

portals and platforms, development of public-private partnership during the creation of LMIS.

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**ADAPTIVE APPROACH TO FORMATION AN
INNOVATIVE STRATEGY OF THE FIRM-
DEVELOPER UNIQUE NEW TECHNIQUE**

**АДАПТИВНЫЙ ПОДХОД К ФОРМИРОВАНИЮ
ИННОВАЦИОННОЙ СТРАТЕГИИ ФИРМЫ-
РАЗРАБОТЧИКА УНИКАЛЬНОЙ НОВОЙ
ТЕХНИКИ**

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Ключевые слова: высокотехнологичный инновационный продукт, разработка новых продуктов, инновационная стратегия, прогнозирование, управление НИОКР

Abstract. The article deals with the problems of forming the strategy of innovative development of the firm-developer of unique new technique as a high-tech innovation product. An approach is proposed to construct an analytical tool designed to visualize the transition from a basic strategy to alternative options in case of failure of one or several major projects. With strategic planning, it is possible to replace risk projects from the R&D portfolio with standby projects from the innovation portfolio.

Аннотация. Рассмотрены проблемы формирования стратегии инновационного развития фирмы-разработчика уникальной новой техники как высокотехнологичного инновационного продукта. Предложен аналитический инструмент для визуализации перехода от базовой стратегии к альтернативным вариантам в случае неудачи одного или нескольких основных проектов. При стратегическом планировании предусматривается возможность замены рискованных проектов из портфеля НИОКР резервными проектами из портфеля инноваций.

Introduction. The key conditions for achieving the leading position in the high-tech markets is the ability to create complicated technical systems with a high level of novelty and enough competitiveness. This especially true for unique new technique (UNT) which are created to suit individual customer requirements and are manufactured in single copies or small-scale. For UNT need to take into account the increased risk of failure to reach the desired result, and other specifics of their

creation. Addressing these issues should be provided in the approach to formation strategy of R&D management of UNT firm-developer. This analytical tool is proposed as a method to build a transition options from basic strategy to alternative strategy on the consideration of possible changes to the initial forecast of the prospects of each UNT as high-tech innovation product (HIP) at life cycle various stages.

Literature Review. In cases of high complexity and novelty of the UNT, the beginning of the process of creation is characterized by high uncertainty (e. g. Ferioli, et. al., 2010). According to Reinertsen (Reinertsen, 1999) evaluating ideas at the early stage of design is an important and difficult because the final product or service cannot yet be entirely described and cannot be presented in its environment of use.

As noted by Mathews (Mathews, 2010), a different portfolio management process was required to bridge the gap between ideas and development-ready products – a strategic or innovation portfolio model. An innovation portfolio has a different objective than a project portfolio and differs in significant ways. Designing an innovation portfolio requires a foundational understanding of the behavior of the innovation process and how it differs from the new product development process (e. g. Sundbo 2002, Terwiesch and Ulrich 2008).

Using Mathews' consideration (Mathews, 2010) that “the complex interaction between the developing strategy and the nonlinear value trajectory of the concepts means that change in one aspect of the innovation portfolio produces a confounding effect on other areas. This in turn impacts the whole innovation portfolio”.

Hypotheses. Hypothesis 1. During forming the base strategy of the UNT developers as an aggregate project portfolio it is appropriate to provide for the possibility of replacing it with a backup option as a rational method of reaction to changes in factors external and internal environment.

Hypothesis 2. Alternative strategies rationally formed by forecasting the need for replacement of failed major project backup project by portfolio innovations, which are estimated to be the most promising.

Hypothesis 3. The structure of the strategy of innovative development of UNT firm-developer should include two levels, of which the first level – the project portfolio is the main executable, and the second level – the innovation portfolio is a source of reserve projects.

Materials research and scientific results. Analytical tools of strategic planning in the first place should give an answer to the question of being able to perform tasks under certain conditions, to ensure the achievement of the strategic objectives of the development of UNT firm-developer. At the same time, according to the modern trends in innovation management, these instruments must take into account the likely need for changes of the adopted strategy. That is, in order to avoid financial losses, the strategy must have alternatives, ranging from the replacement of one of the project and up to the reorientation of the key activities.

In support of the allegations made, we look at a few innovative projects in aerospace engineering, design objects which had a breakthrough novelty and

developer expectations against them for various reasons were not justified. Among them, first of all, the US reusable transport space system Space Shuttle and the aerospace system Pegasus.

Thus, for the UNT-HIP increased risk, which is inherent in innovation high level of novelty, superimposed on the aforementioned industry-specific, which manifests itself in the long term and high cost to perform R&D. This explains the high price of mistakes in planning and commitment in any way to justify the money spent at least partially. The termination of the life cycle of HIPs is extremely difficult and responsible management decision, which should be supported by measures not only to compensate for the costs incurred, but in planned income compensation in order to achieve the project objectives.

Different combinations of goals, objectives and projects of resources lead to various embodiments of the innovative development of the company (corporate strategy options). The proposed approach provides a comprehensive analysis of possible options on the basis of which the most suitable (basic strategy) and provides a point of transition to alternatives (switching to backup strategy). The use of such tools, consider on the example of the model large-scale company specializing in the creation of aerospace engineering. Given the long duration of their design and high uncertainty in achieving the competitiveness, need to include not only the case of successful completion of R&D and launch on the market, when the inherent characteristics of the development of the object are provided on time and within the allocated funds, while HIP maintains competitiveness, but also other variants events, namely:

- Characteristics achieved lower than planned or necessary to ensure an acceptable level of competitiveness;
- The required characteristics is achieved, but the timing and/or financing exceeded that had a negative impact on the level of competitiveness of the HIP;
- At the time of removal of UNT-HIP to market its competitive position were lower than planned for reasons of changes in the external environment.

From the position of the change of strategy, all these events are reduced to the determination of the moment of reorientation to another HIP, which can compensate for the lose income in ensuring the achievement of planned growth rates. It should be understood that this is a period of time is significantly shorter than the duration of any stage of development. Thus in Fig. 1 points P1 and P2 show possible moments of decision-making, according to which instead of one of the main riskue projects must come one or more backup projects.

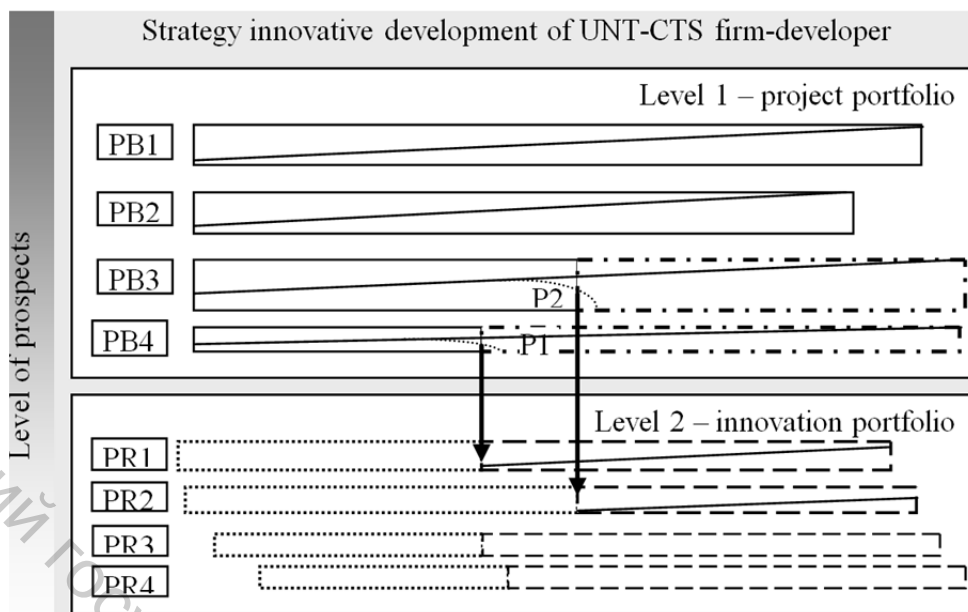


Figure 1 – Scheme of the backup projects by the change of the base strategy

We emphasize that the rational point change of basic strategy to replace the alternative set are basing on the valid opinion that the selected reserve projects at the final stage of R&D, will be able to compensate for failure of the timely locked risky projects. In support R&D of such conclusion is necessary to use special analytical apparatus predict market potential and competitiveness of the HIP, the development of which is the actual problem of future study.

Conclusion. The structure of the strategy of innovative development of HIP developer should include two levels, of which the first level – the project portfolio is the main executable, and the second level – the innovation portfolio is a source of reserve projects.

Alternative strategies rationally formed by forecasting the need for replacement the failed project in the project portfolio through the project into innovation portfolio, which are estimated to be the most promising.

Enhanced analytical database management decision-making through the use of patent parameters with high reliability and objectivity at the stage of preliminary study, is one of the efficient ways methodology improving of creation high-level technical and newness HIP.

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**EVALUATION OF INFLUENCE OF
ADVERTISING EXPENSES IN ORGANIZATIONS
FOR PROMOTION OF TRAVEL SERVICES IN
THE MARKET IN VITEBSK**

**ОЦЕНКА ВЛИЯНИЯ РЕКЛАМНЫХ РАСХОДОВ
В ОРГАНИЗАЦИЯХ НА ПРОДВИЖЕНИЕ
ТУРИСТИЧЕСКИХ УСЛУГ НА РЫНКЕ
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Key words: advertising, advertising costs, tour prices, Spearman rank correlation coefficient.

Ключевые слова: реклама, расходы на рекламу, стоимость туров, коэффициент ранговой корреляции Спирмена.

Abstract. Using the statistical method of interrelation of socio-economic phenomena, an estimation of the influence of advertising expenses of ten tourist organizations of Vitebsk on the cost of tours paid at the territory of the Republic of Belarus during 2015-2016 was made. The calculations were made by comparing the parallel series and determining the rank correlation coefficient of Spearman.

Аннотация. С применением статистического метода взаимосвязи социально-экономических явлений, произведена оценка влияния рекламных расходов десяти туристических организаций г. Витебска на стоимость туров, оплаченных на территории Республики Беларусь за 2015-2016 гг. Расчеты произведены методом сравнения параллельных рядов и определения коэффициента ранговой корреляции Спирмена.

As the world practice testifies, the sphere of tourism is one of the largest advertisers. The experience of travel agencies shows that on average, 5-6% of revenues from their activities are used by them to advertise tourism services. Tourist advertising bears in itself the information presented in the condensed form. Emotionally colored, it contributes to the acquisition of tourist products and plays an important role in the implementation of the strategy of the tourist firm, the competitiveness of the organization. With the help of advertising travel agencies are