

MANAGING THE PROMOTION OF THE COMPANY'S INNOVATION POLICY: KEY PERFORMANCE INDICATORS (KPI) METHODOLOGY

Janusz Soboń¹
Dariusz Soboń²
Ilya Stepanov³

¹ prof. Hab. PhD, The Jacob of Paradies Univerisity in Gorzow Wielkopolski, Poland
e-mail: sj@list.pl

² PhD, The Jacob of Paradies Univerisity in Gorzow Wielkopolski, Poland
e-mail: dsobon@ajp.edu.pl

³ Corresponding author

Abstract: The article defines and reveals the problematic issues of the theory of development of methodological tools for managing the implementation of innovation policy of the organisation. The expediency and necessity of application of key performance indicators (KPI) as a relevant tool for assessing the effectiveness of management of innovation policy implementation of organisations is substantiated. Methodological approaches to the formation of a system of key performance indicators that provide a systematic approach to a comprehensive and integrated assessment of the effectiveness and efficiency of innovation policy implementation on the basis of the proposed methodology of building a "tree of KPI objectives" are proposed; methodological approaches to their application as target, as well as intermediate criteria and indicators of the effectiveness of innovation policy implementation are proposed.

Keywords: management, implementation of innovation policy, innovation dismanagement, system approach, effectiveness, efficiency, key performance indicators (KPI).

Introduction

At present, the problem of implementing the innovation policy of organisations, improving its performance is of priority importance in the Russian Federation. The innovation policy of organisations is implemented through a system of measures aimed at improving the efficiency and activation of innovation processes in order to meet public needs. It is here that the introduction of innovations directly into public production is carried out.

At the same time, the generalisation of modern experience and practice of management of innovation policy implementation shows that the regulation of these processes is characterised by the signs of innovation mismanagement, i.e. poor-quality, ineffective management. It is "innovation dismanagement" that characterises the current situation in managing the implementation of innovation processes, including the management of innovation policy implementation.

Today, the key problem of effective innovation management is the lack of theoretically grounded tools and methods of a systematic approach to managing the process of implementation of innovation policy of the organisation, providing a comprehensive and integrated assessment of both target and intermediate criteria and indicators of the effectiveness of innovation policy implementation. ²³The article sets the task: to identify and disclose the key theoretical issues of formation of methodological tools for managing the implementation of innovation policy of the organisation.

Methodology

The methodological basis for the study of the problem of forming a system of key performance indicators (KPI) in managing the implementation of the innovation policy of the organisation was the methodology of systemic, system-creative and heuristic analysis.

The methodology of system-creative and heuristic analysis is a set of basic rules, norms and principles, orientations and values underlying the effective management of the implementation of innovation policy of organisations.

The application of the main theoretical and methodological provisions of system-creative and heuristic analysis as a methodological toolkit for the study of socio-economic systems and processes was predetermined, first of all, by the complex construction and ambiguity of algorithms of the functioning of the object of research - the management system for the implementation of innovation processes.

The combination, on the one hand, of systematicity, i.e. knowledge of specific features of interrelationships, interdependencies and regularities of interaction of elements of innovation systems, on the other hand, the possibilities of using tools, methods, techniques and methods allows us to solve the problem of creating an effective mechanism for managing the implementation of innovation policy in organisations based on the use of the system of key performance indicators KPI [Rybin a.o., 2020, pp. 47-49].

Thus, the system-creative and heuristic analysis served as an adequate tool for creating a holistic model of the management system of the implementation of the organisation's innovation policy and a comprehensive integrated assessment of its effectiveness.

Results

An organisation's innovation policy is a system of principles, goals, objectives, and scientifically substantiated measures to ensure its innovative development [Schevchenko, 2014]. This policy is a basic platform that determines the goals, strategies, priorities, programmes and projects of innovative development of the organisation [Waterman, 2008, pp. 526]. It embodies both technical and technological, product, organisational, socio-economic, environmental, socio-psychological, informational and other directions and measures.

The general objective of organisations' innovation policy is to implement progressive changes in their activities related to technical-technological and socio-economic innovations. Innovative development of organisations as the general objective of their innovation policy is characterised by progressive changes, which are associated, first of all, with the introduction of achievements of scientific and technological progress and advanced domestic and foreign experience in their practical activities.

The most important stage of implementation of the organisation's innovation policy is the stage of its implementation. The very concept of "implementation" means a dynamic and continuous process of achieving the goals of innovation development. The implementation of the organisation's innovation policy includes the whole range, all stages of the innovation process from research and development to commercialisation and disposal of the innovation product.

The effectiveness of innovation policy implementation according to all the above-mentioned approaches depends, as a rule, not only on the reality of the set goals, but also on the degree of interaction of all participants of innovation collaborations and processes. In other

words, it depends on the established models of innovation policy implementation management and the degree of their effectiveness.

The modern system of management of innovation policy implementation is characterised by mismanagement, which, as a rule, is the main cause of most negative phenomena in the management of innovation implementation. It is practically manifested at all hierarchical levels of innovation systems: at the federal, regional, municipal and economic levels. Thus, low activity and efficiency of innovation policy implementation is a consequence of multilevel innovation mismanagement.

Innovation dysmanagement is manifested in the characteristics of incoherence of decisions taken without taking into account objective social and innovation processes and procedures for justification of applied measures.

In this regard, it is obvious that the implementation of innovation policy of organisations requires the development of tools and methods for managing these processes on the basis of a systematic approach that can simultaneously ensure the achievement of objectives, balance and coordination of activities and resources. The analysis of domestic and foreign experience in managing the implementation of innovation policy shows that such a tool in modern conditions can serve as a system of key performance indicators KPI.

Discussion

KPIs are the most adequate method of not only assessing efficiency, but also an effective tool for managing the implementation of innovation policy in the organisation.

KPI - key performance indicators - are presented in the form of a set of interrelated critical indicators that determine the most important and fundamental outcomes of the organisation's innovation policy implementation.

KPIs are characteristics of the most important results of achieving innovation policy objectives. They provide an opportunity to assess and reveal the degree of achievement of both the strategic objectives of the organisation's innovation policy and its tactical objectives. These are the indicators that make it possible to assess the degree of achievement of the decisive objectives and success criteria of innovation policy.

According to ISO 9000: 008 standards, the concept of key performance indicator is manifested in two main characteristics, namely, effectiveness and efficiency.

Performance in accordance with this KPI methodology reflects, first of all, the level of achievement of the general and main objectives, final results of the organisation's innovation policy.

Efficiency is characterised by the ratio of the results obtained to the resources spent on obtaining these results.

As a result, the key performance indicators - KPIs - embody two fundamentally important in terms of the meaning of the main criteria for the effectiveness of the implementation of the organisation's innovation policy:

- firstly, a criterion that characterises the achievement of the intended results and objectives of the organisation's innovation policy;
- secondly, the final or intermediate results achieved in relation to the resources used to achieve them [3, 2019].

As a result, the term "key performance indicator" should be taken as "performance" plus "effectiveness" equals KPI.

The main purpose of applying key performance indicators (KPI) in the process of managing the implementation of innovation policy is, first of all, to reduce the algorithm of analysing and evaluating its efficiency and effectiveness.

Thus, the socio-economic essence of key performance indicators (KPI) in the process of analysing and evaluating the implementation of innovation policy is to ensure the transfer of subjective assessments of the achievement of the final results of the development of measures of such policy into objective assessments.

The application of a system of key performance indicators (KPIs) to assess the implementation of an organisation's innovation policy allows:

- firstly, to establish real cause-and-effect relationships between the general objectives of the organisation's innovation policy and adequate indicators characterising the degree of their achievement;
- secondly, to determine the effectiveness in achieving the intended criteria of the organisation's innovation policy and individual goals of its innovative development;
- thirdly, to identify in the moment the problems arising in the process of managing the implementation of innovation policy, to adequately respond to them in real time;

- fourthly, to ensure balance and continuity of forecasts, programmes and plans of innovation policy implementation, both in terms of performance in achieving its general objectives and in the possibilities of their resource provision;
- fifth, to determine and evaluate both objective and subjective regularities and factors affecting the effectiveness of the implementation of the innovation policy of the organisation.

Application of the system of key performance indicators of innovation policy implementation ensures, on the one hand, the objectivity of its performance assessment, participation in this process of the personnel of innovation teams and units; on the other hand, motivation for the formation and effective functioning of the organisational and economic mechanism.

One of the main advantages of using the KPI system in managing the implementation of the innovation policy of an organisation is to ensure the linkage and balance of its general goals, sub-goals, objectives with specific sections, criteria and indicators of concepts, forecasts, programmes and plans in the conditions of uncertainty of innovation activity (situation of innovation chaos). This creates objective prerequisites for linking into a single organisational and economic mechanism, both motivation factors and performance indicators of organisations' income from their innovation activities.

Justification of the KPI system taking into account the uncertainty of innovation processes development (situation of innovation chaos) should be carried out according to certain stages, namely:

Stage I - identification of a situation of innovation uncertainty (innovation chaos) - a new unrecognised innovation situation;

Stage II - identification of both positive and negative trends and consequences of the implementation of innovation policy measures;

Stage III - assessment of the organisation's potential innovation capabilities, taking into account its participation in integration innovation processes;

Stage IV - expert evaluation of possible trends and tendencies of innovative development of organisations;

Stage V - justification of the parameters of the models of the organisation's innovation policy and management tools for its implementation using KPIs [Savin a.o., 2020, pp.18].

KPIs are systemic in nature. They are intended to serve as indicators reflecting (characterising) the compliance of current indicators of innovation policy implementation programmes with its strategic goals and objectives.

The specificity of the system of key indicators as a tool for managing and assessing the implementation of the innovation policy of the organisation consists, first of all, in the fact that they are able to concentrate and combine both the general and intermediate objectives of the innovation policy of the organisation at all hierarchical levels, and the content of the processes that can ensure their high performance. Such indicators really reflect the compliance of strategic goals and objectives with the criteria and indicators of innovation policy implementation.

In the process of managing the implementation of innovation policy, key performance indicators, in fact, are peculiar indicators reflecting the synergetic effect of the implementation of the main directions of innovation policy and concentrating both strategic directions of innovation policy and the degree of achievement of its main and intermediate objectives and results.

The uniqueness of the application of key performance indicators (KPIs) to manage and evaluate the implementation of innovation policy lies in their systematic nature and ability to comprehensively link the results of the organisation's innovation activity with the general goals and objectives of innovation policy.

The main specific feature of the system of key performance indicators is their systemic nature, which allows linking the results of innovation activity with the efficiency and motivation of personnel to achieve the intended innovation goals and results. This is the inadequacy and originality of the application of the KPI system in the process of managing the implementation of the innovation policy of the organisation. And also their fundamental difference from the application of a generally accepted set of performance indicators for these purposes.

KPIs are a complex systemic concept. As it was said above, it contains representations of such two key fundamental categories as efficiency and effectiveness. This is what makes it possible to solve the most complex triple task with the help of KPI - the system of key performance indicators for managing the implementation of innovative activities of the organisation:

- on the one hand, to provide an assessment of the effectiveness of an organisation, a division, employees implementing the process of innovation policy implementation in the organisation;

- on the other hand - to provide an assessment of the final result, the performance of innovative activities of employees, departments, organisation as a whole;
- thirdly, to act as effective motivators of the process of promotion of the organisation's innovation policy by its individual departments and employees.

Such a system of KPIs ensures the comprehensiveness of interconnectedness in the activities of the organisation as a whole with its structural subdivisions and executors in the issues of linking individual executors and subdivisions with the general indicators of efficiency of innovation policy implementation.

The use of a system of key indicators to assess the performance of the organisation's innovation policy simultaneously helps to solve other problems:

- identify processes and factors that negatively affect the efficiency and effectiveness of innovation policy implementation;
- identify bottlenecks as well as strengths of the organisation's innovation policy;
- create the necessary prerequisites for transparent control over the results of labour in the process of innovation activity, both of individual employees and structural units of the organisation;
- determine at the planning stage whether the innovation policy goals and objectives are achievable.

The use of KPI system - key performance indicators - equips the management of organisations with tools for solving the following tasks in the process of innovation policy implementation:

- assignment of its parametric (normative) value to a separate KPI, which makes it possible to link and reflect both strategic and tactical goals and objectives of the development of innovation processes in the organisation;
- selection of KPIs that reflect progressive changes and results of the organisation's innovation policy to the greatest extent;
- focus on the implementation of strategic and tactical directions of innovation policy implementation.

The use of KPIs in the management of innovation policy implementation allows to use them as indicators reflecting the ratio of parameters of current and prospective results of innovatisation.

In addition, key performance indicators of innovation policy implementation allow for a more differentiated assessment of this process. The fact is that KPIs can reflect a variety of nuances. For these purposes it is used:

- leading KPIs characterising, as a rule, the results of operational control over the implementation of innovation policy measures in real time;
- lagging KPIs reflecting the final results of innovation policy implementation after a certain period of time.

The application of KPI system to manage the implementation of innovation policy creates undeniable advantages for a more comfortable management process on the part of the organisation's management. It is the application of KPIs that allows:

- focus on achieving the strategic criteria and parameters of the organisation's innovation policy priorities;
- to form a list of indicators for each area of innovation activity that most adequately reflect the performance of innovation processes in the context of innovation policy implementation.

The undeniable advantages of using KPIs in the process of managing the implementation of innovation policy is that they can be used as measures of achieving the desired objectives of results and costs in the process of forecasting, planning and control.

The use of key performance indicators (KPIs) as a tool for managing the implementation of innovation policy creates objective prerequisites for a transparent and understandable motivational system of personnel.

The key performance indicators (KPIs) used in the innovation policy implementation management system should meet the following principles:

- orientation of key performance indicators (KPIs) to achieve the strategic goals of the innovation policy, as well as its individual innovation projects of the organisation's development;
- accessibility of understanding and perception by performers at all hierarchical levels of KPI content;
- targeting, i.e. linking any KPI indicators directly to specific responsible executives;
- motivation of direct performers to achieve the set goals and results of the innovation policy;
- the achievability and reality of the indicators;

- relevance of KPI indicators, their compliance with the main parameters of innovation policy in time and space;
- the possibility of adjusting the influence of factors in the process of achieving the intended goals and results of innovation policy;
- the balance, complementarity and consistency of any key performance indicators;
- initiating positive changes in the chains of innovation processes;
- uncomplicated measurement of quantitative values of KPI indicators by direct executives;
- comparability of key performance indicators at all stages and hierarchical levels of the organisation's innovation policy, etc.

In the process of developing key performance indicators (KPIs), it is important to adequately select the personnel to fulfil such tasks. The selection of such teams is carried out according to the following main stages:

- defining the composition of the KPI development teams, defining the responsibilities and functions of each participant;
- defining forms and processes for organising work between members of development teams;
- defining methods of analysis, testing and communicating working materials for discussion with the organisation's management.

Various commissions or working groups can be established to improve the quality of development and implementation of KPIs in the organisation's innovation activities. The functions of these units will be, on the one hand, methodological support for the development of KPI indicators, and, on the other hand, control over the quality of their development. Such groups should be headed by highly qualified specialists.

The main functions of such units should be:

- defining the main objectives of implementing a system of key performance indicators (KPIs) to assess the effectiveness of innovation policy implementation;
- substantiation of the logical structure (KPI goal tree) of the organisation's innovation policy implementation efficiency assessment;
- justification and selection of the most appropriate indicators of the organisation's innovation activity;

- selection of a set of measures to ensure the effective organisation of the process of selection and mastering of the system of key indicators for assessing the effectiveness of innovation policy implementation;
- implementation of forecasts, justification of plans, programmes for assessing the efficiency of innovation policy implementation using key performance indicators (KPIs);
- forming the list of executors for the implementation of the KPI system, as well as determining the necessary funding for the training of relevant specialists;
- determining the effectiveness, quality and results of the implementation of the recommendations developed;
- ensuring coordination of all participants of the process in order to create an effective system of key performance indicators for the implementation of the organisation's innovation policy.

Direct analysis of key performance indicators (KPIs) is carried out in the departments of organisations that deal with strategic planning of innovation processes.

The methodology of forming a system of key performance indicators for the implementation of the innovation policy of the organisation provides for the use of the method of building a tree of objectives (decomposition). On the basis of this method, firstly, general KPIs are determined, which embody direct and indirect characteristics of KPIs of the lower hierarchical level. When building such a tree of goals on the basis of decomposition of the general goal of the organisation's innovation policy implementation, as a rule, no more than 3-5 tiers of the goal tree are used.

This method seems to be very effective both for staff motivation and for the assessment of general indicators characterising the achieved level of parameters of the organisation's innovation policy implementation.

Conclusion

As a result, the system of key performance indicators (KPI) developed in this way can serve as an effective tool in the hands of managers and provide an assessment of the performance of each individual employee and structural units in the process of implementing the innovation policy of the organisation.

At the same time, it should be emphasised that the specific content of the system of KPIs for innovation policy implementation will differ in certain ways from the KPI system used in other areas of the organisation's activity.

If, for example, when forming a system of KPIs at an enterprise engaged in commercial activities, the priority role will be played by profit indicators, then for employees and divisions engaged in innovation activities, the direct use of only this indicator will be quite insufficient. In this case, the formation of KPI indicators of innovation policy should be based on the system-target or process approaches (what result will be brought by the innovative product, how to form the needs for this innovative product in the market, etc.).

Thus, when forming a system of key performance indicators (KPI), it is obvious that we cannot talk only about the financial results of innovation activity.

The system of key performance indicators of innovation policy implementation proposed in the recommendations made it possible to simultaneously determine the effectiveness and efficiency of the implemented measures, as well as to assess the contribution of individual organisations, their departments and employees to the overall results of innovation activity.

Methodological recommendations on the application of the system of key performance indicators (KPI) in managing the implementation of innovation policy of organisations have been tested at the enterprises of the Moscow region. The results of approbation have shown the expediency and effectiveness of the application of this methodology in practice as a tool for managing the efficiency of innovative development [Korniyko a.o., 2019][Zolotareva a.o., 2020, pp. 83-87].

References

1. Shevchenko S.A. The essence of innovation policy of the enterprise // Actual problems of humanities and natural sciences. 2014. №3-1. URL: <https://cyberleninka.ru/article/n/suschnost-innovatsionnoy-politiki-predpriyatiya> (date of address: 17.07.2020).
2. Waterman R. Renewal factor - how the best companies remain competitive: a textbook / R. Waterman. Waterman. - M.: - Progress, 2008. -526c.
3. Finanby - Finance and Business. <https://www.finanbi.ru/kpi-kluchevye-pokazateli-effektivnosti-162>; <https://www.finanbi.ru/>. Date of circulation 30.01. 2019

4. Korniyko Y.V., Stepanov I.A., Shcherbakova M.A. Key performance indicators of regional innovation development [Electronic resource].// UEKS, 3/2019 (121)
5. Zolotareva A.F., Stepanov A.A., Savina M.V., Stepanov I.A. et al. Realisation of the state policy of innovatisation in municipalities: a monograph / Edited by A.A. Stepanov, A.F. Zolotareva. - M., 2020. - C. 83-87.
6. Rybin M.V., Salygin V.I., Stepanov A.A., Stepanov I.A. et al. Creative management: textbook. 4th ed., revision and addendum / Ed. by. - M., 2020. - C.47-49.
7. Savina M.V., Stepanov A.A., Stepanov I.A. To the question of theory and methodology of management under conditions of uncertainty and chaos of the crisis COVID-19// Economic Systems. Scientific journal. VOL.13. NO.2(49), 2020.- P.18.