

7. *Analysis of the impact on the ecosystem and stakeholders.* Engagement with key stakeholders: This includes exploring how technology will impact customers, partners, suppliers, and other stakeholders. Impact on the market ecosystem: Disruptive technologies can be game-changers in the market, creating new business opportunities or crowding out old solutions.

8. *Study of the regulatory environment.* Legal requirements: assessment of legal aspects, such as certification, licensing, environmental standards, or export restrictions, that may affect commercialization. Funding and support opportunities: Exploring available government programs, subsidies, tax breaks, or investors that may facilitate commercialization.

9. *Checking the interest of the market.* Pilots and Testing: Conducting pilots to test how the market responds to the new technology. This can provide useful information about product adoption, identify weaknesses, and confirm consumers' willingness to pay for new technology. Marketing testing: analysis of market reaction through advertising, demos, consumer surveys. It helps you understand which marketing tools work best.

Innovative technologies are the driving force for the enterprise, which contributes to its effective development, improving productivity, improving product quality and strengthening market positions. Through innovation, businesses can adapt to rapid market changes, create new products, open up new business opportunities, and ensure long-term sustainability.

Evaluation of the commercial opportunities of innovative technology is a multidimensional process that includes analysis of the market, competitors, financial aspects, risks and commercialization strategies. A thorough study of these factors allows you to make an informed decision about the possibilities and ways of implementing the technology, reducing risks and increasing the chances of a successful entry into the market.

## **EVALUATION OF EFFICIENCY OF INNOVATION ACTIVITY OF AN INDUSTRIAL ENTERPRISE**

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The economic efficiency of an industrial enterprise is determined by a set of indicators that characterize the ability of the enterprise to rationally use resources to achieve its goals, in particular profitability, productivity growth and improvement of product quality. The main components of economic efficiency include the following elements.

1. *Financial efficiency.* Reflects the ability of an enterprise to generate profits and use capital rationally. Key indicators of financial performance: profitability (profitability) is the level of income from invested funds (profitability of products, assets, equity, etc.); net profit — the amount that remains after deducting all expenses from total income; Liquidity ratio is the ability of a company to cover short-term liabilities own assets.

2. *Labor productivity.* Labor productivity shows the efficiency of the use of labor

force using the following indicators: output per employee — the volume of production produced by one employee per unit of time; labor intensity is the amount of labor resources required to produce a unit of production; Time efficiency – measures how optimally working time is used without downtime or time overruns.

3. *Material consumption.* Reflects the amount of material resources required to manufacture a unit of production: Material consumption coefficient is an indicator that determines the ratio of material costs to the total cost of manufactured products; Efficiency of the use of raw materials and materials is an assessment of the rational use of resources, including processing and loss reduction.

4. *Energy efficiency.* Reflects the rational use of energy resources: energy intensity — the amount of energy consumed per unit of production; energy-efficient technologies — the introduction of modern methods of reducing energy consumption in the production of products.

5. *Production efficiency.* It characterizes the ability of the enterprise to organize the production process in such a way as to minimize costs and maximize results. To do this, we recommend using the following indicators: the rate of return on capital is the ratio of the volume of manufactured products to the value of fixed assets (capital); use of production capacities — assessment of the level of utilization of existing production capacities, which allows to reduce the cost per unit of production; Efficiency of labor organization — optimization of production processes, which reduces the cost of time and resources.

6. *Product quality.* Product quality is a critical component of economic efficiency, as high-quality products help to reduce the number of complaints, increase customer satisfaction and customer loyalty. The most important indicators of this component of the efficiency of an industrial enterprise, in our opinion, should be considered the following: defective rate is an indicator that estimates the volume of defective products from the total number of products; Complaint rate — number returns and complaints from consumers; Durability and reliability are indicators that determine the duration and reliability of product use.

7. *Innovative efficiency.* Assessment of the introduction of new technologies, processes or products to increase the competitiveness of the enterprise is characterized by the following indicators: the speed of innovation is the time it takes to integrate new technologies into production; investment in research and development (R&D) — an estimate of the costs of innovation and its contribution to the overall efficiency of the company; share of new products in the total portfolio — the number of new products compared to the old ones, which shows the level of innovation of the company.

8. *Social efficiency.* Social aspects affect the image of the enterprise and its attractiveness as an employer are recommended to be assessed by the following indicators: employee satisfaction — the level of employee satisfaction that can have a positive impact on productivity; the level of staff turnover shows the stability of the team and affects the cost of training new personnel; Expenditure on social programs is an investment in employees' well-being, safety, and professional development.

9. *Environmental efficiency.* In modern conditions, it is also important to assess the impact of production on the environment. To do this, you should pay attention to the state of the following indicators: volume of emissions and waste — the amount of harmful substances released into the environment; efficiency of waste disposal — measures aimed at recycling waste that reduce environmental impact; Rational use of

resources is the use of resources, such as water and energy, taking into account their restoration and conservation.

Assessment of the economic efficiency of an industrial enterprise requires an integrated approach, including an analysis of financial, production, innovation, social and environmental indicators. This allows the company to better understand its strengths and weaknesses, optimize costs, increase productivity and adapt to market changes. At the same time, in our opinion, special attention should be paid to the component of innovative efficiency, on which other components largely depend.

Evaluation of the efficiency of innovation activity of an industrial enterprise is a key aspect for determining its impact on the overall productivity, competitiveness and financial results of the company. The effectiveness of innovation activity can be assessed by various criteria that help to understand how successful innovative projects are and whether they correspond to the strategic goals of the enterprise.

The main methods and criteria for evaluating the efficiency of innovation activity of industrial enterprises, in our opinion, should be formed as follows.

1. *Financial performance.* Financial metrics are one of the most important when evaluating innovation, as they demonstrate the impact of innovative projects on a company's financial performance. Such indicators include: return on investment (ROI) — shows how effectively investments in innovation generate profits; Net present value (NPV) — helps to assess whether innovations provide sufficient added value in view of future cash flows; Internal rate of return (IRR) shows the minimum rate of return provided by innovative investments.

2. *Technical indicators.* These indicators assess the technical progress that has been achieved through innovation: product or process innovativeness — how advanced new products or processes are compared to competitors and the market as a whole; increase in labor productivity — shows how innovations have affected the speed and volume of production without reducing quality; Reduction in the cost of production — measures how much new technologies or production methods have reduced unit costs.

3. *Economic indicators.* Economic indicators make it possible to assess the overall efficiency of innovations in terms of economic value: the cost saving effect shows how much the company has saved due to innovation projects; Sales and market share growth — An assessment of how innovation is driving market share and new customer acquisition. Reduction of production cycle time - analyzes how quickly it is possible to manufacture products after the introduction of new methods.

4. *Social and organizational indicators.* Innovations often contribute to higher employee engagement and better working conditions: employee satisfaction and motivation — evaluates how much new methods or technologies increase job satisfaction; Improving corporate culture — assessing the impact of innovation on overall culture, collaboration, and team spirit.

5. *Environmental performance.* Given the growing importance of sustainable development, environmental aspects are also an important part of the assessment: reduction of harmful emissions and waste — measures the extent to which innovation contributes to reducing the environmental impact of production; Rational use of resources shows whether it was possible to reduce the consumption of energy, water and other resources.

6. *Innovative indicators.* Evaluation of the effectiveness of innovation activity also includes metrics that determine the speed and frequency of introduction of new ideas: the

number of new products or services — how many new products were created during a certain period; Reducing the time to implement new technologies is an analysis of how quickly a company can adapt and implement innovations in work processes.

7. *Customer metrics.* It is important to consider how innovations affect customer satisfaction: customer satisfaction is an assessment of customer satisfaction with new products, the quality of services, or the level of service; Consumer loyalty is an analysis of how innovations affect repeat purchases and positive customer reviews.

The efficiency of innovation activity of an industrial enterprise is determined not only by financial indicators, but also by technical, economic, social and environmental aspects. Taking into account all these factors allows you to see a complete picture of the impact of innovations on the enterprise and make more informed decisions on the development of innovative projects.

## **INFRASTRUCTURE TRANSFORMATION IN THE FINANCIAL SECTOR: PATHWAYS TO SUSTAINABLE DEVELOPMENT**

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Financial infrastructure is rapidly changing and reshaping the global economic landscape, fueled by technology, regulatory and the pressure to achieve sustainable development (Guley, Koldovskiy, 2023). To realize resilient and sustainable financial systems, digital technologies, green finance, as well as innovative investment approaches need to be fully integrated. Technological innovation, regulatory frameworks and stakeholder collaboration are explored in relation to their role in enabling the goals of sustainability within the financial sector.

Financial infrastructure further advancement of sustainable development. Financial infrastructure is defined as the bedrock of economic activity, which includes banking, payment systems, capital markets and financial regulation. Unprecedented technological innovation, ranging from blockchain, digital payments to AI has recently pushed back the traditional financial processes in terms of high efficiency and transparency. Furthermore, the increasing focus on environmental, social and governance (ESG) criteria has expedited sustainability's entry into the world of financial decision making (Prokopenko et al., 2024). For example, the urbanization policy applied in China has helped drive financial transformation, while regulation can influence finance: the European Union's Green Deal to reach net-zero carbon emissions by 2050 has spurred Europe to adopt green bonds and other sustainable financial products, as a further example.

Despite great variation in experience, examination of the experience in different regions shows the transformation of financial infrastructures have brought about benefits in enhancing financial inclusion, investment in sustainable projects, and the efficiency of capital markets. For instance, mobile money platforms like M-Pesa in Kenya have made bill payments instantly and secured the transfer of money from one wallet to another