

Viacheslav DANYLIUK,
Ph.D, Associate Professor,
Department of Management,
Kyiv National Economic University named after Vadym Hetman, Ukraine
ORCID 0000-0001-7788-9029
danyliuk.viacheslav@kneu.edu.ua

Maryna VOLODKINA,
Ph.D, Associate Professor,
Department of Management,
Kyiv National Economic University named after Vadym Hetman, Ukraine
ORCID 0000-0001-9764-0941
volodkina.maryna@kneu.edu.ua

ASSESSMENT OF THE LAUNCH A NEW PRODUCT TO THE MARKET BUSINESS PROCESSES` EFFICIENCY

Abstract. Performance indicators at different stages of creating a new product of a business organization are grouped: from generating ideas for a new product to monitoring its sales; within the specified stages, the main business processes of launching a new product on the market are identified; measurement methods for each indicator are defined; the main aspects of technological audit of a new product are highlighted using the example of the food industry.

Keywords: new product, business process, efficiency, assessment.

Relevance. The importance of assessing the effectiveness of business processes at each stage of launching a new product is due to the need for constant monitoring of the organization's management system, since it is during the launch of a new product that the organization is most exposed to the factor of uncertainty in the impact of external environmental conditions on the launch process in particular and on the stability of the organization's functioning as a whole.

Task statement. The main tasks are to determine a number of performance indicators for each stage of launching a new product within the business processes that occur at the same time, to identify measurement methods for each indicator, and to characterize the process of technological audit of a new product.

Results. The effectiveness of business processes for launching a new product is important for the success of an organization, as it determines how well the new product meets consumer needs and whether the company provides the desired financial results. To consider methodological approaches to assessing business processes for launching a new product, stages were selected according to the methodology of Robert Cooper, also known as "Stage Gate", and is one of the most influential in this area. At the stage of generating ideas for a new product, it is important to carry out a systematic analysis of quantitative and qualitative indicators, as well as to obtain feedback from consumers. This will help not only in identifying potential products, but also in forming strategies for their further development. Indicators that can be used to assess effectiveness at this stage are shown in table 1.

As shown in table 1, three main groups of indicators can be used to assess the effectiveness of the new product idea generation stage. The number of proposed ideas is a simple quantitative indicator that gives an idea of the team's activity in finding new opportunities. The quality of these ideas is assessed using expert assessments, which allows you to focus on the most promising options for further development. Feedback from consumers or employees is important because it allows a business organization to understand the needs and desires of the target audience, as well as adjust strategies in accordance with the data obtained. The effective use of these indicators at the idea generation stage provides a basis for decision-making at subsequent

stages of new product development, helping to avoid unjustified risks and concentrate resources on the most promising new product ideas [1, p.51].

Table 1 – Indicators for assessment the effectiveness of the new product idea generation stage

Indicator	Definition	Measurement method
Number of ideas proposed	Total number of ideas generated over a period	Quantitative calculation
Quality of ideas proposed	Evaluation of proposed ideas based on criteria of innovation and feasibility	Expert evaluation, scores according to defined criteria
Feedback from consumers or employees	Feedback from consumers or company employees regarding proposed ideas	Surveys, focus groups, questionnaires

Source: compiled by authors based on [1]

In the second stage of the new product launch process according to Cooper, which involves the preliminary selection of new product ideas from a sample of potential new products, the key is to assess the realism of the proposed concepts and their potential commercial success. The effectiveness of this stage can be assessed using the indicators given in table 2.

Table 2 – Indicators for assessment the effectiveness of the pre-selection stage of new product ideas

Indicator	Definition	Measurement method
Number of rejected ideas	Number of ideas that did not pass the selection	Quantitative calculation
Number of accepted ideas	Number of ideas that were selected for further development	Quantitative calculation
Competitiveness of potential new product	Evaluation of the potential market position of the new product	Expert assessment, market analysis
Technical feasibility of new product	Evaluation of the ability of the enterprise to implement the idea	Technological audit, expert consultations

Source: compiled by authors based on [2]

According to table 2, to assess the effectiveness of business processes at the stage of preliminary selection of new product ideas, it is important to take into account the number of ideas that pass and fail the selection. This allows you to control the effectiveness of the idea filtering process and avoid wasting resources on unrealistic or unpromising concepts. Qualitative indicators, such as competitiveness and technical feasibility of manufacturing a new product, provide an opportunity to objectively assess the viability of a potential new product from the point of view of market need and technical implementation [2, p.55-56].

Technological audit is one of the key tools for assessing the ability of an enterprise to implement a new product idea. It involves a comprehensive analysis of the technical condition of the company's fixed assets and equipment that will be involved in the production of a new product. The main goal of this audit is to determine the ability of a business organization to ensure the required level of quality and productivity at all stages of the production process. Indicators that can be used to assess effectiveness at this stage are shown in table 3.

Assessment of the condition of fixed assets begins with an analysis of the existing equipment. First of all, it is necessary to determine its quantity and quality characteristics. An important aspect is the level of physical and moral wear and tear of the equipment, which allows you to determine whether the existing equipment is suitable for the production of a new product,

whether it needs to be modernized or replaced [3, p. 206; 4]. The next stage is an assessment of the age structure of the equipment. It is important to consider the ratio of new and old equipment at the enterprise, as this affects the efficiency of the production process and possible delays in the implementation of new technologies.

Table 3 – Indicators for technological audit of a new product

Indicator	Definition	Measurement method
Physical depreciation level	loss of original technical and operational qualities by fixed assets	necessary repair costs for equipment to new condition / price of new equipment
Obsolescence level	reflects the obsolescence of technologies and compliance with modern market requirements	(initial cost of equipment - repair cost of equipment) / initial cost of equipment

Source: compiled by authors based on [3; 4]

The stage of developing a prototype of a new product is key in the process of bringing it to the market, since at this stage the actual product or its prototype is formed. At this stage, the enterprise not only develops the technical component of the new product, but also determines how its production, packaging, transportation and marketing promotion will take place. In particular, a technological map of production is developed, which describes all stages of product manufacturing, determines the raw materials required for production, and technological parameters of the production process. For example, milk must meet the organoleptic parameters given in table 4.

Table 4 – Organoleptic quality indicators using the example of milk

Indicator	Requirements
Appearance, consistency	Homogeneous liquid without sediment, protein flakes and fat lumps; freezing is prohibited
Taste and smell	Clean, without foreign tastes and odors not inherent in fresh milk
Color	White, uniform throughout its mass

Source: compiled by authors based on [5]

Analyzing the data from table 4, organoleptic indicators are important for assessing the quality of milk. They include appearance and consistency, taste and smell, and color. High-quality milk should be clean, without foreign impurities or sediment, have a natural milky taste and smell without sourness or bitterness, as well as a uniform white color, which indicates its fat content [5].

After developing a prototype of a new product, tastings are conducted to assess the taste, aroma and textural qualities of the finished product. These assessments are carried out by experts and end consumers using specially developed questionnaires. Organoleptic assessments are often grouped on a scale, which allows you to establish compliance with consumer expectations and ensure the competitiveness of the new product.

To assess technical parameters at the development stage, methods such as risk analysis, research of production technology and equipment options, and assessment of the possibility of scaling production are often used. These indicators are determined by comparing the costs of developing various technological solutions, conducting pilot testing of production lines and assessing the return on investment in production infrastructure.

Particular attention at the development stage should be paid to the development of a marketing strategy [6, p. 130]. The profitability of advertising costs, attracting promoters, developing packaging and brand strategy is assessed. These costs are part of the marketing budget. To assess the effectiveness of marketing costs, the return on marketing investment (ROMI) indicator is used, which is calculated by the formula (1):

$$ROMI = \frac{\text{operating income} - \text{marketing expenses}}{\text{marketing expenses}} \quad (1)$$

ROMI indicator allows you to assess how effectively funds are spent on promoting a new product and how they contribute to achieving set business goals. This indicator is also called the best marketing KPI.

The testing and validation stage is extremely important in the process of bringing a new product to the market, as it allows a business organization to assess the readiness of the product for commercial implementation and check its acceptability for consumers. At this stage, not only the technical characteristics of the product are checked, but also its compliance with the needs and expectations of the target audience. The main approaches to assessing the effectiveness of business processes at this stage include quantitative and qualitative methods that allow you to get a complete picture of the market reaction to the new product.

One of the key methods for assessing the effectiveness of business processes at the testing stage is the analysis of consumer demand. For this, test sales are carried out in a limited number of regions or through selected sales channels, which allows you to determine the level of demand for the new product. The effectiveness of test sales is assessed by analyzing sales volumes, the average number of product units sold, and the level of sales revenue. An important indicator is the conversion rate of test sales of a new product, which is determined by the formula (2) [7]:

$$\text{Conversion rate} = \frac{\text{number of real buyers}}{\text{the number of potential buyers who were offered the product}} \quad (2)$$

If the conversion rate is $\geq 50\%$, the new product is considered to be of interest to the market. At this stage, it is also important to take into account the number of potential orders in order to avoid excessive product stock in the future, especially given the possible rather short shelf life of the new product.

Another important aspect is the assessment of the level of consumer satisfaction with the new product, which is determined using a questionnaire, focus groups or in-depth interviews with buyers. Consumers are asked about their impressions of the product, the degree to which its characteristics meet their expectations, and whether they are ready to buy this product in the future. These data allow us to determine the overall acceptability of the product on the market and identify possible areas for improvement [8, p. 151].

In addition to the analysis of consumer demand, an important component of the effectiveness assessment at this stage is testing the technical characteristics of the new product. For food products, this can be checks for compliance with regulatory standards for food quality and safety, in particular, conducting organoleptic tests and analyzing physicochemical indicators. Organoleptic testing allows you to check the taste, texture, smell and appearance of the product under different storage and operation conditions [9, p. 21-22]. The stage of production and introduction of a new product to the market is crucial in the process of launching a product and ensuring its successful commercialization. This stage includes the organization of the entire value-added chain: from the full launch of production facilities to the organization of sales and the implementation of marketing activities aimed at generating demand.

The first important aspect of this stage is the planning and organization of the production process. For an effective launch of production, it is necessary to determine the optimal production capacity that will ensure the required volumes of new product output, taking into account the forecasted demand.

The efficiency of production of a new product can be measured by a number of indicators that characterize the production subsystem of the enterprise: the volume of production of

products, marketable products, gross products, gross turnover of the enterprise, the value of work in progress.

After the production stage, the key issue is logistics and distribution. Logistics processes include the management of raw material supply, storage of finished products and their transportation to the final points of sale. The effectiveness of logistics operations is assessed based on indicators such as the speed of order fulfillment, on-time delivery, logistics costs, and the level of loss or damage during transportation.

Marketing activities at the stage of product launch play a key role in shaping demand for a new product and creating its brand. The effectiveness of marketing campaigns is assessed through various indicators, such as: impressions (the number of times an advertisement is shown to users), reach (the number of unique users who saw the advertisement), click-through rate, cost per click, and order value (table 5).

Table 5 – Marketing campaign performance indicators

Indicator	Measurement method
Click-through rate	number of clicks / number of performances
Cost per click	advertising cost / number of clicks
Order cost	advertising cost / number of confirmed orders

Source: compiled by authors based on [10]

Sales monitoring allows you to assess the market reaction to a new product and identify possible problems or obstacles to its further distribution. The main indicators for assessing sales effectiveness are the sales volume of the new product, the turnover rate of the new product, as well as the number of write-offs of the new product (formula 3). The assessment of these indicators allows you to adjust marketing and production strategies, as well as ensure optimal planning of further production.

$$\text{Turnover rate} = \frac{\text{average inventory} * \text{number of days}}{\text{turnover}} \quad (3)$$

Post-implementation analysis is the final stage of the new product launch process. The goal of this stage is to assess the effectiveness of the new product launch, identify key successes and shortcomings, and identify potential areas for improvement for future launches. One of the main aspects of post-implementation analysis is the assessment of economic efficiency. At this stage, financial indicators are analyzed, such as new product sales volume, net profit from new product sales, and new product sales profitability. In addition to financial indicators, special attention is paid to analyzing the market position of the new product. For this, indicators of market share, competitiveness (for example, the BCG matrix) and brand awareness (can be measured by the following indicators: brand search volume data, website traffic, social media engagement) are used [11]. The collection and analysis of this data allows us to determine how effectively the new product was able to integrate into the market environment. It also allows us to analyze how it compares with competitors and whether it meets the expectations of the target audience.

Conclusions. When launching a new product to the market, an important aspect of organizational management is the assessment of key business processes, such as generating new product ideas, pre-selection of new product ideas, conducting a technological audit, developing a new product prototype, developing a marketing strategy, testing and validating a new product, analyzing consumer demand, assessing consumer satisfaction with the new product, and post-implementation analysis. Within each business process, at each stage of launching a new product to the market, a number of indicators are defined, based on which this process is monitored. Specific indicators are important in accordance with the organization's activities, for example, organoleptic indicators for food industry products, which should be determined individually for each organization. The use of a comprehensive system of indicators for evaluating the

effectiveness of the new product launch process is the key to effective implementation of this process.

References

1. Nagornyi Y.I., Berezova S.M. (2020) Metodichni zasady otsinky rynkovoї adekvatnosti idei tovarnykh innovatsii [Methodical bases of an estimation of market adequacy of commodity innovations ideas]. *Pidpriemnytstvo ta innovatsii – Entrepreneurship and Innovation*. No. 13. pp. 49–53. DOI: <https://doi.org/10.37320/2415-3583/13.9> (in Ukrainian)
2. Oliinyk L. V. (2017) Upravlinnia innovatsiinym rozvytkom pidpriemstva na osnovi formuvannia innovatsiinnykh prohram [Management of innovative development of the enterprise based on the formation of innovative programs]. *Ekonomika i orhanizatsiia upravlinnia – Economics and organization of managment*. No. 3 (27). pp. 51–59. Available at: <https://jeou.donnu.edu.ua/article/view/4997> (in Ukrainian)
3. Karavan N. (2009) Fizychnе znoshuvannia: poniattia, vydy, metody otsinky [Physical depreciation: concept, types, assessment methods]. *Ekonomichniy analiz – Economic analysis*. No. 4. pp. 204–207. (in Ukrainian)
4. Kravchenko V. Znos osnovnykh fondiv [Depreciation of fixed assets]. *LivingFo*. Available at: <https://livingfo.com/znos-osnovnykh-fondiv/> (Accessed April 8, 2026)
5. National Standard of Ukraine. (2018). *Raw cow's milk. Technical conditions (DSTU 3662:2018 from 1st Januar 2019)*. Kyiv: SE «Ukrainskyi naukovo-doslidnyi i navchalnyi tsentr problem standartyzatsii, sertyfikatsii ta yakosti». (in Ukrainian)
6. Kravchenko M.S., Romanchuk R.S., Bash S.O. (2023) Formuvannia marketynhovoї stratehii promyslovoho pidpriemstva v umovakh kryzy [Formation of the Marketing Strategy of an Industrial Enterprise in the Conditions of Crisis]. *Tsentralkoukrainskyi naukovy visnyk. Ekonomichni nauky – Central Ukrainian Scientific Bulletin. Economic Sciences*. No.10 (43). pp. 125–132. DOI: [https://doi.org/10.32515/2663-1636.2023.10\(43\).125-132](https://doi.org/10.32515/2663-1636.2023.10(43).125-132) (in Ukrainian)
7. Konversiiia prodazhiv: shcho tse take, yak yii porakhuvaty i zbilshyty [Sales conversion: what it is, how to calculate and increase it]. Available at: <https://fondy.ua/uk/knowledge/sales-conversion/> (Accessed April 8, 2026)
8. Oklander T. O. (2012) Marketynhovi doslidzhennia tovarnykh ryzykiv [Marketing research of product risks]. *Visnyk Natsionalnoho tekhnichnoho universytetu "Kharkivskyi politekhnichnyi instytut" – Herald of National Technical University "Kharkiv Polytechnic Institute"*. No. 25. pp. 150–159. Available at: <https://repository.kpi.kharkov.ua/handle/KhPI-Press/9963> (in Ukrainian)
9. Ievlash V. V., Samoilenko S. O., Otroshko N. O., Buriak I. A. (2016) Ekspres-metody doslidzhennia bezpechnosti ta yakosti kharchovykh produktiv [Express methods for researching food safety and quality]. Kharkiv: KhDUKhT, 336 p. Available at: <https://repo.btu.kharkov.ua/handle/123456789/4143> (in Ukrainian)
10. Shevchenko T. Iak vyznachyty efektyvnist reklamy: 20 kliuchovykh pokaznykiv [How to determine advertising effectiveness: 20 key indicators]. *Wizeclub*. Available at: <https://wizeclub.education/blog/yak-viznachiti-efektivnist-reklami-20-klyuchovih-pokaznykiv/> (Accessed April 8, 2026) (in Ukrainian)
11. Mgid. (n.d.). Iak vymiryaty vpiznavanist brendu: vid okhoplennia dovpiznavannia [How to measure brand awareness: from reach to recognition]. *Mgid*. Available at: <https://www.mgid.com/uk/blog/how-to-measure-brand-awareness-from-reach-to-recognition-3> (Accessed April 8, 2026) (in Ukrainian)