Ministry of Education and Science of Ukraine
Ternopil Ivan Puluj National Technical University
Economics and management faculty
Management and Administration department

EXPLANATORY NOTE

to the Bachelor's paper

ON TOPIC
" Improvement of an enterprise's operational management system: LLC "AGROVITA LTD" as a case study)"

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Ministry of Education and Science of Ukraine
Ternopil Ivan Puluj National Technical University

Faculty Economics and management
Department Management and administration
Educational Degree Bachelor
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Approved by:
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BACHELOR'S PAPER TASK

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1. Bachelor's paper Topic:

Improvement of an enterprise's operational management system: LLC "AGROVITA LTD" as a case study.

Supervisor Iryna Kotovska
(full name, scientific degree, academic rank)

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Chapter 1. The essence and significance of the operations management system
Chapter 2. Analysis of the operations management system at LLC "AGROVITA LTD"
Chapter 3. Ways to improve the operational management system of LLC "AGROVITA LTD"
Chapter 4. Life safety, basics of labour protection

5. List of tables and figures:
Transformational System of Operations Management. The Fundamental Basis of Operations Management. Three Functions Utilized by Commercial Organizations. Key Decision Categories in Operations Management. Components of the Operations Mission and Strategy. The operating system and it's subsystems. Organisational management structure of Agrovita Ltd. Evaluation of the main competitors of Agrovita Ltd. Opportunities and threats of the company's immediate environment.

6. Consultants to Bachelor's paper Chapters

Chapter	Consultant's full name	Signature, date	
		given by	checked by
Occupational health and safety in emergencies	Ihor Okipnyi		

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CALENDAR PLAN

№	Content	Chapters Deadline	Note
	Introduction		
1.	The essence and significance of the operations management system		
1.1	General concepts, object, subject, and tasks of operations management		
1.2	Creation and functioning of an operational strategy		
2.	Analysis of the operations management system at LCC "AGROVITA LTD"		
2.1	General characteristics of the operations management system at LCC "AGROVITA LTD"		
2.2	Analysis of the use of resources of the company's operating system		
3.	Ways to improve the operational management system of LCC "AGROVITA LTD"		
3.1	Substantiation of the effectiveness of the use of advanced technologies in the production process of LCC "AGROVITA LTD"		
3.2	Recommendations for improving labor motivation in LCC "AGROVITA LTD"using economic methods		
4.	Life safety, basics of labour protection.		
4.1	Procedure for providing first aid to victims of cardiac arrest.		
4.2	The impact of color on improving working conditions and increasing productivity.		
	Conclusions		
	References		

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ABSTRACT

Topic: “Improvement of an enterprise’s operational management system: LLC "AGROVITA LTD" as a case study.”

The thesis consists of: 68 pages, 9 figures, 17 tables, appendices, 23 references.

The object of the study is the limited liability company LLC “AGROVITA LTD”, which was established for the production and sale of meat products to meet consumer needs.

The subject of the study is the operational management system of ‘Agrovita LTD’.

The aim of the Bachelor’s paper is to study the theoretical and practical principles of the operational management system of the enterprise LLC “AGROVITA LTD”.

The practical significance of the results contains applied results aimed at improving the efficiency of the enterprise's operational management system of LLC “AGROVITA LTD”. The practical significance of the results of the work lies in the development of proposals for improving the functioning of the operational management system of Agrovita Ltd. through the introduction of modern technologies for the production process.

The results of the study can be practically implemented in the activities of LLC “AGROVITA LTD”.

Research methods: analysis, synthesis, observation, description, abstraction, problem identification, systematic approach, sociological methods, classification, comparison.

Keywords: operational management system, production, products, enterprise, operational management, activity, analysis, efficiency.

АНОТАЦІЯ

Тема: “Вдосконалення системи операційного менеджменту підприємства, на прикладі ТОВ «АГРОВІТА ЛТД”.

Кваліфікаційна робота бакалавра: 68 сторінок, 9 рисунків, 17 таблиць, 23 літературних джерела.

Об’єкт дослідження – ТОВ «АГРОВІТА ЛТД».

Предмет дослідження є система операційного менеджменту ТОВ «АГРОВІТА ЛТД».

Метою роботи є вдосконалення функціонування системи операційного менеджменту ТОВ «АГРОВІТА ЛТД».

Практичне значення результатів роботи - полягає у розробленні пропозицій щодо вдосконалення функціонування системи операційного менеджменту ТОВ «АГРОВІТА ЛТД» за рахунок впровадження сучасних технологій для виробничого процесу.

Результати дослідження можуть бути практично впроваджені в діяльність ТОВ «АГРОВІТА ЛТД».

Методи дослідження – економіко-статистичного, системного та порівняльного аналізу, метод експертного опитування, діалектичного пізнання, економічного синтезу.

Ключові слова: система операційного менеджменту, виробництво, підприємство, ефективність, аналіз, управління, продукція.

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INTRODUCTION

The significance of the topic. Competition is a fundamental characteristic of a market economy, serving as a key driving force behind its functioning that enterprises compete for maximum profits. Therefore, in the current business environment, operational management is gaining increasing significance, as it ensures the efficiency of core daily operations within enterprises, thereby providing a solid foundation for the successful achievement of their overarching strategic goals and overall mission. A properly structured system of operational management enables companies across different sectors to function efficiently in the marketplace and serves as a crucial factor in ensuring their competitiveness and long-term sustainability.

To date, a significant number of works by foreign and domestic researchers have been devoted to the study of operational management problems, in particular, R. Chase, L. Galloway, M. Mescon, M. Albert, F. Hedouri, V.A. Kozlovsky, V.M. Makarov, T.V. Markina, M.V. Makarenko, O.M. Makhalina, R.A. Fakhutdinov, L.V. Belinsky, L.E. Dovgan, V.O. Vasylenko, T.I. Tkachenko, M.D. Vinogradsky, A.M. Vinogradskaya, O.M. Shkapova, I.B. Gevko, Y.M. Zavadsky, G.I. Kapinos, I.V. Babiy, M.A. Kirilina, A.S. Kurochka, V.P. Lisoval, M.I. Staroselsky, L.O. Lopatenko, G.V. Starchenko, I.V. Kalinko, I.A. Kosach, O.M. Sumets, O.G. Ratushniak, Y.D. Plotkin, I.N. Pashchenko, O.S. Sosnin, V.V. Kazartsev, N.P. Tarnavska, R.M. Pushkar, E. Adam, J. Heizer and many others.

One of the key objectives of both individual enterprises and the national economy, closely tied to production efficiency, is to ensure the output of a sufficient volume of modern products while continuously enhancing their quality, and achieve market competitiveness. The current economic environment forces the company to mobilise internal production reserves, to save all types of resources, and to establish a direct correlation between wage growth and labour productivity. Ensuring the successful operation of an organisation and the effective use and enhancement of its production potential requires the thorough planning of equipment utilisation, technological

processes, and operational workflows. Economic research and accumulated business experience show that today the basis for technical modernization and renovation of current production is the widespread introduction of new advanced technologies and comprehensive production automation. These areas are among the most effective and have the greatest impact on the field of operational management.

Accordingly, enhancing the efficiency of the operational management system in the industry under study requires meeting consumer demand for high-quality, nutritious meat products in sufficient volume and broad assortment, which can be achieved through the implementation of modern production technologies and the use of high-performance equipment at processing facilities.

The object of the study is the limited liability company ‘Agrovita LTD’, which was established for the production and sale of meat products to meet consumer needs.

The subject of the study is the operational management system of ‘Agrovita LTD’.

The practical significance of the results is reflected in the improvement of the operational management system at Agrovita LTD.

Research methods - general scientific and specific methods, including analysis and synthesis, description, observation, abstraction, problem identification, systematic method, sociological approach, classification, comparison.

Information base of the study: internal documents of Agrovita Ltd, current Ukrainian legislation, academic works by economists, conference proceedings, and articles published in professional journals.

CHAPTER 1
THE ESSENCE AND SIGNIFICANCE OF THE OPERATIONS MANAGEMENT SYSTEM

1.1. General concepts, object, subject, and tasks of operations management

At present, a considerable body of research by both foreign and domestic scholars is dedicated to the study of operations management issues. Among the most prominent researchers in this field are R. Chase [34], L. Galloway [6], M. Mescon, M. Albert, F. Hedouri [22], V.A. Kozlovskyi, V.M. Makarov, T.V. Markina [12, 13], M.V. Makarenko, O.M. Makhalina [19], R.A. Fathutdinov [33], L.V. Belinskyi, L.Ye. Dovhan [1], V.O. Vasylenko, T.I. Tkachenko [2], M.D. Vynohradskyi, A.M. Vynohradska, O.M. Shkapova [3], I.B. Hevko [5], Y.M. Zavadskyi [7], H.I. Kapinos, I.V. Babii [9], M.A. Kirilin [11], A.S. Kurochka [16], V.P. Lisoval, M.I. Staroselskyi [17], L.O. Lopatenko [18], H.V. Starchenko, I.V. Kalinko, I.A. Kosach [24], O.M. Sumets [25], O.H. Ratushniak [29], Ya.D. Plotkin, I.N. Pashchenko [28], O.S. Sosnina, V.V. Kazartsev [31], N.P. Tarnavska, R.M. Pushkar [32], E. Adam [35], J. Heizer [36], and many others. It is worth noting that the analysis of the essence and significance of the operations management system presented in this section draws extensively upon the concepts developed by these scholars in their respective works.

Operations Management is a purposeful activity aimed at managing operations related to acquiring necessary resources, transforming them into finished goods (or services), and delivering them to the consumer (or market) [5]. At its core, operations management revolves around the planning, organization, and control of a company's production activities. Numerous definitions of operations management exist. These include: activities involving the development, utilization, and enhancement of production systems that serve as the foundation for the creation of goods or provision of services, as well as all forms of activity aimed at the deliberate transformation of information, materials, consumers.[12].

The term "operations management" is derived from the English expression "Production and Operations Management." While production management is primarily associated with manufacturing activities and physical transformations of products, operations management refers to the broader process of transforming various types of inputs (resources) into goods and services. This broader interpretation includes not only industrial production but also the service sector.

Until the mid-20th century, the majority of the working population in developed countries was employed in manufacturing. However, with the onset of widespread automation in production processes in the latter half of the century, a significant portion of the labor force was displaced and transitioned into the service sector. As a result, the doctrines of production management expanded into non-manufacturing domains and the term "operations management" became more widely used. Accordingly, in this study, the term "operations management" will be used in place of "production management."

In manufacturing organizations, operations are clearly linked ...towards the production of tangible items such as television sets, educational materials, and motor vehicles. In service-oriented organizations, operational activities are less tangible. The output may take unconventional forms such as filling out forms in a bank, obtaining verbal information from a call center, or attending a musical performance in a concert hall. Consequently, the activity of producing output, whether by industrial or service organizations, can be referred to as either production or operations. These terms are largely interchangeable. However, it should be noted that “production” typically refers to the manufacturing of tangible goods and the extraction and processing of raw materials, whereas “operations” is a broader term that encompasses both goods and services. The operations function includes all the actions that result in the creation of products and services. Every organization possesses this function—without it, it could not exist [5].

Operations management is often defined as the process of overseeing and coordinating operations involved in the transformation of resources into goods or services. However, it also applies to a broader range of activities and contexts beyond

manufacturing, including services, healthcare, food service, entertainment and leisure industries, banking, tourism, hospitality, retail, and transportation.

In essence, production management refers to managing entities or processes for manufacturing products or delivering services.

Accordingly, the most commonly accepted definition of operations management, currently used in both academic and practical fields, was developed by Liz Galloway [6]—it encompasses all processes aimed at the purposeful transformation of raw materials, informational inputs, or customer interactions. (see Figure 1.1).

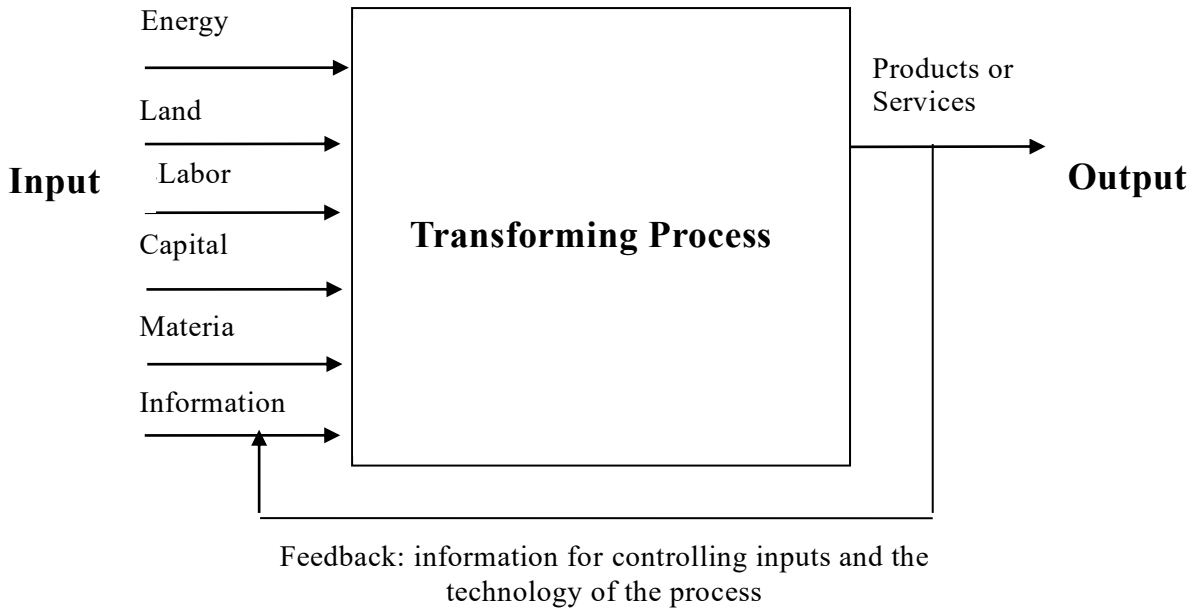

Figure 1.1 – Transformational System of Operations Management

American researchers Nicholas Aquilano and Richard Chase define operations management as "the management of all resources necessary for the production of goods and the provision of services by an organization." Z.P. Rumyantseva and N.A. Salomatin define production management as a system of interrelated elements that characterize production, its organization, technical support, as well as the management of production strategies, programs, operations, material supply, pricing, and production costs [24].

In summary, operations management may be interpreted as a targeted activity focused on overseeing the processes of design, planning, procurement of essential resources, and the regulation of all tools, procedures, activities required to transform inputs into final products (or services) delivered to the market to satisfy consumer needs.

Operations management is not only a defined system of controlling operations, expressed through various parameters and indicators. The essence of the term also reflects the nature and characteristics of a manager's professional thinking. It is a structured body of knowledge presented as a system of values, attitudes, and stereotypes that integrates research potential, practical experience, worldview, and strategic foresight.

The objective of operations management is to establish an effective system for managing operations in production—particularly those related to cost accounting and potential cost reduction. The subject of operations management includes the patterns of planning, creation, and efficient utilization of an organization's operations system.

The main task of operations management is the construction of management systems that ensure the execution of necessary actions and procedures to achieve market outcomes from the functioning of any organization's operations system.

The foundation of operations management consists of four main components—economics, mathematical principles of operations research, technology, and organization (see Figure 1.2) - which are interrelated and ensure the effective functioning and development of the system (organization).

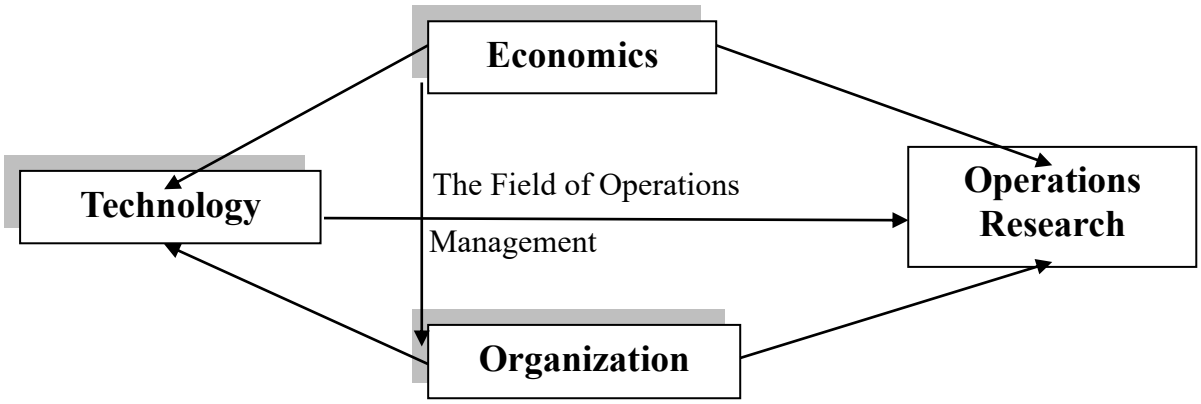

Figure 1.2 – The fundamental basis of operations management

The object of study in operations management includes operations across various spheres of human activity. These comprise any activities in production, science, healthcare, education, and economics that are linked to creative processes. In general management terms, an “operation” is understood as a process, method, or series of actions—primarily of a practical nature—or a set of purposeful measures aimed at achieving specific goals. Therefore, each manager understands “operation” as a combination of targeted actions.

Any commercial organization applies three core functions in its activities: marketing, production, and finance. Operations management is responsible for executing the production function of an enterprise (see Table 1.1). This function forms the foundation of any business, and even in non-commercial organizations (military, law enforcement, judiciary), where the marketing function is often neglected, the operational function remains the most essential.

Table 1.1 – Three Functions Utilized by Commercial Organizations

Organization	Marketing	Production (Operations)	Finance
Restaurant	Billboard advertising, leaflet distribution, various types of advertising on transport, social media, radio, TV, and press	Food and beverage preparation, maintenance of production and service equipment, supply, service, maintenance	Salaries, payments to suppliers, collecting customer payments, tax payments
University	Meetings with school students, partnerships with colleges, open house events, various media advertisements	Teaching, scientific research	Staff salaries, tuition collection, payment of utilities and other bills, research funding management, tax payments
Agricultural machinery manufacturer	Advertising, exhibitions, trade fairs, various media advertisements	Design, manufacturing of components and assemblies, assembly, testing	Payments to suppliers, salaries, production expenses, sale of shares

Typically, a management object comprises a certain number of operations. For example, in an industrial enterprise, the operation complex is implemented by the following departments (units, laboratories, bureaus, etc.) [2]:

- finance department, which fulfills the finance function: cost calculation, budget control, payments, etc.;
- human resources department, responsible for personnel management: workforce planning, assessing current and future staffing levels, recruitment and selection, employee supervision, etc.;
- marketing department, executing the marketing function: market needs analysis, demand forecasting, product development forecasting, and capacity analysis;
- production units, handling transformation, engineering, production planning, actual production, and quality assurance: studying production methods, performance evaluation, incentive programs, scheduling, tool development and release, results analysis, processing, assembly, quality control of input resources, production processes, and finished goods;
- technical services, providing design and reconstruction of facilities; equipment maintenance and repair; industrial infrastructure support;
- R&D and engineering departments, conducting product research and development;
- logistics departments, managing resource sourcing; determining procurement systems and models; contracting, delivery, warehousing, and inventory management.

Table 1.2 – Key Decision Categories in Operations Management

Decision Area	Policy Focus	Strategic Choices
Quality	Approach, training, suppliers	Prevention vs. inspection, technical or managerial training, quality-based or cost-based supplier selection
Product	Development, ownership	In-house development or purchase of blueprints, buy a patent or develop internally
Process	Process initiation, automation	Make or buy, manual vs. automated production, job shop vs. batch vs. mass production
Capacity	Facility size and location	One large vs. multiple small facilities, domestic vs. foreign markets, proximity to resources or consumers
Supply Chain	Quantity, distribution, control	High vs. low inventory levels, centralized vs. decentralized procurement, detailed vs. random quality checks
Labor	Specialization, compensation	High or low wage levels, types of incentive systems, piecework vs. hourly pay and their variants

This example (see tab. 1.2) demonstrates that the majority of an enterprise's implemented functions belong to operations. Thus, every organization uses the operations function, which is the most essential and complex among all others. It encompasses all actions directly involved in producing goods or delivering services. This function plays a fundamental role in value creation and represents the core of any enterprise.

Among other factors, the size of an enterprise directly influences the specialization of operations managers. They may specialize in one decision category or handle all six (in smaller firms). It is also common that certain decision categories, such as product development, may not be relevant for every business.

1.2 Creation and functioning of an operational strategy

The primary objective of any enterprise is to satisfy market demand for specific categories of products—whether goods, services, or works—while ensuring a sufficient level of profitability. To attain this goal, a company must maintain strong competitiveness of its offerings, uphold a high degree of organizational effectiveness and operational efficiency within the production system, regularly update its product range and assortment, and continuously adopt advanced technologies and modern equipment.

To formulate an effective corporate strategy, the enterprise must identify available opportunities within the broader economic environment and align them with its internal strategic objectives. The foundational purpose behind an organisation's existence lies in its mission, which is realised through the implementation of a corresponding strategy. In essence, strategy represents a structured action plan aimed at fulfilling the organisation's mission. The achievement of clearly defined objectives is feasible only through the existence of a concrete plan—a corporate and operational strategy—that comprehensively addresses all functional areas of the business.

Practical experience in production has led to the formation of specific operational strategies, such as: focusing efforts on simplifying products through functional and cost analysis; fostering continuous improvement; promoting and supporting innovation;

carefully selecting transformation processes with regard to their adaptability and flexibility; ongoing personnel training; forecasting production activities; minimising batch sizes and inventory levels; decreasing reliance on original components; increasing the frequency of component deliveries; and implementing statistical quality control methods, among others.

The development of both the mission and the strategy necessitates a detailed assessment of the organisation's internal capabilities within its external environment, allowing it to determine its core competencies and unique approaches to resource utilisation for effectively meeting market requirements (see Fig. 1.3) [5].

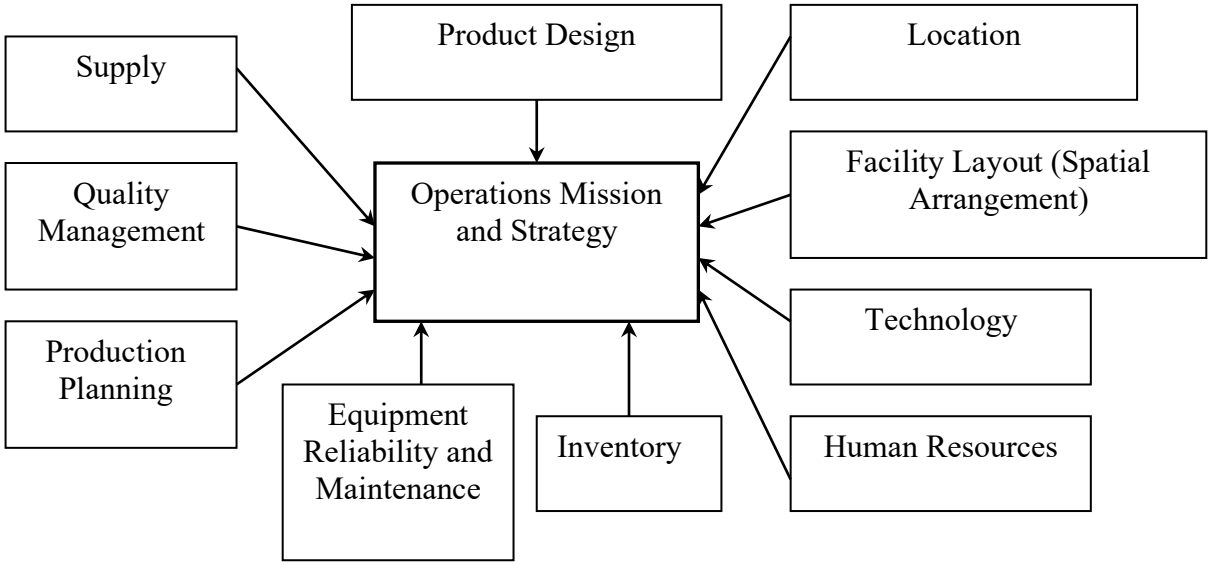

Figure 1.3 – Components of the operations mission and strategy

The effective formulation of a production strategy relies on systematic collaboration with various specialised departments within the organisation. For instance, marketing professionals must provide data regarding product sales performance and market dynamics, while engineering and technology specialists are responsible for reporting on innovations and developments in technological trends.

A key component of the production strategy, similar to any specialised functional strategy, is the definition of specific strategic objectives. If the corporate strategy development process is properly structured, the goals outlined in the production strategy

should directly derive from the organisation's overarching strategic priorities, particularly those at the highest (first) level. At the same time, the production strategy establishes its own distinct set of objectives within the broader strategic framework of the organisation.

The production (operations) strategy refers to the creation of general policies and plans for the allocation and utilisation of a firm's resources with the aim of supporting its long-term competitive advantage. Together with the corporate strategy, it encompasses all aspects of the organisation's activities, designed to meet market demands for specific goods and services. This strategy entails the development and application of all production-related capabilities to achieve strategic competitiveness. It is reflected in decision-making processes related to the design and evolution of the transformation process and the supporting infrastructure [16].

Developing the transformation process involves making a wide range of operational decisions, such as choosing optimal production technologies, scheduling production processes, selecting inventory management systems, implementing quality control measures, designing compensation structures, and organizing the production function of the enterprise.

An operations strategy is therefore recognised as an essential element of the overall strategic planning process, ensuring that production-related activities are in line with the organisation's goals. As these goals are influenced by shifting customer needs, the operations strategy must also remain adaptive to potential future changes.

In order to develop a strategy, it is necessary to determine the level of development of the company through analysis. To effectively develop a plan for achieving competitive advantage, it is necessary to identify threats and opportunities in the external environment and combine strengths and opportunities to prevent threats from the external environment and localise its own weaknesses. In doing so, the organisation determines how to maximise opportunities and minimise threats. The strategy is continuously evaluated in terms of customer satisfaction, taking into account the competitive reality. One method of conducting such an analysis is a SWOT analysis, which considers the threats and opportunities of the external environment and then

analyses the strengths and weaknesses of the organisation. The idea of a SWOT analysis is to identify opportunities that match the organisation's strengths, or at least to identify potential points that could be developed with the help of management. Similarly, the manager is looking for a way to identify the organisation's weaknesses. On a two-dimensional strategy matrix, opportunities and threats from the external environment are shown horizontally and strengths and weaknesses of the organisation are shown vertically. Opportunities/threats of the external environment include: cultural, demographic, economic, political and legal, technological, and social (suppliers, distributors, customers, employees, competitors). Strengths/weaknesses of an organisation include managerial abilities, capital, investment attractiveness, production capacity, profitability, human resources, productivity, market position, technical competence, innovations, etc.

During the development of an operational strategy, strategic decisions are created and made that tend to be long-term and may take more than one year to implement. Tactical decisions can be modified and changed much more frequently. The organisation's operational mission and strategy are supported by both types of decisions.

Consequently, strategic decision-making encompasses various aspects such as product selection, the geographical placement of the operational system, the type of production, production capacity, manufacturing methods, workforce recruitment and utilisation, quality assurance, and supply chain management. In particular, decisions related to product design are directly linked to the production process and concern the functional, operational, technical, and economic characteristics of the product. The configuration and structure of the production process reflect the actual potential of the operational system in terms of available technologies, personnel, and other necessary resources. The selection of the operational system’s location significantly influences the enterprise’s performance, as it facilitates efficient resource supply and, where relevant, closer access to end consumers. Decisions regarding human resources play a crucial role in shaping the organisation’s competitive behaviour and determine its capacity to deliver products or services of the desired quality.

The operational management system and its functions are aimed at achieving the company's goals. By setting certain goals for an organisation, management confirms what the organisation is striving for. A goal is a specific end state or desired result that a firm seeks to achieve when making a decision [2].

An organisation can have different goals. Business organisations are primarily aimed at creating certain goods or services within specific constraints - in terms of costs and profit. The determining factor is the place of the goal in question in the scale of human needs.

The assessment of the possibilities of setting certain goals in terms of a new product or service is initial and approximate, but it allows setting initial goals that can be refined in the course of the project. The orientation determined by the set goals permeates all subsequent management decisions.

The following key questions usually arise when determining the purpose of operating activities [2]:

- which goals to choose and in what order to set them;
- how urgent this goal is and how the possibility of achieving it is assessed.

When setting the intended goals, it is necessary to proceed, first of all, from the opinion of the group for which the organisation was established.

In general, a successful operational management strategy depends on taking into account:

- external environment requirements (i.e., in what economic, cultural and technological conditions the organisation is trying to implement its strategy);
- competitive requirements (taking into account the strengths and weaknesses of competitors and predicting their possible actions);
- the organisation's strategy (its possible development directions);
- product life cycle (i.e., taking into account the stage of product development).

In the systematic assessment of production costs for both strategic and tactical purposes, the following indicators are usually used:

- specific losses of live labour and materials;
- capital efficiency;

- inventory turnover;
- cost of production per unit of product;
- production volume;
- product quality (as a rule, by an integral indicator).

The effectiveness and rationality of operational management depends entirely on the correct choice of operational strategy. The operational manager is responsible for building an efficient production system that is both effective and optimal. The operational system combines labour resources, tools and objects of labour and other elements that are necessary for the functioning of the enterprise, in the process of which products or services are created. Depending on the organisation's strategy, an operating system is built, which is most often represented as a set of interactions between three subsystems.

- transformation subsystems;
- support subsystems;
- planning and control subsystems.

The transformation subsystem performs a productive function of converting inputs into outputs. The support subsystem functions for the smooth operation of the conversion subsystem. The support subsystem includes auxiliary and maintenance facilities. The planning and control subsystem plans the organisation's activities for each subsequent period, monitors the implementation of decisions, and determines the strategic directions of the organisation's development.

For the operating system to function effectively, all subsystems (elements) of the system must function in a coordinated manner with a single common goal - the development and manufacture of the required products (services). Accordingly, an important task of operational management is to build such management systems that would ensure the implementation of the necessary actions to obtain the maximum positive result from the operation of the operational system. A system can be defined as any object that has a set of interconnected and interacting parts or elements. Any system consists of at least four main components: input, process, output, and feedback and

control devices. Operational systems, regardless of the type of activity, type of production and industry specifics, are trying to provide the following properties [9]:

- purposefulness - associated with the creation of an operating system to meet certain needs and the ability to produce the necessary products (provide services);

- polystructure - characterised by the simultaneous existence of subsystems in the operating system, in which individual elements are simultaneously included in several subsystems and function in accordance with their requirements and goals;

- openness - manifested not only in material or energy exchange, but also in the exchange of information with the external environment;

- complexity - caused by the main elements of the operating system: employees, tools and objects of labour; purposefulness, polystructure, openness, alternative connections, a large number of processes carried out in the system;

- diversity - characterised by such concepts as: specialisation, concentration, proportionality of individual parts of the system and subsystems, straightforwardness of production processes, rhythmicity of partial production processes, type of product, serial production (compliance with the basic principles of production organisation);

- effectiveness - characterises the system's ability to produce products or services with a corresponding positive effect;

- reliability - implies stable functioning, ability to resist the negative effects of stochastic disturbances occurring both within the system and in the external environment;

- flexibility - is the ability to quickly adapt the operating system to constant changes in the environment;

- controllability - reflects the possibility of controlling influences in the desired direction;

- durability - characterises the ability of the operating system to maintain effectiveness for a long time;

- structure - defines a set of interconnected links of elements that create the system (functional links and horizontal and vertical division of labour);

- production organisation - reflects the optimisation and coordination in time and space of all the main and auxiliary elements of the operating system aimed at producing the products (services) required by consumers.

The main purpose of the operating system is to process incoming resources into final products to meet customer needs. In fulfilling this task, the production function should help the firm to achieve a pronounced competence and competitiveness in the market, and the composition and inter-subordination of the operating system units should ensure its effective implementation. Distinctive competence means that the firm does something better than its competitors, i.e., it maintains competitiveness, which allows the firm to attract and retain customers. A firm's competitiveness can be achieved through the production function in different ways. The most obvious is to reduce the firm's losses compared to its competitors.

As a rule, products whose sales volumes depend only on the level of their production costs (or their cost price) are everyday goods. In other words, consumers are simply unable to distinguish between identical products produced by different companies, which leads to the fact that the price of a product is used as the main criterion when choosing a purchase.

However, this market segment is often very large, and many companies are also attracted by the potential for significant profits, which is often associated with large volumes of production of these products. As a result, competition in this type of segment is usually very fierce, and bankruptcy rates are usually high. In such conditions, only one producer with the lowest production costs can survive, which usually determines market prices.

CHAPTER 2
ANALYSIS OF THE OPERATIONS MANAGEMENT SYSTEM AT LCC "AGROVITA LTD"

2.1 General characteristics of the operations management system at LCC "Agrovita Ltd"

Limited Liability Company "Agrovita LTD" was established on the basis of private ownership and an agreement between Ukrainian citizens—owners of the company's assets—through the combination of their property and monetary contributions for the purpose of conducting joint entrepreneurial activities, in accordance with the provisions of the enterprise's founding agreement. The company is recognized as a legal entity under current Ukrainian law..

The company was established at the discretion of its participants through contributions in the form of assets and cash. The participants of the company are individuals who formed the statutory capital of 300,000 UAH, namely: Zinovii Pavlovych Hrytsai (Director of the company), who holds 80% ownership; and Mykhailo Mykhailovych Chornyi, who holds 20%.

Full company name: Limited Liability Company "Agrovita Ltd".

Short name: LLC "Agrovita LTD".

Legal address: 47000, Ternopil Oblast, Zbarazh, 5 Timiryazev Street.

Place of business: 46010, Ternopil, 2 Poliska Street.

The company's purpose is to generate profit through production, commercial, intermediary, and other activities conducted in accordance with Ukrainian legislation and its charter. The main business activities include:

- procurement and slaughter of cattle and pigs from households and farms;
- processing of meat and by-products into finished goods (sausages and meat products);
- sales of meat, by-products, sausages, and meat products.

The company's business is to carry out business in the following areas:

– manufacture of consumer products (both food and non-food), agricultural and industrial goods;

– wholesale, retail trade of consumer products (food and non-food), agricultural and industrial goods;

– provision of catering and culinary services;

– processing of agricultural raw materials, natural resources, production waste and secondary materials;

– implementation of foreign economic operations, including the export and import of goods, works, and services.

In cases where specific types of activities require special permission in accordance with current legislation, the company may engage in such activities only upon obtaining the appropriate licence or permit.

The company acquires legal entity status from the moment of its official state registration. It possesses its own property, maintains an independent balance sheet, and has settlement and other types of accounts in national and foreign currencies in Ukrainian and international banks. The company also has its own round seal and rectangular stamp bearing its name, as well as other company requisites including letterheads and trademarks. In conducting its business, the company acts in its own name, entering into agreements with domestic and international legal entities and individuals, acquiring property and non-property rights, assuming obligations, and participating in judicial, arbitration and other legal proceedings as either a claimant or a defendant.

The company's assets include fixed and current assets, as well as other forms of property, the value of which is recorded on its independent balance sheet.

The authorised capital may be increased through: additional contributions by one or more of the founders; allocation of a portion of the company’s profit; attraction of financial resources from third parties.

The organisational and management structure of Agrovita LTD is built on a linear-functional principle (see Figure 2.1).

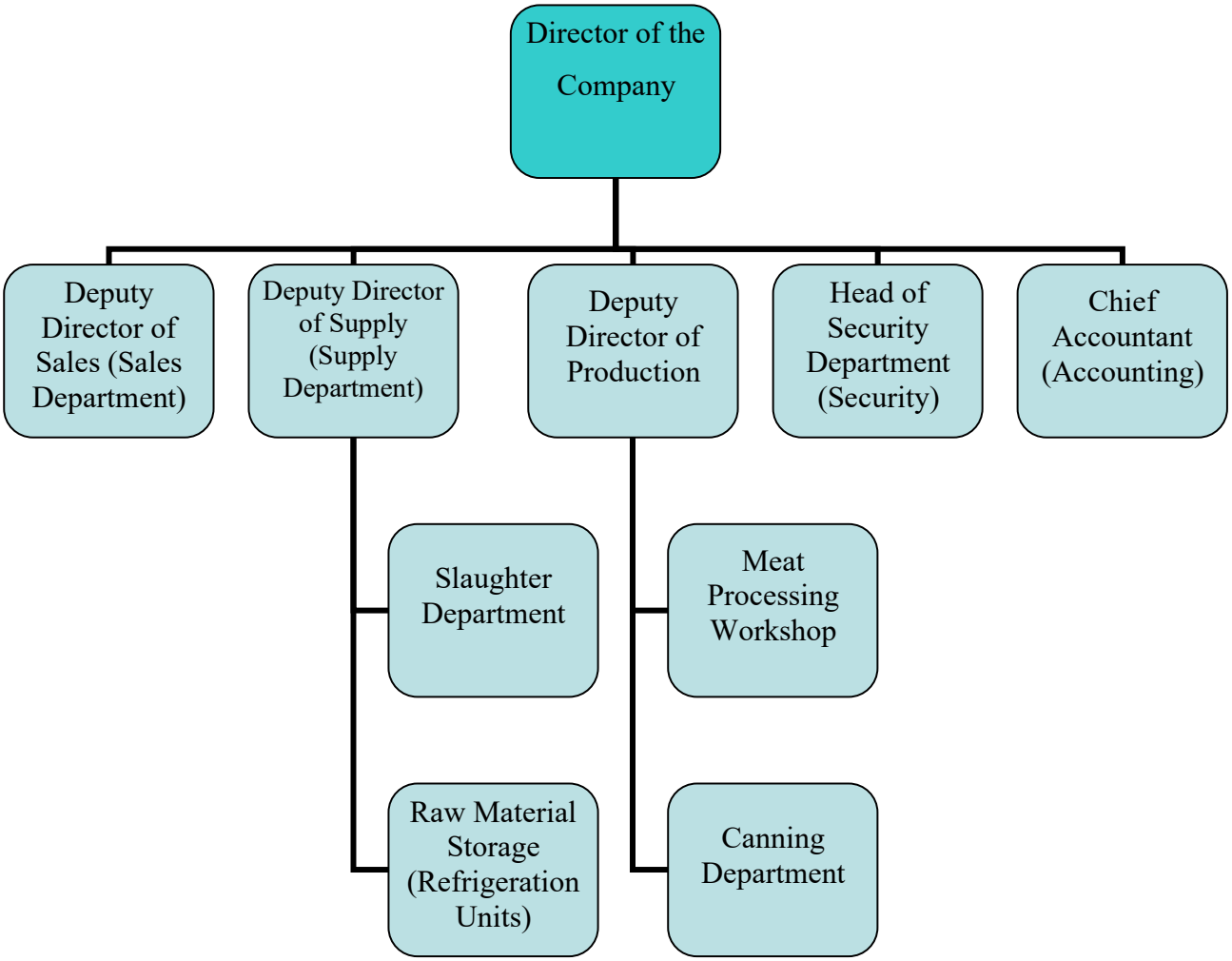

Figure 2.1 - Organisational management structure of Agrovita Ltd

The supreme management body of the company is the Meeting of Shareholders. Their competence includes all issues related to the company's activities. The company's day-to-day operations are managed by the company's director, who is appointed (dismissed) by the general meeting of shareholders. The relationship between the Founders and the Director, the rights, duties and responsibilities of the parties shall be stipulated in the contract concluded upon hiring (appointment). The director, upon agreement with the company's shareholders, has the right to perform all actions on behalf of the company without a power of attorney. Employees of the company are hired and dismissed by the director. He/she independently resolves issues related to the company's activities, except for those referred to the competence of the founders by the charter, memorandum of association and other administrative documents. The Director of Agrovita LTD reports to the Deputy Director for Production (Chief Technologist),

Deputy Director for Sales, Deputy Director for Supply, Chief Accountant, and Head of Security. The organisational management structure of Agrovita Ltd. meets all the necessary characteristics for the effective management of the company's operating system and the production process.

Agrovita LTD uses the price-selling system for ordering and delivery of products. According to this system, orders are received for products from price lists that are constantly updated, and then they are delivered within 24 hours. To implement this strategy, the company uses sales agents who collect orders and each of whom has an average of 120 to 150 outlets, and delivers products using its own transport. In accordance with the orders for products from the price lists received by the sales agents, an operational production plan is formed, which is implemented in the company's meat processing department. At the same time, all other departments and employees of Agrovita LTD work to ensure the efficient performance of the main production activities.

It should be noted that the company is provided with fairly new equipment and has the necessary labour resources. The external environment of the organisation has a significant impact on the activities of Agrovita LTD. The company's main competitors are Myasovita LLC, Rybak PE, Masar PE, Matsyk PE, Tymchyshyn PE, Dobroslav LLC, and other meat processing plants. However, despite significant competition, the company has stable sales due to consistently high product quality. The main competitor's performance is assessed by assigning a score from 1 to 3 by an expert according to the list of indicators in Table 2.1. The presented competitors have the same capacities and capabilities as Agrovita LTD. The company does not lose to them in terms of the indicators specified in Table 1.

The effectiveness of Agrovita LTD depends directly on the development of such factors as: the state of the economy and solvency of customers; political factors; competition in the market; emergence of new products and technologies for their manufacture, customs barriers to the import of meat, etc.

One of the most important factors affecting the company is suppliers. There are delays in deliveries. There are difficulties in procuring raw meat. Over the past two

years, consumers have been switching to the consumption of cooked sausages, which is caused by the deteriorating economic situation.

Table 2.1 – Evaluation of the main competitors of Agrovita Ltd.

№	Indicators Competitors	Competitors		
		PE "Rybak"	LLC "Agrovita LTD"	LLC "Myasovita"
1	Market penetration	2	2	2
2	Return on sales	3	3	3
3	Profitability of equity	3	3	3
4	Internal working capital share	3	3	3
5	Dominant product pricing level	3	3	3
6	Breadth of product range	3	3	3
7	Level of product conformity	3	3	3
8	Distribution and sales infrastructure	3	3	3
9	Output level	3	3	3
10	Organisational management structure	3	3	3
	Average score	2,9	2,9	2,9

Table 2.2 – Opportunities and threats of the company's immediate environment

Factors	Score in points	Possible options for appropriate actions of the company
Opportunities 1. Opportunities to expand sales of meat products	5	Expansion of production capacities and sales volumes in the meat products segment.
2. Stability of the competitive environment	4	Increased dependence of consumers on the enterprise
3. Weakening of the bargaining power of suppliers, enabling more	4	Availability of alternative suppliers willing to cooperate under more
Threats 1. Increased competitive pressure	6	Decrease in prices, reduction of production and administrative costs
2. Enhanced strategic focus on the existing market niche and	6	Increased focus on the occupied segment

An analysis of the internal environment of Agrovita LTD reveals several key strengths of the enterprise. Among them are: a highly qualified workforce; the presence

of proprietary formulations for a wide assortment of sausage products; a well-developed and efficient sales infrastructure; a diverse and extensive product portfolio; as well as high speed and reliability in product delivery to end consumers.

At the same time, one of the key weaknesses of the company is its considerable sensitivity to fluctuations in external environmental factors.

2.2 Analysis of the use of resources of the company's operating system

The company currently employs 65 people. Over the past two years, the number of employees has increased by 2 people. To conduct a qualitative analysis of the personnel movement, we will present the characteristics of the personnel movement of Agrovita LTD LLC, which is presented in Table 2.3. To do this, we will calculate the following coefficients:

- the turnover rate of new employees is calculated by the ratio of the number of new employees for a certain period of time to the average number of employees:

$$EHR = H/AHC \quad (2.1)$$

where H – Number of hired employees;
AHC – Average Headcount.

$EHR_{(2022)} = 8/63 = 0,13$; $EHR_{(2023)} = 4/64 = 0,06$; $EHR_{(2024)} = 7/65 = 0,11$;

- the turnover rate of dismissed employees is calculated by the ratio of the number of dismissed employees for the analyzed period to the average number of employees:

$$ETR = L/AHC \quad (2.2)$$

where *L* – Number of employees who left
AHC – Average Headcount

$ETR_{(2022)} = 7/63 = 0.13$; $ETR_{(2023)} = 3/64 = 0.06$; ETR (2024)= 6/65 = 0.11;

- The staff turnover rate is determined by the ratio of the number of employees who resigned voluntarily, due to incompetence, or for violation of labor discipline to the average number of employees. Since the total number of employees leaving the company is the same as the number of employees leaving voluntarily and those dismissed for violation of labor discipline, the staff turnover rate is equal to the turnover rate of dismissed employees.

- the total turnover ratio is calculated by dividing the sum of the number of hired and dismissed employees for the analyzed period by the average number of employees, i.e:

$$TSTR = (H + L) / AHC \quad (2.3)$$

$TSTR_{(2022)} = 15/63 = 0.13$; $TSTR_{(2023)} = 7/64 = 0.06$; $TSTR_{(2024)} = 13/65 = 0.11$.

Table 2.3 - Characteristics of personnel movement in Agrovita Ltd.

Indicators	2022	2023	2024	Abs. of the year (2024 – 2023)	Growth rate (2024 2023), %
Average number of employees, persons	62	64	65	1	101,56
Employees hired, persons	7	5	7	3	176,00
Employee separation rate	6	2	6	3	200,02
including:					
- at his own request and dismissed for violation of labor discipline	7	4	6	3	200,02
- dismissed due to redundancy	0	0	0	0	-
Turnover ratio in relation to admission	0,12	0,06	0,12	0,031	182,33
Turnover to disposal ratio	0,11	0,05	0,09	0,04	180,0
Staff turnover rate	0,12	0,05	0,09	0,05	180,0
Total staff turnover ratio	0,25	0,13	0,19	0,07	153,86

Personnel turnover indicators in the reporting year increased and the number of employees in 2024 increased by 1 person. In general, the main personnel composition of the company remains unchanged, with changes occurring among the sales department employees.

One of the main characteristics of labor resource utilization is the use of working time. Therefore, let us analyze the indicators of working time utilization in Table 2.4. Working time utilization indicators are calculated as follows:

- the average number of days worked per employee is determined by the ratio of the number of person-days worked to the average number of employees;

- the average number of hours worked per employee is determined by the ratio of the number of man-hours worked to the average number of employees.

Table 2.4 – Level of working time utilization of Agrovita Ltd.

Indicators.	2023	2024	Abs. deviations (+/-)	Growth rate, %.
Number of man-days worked by all employees	15087,50	15278,38	199,89	101,33
Number of man-hours worked by all employees	120707	122306	1599	101,33
Average number of employees, people	64	65	1	101,55
Average number of days of work per employee (r.1/r.3)	235,77	235,20	-0,56	99,8
Average number of hours of work per employee (r.2/r.3)	1886,1	1881,66	-4,43	99,78

In 2024, the amount of time worked in the company increased by 1,32%, but the time spent by employees decreased by 0,23%.

Labor productivity is defined as the output per employee over a certain period of time (in kind or in monetary terms), and labor intensity is defined as the labor time spent per unit or total volume of output. The higher the value of labor productivity, the more efficiently the company uses its labor potential and vice versa. To fully determine the efficiency of labor resources use, we will analyze the labor productivity of the company's personnel and analyze the labor intensity of products (Table 2.5). With the help of the calculations made to determine the labor productivity of the company's personnel and the labor intensity of products and their changes in 2023 and 2024, we will be able to analyze how effectively the company's personnel is used. The average annual labor productivity of employees is determined by the formula:

$$LP=SRW\times ADW\times WHD\times AHO \quad (2.4)$$

where LP – Labor Productivity (average annual), in thousand UAH per worker;

SRW – Share of Workers in the average headcount of personnel;

ADW – Average Number of Working Days per employee, days;

WHD – Average Working Day Duration, hours;

AHO – Average Hourly Output, thousand UAH / person-hou.

Table 2.5 – Labor productivity and labor intensity indicators

Indicators	2023	2024	Abs. deviations (+/-)	Growth rate, %.
Marketable products, UAH	6230,0	6341,0	114,0	101,82
The average number of full-time employees of the accounting staff, persons.	64	65	1	101,57
Average annual output per employee, UAH thousand.	97,34	97,56	0,25	100,26
Average number of hours worked per employee, hours.	1886,07	1881,55	-4,43	99,9
Average hourly output per employee, UAH	51,60	51,85	0,25	100,49
Man-hours worked by all employees, man-hours.	120709,0	122308,0	1599,0	101,33
Specific labor intensity per 1 thousand UAH, hours.	19,38	19,29	-0,09	99,53

Analyzing Table 2.5, it can be noted that labor productivity increased slightly in the reporting year, which in turn led to a 0,48% decrease in the labor intensity of meat products of Agrovita LTD.

In order to characterize the technical level of the enterprise, the analysis should also use indicators of capital equipment, energy equipment, etc. They are calculated as the ratio of the average cost of fixed assets and the amount of electricity used for production purposes to the average number of employees in the largest shift.

Let's analyze the movement and technical condition of fixed assets for the previous and reporting years (table 2.6):

Table 2.6 – Indicators of movement of fixed assets of Agrovita Ltd.

Indicators.	2023	2024	Abs. (+/-)	Growth rate, %.
1	2	3	4	5
Availability at the beginning of the year, UAH ths.	68,00	64,00	-4,00	94,13
Depreciation, UAH thousand	62,00	76,00	14,00	122,59
Initial cost, UAH thousand.	130,00	140,00	10,00	107,7
Received for the year, UAH thousand.	10,00	105,00	95,00	1041,00
Disposed of during the year, UAH thousand.	14,00	23,00	9,00	164,30
1	2	3	4	5
Availability at the end of the year, UAH thousand	64,00	145,00	81,00	226,56
Refresh rate	0,16	0,73	0,57	459,04
Attrition rate	0,21	0,37	0,15	174,56
Wear factor	0,49	0,55	0,08	113,83
Growth rate	-0,06	1,27	1,32	2151,56
The fitness factor	0,45	0,60	0,15	129,99

When studying fixed assets, it is important to analyze their movement and technical condition. For this purpose, we calculate the following coefficients: renewal, which reflects the intensity of fixed assets renewal and is calculated as the ratio of the value of fixed assets received during the reporting period to their value at the end of this period; disposal, which characterizes the essence of the intensity of fixed assets disposal from the production sector and is calculated as the ratio of the value of fixed assets disposed of during the reporting period to their value at the beginning of this period; growth, which characterizes the level of growth of fixed assets or its individual groups for a certain period and the growth of fixed assets. Analyzing the indicators of movement of fixed assets of the company, it should be noted that they were significantly updated in the reporting year - by UAH 81.0 thousand. Fixed assets were renewed more than twice in 2024. This is a very positive factor that contributed to a sharp increase in the serviceability coefficients by 29.99%, renewal by 359.03% and growth by 2051.56%. In general, the company's production capacity policy should be given the highest score.

The most important summarizing indicators of the efficiency of fixed assets are their capital productivity and capital intensity of production. Capital productivity shows the volume of output per average annual cost of a unit of fixed assets:

$CPi_{(2022)} = 6659/68 = 97.93;\ CP_{(2023)} = 6229/64 = 97.33;\ CP_{(2024)} = 6242/145 = 43.05.$

The product capital intensity indicator is the inverse of the capital efficiency indicator and shows the average annual cost of fixed assets per unit of output:

$CI_{(2022)} = 68/6659 = 97.93;\ CI_{(2023)} = 64/6229 = 97.33;\ CI_{(2024)} = 145/6242 = 43.05.$

Capital equipment ratio shows the share of fixed assets per employee in the largest shift or per employee:

$CE_{(2022)} = 68/63 = 1.08;\quad CE_{(2023)} = 64/64 = 1.0;\quad CE_{(2023)} = 145/65 = 2.23.$

The results of the calculation are summarized in Table 2.7.

Table 2.7 – Dynamics of capital efficiency, capital intensity and capital equipment

Indicators	2022	2023	2024	Abs. of the year (2024 - 2023)	Growth rate (2024 2023), %
Return on fixed assets	97,94	97,34	43,05	-54,28	44,24
Capital intensity of products	0,01	0,01	0,02	0,01	200,00
Fixed asset capitalization	1,08	1,0	2,24	1,24	223,00

In 2024, the return on fixed assets decreased due to a significant increase in the cost of fixed assets. This resulted in a twofold increase in the capital intensity of products and a 124% increase in capital equipment.

The market economy necessitates the development and implementation of a system for forecasting key financial, economic and production indicators at enterprises. To

Table 2.8 – Indicators of the company's financial condition

Indicators	Rec. meaning	2023	2024	Abs. deviations (+/-)	Growth rate, %.
Liquidity indicators					
Absolute liquidity ratio	> 0,2	0,08	0,05	-0,02	72,33
Current liquidity ratio	> 1	0,92	0,80	-0,12	87,26
Total liquidity ratio	2	1,94	1,80	-0,14	92,67
Financial stability indicators					
Financial independence ratio	> 0,5	0,52	0,52	0,00	100,32
Financial dependency ratio	< 0,5	0,48	0,49	0,00	99,67
Financial stability ratio		1,02	1,03	0,01	100,66
Financial risk ratio		0,98	0,97	-0,01	99,35
Total debt ratio		0,50	0,50	0,00	99,67
Working capital mobility (maneuverability) ratio	0,5	0,92	0,78	-0,14	84,34
Share of equity capital in equity		0,08	0,22	0,14	258,21
Equity concentration ratio	max	0,52	0,52	0,00	100,33
Gearing ratio of borrowed capital	min	0,51	0,51	0,00	99,67
Debt to equity ratio	min	0,96	0,95	-0,01	99,35
Business activity indicators					
Business activity ratio	max	4,47	5,18	0,73	116,41
Financial resources utilization efficiency ratio		3,73	4,34	0,61	116,41
Duration of financial resources turnover (days)		98,17	84,34	-13,83	85,92
Working capital turnover ratio		4,77	5,28	0,50	110,58
Duration of one working capital turnover (days)		76,63	69,30	-7,32	90,45
Equity coverage ratio		0,41	0,489	0,06	116,15
Share of working capital, %.		95,43	88,13	-7,29	92,37
Share of own working capital, %.	max	48,51	44,43	-4,07	91,61
Return on equity, %.	max	40,08	-13,06	-53,12	-32,59
Return on equity, %.	max	17,25	-6,64	-23,90	-38,52
Product profitability, %.	max	4,92	-1,68	-6,61	-34,21

analyze the financial condition, we will analyze the indicators of liquidity, financial stability and business activity of the enterprise and their dynamics. The analysis of the financial condition is aimed at improving the organization of the company's finances

and increasing the efficiency of their use in the course of business activities. The content of the financial condition analysis is to study the indicators of liquidity, financial stability, business activity, use of means of production, solvency of the enterprise, provision with equity capital and own working capital, condition of production assets and borrowed sources, their formation, identification of ways to improve the efficiency of financial resources use. The main source of data for analyzing the financial condition is the balance sheet and income statement. The results of calculating the indicators characterizing the financial condition of Agrovita LTD are presented in Table 2.8. Having analyzed liquidity, it can be noted that the company has an illiquid balance sheet and in the reporting year liquidity indicators are deteriorating, although they almost reach the normative values. Financial stability indicators are almost unchanged. However, business activity indicators are deteriorating, as are all types of profitability.

Agrovita Ltd. is engaged in the following operating activities:

- purchase of live cattle and pigs from the population and farms in Ternopil region;
- slaughtering live cattle and pigs in its own slaughterhouse;
- processing meat and offal into finished products (sausages and meat products);
- selling meat, offal, sausage and meat products to the population of the region (shops, schools, kindergartens, hospitals, private sellers).

The company purchases cattle and pigs using its own transport. Payment is made at the point of purchase. Cattle and pigs are slaughtered by Agrovita Ltd. slaughterhouse workers in the slaughterhouse department. The carcasses are then disassembled by deboners in the carcass processing department. The harvested meat raw materials are delivered to the sausage shop (if immediate processing is required) or to the refrigerator. Meat raw materials, along with additives and fillers, are processed into cooked and semi-smoked sausages, sausages, smoked meats and other meat products. Agrovita Ltd uses various casings for sausage production, including artificial polyamide, protein-zein and natural intestine. The main suppliers of additives, fillers and casings are Agrosvit LLC, Taste Technologies LLC, Bilkozein Trading House LLC, Atlantis-Pack LLC, and Poly-Pack LLC.

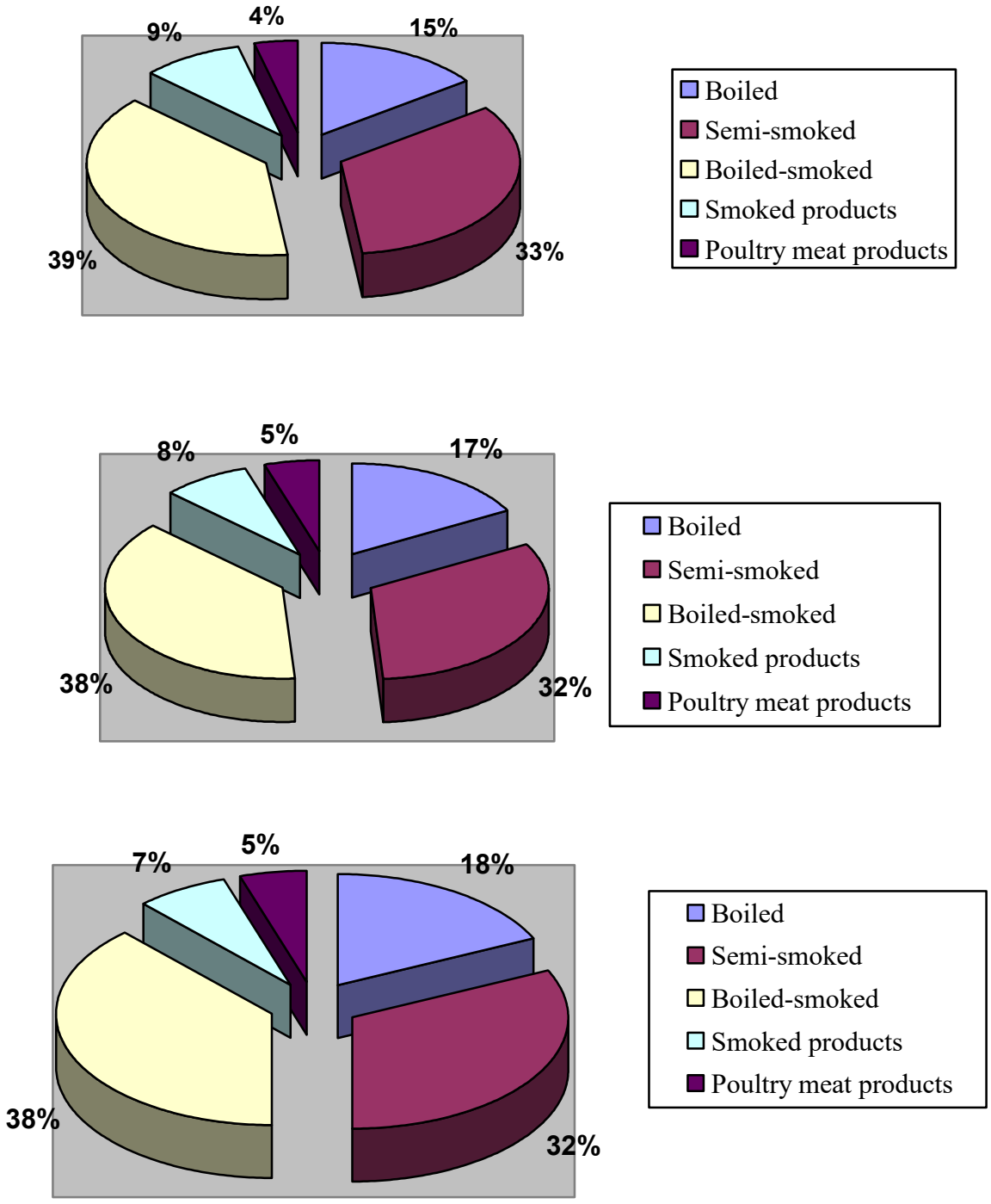

Figure 2.2 – Structure of the product range of Agrovita Ltd at 2022, 2023, 2024 years

In recent years, there has also been a significant increase in selling prices, which is explained by rising purchase prices for raw materials, rising energy prices, rising minimum wages, etc. The product range of Agrovita LTD is quite wide. It includes 4

types of smoked meats, 16 types of semi-smoked sausages, 12 types of cooked smoked sausages, 28 types of cooked sausages and 3 types of poultry products. In recent years, the assortment has been changing slightly, mainly due to an increase in the range of cooked sausage products, which is explained by a drop in effective demand among the population and an increase in the share of low-cost products.

The average prices of Agrovita LTD's products are competitive compared to those of its competitors, and therefore the company's policy is to stimulate demand by improving product quality and attracting customers through a flexible payment system. However, to reduce selling prices, the company adds various types of meat proteins to its sausage products, which certainly does not contribute to the quality of the product. Otherwise, the products would not be competitive with those of other manufacturers.
Based on the analysis of data in Figure 2.2, it can be concluded that semi-smoked, cooked smoked and boiled sausage products are in the greatest demand among consumers, and in recent years there has been a growing trend in demand for boiled and cooked smoked sausages, which is explained by a decrease in the purchasing power of the population. The most popular sausages are European Salami, Tender Sausages, Milk Sausages, Ham, School Sausages, Jubilee Serviette, Dovbushska, Myslyvska, Extra, Drohobych Extra, Home Fried Delicatessen, Moskovska, Vitchina, Salami with Cheese, Vitchina Chicken, etc.

According to the protocols, a quality certificate based on a veterinary certificate is issued for each type of product sold to the buyer, which gives permission to export products from Agrovita LTD and confirms that the products comply with veterinary standards.

In terms of quality, the products almost keep pace with competitors, with only aesthetic indicators lagging behind the best analogues, and they are fully compliant with other indicators.

The non-price factors that affect the competitiveness of Agrovita LTD's products include:

1. terms and conditions of product delivery to consumers. Delivery is mainly carried out to consumers by our own transport, but some consumers come to pick up products on their own according to pre-orders at a time convenient for them;

2. form of payment. There is a differentiation of payment for products. More than 50% of products are sold on credit with deferred payment for products;

3. consumer awareness. The company does not conduct an advertising campaign that impedes sales growth, but uses branded packaging with the company logo;

4. breadth of assortment, speed and quality of order fulfillment. The company's capacities allow it to work within the price list for individual orders and to produce batches of goods to order, which makes it possible not to manufacture products in advance, as they have a limited shelf life and the sooner they reach the consumer, the more opportunities there are to fully meet the needs of consumers.

Agrovita LTD has enough competitors in the market that sell similar products. Therefore, the struggle for the consumer is quite acute, especially in price competition. Although the consumer is guided by the price/quality criterion when making a purchase, with a rather low solvency of the population, especially people of retirement age, they will choose cheaper goods, and people with normal earnings choose more expensive goods of well-known advertised brands, because in their opinion they are of higher quality.

The analyzed products of Agrovita Ltd. on average have the same prices as similar products of competitors. Agrovita LTD does not have the technical capacity to produce large batches of products at the same time and therefore cannot work with customers who require 3-5 tons or more of products to be loaded in one flight. In addition, customers ordering large batches of products require significant discounts, which is economically unprofitable for Agrovita LTD.

The main indicators characterizing the efficiency of Agrovita LTD are summarized in Table 2.10 and shown in Figure 2.3.

As can be seen from the table and figure, in 2024 the efficiency of production activities deteriorated. Although sales revenue grew slightly (by 1.81%), a significant

increase in production costs resulted in losses in 2024 and a significant decline in all types of profitability (Figure 2.4).

Table 2.10 – Performance indicators of production activities Agrovita Ltd

Indicators.	2022	2023	2024	Abs. of the year (2024-2023)	Growth rate (2024 2023), %
Revenue from product sales, UAH thousand	6660,0	6230,0	6342,0	113,0	101,82
VAT, UAH thousand.	1111,0	1039,0	1057,0	19,0	101,84
Net sales revenue, UAH thousand	5550,0	5192,0	5285,0	94,0	101,82
Cost of sales, UAH thousand.	5036,0	4813,0	5162,0	350,0	107,28
Gross profit, UAH thousand.	515,0	380,0	123,0	-256,0	32,46
Income tax from ordinary activities, UAH thousand	106,0	105,0	106,0	2,0	101,93
Net profit, UAH thousand.	293,0	238,0	-87,0	-324,0	-36,72
Product profitability, %.	5,9	4,94	-1,69	-6,61	-34,23

The competitive advantages of Agrovita LTD include the appropriate image in the market and the won customers; availability of the necessary production capacity; high qualification of employees; availability of recipes for the production of a significant number of sausage products; a well-established sales system; a wide range of products; speed and efficiency in the delivery of products to customers. The company's weaknesses include significant amounts of receivables and payables, as well as significant dependence on changes in the external environment, especially on competitive pressure and the fiscal system.

In 2024, the efficiency of production activities deteriorated. Although sales revenues grew slightly (by 1.81%), a significant increase in production costs resulted in losses in 2024 and a significant decline in all types of profitability.

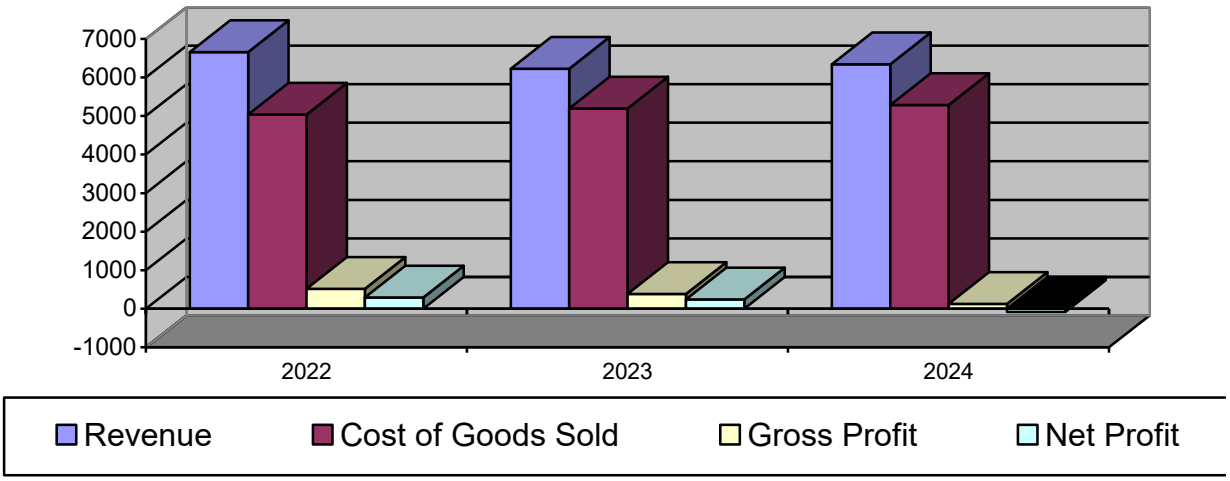

Figure 2.3 – Dynamics of key performance indicators of the company, UAH thousand

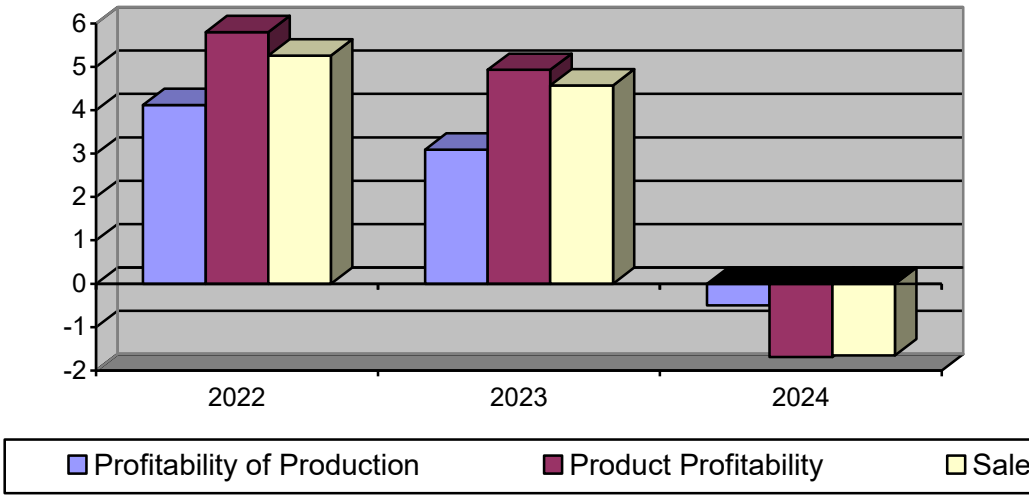

Figure 2.4 – Dynamics of the company's profitability indicators, %.

The competitive advantages of Agrovita LTD include the appropriate image in the market and the won customers; availability of the necessary production capacity; high qualification of employees; availability of recipes for a significant number of sausage products; well-established sales system; wide range of products; speed and efficiency in delivering products to customers. The company's weaknesses include significant amounts of receivables and payables, as well as significant dependence on changes in the external environment, especially on competitive pressure and the fiscal system.

CHAPTER 3
WAYS TO IMPROVE THE OPERATIONAL MANAGEMENT SYSTEM OF AGROVITA LTD

3.1 Substantiation of the effectiveness of the use of advanced technologies in the production process of Agrovita LTD

Over the past year, the company has made significant upgrades to its technological equipment to expand production capacity, improve the quality of its products and reduce energy consumption. However, much remains to be done to fully mechanize and automate the production process. In particular, the production of cooked sausage products (sausages, frankfurters, boiled sausages, etc.), the demand for which has been growing steadily in recent years, remains a significant problem in the production process. Therefore, there is an urgent need to update the equipment for production of this type of product by purchasing a cooking boiler and the POWERMON program (the program window devices are shown in Fig. 3.1), which can be used to control and monitor the production of sausages in an automated mode.

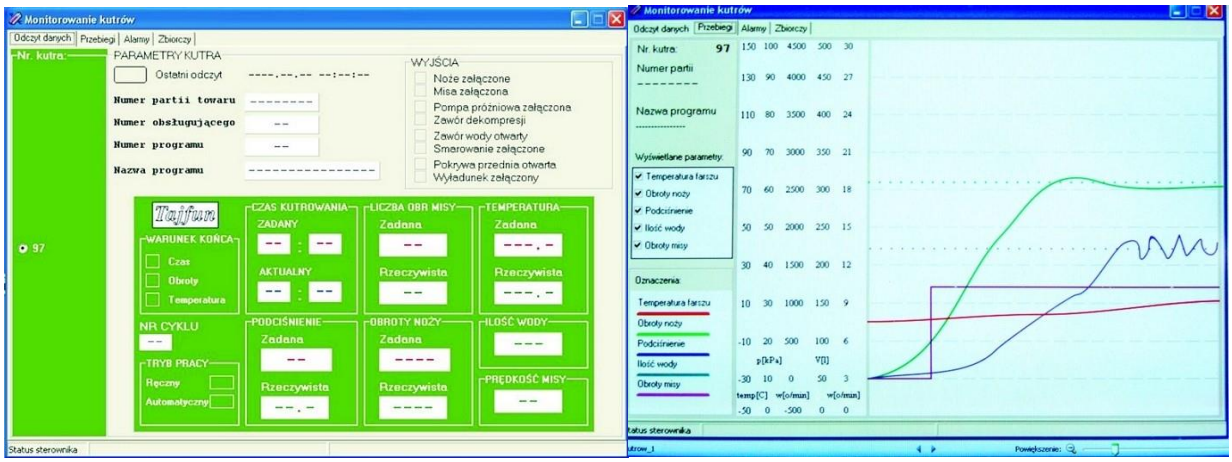

Figure 3.1 – An example of a computer monitor window with the POWERMON program

This program allows you to monitor the operation of cutters, massagers, cooking boilers and smoking chambers. With its help, you can monitor, record and archive all operating parameters of the production process in a computer, i.e:

- name and number of the technology being implemented;
- batch number of the goods;
- operator's number;
- the duration of the process;
- revolutions of the bowl;
- knife rotation speed;
- vacuum pressure in the cutter bowl;
- temperature of minced meat;
- the amount of water to be dispensed;
- automatic lubrication system;
- drum speed;
- current steam injection time (for massagers with steam heating);
- current time of the steam injection break;
- the status of the massager outputs (which subnode is currently enabled);
- actual alarms;
- time and minutes of the currently running cycle;
- the current time of the currently running phase;
- the amount of vacuum in the drum;
- equipment status (in which mode the equipment is operating);
- notification of the status and all malfunctions of the cutter, massager, cooking boilers and smoking chambers.

The observed parameters can be displayed in the form of an interactive window or a diagram of parameter changes over time. All the observed parameters can be recorded in the form of a file in the computer memory, as well as in the memory of the command controller of the cutter, massager, cooking boilers and smoking chambers. In the event of a failure of one of them, the data can be reconstructed using the process

control program. It is also possible to draw up process documentation in the form of a printout of a diagram of parameter changes over time.

Regardless of the POWERMON system, each machine must have a visual monitoring system that must be maintained by the operator.

The use of such programs at meat processing enterprises in neighboring Poland has become widespread today. This makes it possible to carry out the production process more efficiently, simplifies management, monitoring and control, releases extra labor resources, saves energy and ensures guaranteed product quality (no undercooking or overcooking during cutting, massaging, smoking and cooking of meat products).

To ensure full mechanization and automation of the process of production of cooked sausages, along with the significant costs incurred for equipment upgrades in 2024, Agrovita Ltd. should spend money on the purchase of a microprocessor-controlled cooking boiler, which can be connected to the unified control network of the POWERMON program, on the purchase of a PC, the program itself and training of a process operator to work with it. This will provide automated control over the production of smoked and cooked sausages, significantly reduce costs, theft, improve accounting and product quality.

The calculation of costs associated with the introduction of automated control of the process of production of cooked sausages in Agrovita LTD LLC is presented in Table 3.1.

Table 3.1 - Costs of implementing automated control of the process of production of cooked sausages in Agrovita LTD

№	Cost items	Amount, UAH thousand.
1.	The cost of a cooking boiler with delivery	33,4
2.	Cost of PCs and software	24,6
3.	Cost of training of the operator-technologist	5,1
4.	The cost of adjustment work	4,6
	Total costs	66,4

The implementation of automated process control for the production of smoked and cooked sausages at Agrovita LTD will result in the dismissal of 2 employees from the production process. Total savings on wage costs, taking into account the unified social contribution, will amount to:

$$Sw = W \times Cf \times 12 \times Nr, \quad (3.1)$$

where: W – minimum monthly wage; Гуцайлюк Олексій Тема: Дослідження системи організації праці в публічній установі, на прикладі Підволочиської селищної ради.

Cf – coefficient accounting for the unified social contribution;

Nr – number of released (redundant) employees.

$$Sw = 3200 \times 1.22 \times 12 \times 2 = 93697.0 \text{ UAH.}$$

Energy costs will increase, which in terms of annual output will be approximately UAH 11200.

The total annual cost savings from the implementation of automated control of the boiled sausage production process at Agrovita LTD will be as follows:

$$TC = 93697.0 - 11200 = 82497 \text{ UAH.}$$

Let's calculate the simple payback period for automating the management of the process of producing boiled sausages at Agrovita LTD using the formula:

$$PP = \frac{IC}{PN} \quad (3.2)$$

where PP – the payback period, years;

PN – the average annual profit or annual cost savings, UAH;

IC – the amount of capital investment (investment), UAH.

$$PP = \frac{66,3}{82,5} = 0,8$$

The simple payback period for capital expenditures will be 0.84 years.

Let's determine the net present value of the project:

$$NPV = \sum_{t=1}^{n} \frac{PN}{(1+i)^n} - IC \quad (3.3)$$

where NPV – the net present value, UAH;

n – the number of years of project operation; *and is* the discount rate.

It should be noted that the new boiler will be in operation for 5 years. Therefore, depreciation expense can be calculated using the straight-line method and will be equal in each year: 33.3 × 0.2 = 6.66 thousand UAH.

$$NPV = \frac{82,5+6,7}{(1+0,28)^1} + \frac{82,5+6,7}{(1+0,28)^2} + \frac{82,5+6,7}{(1+0,28)^3} + \frac{82,5+6,7}{(1+0,28)^4} + \frac{82,5+6,7}{(1+0,28)^5} - 66,3 = 162,55$$

.

The net present value of the project automate the management of the process of production of cooked sausages at Agrovita LTD will amount to UAH 162.55 thousand.

Let's define the profitability index, which characterizes the ratio of discounted cash flows to the value of capital investments:

$$PI = \sum_{t=1}^{n} \frac{PN}{(1+i)^n} : IC \quad (3.4)$$

$$PI = \left(\frac{82,5+6,7}{(1+0,28)^1} + \frac{82,5+6,7}{(1+0,28)^2} + \frac{82,5+6,7}{(1+0,28)^3} + \frac{82,5+6,7}{(1+0,28)^4} + \frac{82,5+6,7}{(1+0,28)^5} \right) : 66,3 = 3,45$$

The value of the project's profitability index of 3.34 indicates its significant profitability.

Let's calculate the discount payback period of the funds allocated for the project implementation. We will use the Exel software package and present the results in Figure 3.2.

Having calculated the complex payback period, we can conclude that the funds allocated to automate the management of the process of production of cooked sausages at Agrovita LTD will pay off in 12 months (1 year).

	Month	Loan Amount, ths. UAH	Funds Allocated During the Year for Loan Repayment, ths. UAH	Annual Interest Rate, %	Monthly Profit of the Enterprise, ths. UAH	Monthly Credit Usage Fee, ths. UAH	Loan Repayment of the Current Month, ths. UAH	Balance
2								
3	1	66.3	82.5	28	6.875	1.547	5.328	60.972
4	2	60.972	82.5	28	6.875	1.42268	5.45232	55.51968
5	3	55.51968	82.5	28	6.875	1.2954592	5.579541	49.94014
6	4	49.9401392	82.5	28	6.875	1.16526991	5.709731	44.23041
7	5	44.23040911	82.5	28	6.875	1.03204288	5.842957	38.38745
8	6	38.38745199	82.5	28	6.875	0.89576631	5.979234	32.40816
9	7	32.40815921	82.5	28	6.875	0.75619093	6.118809	26.28935
10	8	26.28935027	82.5	28	6.875	0.61309617	6.261904	20.02777
11	9	20.02776775	82.5	28	6.875	0.46713456	6.407865	13.61990
12	10	13.61990233	82.5	28	6.875	0.31899773	6.556002	7.06288
13	11	7.06288424	82.5	28	6.875	0.16742528	6.707575	0.35531
14	12	0.35268488	82.5	28	6.875	0.00822931	6.866771	-6.51409

Figure 3.2 – Calculation of the discounted payback period

The results of calculations of the economic efficiency of the project for automating the management of the process of production of smoked and cooked sausages in Agrovita LTD are summarized in Table 3.2.

Table 3.2 – Calculation of the efficiency of the project for automation of the process of production of cooked sausages in Agrovita LTD LLC

Performance indicators	Unit of measurement	The result.
Annual cost savings	thousand UAH	82
Simple payback period	years	0,8
Net present value of the project	thousand UAH	162,56
Project profitability index	-	3,46
Discounted payback period	years	1

Based on the analysis of the calculations, it can be concluded that the direction of improving the production management system of the enterprise by automating the management of the process of production of cooked sausages is correct and should be fully imitated by Polish colleagues. After all, the automation of the production system management process allows to achieve standard product quality indicators, which gradually form a high image of the company's products among consumers based on stable results. This system also allows for continuous monitoring and control of the production system and prevents product defects.

In order to reduce the weight loss of the finished product during cooling, meat processing plants in the European Union widely use intensive cooling chambers, and vacuum packaging to extend the shelf life of the finished product and prevent its loss during storage. Therefore, the company needs to implement advanced global technologies in the production process.

The intensive cooling chamber is designed for heat treatment of meat and meat products, as well as fish and cheese. It is used for rapid cooling of products immediately after their heat treatment.

Operational advantages of the chamber include the following:

- reduction of product weight loss during processing;
- reducing the time of technological processes;
- decrease in the duration of technological processes;
- energy savings;
- acceleration of final product cooling;
- consistently high product quality and process repeatability.

Design-related advantages:

- the chamber is constructed from acid-resistant stainless steel, ensuring durability and hygiene;
- capability to cool products to approximately 4–6 °C;
- utilisation of water mist and/or cold air as cooling agents;

- option to apply refrigerants either simultaneously or alternately, depending on the product type;forced air circulation, which ensures an even temperature distribution inside the chamber;
- forced air circulation system that maintains uniform temperature distribution within the chamber;
- integrated air humidification mechanism that prevents wrinkling of product casings during the cooling process.

Given these technical and operational benefits, it is considered expedient for Agrovita LTD to procure a chamber of this type manufactured in Poland and to implement its use widely in the cooling of finished meat products.

Currently, in Ukraine, meat products are primarily packaged using two methods: plastic (polyethylene) packaging and vacuum packaging.

The use of plastic (polyethylene) packaging has become increasingly disadvantageous due to several factors:

- inability to ensure sterile packaging conditions;
- complications during the loading, unloading, and transportation processes;
- inadequate visual presentation and limited design options;
- short shelf life of products — typically no more than seven days.

The equipment for selling products in vacuum has an attractive aesthetic appearance, provides for cooling the product to a predetermined temperature, and is convenient and reliable in operation. Packaging and sales of products using this method are much cheaper than plastic packaging.

The implementation of measures to improve product packaging will allow Agrovita LTD to increase production by 5% in the project year. Today, the demand for vacuum products is growing and the company is unable to meet it due to a lack of materials for vacuum packaging.

Let's calculate the costs of implementing the project of using advanced technologies (intensive cooling and vacuum) in the production process of Agrovita LTD in Table 3.3

When using the intensive cooling chamber, losses from weight reduction during cooling of sausage products in production will decrease by 0.83%. The expected profit from the sale packaged products of Agrovita LTD will be UAH 7.9, and the reduction in product losses due to an increase in the shelf life of vacuum packaging will be 0.35 tons/year. At the same time, the cost price of1 кг boiled and smoked meat and sausage products to be packaged will be UAH 67.5.

Table 3.3 – Capital costs for the implementation of intensive cooling and vacuuming of cooked smoked meat and sausage products in Agrovita Ltd.

№	Cost items	Amount, UAH thousand
1.	Cost of an intensive cooling chamber with delivery	85,0
2.	The cost of a vacuum packaging device	22,0
3.	The cost of adjustment work	7,0
	Total costs	114,0

Savings from reducing the weight of cooked smoked meat and sausage products when using intensive cooling are as follows:

$$S_c = (0.83\% / 100\%) \times 80000 \times 67.5 = \text{UAH } 44753{,}7.$$

The savings from reducing product losses by extending the shelf life of vacuum packaging are as follows:

$$S_{sl} = 350 \times 67.4 = \text{UAH } 23591.$$

Additional profit from growth in sales of vacuum-packed products:

$$A_p = 7.9 \times (5\% / 100\%) \times 80000 = 31600 \text{ UAH}.$$

The increase in energy consumption when using these technologies will be determined by the formula:

Increase in energy consumption when using these technologies will be determined by the formula:

$$E_{ec} = P_{kWh} \times E_{cons} \times H_{shift} \times N_{shifts} \times N_{days} \times U_{coeff} \times E_{coeff} \quad (3.5)$$

where: P_{kWh} – price per 1 kWh of electricity (Class II – 10,9 UAH as of 01.05.2025 for industrial and equivalent consumers with a connected capacity of 750 kVA or more);

E_{cons} – electricity consumption by the equipment, kWh (1,75);

H_{shift} – number of hours per shift (8);

N_{shifts} – number of shifts (1);

N_{days} – number of working days per year (240);

U_{coeff} – equipment utilization factor (0.98);

E_{coeff} – energy efficiency coefficient (if present; you can specify the value if it's known, or consider it = 1 by default).

$$E_{ec} = 10,9 \times 1,75 \times 8 \times 1 \times 240 \times 0,98 = 35891,52 \text{ UAH}$$

The final calculation of the economic effect of implementing the technology of intensive cooling and vacuuming of sausage products at Agrovita LTD is presented in Table 3.4.

Table 3.4 – Calculation of the economic effect of using the technology of intensive cooling and vacuuming and vacuuming of cooked smoked meat and sausage products

№	Settlement items	Amount, UAH
1.	Savings from reduced product weight when using intensive cooling	+ 44753,7
2.	Savings from reducing product losses by extending the shelf life of vacuum packaging	+ 23590
3.	Additional profit from growth in sales of vacuum-packed product	+ 3160
4.	Increased energy consumption when using these technologies	- 35891,52
5.	The cost of vacuum packaging per annual production volume of packaged products	- 1600
	Total	62452,08

Thus, the economic effect of using the technology of intensive cooling and vacuuming of cooked smoked meat and sausage products at Agrovita LTD will amount to UAH 62452,09. Let's calculate the simple payback period of the funds allocated for

the use of the technology of intensive cooling and vacuuming of cooked smoked meat and sausage products in Agrovita LTD:

$$PP = \frac{114,0}{91,89} = 1,24$$

Determine the net present value of the project, taking into account annual depreciation charges in the amount of UAH 22.8 thousand.

$$NPV = \frac{91,89+22,8}{(1+0,28)^1} + \frac{91,89+22,8}{(1+0,28)^2} + \frac{91,89+22,8}{(1+0,28)^3} + \frac{91,89+22,8}{(1+0,28)^4} + \frac{91,89+22,8}{(1+0,28)^5} - 114 = 176,4$$

Let us determine the profitability index of the project for introducing the technology of intensive cooling and vacuuming of cooked smoked meat and sausage products:

$$PI = \left(\frac{91,89+22,8}{(1+0,28)^1} + \frac{91,89+22,8}{(1+0,28)^2} + \frac{91,89+22,8}{(1+0,28)^3} + \frac{91,89+22,8}{(1+0,28)^4} + \frac{91,89+22,8}{(1+0,28)^5} \right) : 114 = 2,55 .$$

Let's calculate the discount period of payback of the funds allocated for the project implementation:

$$PC = 114 / \left[\left(\frac{91,89+22,8}{(1+0,28)^1} + \frac{91,89+22,8}{(1+0,28)^2} \right) / 2 \right] = 1,43 .$$

Thus, based on the calculations, it can be concluded that the project of introducing the technology of intensive cooling and vacuuming of cooked smoked meat and sausage products at Agrovita LTD is absolutely effective. The data of the project efficiency calculation are summarized in Table 3.5.

Table 3.5 – Calculation of the efficiency of the project for the introduction of intensive cooling and vacuuming technology for cooked smoked meat and sausage products at Agrovita LTD

Performance indicators	Unit of measurement	The result.
Economic effect	thousand UAH.	91,89
Simple payback period	years	1,24
Net present value of the project	thousand UAH.	176,4
Project profitability index	-	2,55
Discounted payback period	years	1,43

3.2 Recommendations for improving labor motivation in Agrovita Ltd. using economic methods

The effectiveness of Agrovita LTD in a highly competitive market environment largely depends on the creative engagement and proactive involvement of its personnel. Accordingly, one of the key responsibilities of management is the development and implementation of a robust system of employee motivation. Motivation refers to the process of stimulating individuals to undertake actions directed toward the achievement of organizational objectives by forming appropriate internal drivers — motives. These motives emerge as a result of personal needs, awareness of individual interests, and recognition of opportunities to meet them. To enhance the effectiveness of motivational mechanisms, it is advisable for Agrovita LTD to supplement its existing incentive tools with specialised bonus systems. These systems are particularly relevant for employees whose roles are not directly involved in the production process but whose performance significantly influences the enterprise's operational, financial, and economic outcomes.

The overall efficiency of the company’s production management system can be improved through the introduction of a targeted system of financial incentives. This system should emphasise material rewards for the timely and high-quality completion of assigned tasks.

In cases where an employee commits a disciplinary violation during the bonus assessment period, the size of the bonus may be reduced at the discretion and recommendation of the immediate supervisor.

It is recommended that bonuses be accrued as a percentage of the actual time worked, calculated on the basis of the salary set in the official staffing schedule. Within Agrovita LTD, it is proposed that bonuses should not exceed 50% of the employee's total remuneration. Exceeding this threshold may lead to a weakening of the incentive’s motivational impact. Nonetheless, exceptional one-time deviations from the established limit may be permitted under specific circumstances.

The key issue when designing an incentive compensation system is the performance evaluation system. Of course, some jobs are more difficult to evaluate than others, such as the work of a manager and the work of a salesperson.

The key issue in measuring the work performed is the degree of trust in the administration that conducts this assessment. Employees of Agrovita Ltd. should feel a direct correlation between the work performed and the remuneration. This requirement is especially important in group work. Group members must feel that the result of group work is the sum of their individual contributions.

The advantage of individual incentive systems is that employees can see the direct results of their work. This introduces an element of competition into the work of the staff. However, in general, this positive fact can have negative consequences - deterioration of relations in the team, isolation, envy.

The remuneration system can be direct (each unit of product produced in excess of the norm has the same fixed price), differentiated (higher payment for products produced in of the norm; higher payment for the entire batch of goods if the norm was exceeded). Currently, Agrovita Ltd. applies such forms of payment as piecework and piece-premium to production workers, and hourly pay to managers, specialists and junior staff.

Other forms of incentives are used at Agrovita Ltd. to stimulate managerial labor and labor not directly related to production. One of the most common types of incentives is based on commissions (interest). Another form of remuneration used is a bonus or premium. A bonus is a one-time payment for excellent work - it can be given for a record number of products made, or for excellent quality of products or work in general (for managers, for example). The bonus does not necessarily have to be calculated in cash - it can be prizes or vouchers. It is undesirable for a bonus to be guaranteed. In this case, it loses its motivating value and is considered by employees as part of their salary. Additional remuneration is paid to employees not only for the products they produce or for intensive work. Incentives can be provided for submitting rationalization proposals aimed at saving any resources, reducing costs, or working with clients - that is, all those proposals that ultimately increase profits. Special commissions and committees are used to evaluate these proposals.

It is also recommended to introduce other rewards in addition to bonuses, as one of the most effective motivators is reward for results. This can be properly organized

remuneration, cash bonuses for initiative, gifts, memorabilia, etc. When applying this motivational factor, keep in mind:

1) the method and form of incentives have a greater incentive effect than their size;

2) a person should know what exactly he or she was rewarded for.

At present, in addition to their salaries, management personnel and specialists at Agrovita Ltd. receive bonuses set as a percentage of their salaries. Administrative and service personnel enjoy personal allowances of 50%, while production personnel are motivated by other allowances, which amount to 15% of the salary.

To increase the material incentives for managers and specialists of Agrovita LTD, it is advisable to introduce a system of constant coefficients to salaries, as well as a system of bonuses to the basic salaries of employees.

When introducing the proposed system of constant coefficients to the salary of managers and specialists, the coefficients are guaranteed and should be automatically calculated depending on the situation:

1. length of service (takes into account the length of service of the employee in Agrovita Ltd.) - the coefficient $C_{(a1)}$is applied in the amount of 0.5% of the salary for each year of employment in Agrovita Ltd.

2. educational qualifications (including professional training) - the coefficient $C_{(a2)}$is applied in the amount of 5% of the salary if the employee has a higher education in the specialty; 2% - if the employee has other (special) education in the specialty; 0% - if the employee has no education in the specialty (no professional training).

If a system of salary supplements is introduced, they may be charged for such actions:

1. supplemental payment for work with irregular working hours $C_{(a3)}$- 5 to 25% of the official salary.

2. supplement for combining positions $C_{(a4)}$- 10 to 30% of the official salary %.

I propose, in addition to bonuses, to introduce a bonus system at Agrovita Ltd. It is advisable to introduce the following regulation on bonuses of employees, which

would determine the following amounts of bonuses to be set for individual or collective performance according to the following indicators:

1. Fulfillment and overfulfillment of the established production and sales plan (standardized tasks) $C_{(a5)}$ - 5 to 25% of the salary for a period not exceeding 1 month.

2. Ensuring high quality of products $C_{(a6)}$- 5 to 25% of the salary for a period not exceeding 1 month.

The following provision should be an important requirement of the bonus system. If bonuses are paid for meeting and exceeding quantitative and economic indicators (revenues, cost), then compliance with product quality indicators should be a condition for receiving bonuses; if bonuses are paid for ensuring high product quality, then meeting quantitative and economic indicators should be a condition for receiving bonuses. It is also necessary to establish a rule that the sum of established additional payments, constant coefficients, allowances and bonuses should not exceed the official salary.

The amount of bonuses paid to employees of Agrovita Ltd. should be set taking into account the importance and complexity of the work they perform and the production conditions. At the same time, the amount of bonuses to be paid from the material incentive fund should not be limited by any maximum amount, but will depend mainly on the accrued amount of this fund.

It is also advisable to set the amount of bonus remuneration for individual indicators for a 2-year period. Every 2 years, the amount of these remunerations should be reviewed and set anew. Individual indicators should be understood as the achievement of various goals. Therefore, the incentive remuneration will be different for certain positions in structural units.

The proposed incentive system should also take into account the quality of work. Bonuses and allowances are calculated according to the following formula:

$$C_a = 1 + (C_{a1} + C_{a2} + C_{a3} + C_{a4} + C_{a5} + C_{a6} + C_{aQ}) \quad (3.6)$$

where $C_{(a)}$ - coefficients of additional payments, allowances and bonuses (ratio to the tariff salary);

It is advisable to evaluate the quality of work taking into account positive and negative assessments. The labor quality assessment is calculated using the formula:

$$C_{(Q)} = C_{(Qp)} - C_{(Qn)}, \quad (3.7)$$

where $C_{(Q)}$ is the labor quality coefficient (increase or decrease in the amount of additional payments depending on labor performance; $C_{(Qp)}$ is the positive evaluation coefficient; $C_{(Qn)}$ is the negative evaluation coefficient.

The indicators for assessing the quality of staff performance are presented in Table 3.6.

The specific final earnings of each employee of Agrovita LTD using the proposed system of financial incentives are determined by the formula:

$$W = W_T \cdot \times C_a, \quad (3.8)$$

where W_T - is the tariff wage, UAH.

The standard wage of production workers is calculated using the following formula:

$$W_T = C_t \times S_m, \quad (3.9)$$

where C_t is the tariff coefficient (set depending on the category and type of work); S_m is the established minimum wage, UAH.

The salaries of managers and specialists are determined by the following formula:

$$W_T = C_s \times S_m, \quad (3.10)$$

where C_s is the salary coefficient.

Table 3.6 – Indicators for assessing the quality of work of the staff of Agrovita LTD

№	Labor quality indicators	Labor quality assessment standard, %.
1.	Timely implementation of decisions	0,6-1,0
2.	Timely execution of orders from the head	0,4-0,9
3.	Adherence to the procedure established by applicable standards, instructions, orders and regulations	0,2-0,6
4.	No cases of defects in work	0,3-0,6
5.	Compliance with technological discipline	0,3-0,6
6.	Compliance with the rules and requirements for occupational health, safety, industrial sanitation, and environmental safety	0,2-0,6
7.	Compliance with internal labor regulations	0,3-1,0
8.	Appearance at the workplace in a state of intoxication	-(0,3-1,0)
9.	Low labor intensity, failure to fulfill tasks	-(0,7-1,0)
10.	Intra-shift losses of working time due to the employee's fault, refusal to master related operations	-(0,5-0,9)
11.	Delays and premature end of work	-(0,2-0,9)
12.	Defects and defects in work, violation of technological discipline	-(0,3-0,7)
13.	Violation of safety rules, industrial sanitation, fire safety	-(0,1-0,5)
14.	Violation of production and labor discipline	-(0,3-0,7)
15.	Irrational use and overspending of raw materials, supplies, fuel, and tools	-(0,5-1,0)
16.	Truancy, violation of public order	-(0,2-1,0)

This proposal to improve labor motivation will help to increase the efficiency of the operational management system of Agrovita LTD and ensure the quality and timely performance of tasks by employees.

CHAPTER 4
LIFE SAFETY, BASICS OF LABOUR PROTECTION

4.1 Procedure for providing first aid to victims of cardiac arrest

The concept of "sudden cardiac arrest" (SCA) denotes a natural, non-violent death that occurs unexpectedly within six hours after the first signs of acute symptoms. This term, along with others, is defined according to the Fundamentals of Health Legislation of Ukraine and related healthcare regulations.

When non-medical individuals provide first aid for SCA, they should follow this step-by-step approach:

Ensure safety: Confirm that neither you nor the victim are in any immediate danger before intervening.

Check for responsiveness: Try to rouse the person by gently shaking their shoulder and speaking loudly—for example, “Can you hear me? Are you okay?”

If the person reacts:

a) If there’s no danger, avoid moving them from their current position;

b) Identify what caused the incident;

c) Contact the emergency medical services (EMS);

d) Clearly explain the situation to the dispatcher, answer their questions, and follow their guidance;

e) Stay with and observe the person until medical help arrives.

If there’s no response:

a) Call out to others nearby for help;

b) If the person is face-down, turn them onto their back and open their airway. If a fall from height is suspected, assume possible spinal injury;

c) Check for breathing using the “look, listen, and feel” technique. Take no more than 10 seconds to assess. If unsure, assume the person is not breathing.

If the person is breathing but unconscious:

a) Place them in a stable side position (recovery position);

b) Call EMS;

c) Keep monitoring until help arrives.

If breathing is absent:

a) Contact EMS immediately;

b) Begin cardiopulmonary resuscitation (CPR):

- perform 30 chest compressions to a depth of 5–6 cm at a rate of 100–120 per minute;
- provide two rescue breaths using appropriate equipment such as a mask-valve device or face mask. If no equipment is available, continue with chest compressions alone. Ensure the two breaths don't exceed five seconds;
- keep repeating compressions and breaths as directed.

Switch rescuers: Rotate the person doing compressions every two minutes to avoid exhaustion.

Stop CPR only when: medical professionals arrive or the person starts to breathe or move.

This structured method enables prompt and effective support for individuals suffering from sudden cardiac arrest, significantly increasing their chances of survival until professional help takes over.

4.2 The Influence of Color on Enhancing Working Conditions and Boosting Productivity

Color holds a crucial position in shaping the visual organization of the workplace, exerting diverse effects on individuals and serving numerous purposes. It influences both physiological and psychological mechanisms, emotional well-being, work performance, and employee efficiency. These effects are governed by color properties such as hue, saturation (intensity), and brightness (light reflectance).

Hue is determined by the wavelength, measured in millimicrons. Red and orange hues possess the longest wavelengths, whereas violet has the shortest. Studies show that both long- and short-wavelength colors negatively impact people, leading to noticeable visual fatigue. Red acts as a potent stimulus, activating the nervous system, while violet

tends to induce a subdued emotional state. Colors in the mid-range of the spectrum have a relaxing effect on the nervous system and help reduce fatigue.

The degree to which color influences individuals depends on its saturation and brightness. Brightly saturated colors boost mood and activate sensory analyzers, while low-saturation or muted tones promote calmness and enhance focus. Lighter and brighter colors contribute to an elevated mood, whereas darker shades often evoke somber or pessimistic emotions. These characteristics make color a practical means of guiding employees through their physical workspaces and equipment, reinforcing compliance with safety standards. According to regulations, red denotes prohibition or immediate danger; yellow indicates caution or possible risk; green represents safety; and blue conveys informational messages.

Beyond their communicative value, specific hues, tones, and combinations are applied to improve lighting conditions, establish visual contrast in the field of view, minimize monotony, combat fatigue, provide psychological comfort, and increase efficiency. Colors impact bodily functions and influence the dynamics of productivity, as illustrated in Table 4.1.

Psychologically, colors are perceived as either warm or cool. Warm tones (red, orange, yellow) create a sensation of warmth, stimulate nervous system activity, focus attention, and can momentarily boost productivity. Cool hues (blue, cyan, green) evoke a feeling of coolness, calm the mind, ease eye strain, and support concentration.

The selection of color schemes in industrial settings is based on variables such as physical and mental workloads, temperature levels, spatial dimensions, and task monotony. For demanding physical or cognitive work, or in hot environments, soft shades of blue, green, and other cool, low-saturation tones are advised. In tasks requiring intermittent bursts of mental or physical energy, warm hues that invigorate the body prove more beneficial. Repetitive work is best supported in areas decorated with bright colors that engage attention and activate broader cortical regions.

Guidelines and formal documentation exist to ensure the effective application of color in workplace design. These include approved pairings of primary and secondary hues as well as recommended light reflectance values.

Table 4.1 – The Influence of Color on the Human Body

Color	Blood Pressure	Pulse	Breathing Rate	Emotional State	Reaction Time	Work Capacity
Red	Increases	Increases	Increases	Stimulates, excites	Decreases	Initially increases briefly, then decreases by half
Orange	Slightly increases	Slightly increases	Slightly increases	Stimulates, invigorates	Slightly decreases	Similar effect, less pronounced
Yellow	No change	No change	No change	Balances	No change	No significant change
Green	No change	No change	No change	Balances	No change	Slightly increases
Light Blue	Slightly decreases	Slightly slows	Slightly slows	Calms	No significant change	Slightly increases
Blue	Decreases	Slows	Slows	Calms, slightly inhibits	Slightly slows	Increases by 3–9%
Violet	Decreases	Slows	Slows	Depresses	Significantly slows	Consistently decreases

Color design fulfills two essential roles in establishing a productive and comfortable work environment: conveying information and providing psychological support. As a medium of information, color helps employees navigate the workspace and operate machinery efficiently. This includes designating movement pathways, identifying communication systems, and ensuring safety compliance. Color coding — such as red for prohibition, yellow for warning, green for directives, and blue for general information—aligns with standardized safety indicators. Appropriate color application on machinery components also improves worker orientation during tasks. It is recommended to use no more than three distinct colors: one for control elements (e.g., yellow or soft orange), another for background parts (e.g., cream tones for steel and cast iron, bluish-gray for bronze and copper), and a third for main surfaces (e.g., light green or teal for equipment bodies).

Colors used for auxiliary devices should harmonize with those of the primary machinery, while tools should be painted in non-distracting shades that maintain focus on essential controls. For equipment posing potential danger, tones near yellow and orange are recommended. The most hazardous sections of transport-related machinery should be highlighted with a combination of yellow-orange and black stripes to attract attention and reduce the likelihood of accidents.

CONCLUSIONS

Operational management is the deliberate process of overseeing the creation of a final good or service and its introduction to the market in order to satisfy customer demands.

All organizations engage in operations, which are the processes used to produce commodities and services. Operations are a sequence of steps, an activity, or a process that is typically used for practical purposes. Thus, operations are a fundamental feature of human activity, which is distinguished by productivity and organization. As a result, every management action involves operational management, and all organizational activities are operations.

The goal of operational management is to provide an efficient system for overseeing production-related activities, such as cost accounting and potential cost reduction.

Building management systems that guarantee the execution of the required activities and procedures to get a market outcome from the operation of any organization's operating system is the primary responsibility of operational management.

Operational management is concerned with the sensible and efficient use of labor resources, raw materials, basic supplies, and fixed resources, etc.

The limited liability corporation LLC "AGROVITA LTD" is the subject of this investigation. Buying and killing large cattle and pigs from farms and the general public, processing meat and by-products into completed goods (sausages and meat products), and selling meat, by-products, sausages, and meat products are the primary operations of the limited liability business Agrovita LTD. Agrovita LTD uses a price-selling system for ordering and delivering products.

This system accepts orders for goods based on price lists that are updated continuously, and orders are delivered within a day. Sales representatives, who are in

charge of an average of 120 to 150 retail locations, are used by the corporation to collect the pertinent orders and deliver goods using their own vehicles in order to carry out this strategy. There are 65 workers in the company. Measures of employee turnover grew considerably over the reporting year, and the company's workforce grew by one employee in 2024. Employee employment fell by 0,23% in 2024, despite a 1,32% increase in the amount of time spent working for the organization. The labor intensity of meat production decreased as a result of a minor increase in labor productivity throughout the reporting year.

It should be mentioned while examining the indicators of the company's fixed asset movement that they were substantially updated during the reporting year, by UAH 81,0 thousand. In 2024, fixed assets had more than two updates. The coefficients of appropriateness, renewal, and growth increased sharply as a result of this favorable factor. The return on fixed assets declined in 2024 as a result of a substantial rise in the price of fixed assets. This led to an increase in the capital intensity of production and the capital intensity of employees. After analysing liquidity, it can be noted that the company has an illiquid balance sheet and in the reporting year, liquidity indicators are deteriorating, although they are almost reaching the normative values. Financial stability indicators are practically unchanged.

However, all forms of profitability are declining, as are indications of corporate activity. The effectiveness of production operations declined in 2024. Despite a modest (1,81%) increase in sales revenue, a large rise in production costs resulted in losses in 2024 and a sharp decline in all kinds of financial success.

Agrovita Ltd. has a rather extensive product line. Four varieties of smoked meats, sixteen semi-smoked sausages, twelve cooked-smoked sausages, twenty-eight cooked sausages, and three chicken products are all included.

The range has somewhat changed in recent years, mostly as a result of a wider variety of cooked sausage, which can be attributed to a decrease in population demand and a rise in the proportion of low-cost goods. There are numerous competitors of Agrovita Ltd. that offer comparable goods on the market. Consequently, the competition for consumers is quite fierce, especially in terms of price competition. To

ensure mechanisation and automation of the production process, along with the significant costs incurred for equipment upgrades in 2024, Agrovita Ltd. should spend funds on the purchase of a microprocessor-controlled cooking boiler that can be connected to the single POWERMON programme control network, on the purchase of a PC, the program, and training a process engineer to work with it. This will allow for automated control of the cooked sausage production process.The total annual savings the implementation of automated control of the cooked sausage production process at Agrovita.

For capital expenditures, the discounted payback period will be one year, and the simple payback period will be 0,8 years. The project's profitability index will be 3,46, and its net present value will be UAH 162,56 thousand. The business must include cutting-edge international technologies into the cooling process to minimize weight losses in the final product. Production procedure and product vacuum packaging. Utilizing vacuum packaging technology and intense cooling for cooked and smoked meat and sausage products at Agrovita Ltd. will have an economic impact of UAH 91,8 thousand. For capital, the discounted payback period will be 1,43 years, while the simple payback period would be 1,24 years.

The project's profitability index will be 1,43, and its net present value will be UAH 176.4 thousand. The implementation of a unique material incentive system will increase the effectiveness of the business's operations, tangible rewards for employees who complete assignments on schedule and with excellence. This proposal will guarantee that staff complete assignments on time and with high quality while also enhancing the effectiveness of Agrovita Ltd.'s operational management system.

Meat processing facilities in the European Union frequently use vacuum packaging and extensive cooling chambers to increase the finished product's shelf life and stop weight loss while storage, as well as to decrease the final product's weight loss during cooling.

As a result, the business must include cutting-edge international technologies into its manufacturing process. Vacuum packing is another cutting-edge product packaging technique used in European nations. This approach is a substitute for the plastic

approach and offers a number of benefits. Initially, the method includes packing packages with meat or fish items after they have been processed sterilely. This extends the product's shelf life to one month. Additionally, unlike when using plastic containers, this method does not allow vendors to alter the weight. The use, transportation, and storage of vacuum packaging are all simple. Additionally, it should be considered that the packages maintain their appearance and are essentially impervious to deformation while in use.

Utilizing Agrovita's technology for vacuuming and intense cooling cooked smoked pork and sausage products will have an economic impact of UAH 91,89 thousand. Capital expenditures will have a 1,24 year simple payback time and a 1,43-year discounted payback period. The project will have a net present value of UAH 176,4 thousand, and its profitability index will be 1,43.

The implementation of a unique financial incentive program that uses tangible rewards for employees to complete jobs on time and with quality would increase the company's efficiency. The operational management system of Agrovita will function more efficiently thanks to this idea, which will also guarantee that workers complete duties on time and with quality.

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