

**IMPROVING THE METHODOLOGICAL FOUNDATIONS FOR REFLECTING
INNOVATION ACTIVITIES IN THE MANAGEMENT ACCOUNTING OF BUSINESS
ENTITIES**

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Abstract: This article examines the theoretical and methodological issues related to reflecting innovation activities in the management accounting of business entities. The study highlights the economic essence of innovation, its role in enterprise operations, and its significance within the management accounting system.

Based on the analysis of current practices, the research identifies existing problems in accounting for innovation expenditures. In particular, it is substantiated that innovation costs are not assigned to separate accounting objects, their classification is insufficiently developed, and mechanisms for evaluating efficiency are lacking.

As a result of the study, scientific proposals and practical recommendations have been developed to improve the reflection of innovation expenditures in management accounting. These include an enhanced classification of innovation costs, a management accounting model, and a system of Key Performance Indicators (KPIs) for assessing efficiency.

The implementation of these proposals in practice can enhance the effectiveness of innovation activities in business entities and improve the quality of managerial decision-making.

Keywords: innovation, innovation activities, management accounting, innovation expenditures, KPI, efficiency, accounting policy, modeling.

INTRODUCTION

In the context of globalization and the digital economy, the sustainable development of business entities largely depends on the effective organization and management of innovation activities. In particular, in Uzbekistan, reforms aimed at modernizing the economy, diversifying production, and increasing the share of high value-added products prioritize the development of innovation activities as a strategic direction.

Innovation activities are a key factor in enhancing the competitiveness of enterprises, capturing new markets, and ensuring the efficient use of resources. At the same time, innovation processes are characterized by a high level of uncertainty, risk, and substantial financial resource requirements. This creates a strong demand for reliable, timely, and analytical information in managing innovation activities.

Management accounting plays an important role in meeting this need. Through the management accounting system, costs, outcomes, and performance indicators associated with innovation activities are formed, serving as a basis for strategic and operational managerial decisions. However, practice shows that in many business entities, innovation expenditures are not assigned to separate accounting objects, and the mechanisms for their recording and analysis are insufficiently developed.

As a result, the ability to fully assess the effectiveness of innovation activities, identify the relationship between costs and outcomes, and make informed managerial decisions is limited. Therefore, improving the theoretical and methodological foundations for reflecting innovation activities in management accounting emerges as a pressing scientific and practical issue.

The purpose of this article is to develop scientific proposals and practical recommendations for improving the theoretical and methodological foundations for reflecting innovation activities in the management accounting of business entities. To achieve this goal, the following tasks were set: to reveal the economic essence of innovation activities, determine their role within the management accounting system, analyze current accounting practices, and develop enhanced mechanisms for recording and evaluating innovation expenditures.

LITERATURE REVIEW

The concept of innovation has been interpreted differently by economists and management specialists. Joseph A. Schumpeter (1911) defined innovation as the driving force of economic development, a process that transforms the market through new products, processes, or services.¹ At the same time, Everett Rogers (2003) defines innovation as the process through which a new idea, practice, or product is adopted across society and the market.² This approach considers innovation not only as a technological novelty but also as a process of social adoption.

Peter Drucker (1985) describes innovation as the transformation of organizational activities through the optimization of resource use and the creation of new value, indicating that innovation occurs not only in technology but also in management and process areas.³ The Oslo Manual (OECD/Eurostat, 2018) defines innovation as a new or significantly improved product, process, marketing, or organizational method that generates economic benefit and classifies it into four types: product, process, marketing, and organizational innovation.⁴

Michael Porter (1990) regards innovation as strategic changes that enhance a company’s competitiveness and strengthen its market position.⁵ Similarly, Joseph Tidd and John Bessant (2013) define innovation as the generation of valuable new ideas and the process of successfully implementing them in practice⁶, highlighting the managerial and modeling perspective of innovation.

The definitions provided by classical and contemporary economists, international organizations, and management specialists, along with their scientific significance, are presented in the table below.

Table 1. Classical and Contemporary Definitions of Innovation⁷

Author / Source	Year	Definition	Scientific Significance
Joseph A. Schumpeter	1911	Innovation is the driving force of economic development, a process that transforms the market through new products, processes, or services.	Emphasizes technological and economic growth; ensures competitive advantage in enterprises through the creation of new combinations.
Everett Rogers	2003	Innovation is the process of adopting a new idea, practice, or product.	Spreads through society and the market; considers innovation not only as a technological novelty but also as a social adoption process.

¹ Joseph A. Schumpeter. Professor of economics in harvard university. The Theory of Economic development. An

² Everett Rogers. Difussion of innovations. Fifth edition. Free press. 2003.

³ Peter Drucker. Innovation and Entrepreneurship. Practice and Principles. 1985.

⁴ Oslo Manual. The measurement of scientific, technological and Innovation activities. Guidelines for collecting, reporting and using data on innovation. 4th Edition. 2018.

⁵ Michael E. Porter. The Competitive Advantage of Nations. Harvard Business Review. 1990.

⁶ Joseph Tidd and John Bessant. Managing Innovation : Integrating Technological, Market, and Organizational Change. Paris Montparnasse Paris Champerret. 2013.

⁷ Prepared by the author based on Internet sources.

Peter Drucker	1985	Innovation is the transformation of organizational activities through the optimization of resource use and the creation of new value.	Highlights the role of innovation in management and processes; contributes to economic benefit creation.
OECD / Eurostat (Oslo Manual)	2018	Innovation is a new or significantly improved product, process, marketing method, or organizational method that generates economic benefit.	Classifies innovation into four types: product, process, marketing, organizational; serves as a standard for statistical and managerial practice.
Michael Porter	1990	Innovation is strategic changes that enhance a company's competitiveness and strengthen its market position.	Supports strategic decisions and the creation of competitive advantage.
Joseph Tidd & John Bessant	2013	Innovation is the generation of valuable new ideas and the process of successfully implementing them in practice.	Innovation is not only about ideas but also about their practical implementation; emphasizes managerial and modeling perspectives.

Analyzing these definitions, it becomes evident that innovation is not merely a technological or economic process, but a complex concept also associated with management, marketing, and strategic decision-making. These theoretical foundations provide an important basis for our study on reflecting innovation activities in the management accounting of business entities.

Table 2. Differences in Innovation Definitions between CIS and International Countries.⁸

Aspect	CIS Countries' Definitions	International Countries' Definitions
Theoretical Approach	Classical: scientific-technical, organizational, financial, and methodological aspects	Modern: economic value, strategic significance, digital integration
Accounting and Monitoring	Limited to management accounting principles; mainly normative and enterprise-specific practice	Designed to support decision-making and strategic monitoring, indicator-based
Practical Applicability	Applicable to enterprises and business entities in CIS countries	Universal for global benchmarking and comparative analysis
Focus of Innovation Definition	Creation of new products, processes, or services	Creation of strategic and economic value, application of digital technologies
Scientific Significance	Provides methodological and normative foundations in CIS countries	Offers theoretical insights and allows for international comparison of innovation activities

As can be seen from this table, CIS countries' definitions of innovation activities are primarily classical, technical, and methodological in nature, and are largely limited to enterprise-specific practices. In contrast, international definitions encompass strategic, economic, and digital aspects, enabling comparative analysis and global benchmarking. At the same time, integrating both

⁸ Prepared by the author based on Internet sources.

approaches allows for the effective application of innovation activities in management accounting and strategic decision-making within enterprises.

In the modern context, innovation activities have become a key instrument for enhancing the competitiveness of enterprises. Therefore, it is necessary to consider them as a separate object within the management accounting system.

Management accounting is a system that forms financial and non-financial information necessary for internal managerial decision-making, playing a crucial role in planning, monitoring, and analyzing innovation activities.

ANALYSIS AND RESULTS

Management accounting serves not only as a financial control tool in conducting innovation activities but also as a crucial element for making strategic decisions within an enterprise. Through this system, enterprise management can accurately account for project costs and investments, evaluate efficiency using indicators such as Return on Investment (ROI), and allocate resources optimally. When innovation expenditures are allocated by product, process, or service, the financial and operational outcomes of each project can be clearly tracked, simplifying decision-making and reducing errors.

In addition, a Key Performance Indicator (KPI) system allows for the measurement of the actual results of a company’s innovation activities. By assessing project revenue, cost ratios, time efficiency, and product quality, this system provides management with precise and evidence-based information. In this way, management accounting enables enterprises to systematically manage innovation projects, enhance efficiency, and create economic value.

This methodology, developed by integrating approaches based on CIS and international definitions, creates a more scientifically grounded and practically applicable system. It enables innovation activities to be managed not only financially but also strategically. When the proposed approach is implemented in practice, the efficiency of innovation projects increases, resources are optimized, and both the speed and quality of managerial decision-making improve.

In international companies and organizations, KPI indicators used for innovation management are multi-dimensional, serving to evaluate various stages of the innovation process. International consultancy practices and innovation platforms describe KPI systems as follows:

Table 3. KPI Systems Used in Innovation Management in International Practice.⁹

KPI	Description
Number of New Ideas Generated	Indicates the initial activity and level of creative engagement in innovation.
Idea Conversion Rate	Shows the percentage of innovative ideas that have been approved as practical projects.
Time-to-Market (TTM)	Measures the duration from the development of a new product or service to its launch in the market.
Percentage of Revenue from New Products	Assesses the direct impact of innovation on the company’s financial results.
R&D Spending as % of Revenue	Provides information on the effect of investments in research and innovation on company revenue.
Innovation Pipeline Velocity	Reflects how many projects in the innovation portfolio are generating economic results and identifies stages where progress slows.

⁹ https://dashboards.simplekpi.com/dashboards/shared/QovurGGmmkGiQ6s1bSe_2A

Employee Participation Rate in Innovation Programs	Indicates the extent of an innovation-oriented culture within the company.
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The KPIs listed above are based on international practice and the experience of global companies, and they are presented as internationally applicable standard indicators. For example, KPIs such as Time-to-Market (TTM), Percentage of Revenue from New Products, Number of New Ideas Generated, and R&D Spending as % of Revenue are recommended by numerous foreign companies (USA, Germany, Japan) and international consulting firms.

In scholarly literature, KPIs are also used to evaluate the effectiveness of innovation. Research indicates that:

Sales of new products / Market share – demonstrates how successful a company’s innovation efforts are;

Number of patents and licenses – assesses the level of technological innovation;

ROI or efficiency of innovation projects – measures the economic outcome of innovation investments.

These indicators are applied to strengthen the KPI system when evaluating both the financial and strategic results of innovation activities.

At the same time, by improving the methodological foundations of innovation activities through management accounting, allocating expenditures to separate accounts, fully classifying them, and implementing mechanisms for performance evaluation, enterprises can conduct innovation processes in a systematic and transparent manner. This approach significantly enhances both the scientific and practical quality of managing innovation activities within enterprises and contributes to improved economic outcomes.





Figure 1. Examples of KPIs Based on International Practice and Global Company Experience.¹⁰

Systematically allocating innovation expenditures within the management accounting system by project, product, process, or service provides enterprise management with the following advantages for decision-making:

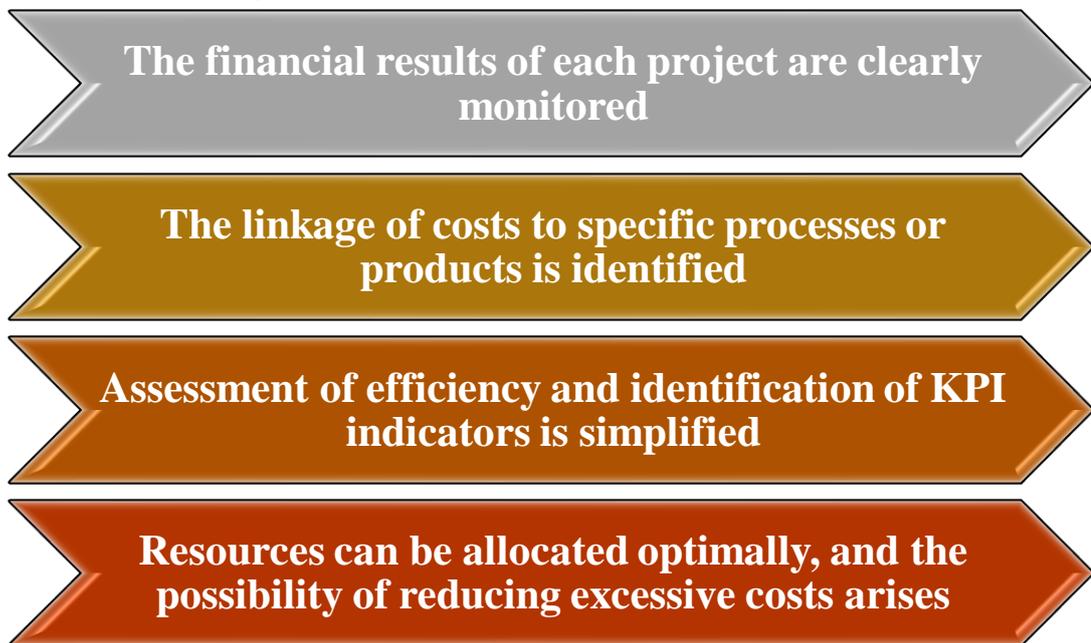


Figure 2. Advantages of innovation cost classification.¹¹

¹⁰ https://dashboards.simplekpi.com/dashboards/shared/QovurGGmmkGiQ6s1bSe_2A

¹¹ Prepared by the author.

Using innovation KPIs helps an organization optimize processes, allocate resources efficiently, and maintain a competitive advantage.

However, identifying the right indicators and using them effectively requires careful planning and a strategic approach.

Many people narrowly associate innovation solely with the creation of new products. However, from a scientific perspective, the concept of innovation is much broader. It encompasses not only product innovations but also improvements in production and management processes, the implementation of new business models, the development of organizational culture, and the enhancement of customer interactions and experiences.

Based on international experience, we can consider some key reasons why innovations need to be measured systematically:

Table 4. Key Reasons for evaluating innovation activity.¹²

Reason	Explanation / Impact
Encourages creativity and initiative	Monitoring innovation activity supports new ideas and motivates employees, fostering creativity. This encourages unconventional thinking and motivates active participation in organizational activities. Companies effectively using innovation KPIs can increase the success rate of new products by up to 20%.
Enhances responsibility	Clearly defined indicators demonstrate the importance of new ideas at all organizational levels and strengthen employees' sense of responsibility and ownership. Organizations that regularly track performance metrics, including innovation KPIs, have been observed to improve decision-making efficiency by up to 50%.
Improves efficiency	Systematic evaluation of innovation activity helps teams refine ideas, align them with strategic goals, and make data-driven decisions. Consequently, time and resources spent on low-potential projects are reduced, allowing focus on the most promising initiatives.
Ensures more effective resource allocation	Measuring innovation activity helps allocate resources wisely, prioritizing projects with the highest potential impact. It also identifies teams needing additional support, removes bottlenecks, and ensures sufficient funding and continuous implementation of innovation initiatives.
Demonstrates progress to investors and stakeholders	Investors and stakeholders want to see results not only through financial metrics but also via clear, measurable evidence. Monitoring KPIs builds trust and demonstrates that the company is committed to sustainable growth and long-term value creation.

Below, the main indicators used for evaluating innovation activity are examined, their significance is explained, and practical (real-world) examples of innovation KPIs are provided to illustrate ways of measuring innovation activity and further improving it.¹³

¹² Prepared by the author based on Internet sources.

¹³ [20 Innovation KPIs to Measure Success \(and Examples\)](#)

Table 5. Key KPIs that can be used to evaluate innovation activity.¹⁴

KPI	Explanation / Significance	Practical Example
1. Number of employees trained in innovation	Tracks employees participating in innovation trainings, seminars, or formal programs to assess the level of knowledge, skills, and innovative thinking within the organization.	—
2. Innovation potential	Measures the untapped creative ideas within the organization through employee surveys, hackathons, or ideation platform submissions for improving products or processes.	—
3. Employee skills and efficiency	Evaluates teams' ability to move from idea to prototype by tracking key innovation capabilities such as software development, data analysis, creative design, and advanced engineering skills.	—
4. Investment in innovation training	Monitors budgets allocated for courses, certification programs, and industry events to help teams acquire the latest knowledge and skills.	Tesla invests heavily in R&D and AI-based training programs to advance electric vehicle technology, battery innovations, and autonomous driving capabilities. ¹⁵
5. Resource allocation metrics	Assesses whether funds are allocated to the right projects based on revenue potential or strategic goals.	Apple prioritizes R&D spending on high-impact innovations, such as custom silicon chips (M1 & M2), rather than small, low-strategic projects. ¹⁶
6. Innovation process cycle time	Tracks the time spent at each stage from idea generation to market launch to identify bottlenecks and improve efficiency.	Toyota uses Lean Manufacturing principles to analyze the time spent at each development stage, enhancing efficiency and speeding up market launch. ¹⁷
7. Degree of structural adaptability	Reflects how the company's organizational structure, teams, and workflows evolve over time to support or accelerate new initiatives.	—
8. Customer satisfaction with new products	Measures customer feedback on recently launched products or services (e.g., via Net Promoter Score or surveys).	Apple uses NPS to assess satisfaction with new iPhones and MacBooks, refining future designs based on customer feedback. ¹⁸
9. Actual profitability	Measures the real financial impact of innovations after market launch to	Tracked via profit dashboards and revenue metrics. ¹⁹

¹⁴ [20 Innovation KPIs to Measure Success \(and Examples\)](#) ma'lumotlari asosida tayyorlandi.

¹⁵ [Tesla's R&D costs 2024 | Statista](#)

¹⁶ [Apple Stock Performance: Future Innovations & Challenges 2025- Trade The Pool - Stock Trading Prop Firm](#)

¹⁷ [How Toyota's Lean Manufacturing Strategies Revolutionised the Automobile Industry - Aicadium](#)

¹⁸ [Apple NPS 2025: Understanding the Success and Implementation](#)

¹⁹ [Profitability Dashboard Examples & Reporting Templates | Coupler.io](#)

<p>10. Employee retention</p>	<p>evaluate commercial success and whether initial expectations were met. Monitors retention rates after implementing new initiatives to evaluate the link between an innovative work environment and employee loyalty.</p>
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Thus, selecting the right innovation KPIs and using them wisely enables an organization to manage innovations effectively, build strong relationships with employees and customers, and ensure long-term competitiveness.

CONCLUSION AND RECOMMENDATIONS

The results of this study indicate that the effective management of innovation activity in business entities is directly dependent on the extent to which it is accurately, systematically, and methodologically reflected in management accounting. In the current context, enhancing economic competitiveness, ensuring production efficiency, and increasing adaptability to market demands necessitate the development of innovation activity. From this perspective, improving the system for reflecting innovation-related costs, outcomes, and their economic efficiency in management accounting is of significant scientific and practical importance.

The study revealed that in existing management accounting systems, innovation activity is often recorded within general production or period costs. This approach hinders separate analysis, performance evaluation, and the provision of critical information for management decision-making. Moreover, the high degree of uncertainty and risk associated with innovation shows that traditional accounting approaches are insufficient for effectively capturing its dynamics.

Based on this, the following scientific and practical recommendations were developed for improving the methodological basis of reflecting innovation activity in management accounting:

Firstly, it is necessary for business entities to develop a separate management accounting policy specifically aimed at reflecting innovation activity. This policy should cover all stages of the innovation process—fundamental and applied research, experimental design work, implementation of innovations, and commercialization—step by step. This will allow for precise segmentation of costs and outcomes.

This classification allows for more accurate accounting of innovation activity costs and expands the possibilities for their analysis.

From the managerial accounting perspective, it is recommended to categorize innovation costs into the following main groups:

I. Research and Development (R&D) Costs:

- Scientific research costs related to the development of new products, processes, or services;
- Laboratory work, prototyping, testing, and experimentation costs.

II. Technological and Production Costs:

- Costs associated with implementing new technologies or modernizing outdated processes;
- Expenses for updating equipment, software, and production lines.

Secondly, it is recommended to classify costs related to innovation activity according to their economic nature using an expanded classification. For example:

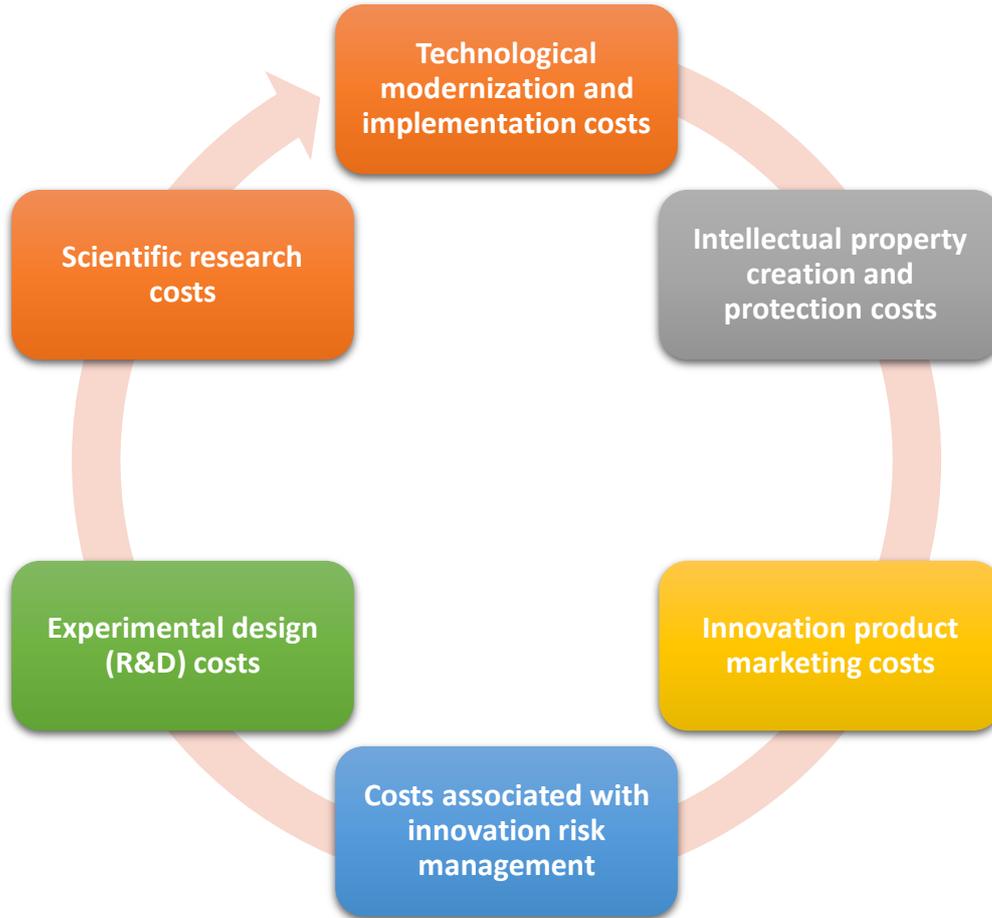


Figure 3. Classification of Innovation Activity Costs.²⁰

III. Marketing and Market Research Costs:

- Costs for developing marketing strategies, advertising, and promotion to bring new products or services to market;
- Expenses for studying customer needs and conducting market analysis.

IV. Education and Staff Training Costs:

- Costs for training employees to implement innovative processes, including courses, trainings, and seminars;
- Expenses aimed at introducing new knowledge and competencies.

V. Project Management and Monitoring Costs:

- Costs for controlling innovative projects and defining KPIs and other indicators;
- Expenses for financial and operational monitoring of projects through analytical systems.

VI. Strategic and Additional Innovation Costs:

- Costs related to patents, licenses, and intellectual property;
- Expenses for strategic partnerships and external expertise.

²⁰ Prepared by the author based on Internet sources.

By creating separate accounts or modules for each category, innovation costs can be effectively integrated into the managerial accounting system. This approach enables precise calculation of ROI and other KPI indicators, facilitates analysis of each project's effectiveness, and simplifies the decision-making process.

Thirdly, it is advisable to apply modern managerial accounting methods comprehensively when assessing the effectiveness of innovation activities.

Specifically:

- Capturing costs at all stages of innovation through Life-Cycle Costing (LCC);
- Optimizing costs based on market demand using the Target Costing method;
- Accurately allocating indirect costs through Activity-Based Costing (ABC);
- Evaluating innovative projects using discounted cash flow methods such as NPV and IRR.

Fourthly, it is necessary to implement a system of centralized and decentralized responsibility centers in managing innovative projects. This allows for the evaluation of costs, revenues, and performance indicators for each project or business unit.

Fifthly, the use of digital technologies and automated information systems should be expanded in reflecting innovation activities in managerial accounting. This enables real-time data acquisition, rapid analysis, and informed managerial decision-making.

Sixthly, it is essential to systematically improve the methodological foundations for reflecting innovation activities in managerial accounting. This involves developing a unified methodological approach that accounts for all stages of the innovation process (research, experimental development, implementation, and commercialization) in an interconnected manner. Within this methodology, clear criteria must be established for identifying, classifying, and allocating innovation costs, as well as assessing performance.

Moreover, it is important to integrate advanced managerial accounting methods (such as ABC, Life-Cycle Costing, and Target Costing) and to introduce evaluation mechanisms that consider the risks and uncertainties inherent in innovation activities. As a result, a single, coherent, and practice-oriented methodological framework for reflecting innovation activities in managerial accounting is formed.

This study develops an improved methodology for reflecting innovation activities in managerial accounting for business entities, proposing systematic mechanisms for accounting and evaluating costs and outcomes at all stages of the innovation process.

The block diagram below illustrates the methodology for systematically managing innovative projects in managerial accounting. The tasks at each stage are as follows:

- **Identifying Innovation:** At this stage, the enterprise identifies the innovative project or activity: determining the need to create a new product, process, or service, and assessing the project's strategic and economic significance. This stage serves as the starting point of the methodology, defining the project's purpose and scope.
- **Calculating Costs and Resources:** The financial and material resources required for the selected innovative project are determined, including raw materials, labor, technology, and R&D expenses. This establishes the required investment and resource allocation, forming a core part of the methodology.
- **Evaluating Performance through KPIs:** Key Performance Indicators (KPIs) and other metrics are used to determine the results and effectiveness of the project. This stage provides management with insights into whether the project is financially and strategically beneficial. For example, indicators such as ROI, revenue-to-cost ratio, and time-based efficiency are calculated.

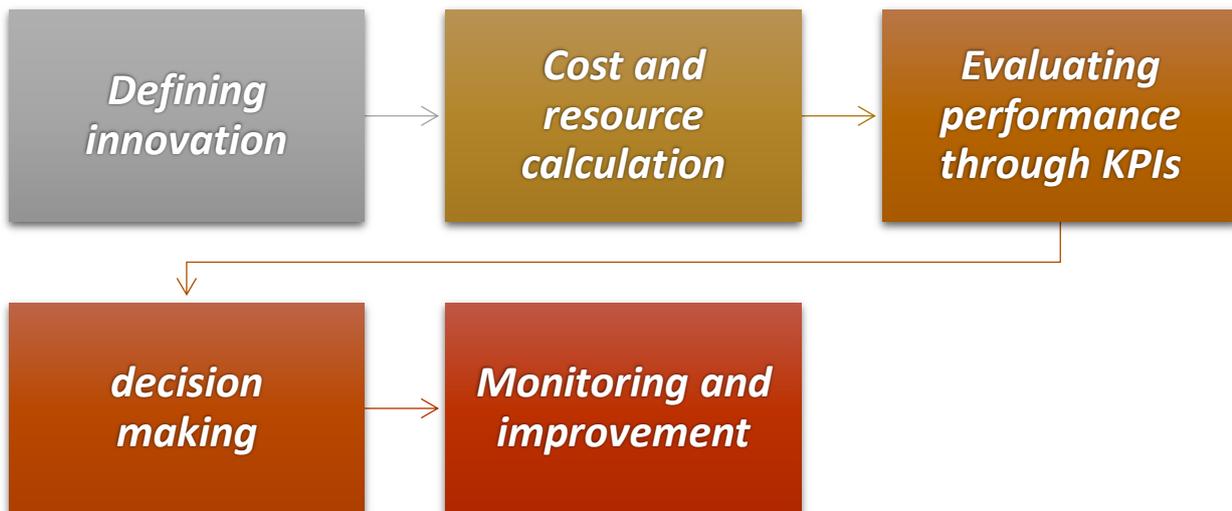


Figure 4. Improved Methodology for Reflecting Innovation Activities in Managerial Accounting in Business Entities.²¹

- **Decision-Making:** At this stage, management makes decisions on whether to continue, optimize, or terminate the project based on KPIs and calculated results. In this methodology, decisions are based not only on financial considerations but also on strategic reasoning.
- **Monitoring and Improvement:** During project implementation, results are continuously monitored and analyzed. If necessary, resources are reallocated or processes are improved. This stage ensures that the enterprise manages its innovation activities in a transparent, systematic, and efficient manner.

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