product market competition and firms' inclination to introduce a management innovation is monotonically positive, such that firms' inclination to introduce management innovation increase in the intensity of competition [14].

Problem statement. An existing methodology of prospectivity forecasting of IP relies on specific behavior on the market of mass demand goods, as products of prolonged large-scale manufacturing. Despite the fact that such products can meet the basic criteria of innovation, the methods of financial and investment analysis are ineffective for complex high-tech products, produced in individual copies. As a result, currently, there are no analytical tools for anticipating the prospectivity of the UNT-IP; it negatively affects the most important component in the management of firms-developers of the UNT.

Due to the sectoral specifics of the UNT, the large specialized firms are involved in its development. In the domestic conditions they are, mainly,

sectoral design offices. Their management systems have not undergone the fundamental changes since the times of planned economy. This is particularly well seen in the organizational structures, which represent a multilevel hierarchy of linearly staff, linear-functional or combined type, the construction of which is based on the functional approach. Until the adjustment of the organizational principles at the level of methodology is not implemented, e.g. by introducing the provisions of adaptive or process approaches, in practice there is usually implemented the specific approach to aim for the isolation of functional tasks. This extremely complicates the solution of issues requiring interfunctional cooperation, in particular, the problems of system analysis and of complex forecasting of the UNT-IP prospectivity.

Thus, the absence of specialized management methodology of ensuring the prospectivity of the UNT-IP does not allow to effectively implement the development and subsequent control of objectively justified forecasts of the UNT-IP prospectivity at all the stages of the R&D project.

Formation of the task of research. The aim of the research is the formation of complex approach to solving tasks of forecasting of the UNT-IP prosperity, taking into account the peculiarities of domestic developers of UNT. First of all it is necessary to formulate the main provisions of the forecasting methodology for the UNT-IP. Then – to analyze the rational way of solving the problems of forecasting of the UNT-IP using the creative experience of modern management.

Materials research and scientific results. Firstly, we formulate the initial provisions of methodology for complex estimation of the UNT-IP prospectivity. We divide them into three elements, which define:

- organizational principles of forecasting of the UNT-IP prospectivity (organizational support);
- principles of elaboration of analytical tools (analytical support);
- principles of integrated task linking organizational and analytical elements (system integration).

The main provisions of the first unit are as follows. Forming of the R&D program as unite of the strategy of innovative development of a large company-developer of the UNT is carried out through the integrated multidisciplinary research. In the development of forecasts for each potential entrepreneur object UNT are involved the specialists in the field of forecasting and systems analysts, designers, marketing and patent examiners. In fact we are speaking about the formation of profile expert opinions, which must be merged into a single integrated conclusion. To implement this set of operations during the elaboration of the feasibility study the key managerial solutions in the most effective manner is possible by means of an organizational mechanism for complex expertise.

The analytical apparatus is constructed in accordance with the following provisions. The overall assessment of prospectivity of the UNT-IP includes two groups of indicators. The first determines the competitive quality of the sample of the UNT-IP and it is formed of the indicators, the value of which may be influenced by the developer control. The second one describes the opportunity to take a position on specific markets and includes indicators for which the

company cannot exert control action. As the project R&D progresses, when reaching an acceptable level of reliability of indicators, each group is desirable to be provided in the form of an integral index. As an integral indicator for the first group, it is advisable to choose an indicator of the competitiveness and for the second group – an indicator of market positioning of the UNT-IP.

The comprehensive linkage is based on the two main principles.

The first is the principle of achieving the reasonable reliability of the UNT-IP forecasts via system integration of key aspects of the management of the UNT-IP prospectivity, having a crucial impact on the result. The results, as the main purpose of management of the UNT-IP prospectivity, are integral indicators of competitiveness and market positioning of the CNT-IP, which determine the magnitude of the summary measure prospect.

The key aspects of management prospectivity include:

- quality of the initial data for the analysis;
- correctness of the analytical procedure for estimating prospectivity;
- efficiency of the communication procedures.

The second principle – is the principle of the coordinated formation of theoretical and organizational maintenance of reliability of forecasts. In accordance with this principle, the above-mentioned aspects in analytics are treated as local objectives of management prospects, which are measured using appropriate indicators, and ensuring practical implementation, they will be formulated as objectives with the ways of implementation in the form of specific organizational mechanisms.

Quality of the initial data is determined by the criteria of completeness and accuracy (verification) of information. An objective assessment of the degree of accuracy and completeness of the information about own IP and IP-competitors, as well as conditions of the IP promotion on the specific markets, is the essential condition to substantiate the choice of analytical tools of UNT-IP prospectivity forecasting. Organizational mechanisms of assurance of data quality are different for different types of management, based on functional or process approaches. In the first case, the company's data ware system, which operates most consistently if built within a single functional unit, is responsible for data quality. In the second – it is the complex of processes of information assurance, for which the functional boundaries do not become the obstacle.

The accordance of an essence of the processes under research to logical-analytical and/or mathematical models which describe them should be considered as the correctness of the UNT-IP prospectivity forecasting analytical procedures. The factors provided below have a particular importance:

- adoption of a system of key indicators;
- selection of the logical-analytical procedures and/or mathematical formulas to determine the key indicators;
- the achievable level of reliability of the results;
- adequate reflection of algorithm of adoption and adjustment of key indicators' values in the mathematical model.

Achievement of acceptable performance of implementation of information and expert procedures is ensured by a compliance of their analytical equipment

and tools to the principles of building of institutional mechanisms for their implementation. Their joint adoption in the theoretical provision must be justified by the criterion of the degree of tradability. Using indicators to measure this criterion, in particular, the degree of coordination of expert opinions and effectiveness of cooperation between the links of the expert chain, during the development of a comprehensive conclusion, the impossibility of realization of the progressive methodology by the regressive institutional mechanisms can be convincingly proven.

Please note that the use of the process approach may become one of the most rational ways to improve management for domestic UNT developers. On the one hand, this will allow avoiding sharp reorganization with its inherent problems. On another – it will significantly improve the coordination and cooperation between departments during the development of an analytical base for management decision-making.

In order to prove this assertion, we will compare two schemas describing the place of IP forecasting in overall management complex of the UNT company-developer in accordance with functional and process approaches. We shall be guided by the following provisions. Various factors, that may interact with each other in a complicated scheme can influence on IP prospectivity. Therefore, evaluation of influence of each factor separately as well as of results of their interaction should be implemented in the process of forecasting. As mentioned above, it is necessary to compare the data of technical-innovation and marketing nature. That is, the procedure of a complex expertize should join the conclusions of engineers, patent experts and marketing specialists. Such a comprehensive analysis requires special skills and qualification, which systems analysts as well as experts in the field of strategic planning and forecasting possess foremost.

The first diagram (Fig. 1) shows two options of impact of introduction of the corresponding task according to the functional approach on the traditional organizational structure. In the simplest variant, the department or the departments of a system analysis, strategic planning and forecasting can be quite logically moved into any of the three basic functional blocks of the UNT company-developer. The difference in the tasks and powers, determined by the functional specificity of each department, is reflected by the various dotted lines indicating potential input place for the corresponding department. The creation of a separate specialized functional unit, which is shown by chain-dotted lines, plays a role of the alternative. This option will cause much more questions on redistribution of powers, although it can eventually give the best effect due to highlighting the role of allocated tasks. Communication connection arrows show that the analysis results, been received from the head project department, patent department and the department of marketing are centrally coordinated by the new specialized department within the frame of a separate function with the appropriate authorities.

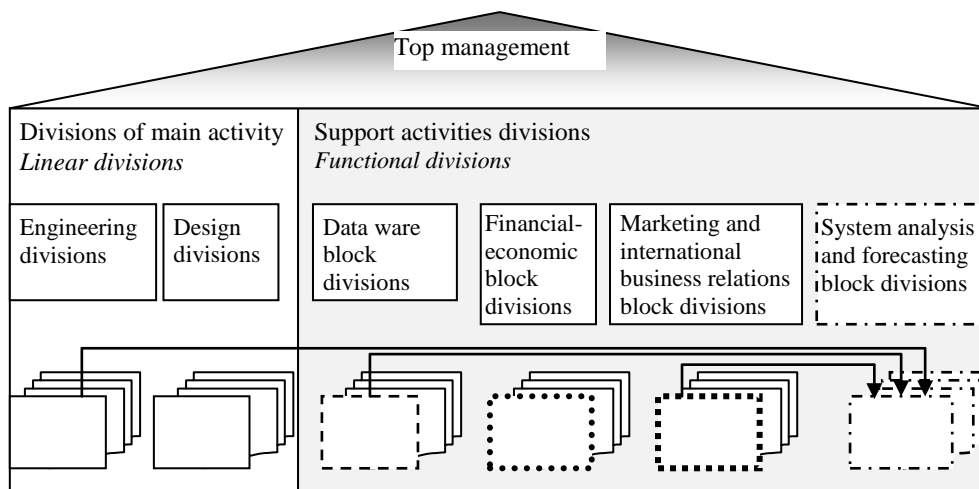


Fig. 1. Introduction of a functional task of forecasting the UNT-IP prospectivity into the traditional organizational structure.

However, none of these options does not allow overcome the weak inter-functional interaction, characteristic of the traditional management of large domestic developers of the UNT. The problem is that in the framework of the functional approach to regulate in details the procedures which establish the procedure for providing the data needed to perform a comprehensive examination of the prospectivity of the UNT-IP is available only for the project R&D execution stage. For the stage of pre-design analysis of expediency of creation of samples of the UNT, it is extremely difficult to define, and even more unify in the form of regulations, the nature and volume of necessary data in relation to the terms of their provision. As a result the specificity of traditional management, built on the functional approach, is manifested in the rejection of uncertain regulations in the functional interaction, such as complex expertise of the prospectivity of the UNT-IP. In the absence of the approved regulations not any instructions of superior leaders will help to organize the effective systematic exchange of data between locations.

Last circumstance is simultaneously one of the aspects of the problem of information support forecasting of the prospectivity of the UNT-IP, which negatively affects the quality of the forecast. This set of issues should be considered in a separate study.

The second diagram (Fig. 2) illustrates the transformation of forecasting IP from some unitary functional tasks into the process of linking to perform multiple functions. Cooperation scheme of specialists of different profile, unconventional for a functional approach, implemented through their association in the framework of innovative managerial mechanism, not formally recorded in the organizational structure. The process of a comprehensive examination built as a continuous sequence of specialized expertise. The results of each of them become the input for the subsequent and simultaneously are the initial data for the integration analysis.

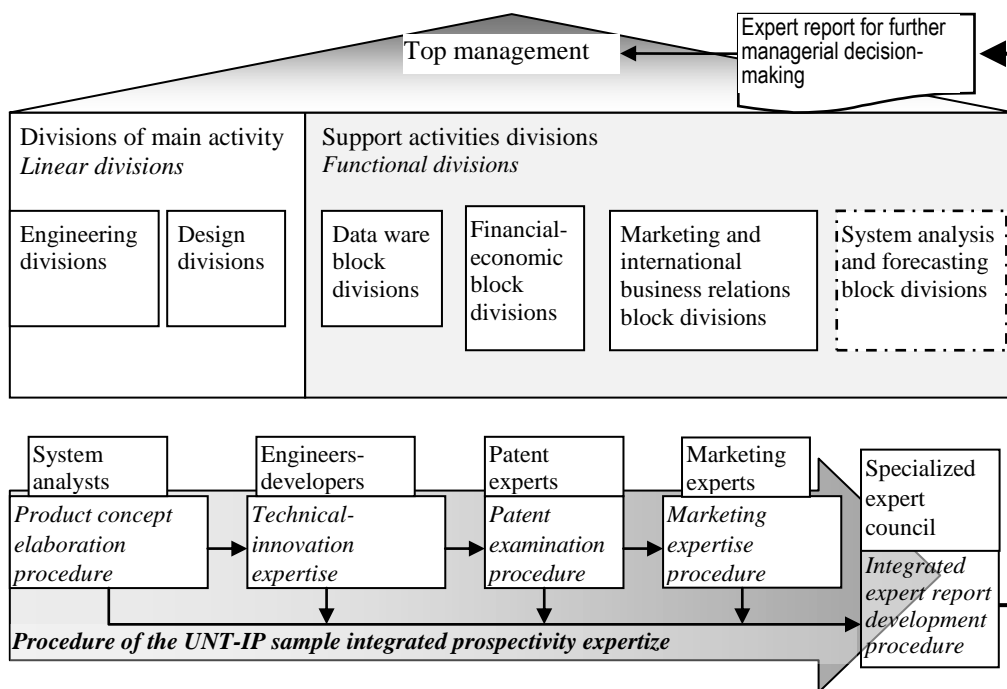


Fig. 2. Realization of a process approach in solving the problem of UNT-IP prospectivity forecasting.

Here, the opinions whether the procedure of development of a final expert report is the part of the comprehensive examination and what expert body or unit will be adequate can become the topic of the discussion. The most expedient way is to formalize the selected option, like the whole regulation of the process of comprehensive examination in a temporary position with the validity no more than one year. Not later than one year should be assessed efficiency of the considered managerial innovations and the named organizing document must be revised.

Another direction of perfection of expert opinions elaboration is connected with the fact that to increase the objectivity of decision-making at the earliest stages of development, especially before the development stage, is possible by balanced integration in the analytics of qualitative and quantitative assessments. Therefore, when determining the forecast of the prospectivity of the UNT-IP, one of the most efficient ways is to use point-factor. In its framework we formulate as follows the basic principle of ensuring the correctness of predictions of perspective of samples of the UNT-IP. Forecasting of perspective sample UNT as an entrepreneur must submit an analytical process of consistent comparison as accurate as possible and collected in the maximum possible amount of data that will enable us to relate the characteristics of external and internal environment of a firm-developer. Composition factors for comparison are presented in table 1.

Table 1

The composition of the factors for UNT-IP market perspectivity forecasting

№ of item	Information about the external environment (defines the UNT-IP market positioning)	Information about the competences and capabilities of the company (defines the competitiveness of the UNT-IP sample)
1.	Anticipated future needs and preferences of customers in a specific market segment	Available scientific and technical reserve of the company-developer, able to serve as a base for achieving the technical specifications, ensuring the satisfaction of perspective inquiries of consumers, or creation of an unique customer value
2.	Forecast of future demand for substitute products on the market	The company's capability to meet the projected demand for IP on the scale required (conformity of production capabilities to the market needs)
3.	Presence or possibility of formation of technological package that can be integrated with the UNT-IP sample	Possibility of interfacing of the UNT-IP sample with other technologies that are customary in the industry at minimum cost
4.	Expected price for the products analogues on the market	Technical, technological and financial-economic possibilities to ensure competitive price of the IP while achieving acceptable profitability of work of firm in this market
5.	Competitive strategies of developers and manufacturers of products analogues	Technical, financial-economic, marketing and organizational capability of the company to counteract competitors
6.	Consumer characteristics of the products analogues available in the market, technical solutions to ensure achievement of the required characteristics	Technical, technological and financial-economic resources necessary to exceed the level of products analogues on the basic consumer characteristics (technical and price). Availability of these resources at the company and possibility of their involvement
7.	The legal field in the market	Patentability of perspective samples of UNT, the ability of a firm to overcome the existing legislative restrictions
8.	Trends of scientific and technological development, as reflected in the development of the markets of high technologies in general and trends in the development of this type of technical systems	The adequacy of the key competencies of the firm and its innovation potential for following the revealed tendencies
9.	Life cycle stage of the technical system	The possibility of upgrading the traditional technical system, or the need

	to develop a new one
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For the preliminary estimation of perspectivity of the UNT-IP we propose to use the index, which is calculated as the ratio of the qualities of a real IP to the ideal, i.e. having maximal characteristics. The formula for its calculation is the following:

$$I_{UNT} = \frac{\sum_{i=1}^n F_i B_i}{\sum_{i=1}^n F_i \max B_i} \quad (1)$$

where: I_{unt} - perspectivity index of UNT sample as the IP;

F_i - assessment of a value of the factor;

B_i - weight ratio, reflecting the influence of the factor on the value of the integral index;

$F_i \max$ - the ideal factor value.

All the values are determined using the expert-analytical method. Conformity assessment of the capabilities of the company to the environmental conditions for each F_i factor is expedient to carry out using the score on a scale from 0 to 1 with the following gradation:

0 - 0.25 - unacceptable;

0.25 - 0.5 - low;

0.5 - 0.75 - satisfactory;

0.75 - 1 - good.

Considering that under such a gradation the values of the ideal factors $F_i \max=1$, formula (1) can be rewritten as:

$$I_{UNT} = \frac{\sum_{i=1}^n F_i B_i}{\sum_{i=1}^n B_i} \quad (2)$$

Weighting coefficients, considering the degree of influence of each factor, may be determined by ranking factors according to their importance, for the following reasons.

Market demand potential has a key influence on the UNT-IP forecasted perspectivity value. It characterizes the possibility of attracting the external resources, especially the investment, which can compensate the lack of the relevant resources of the company. The weighting coefficient for market demand factor, integrating the assessment of future demand, is accepted as the highest (equal to 1).

The factor of availability of the technology package relevant to UNT-IP, is the second most important, because, as evidenced by the history of technology development, if the proposed UNT-IP does not meet the level of available technology, its widespread use becomes problematic. Weighting coefficients for this factor may be adopted at the level of 0.9.

The next important factor is the price accordance of the products, presented on the market and IP put on the market, while ensuring profitability in this market, because in case of the long-term losses from the sales the UNT-IP exit on the market does not make sense. However, there is a possible way to

enter a market, which stipulates, in the frame of the marketing strategy, obtaining damages during the first stage with the subsequent output to profits by increasing sales. Profitability in this market may change because of a number of other factors, often unpredictable. Based on these considerations, the weighting coefficient for this factor may be taken at the level of 0.8.

Consumer characteristics of the analogue products and competitive strategies of the companies-competitors, as well as the possibilities of the company-developer of the UNT-IP to engage a better competitive position should be considered in conjunction. It is necessary to consider both the importance of the competitive advantage factor, but also the fact that due to the constant changes in the competitive environment on the market it is hardly forecasted. So, we offer to take the weight of these factors on the level of 0.7.

Factors of a legal nature in the form of the results of the application of legal norms, for example, patents, covering the possibilities for market sale of UNT-IP, or legal restrictions, for example, preferences to domestic producers may serve as an insurmountable barriers for entering the market at a specified time and a specified country. However, these factors have limitations in time and space, but in some cases can be overcome, for example by way of appeal of the patent in the court, etc. So, the weight coefficient for these factors can be adopted at the level of 0.6.

Factors of the life cycle stages of the technical system and its development trends are also interrelated. For example, if the technical system is at the final stage of its development, its life will be short, so we cannot expect long-term market success of this technical system as IP. However, if the lifecycle of a technical system is prolonged, then the company can be completely satisfied with the period of existence of the UNT-IP on the market. The possibility of the company to follow the trends of development of the technical system is a factor that can be controlled using the attraction of resources from external sources, such as recruiting scientists from research institutions under the temporary employment contracts. These considerations allow to put the factors of technological trends on the last place in order of importance for UNT-IP prospectivity forecasting. The weighting factor for them should be adopted at the level of 0.5.

There are different ways of measuring the marketability of the UNT-IP at the early stages of development, based on application of methods for assessing patents protecting the priority of new technical solutions used in the sample of the UNT. We emphasize that the methods based on a comparative procedures for the UNT, as a rule, are not applicable because of lack of the market peers or reliable information about such. Statistical methods to estimate rather innovative potential of the company than the prospects for specific IP. Therefore, in the case of UNT, it is the most rational to put the updating of the existing forecast using the estimates based on mapping qualities of innovations in the formula of the invention. To pair with the above-mentioned methodology, this assessment can be done in the form of a dimensionless index in the range from 0 to 1. Such novelty's factor weighting coefficient value will differ depending on the assessment purposes. They will be significantly higher

for the purposes of internal management, than for solution of external financial and investment tasks.

For our strategic planning it is necessary to move from the point assessment of marketability of the UNT-IP to the forecast of the revenue from sales. For initial evaluation of the pre-development stage, we offer to use the approach based on singling out a possible share of the total volume of the market segment, which will display the IP. The value of the market share can be obtained as the product of the index of the prospectivity of the size of financial receipts from sales.

As an application of an integrated approach to assessment of prospects of the UNT-IP in the aspect of ensuring their competitiveness, we propose to use the method of managing competitive advantages of created samples of UNT. Its main task is to obtain the most objective and reliable estimates of the competitiveness of the anticipated results of the project R&D, as a combination of innovation and intellectual products, and justification of control impacts situational adjustment process of the development of the UNT. They may be solved by implementing end-to-end forecasting of competitiveness of the UNT-IP in the process of development in which the indicators of the intellectual product are integrated into the indicators of the innovation and are treated as a single complex.

The three-level scheme for determining the competitiveness of a sample of IP as a comprehensive IP is applied:

The 1-st level, as the pre-development scenario in the form of a preliminary expert opinion on market positioning and competitiveness of the UNT-IP in the qualitative terms.

The 2-nd level, as advanced forecast on set design characteristics as a group of indicators that provide a quantitative assessment of the competitiveness of the UNT-IP.

The 3-rd level, as elaborated to assess the competitive advantages and market positioning of the UNT-IP based on the project results of R&D with the definition of the integral index of the prospectivity of the UNT-IP.

The result of applying the proposed method of the end-to-end layered forecasting of competitiveness of the UNT in the process of development, taking into account the integration of indicators of intellectual product in the indicators of total IP, will be the increase of the objectivity of the system forecasts as the project progresses R&D.

The marketing component of a comprehensive approach to assessment of prospects of the UNT-IP has different multi-dimensional character and ambiguity. Its analysis is very actual for further research. In this paper we will restrict ourselves to the following preliminary observations.

In justification the choice of strategy of IP promotion to the market, it is expedient to have an analytical tool in assessing the effectiveness of all possible strategies. However, we need to remember that the specifics of the developers of the UNT is using their unique key competences in the form of intellectual potential and highly specialized material resources. This reduces the possibility of market maneuver, in particular, makes irrational use of a diversification

strategy as the basis of a growth strategy. Moreover, as we can see on the example of the problems of forecasting of IE, the creative approach to increase the management efficiency of the IP company-developer, should be considered not only as an organizational innovation, but as a source of creation key competences in the field of management. Perfection of company management is often considered among the factors increasing its investment attractiveness.

Conclusions. The actual problem is to overcome the isolation of functional tasks in traditional organizational structures of domestic developers of the UNT-IP, in solution of issues requiring inter-functional cooperation, in particular, problems of system analysis and complex forecasting of the prospectivity of the UNT-IP.

The complex approach to forecasting the prospectivity of the UNT-IP has been proposed; it allows to reach rational combining the assessment of the competitive advantages and market positioning of the potential entrepreneur at the early stages of development.

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Аннотация

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КОМПЛЕКСНЫЙ ПОДХОД К ПРОГНОЗИРОВАНИЮ ПЕРСПЕКТИВНОСТИ ИННОВАЦИОННОГО ПРОДУКТА ФИРМЫ-РАЗРАБОТЧИКА УНИКАЛЬНОЙ НОВОЙ ТЕХНИКИ

В статье рассмотрены проблемы обеспечения рыночной перспективности уникальной новой техники как инновационного продукта, который разрабатывают по индивидуальным заказам. Предлагается комплексный подход к прогнозированию перспективности, который позволяет рационально объединить оценку конкурентных преимуществ и рыночного позиционирования потенциального инновационного продукта.

Анотація

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КОМПЛЕКСНИЙ ПІДХІД ДО ПРОГНОЗУВАННЯ ПЕРСПЕКТИВНОСТІ ІННОВАЦІЙНОГО ПРОДУКТУ ФІРМИ-РОЗРОБНИКА УНІКАЛЬНОЇ НОВОЇ ТЕХНІКИ

У статті розглянуті проблеми забезпечення ринкової перспективності унікальної нової техніки як інноваційного продукту, що розробляють за індивідуальними замовленнями. Пропонується комплексний підхід до прогнозування перспективності, який дозволяє раціонально об'єднати оцінку конкурентних переваг та ринкового позиціонування потенційного інноваційного продукту.