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INTRODUCTION

Modern management and organization thinking is rooted in the industrial revolution of the 1700s. How to organize and control complex economic and technical ventures such as factories has led the professions of mechanical engineering, industrial engineering, and economics to formulate prescriptions. What is often called classical theory was dominant well into the 1940s. Its basic assumptions are that organizations exist to accomplish economic goals, that they act in accordance with rational criteria of choice, and that there exists one best way to solve a problem. Some of its leading figures are well known, such as Taylor (1911) an American practicing manager or Fayol (1949), a French engineer. Such a classical school claimed that administration was a matter of science. Action guidelines can be derived from universally applicable principles, whatever the type of organization is. Models and procedures are provided such as centralization of equipment and labor in factories, specialization of tasks, unity of command, and financial incentives based upon individual productivity. While Fayol was handling the issues of how to manage a firm as a whole, Taylor was defining expertise about how to get the individual worker organized. Optimism prevailed: managers have to learn a set of principles, to get them translated into procedures by experts, and, with the additional help of control and discipline, employees' behaviors will conform.

A strong attack was launched after World War II challenging such over simplistic mechanistic views of administration. The rebellion against the classical school was led by organizational theorists trained in sociology and in political science.

Simon (1946) emerges as a pioneer and perhaps as its best known figure. In his opinion, the principles as defined by Taylor, Fayol, and others are instead mere proverbs: they are neither true nor false. He criticizes explicitly and rather violently the relevance of the principles approach. Specialization of the tasks, span of control,

unity of command led to impasses, according to Simon. They are conflicting and inconsistent with most situations administrations face. With equal logic they are applicable in diametrically opposed ways to the same sets of circumstances. Therefore, in order to become a really scientific theory, administration in organizations has to substitute concepts to principles and make them operational.

In a subsequent book, Simon (1947) lays the ground for administration as a specific field of inquiry. He sketches a conceptual framework, whose meaning corresponds to facts or situations empirically observable. He questions, for instance, the relevance of the principle of rationality. In organizations, even if they are purposive, an individual does not have the intellectual capacity to maximize, and they are also vulnerable to the surrounding social and emotional context. What human beings do is to be satisfied: they try to find trade-offs between preferences and processes, they do the best they can where they are. Human and organizational decisions are subject to bounded rationalities. Simon also shows that efficiency is not a goal shared the same way by everyone in the organization, including the managers, and which can be defined *ex ante*. It should be a research question, starting from the hypothesis that the individuals or the organizations themselves carry a specific definition of what is good or correct from an efficiency point of view. In more general terms, contexts vary, and they make a difference.

Simon follows Max Weber's perspectives: administration belongs to the domain of rational action. Firms or public agencies are organizations driven by purposes. But managers rely upon the mediation of an organized setting in order to implement goals, purposes, or values. Therefore, the organization simultaneously provides a resource and becomes a constraint, managers experience it as a solution as well as a problem. Simon underlines the necessity for social sciences to approach management as a field aimed at understanding the nature of empirical phenomena. Its primary goal is not to formulate solutions for action but to consider action as a problem under scrutiny. Practicing managers could nevertheless rely upon relevant findings and apply such a

body of knowledge—or part of it—to enlighten problem solving. Such an agenda is structured around the study of the actual functioning of organizations. In a more specific way, Simon defines decision-making processes—or action—as the center of the scientific discipline of management. Any decision or action can be studied as a conclusion derived by the organization or by an individual from a set of premises. Some premises are factually grounded: they link a cause to an effect. Therefore, they are subject to a test by experience. Other premises are of a different nature: they are value grounded, made out of norms or ethical references. In this case they are not checkable empirically. While both categories are not separable in action, analysts have to separate them and focus upon factual premises only.

Firms and public agencies should also be treated as open organizations. They do not and cannot exist as self-contained islands within society and the market. They are linked to specific environments. The relationships which are structured between the inside and the outside play a very important function. Where and how an organization is embedded, what is exchanged, are phenomena which have an impact on the inner functioning as well as on the environment. A major theoretical breakthrough was offered by a sociologist, Philip Selznick (1949). The concept of co-optation which he elaborates describes how an organization gains support for its programs within the local communities where its execution agencies operate. An empirical study is offered by Selznick about an American federal agency, Tennessee Valley Authority. Co-optation refers specifically to a social process by which an organization brings outside groups and their leaders into its policy-making process, enabling such elements to become allies, not a threat to its existence and its mission. Bringing the environment back in solves a major difficulty the classical approach would not consider, especially when dealing with public administrations. Two of his founders, Woodrow Wilson and Frank J. Goodrow, had been calling for a theory of management which should make a dichotomy between politics and administration, between the elaboration of the policy of the state and the execution of that will.

Selznick suggests that such a postulate should become a research question. He also proposes that, beside organizational phenomena as such, science should consider institutionalization dynamics, which means how values and norms are diffused, appropriated, and what impacts they have on managerial action-taking.

Modern management is characterized by using MS/OR techniques that are used by decision makers in order to make better decisions. In agile management, decision makers need effective means for accessing these techniques, without necessarily being experts in mathematical programming, simulation and other methodologies. Managerial needs for agile management and manufacturing in complex process industries such as refineries for making sound and optimal production planning decisions constitute the main motivation for this work. Operations researchers have developed a variety of mathematical modeling approaches for representing these systems and algorithms to solve these models with optimum results. Unfortunately, managers and production engineers do not have sufficient mathematical programming expertise to formulate complex objective functions and constraints of mathematical models directly. Even when custom built by experts in the field and used in the production environment, mathematical models need to be modified to reflect new additions or modifications that take place in real production processes. Such modifications are only possible with the intervention of software and mathematical programming experts that have a thorough understanding of the earlier model. Design for easy maintenance and update is bound to solve these problems, but it is questionable whether the design of current systems is flexible enough for effective software maintenance. Use and maintenance of such complex optimization programs are therefore a major issue. Moreover, lacking such a background, production engineers are generally unable to interpret the solutions of a mathematical programming based modeling system correctly. They have difficulty in communicating with the system, since it restricts the interventions of the user, and requires data in a strict format. Lack of user friendliness is also a big problem, since

typically management argues that some “hard to use” modules of the system are not utilized. These typical issues were exactly the ones encountered in a case study, the TUPRAS Izmit refinery in Turkey.

Problems and requirements formulated above lead to the necessity of modeling environments that let users interact only with simple models of their “real” system and that hides all mathematical modeling aspects, while assuring model formation and automatic maintenance. This paper proposes a “*clone-based*” modeling approach where users build a graphical model of their processing system using clones of real processing units. The user specifies process parameter values and numerical data for these clones, so that their real processes are represented properly by the graphical model. These clones in turn build and maintain a hidden mathematical model. This mathematical model is generated, solved, and its optimum results are reported, without the user's knowledge of its existence. The user will interact only with a graphical model of the real processes and with real parameter values to run scenarios for optimum production control. The crucial point is in object-oriented design principles that enable easy reconfiguration and reuse of common network units within a process industry system. The main objective is defined as a highly adaptable (agile) production or manufacturing system, which will be able to respond to the specific requirements of customers, while still respecting and leveraging the mass production paradigm.

The purpose of the qualification work is to substantiate the theoretical foundations and develop practical recommendations regarding the implementation of modern management technologies in the activities of PJSC “Poltavpyvo Company”.

The object of the research is process of the introduction of modern management technologies.

The subject of the study is the peculiarities of the modern management technologies implementation in the activity of PJSC “Poltavpyvo Company” as the basis of its development.

The following tasks are solved in the work:

describe peculiarities of enterprise management in modern economic conditions;

characteristics of the enterprise sustainable development and its support;

application of modern management technologies at the enterprise;

make an analysis of the object and subject of the management system PJSC “FIRM POLTAVPIVO”;

financial and economic analysis of the results of economic activity PJSC “FIRM POLTAVPIVO”;

evaluation of the existing management system PJSC “FIRM POLTAVPIVO”;

propose directions for improving management of PJSC “FIRM POLTAVPIVO” in conditions of uncertainty and change;

describe ways of modern management technologies implementation at PJSC “FIRM POLTAVPIVO”;

conduct evaluation of the proposed measures effectiveness on PJSC “FIRM POLTAVPIVO”.

The main provisions of the qualification work and the research results were announced at the international conference:

Oluwatosin Ogunyemi, Chaikina A. Innovative management technologies for the sustainable development of the economy in the conditions of digitalization. *Сучасні інноваційно-інвестиційні механізми розвитку національної економіки в умовах євроінтеграції: матеріали ІХ Міжнародної науково-практичної Інтернет-конференції, 03 листопада 2022 р.* Полтава: Національний університет «Полтавська політехніка імені Юрія Кондратюка», 2022. С. 118-119.

The qualification work includes an introduction, 3 chapters, conclusions, a list of used sources, appendices. The volume of work is 126 pages. The work contains 10 tables, 16 figures, a list of used sources – 42 titles, 3 appendices.

CHAPTER 1

THEORETICAL BASICS OF THE MODERN MANAGEMENT TECHNOLOGIES IMPLEMENTATION IN THE ENTERPRISE DEVELOPMENT

1.1. Peculiarities of enterprise management in modern economic condition

Modern management, also called modern endpoint management, is the process for managing legacy and modern applications in a unified way by providing enhanced oversight, security, and awareness to IT departments. Transformational connectivity, which empowers full-time employees and contract workers on the go, irrespective of their devices or platforms, is also a crucial component of modern management.

The objective of modern management is to transform enterprise IT security management and the end-user experience so it is more accessible, reliable, and secure.

IT departments have experienced numerous changes in the way they manage and control user devices. Starting with the traditional CRT monitor-based computers, to modern smartphones, technological developments have been remarkable. Additionally, with the COVID-19 pandemic, employees were restricted to work from home, making the IT administration routines challenging for system administrators. Nevertheless, devices and users have to be kept secure and enterprises are swiftly adopting the modern management approach to secure their remote workforce.

Taking care of remote workforce began with enterprise mobility management (EMM), transitioned to unified endpoint management (UEM), and has evolved to modern management. In this blog, we'll learn about modern management, its importance, how it will simplify enterprise IT management, market analysis, and its benefits.

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With the evolution of technology, new hardware and software is coming into the market every year. Devices like Chromebooks, IoTs, smartphones and kiosk devices demand a mobile device management approach, while devices like servers and desktop computers demand traditional PC management tools. Similarly, certain devices employ legacy applications, while others employ modern applications, such as customized business apps on smartphones. Furthermore, the diversified pool of user types, including full-time, part-time, contract, partners, and seasonal users have made IT routines cumbersome for system administrators.

This complex environment has made IT management routines imperative for system administrators, especially with the various types of devices and applications in the workplace. A unified modern endpoint management approach untangles the ecosystem, by enabling admins to manage, control, and secure all complex devices, applications and user access through a single workflow and displayed on a single console.

Management is a deliberate, purposeful impact on the part of subjects, organs on people and economic objects, carried out with the aim of directing their actions and obtaining the desired results. The management of a service sector enterprise is a conscious, constant impact of management entities on objects and processes, as well as on the participation of people in them, with the aim of choosing the direction of activity of a service sector enterprise and obtaining desired results. The objectives of management are to increase profits and the level of profitability, strengthen the competitive position in the market, create competitive advantages, adapt an enterprise to changing external conditions, as well as realize the interests of owners, employees

and consumers of enterprise services. Effective management of service enterprises implies the need to take into account the peculiarity of the service field of activity. Features associated with the subject of activity of these enterprises, namely the service provided.

Management theories represent ideas that provide recommendations for management strategies, frameworks and tools that organizations can implement to aid their workforce or culture. Leaders can use these theories as guidance to meet organizational goals or motivate employees. They can also apply ideas from different theories rather than solely relying on one management theory. Modern management theory represents one of the numerous theories used by organizations. This theory recognizes that today's organizations face rapid change and added complexities, with technology serving as both a potential cause and solution for these factors.

When implementing this theory, managers use technology and mathematical techniques to analyze their workforce and make decisions. This theory serves as a response to classical management theory, which believes workers solely work for monetary gain. The modern management theory believes that employees work for numerous reasons, including to achieve satisfaction, happiness and desired lifestyles. With this theory, managers understand employees' behaviors and needs and can implement strategies to meet those needs and support their skill development over time.

Now in the 21st century, the management of Chinese enterprises mainly includes financial management, production management, human resource management and other management modes. Corporate management and corporate management efficiency directly affect the development of enterprises. If enterprises want to develop faster and better, they must pay attention to and do a good job in these two aspects. After years of repeated research, it is found that modern economics has a significant effect on the management of enterprises and the benefits of enterprise management. Modern economics can make an overall analysis of corporate

management and corporate management benefits, and can improve corporate management and enhance corporate management benefits. Modern economics is the macro guidance for business management decision-making. In the process of business management, managers can make correct, scientific and reasonable decisions based on the theories and knowledge of modern economics. This article discusses the status quo of Chinese corporate management efficiency and analyzes the role of modern economics in corporate management efficiency. Through analysis, it is found that modern economics can improve the management efficiency of enterprises. Therefore, it is necessary for enterprises to bring modern economics into enterprise management.

For enterprises nowadays, modern economics has fundamentally changed the management of enterprises.

The concept of “service” is considered by domestic and foreign authors in three directions: from the perspective of the industry, where specialization is taken into account; from the position of the service itself, where its properties are taken into account, taking into account the specifics of a particular service; as an alternative to the product as a material good. An analysis of the literature revealed that most authors distinguish the specific features of services [6, 7], which consist in the intangible nature of services, the inseparability of consumption and production of a service, the variability of its qualities, inability to store and dependence on the service provider. The service in the general sense is a commodity, because it has its value and value, but at the same time it has significant differences from the product.

Modern economics has become a basic strategic guidance for enterprises. It has an inestimable market value for helping enterprises to discover changes in market demand in a timely manner, predicting industry development trends, and improving enterprise management efficiency and management benefits. Compared with traditional economics, modern economics is a new type of discipline that includes sociology, psychology, brain science and other theoretical knowledge.

Modern economists try to use the perspective of integration of multiple disciplines to interpret why companies often make choices that are contrary to the best corporate management efficiency. This type of behavioral research aims to more efficiently, scientifically, and correctly guide the design of corporate management for accurate public management intervention. Over the years, modern economics has been widely used in many fields such as corporate management and financial regulations. Because of the strong practical effects of modern economics, more and more companies are paying attention

Modern economics is a discipline that guides how to conduct business management and how to improve the efficiency of business management. It has a very important guiding role in business management and business management benefits [4]. With the rapid development and deepening of economic globalization and the transition of China's market economy, the development of domestic enterprises at this stage is facing fierce market competition. Therefore, in such a fiercely competitive environment, the decision-making ability and strategic planning ability of enterprise decision-makers are the key factors for the long-term development of enterprises. Modern economics is a market-oriented economic reform and opening up. It is the direct force that has promoted fundamental changes in economics as a social science in China in the past two decades. Among them, the principles and theoretical knowledge of demand law, price law, price elasticity and cost analysis in modern economics play a guiding role in the development of business management and the development of business management efficiency. Modern economics is an important basis for grasping the direction of business development. Corporate management and corporate management benefits are an important basis for making correct corporate strategic decisions. It can guide corporate decision-makers to follow corporate management rules and make correct, scientific and reasonable decisions. In the process of internal operation of modern enterprises, corporate management is the most important part.

Corporate management involves all aspects of a company's employees, operations, taxation, capital, etc., and whether the management of these aspects is scientific for the production and operation of the company. It has a direct influence. The efficiency of enterprise management is the key to the development of an enterprise, and the future survival and development of an enterprise will be carried out on the basis of the efficiency of enterprise management. The management of the enterprise can fully guarantee the economic benefits of the enterprise. Enterprises should attach importance to enterprise management and manage enterprises scientifically and rationally. If an enterprise wants to realize the sustainable development of the enterprise in the fierce market competition, it must strengthen the management of the enterprise, so as to form a more subjective binding force in the development of the enterprise and strengthen the management of the enterprise. Funds and personnel. Only in this way can we fundamentally improve the management ability of the enterprise and directly improve the management efficiency of the enterprise.

The notion of “potential” was derived by economic science from physics (potential - power) where it refers to a certain quantity of energy accumulated by the system and which can be implemented in work (Vorsovskiy, 2007). The Explanatory Dictionary by Ozhegov defines potential as a physical quantity, which characterizes the force field at the given point, or the electric charge or quantity, which determines the energy store of the body at a certain point of the force field (electric, magnetic etc.) (Busel, 2016). In everyday life, the notion “potential” refers to the available means, supplies, and certain sources, which can be applied in order to achieve a particular aim.

Thus, the planned economy was based on state ownership and human resources were not considered an “article of value”. The personnel policy of that time was characterized by the three distinguished personnel reproduction phases: production, division and employment. Upon that, production presupposed human resources

formation, training, retraining and further development, division presupposed their reallocation across fields of activity and employment was skilled labor force implementation. Hence, the planned economy focused on the distribution relationship, so quantitative and not qualitative personnel reproduction parameters are characteristic of this system. However, the command economy had a great advantage of constant personnel management planning process, which provided sustainable system development (Hruzina, 2010).

A product manufacturer does not create a product for a specific user, even if it is a premium product. The service is created for a specific user, it is characterized by individuality and personal character. So R. A. Fatkhutdinov notes that the product and service have minor differences. The service itself can be considered as a specific “product” [8]. M. Kleinaltkamp argues that there is not so much difference between goods and services. A service as a product of labor has a use value, and this determines its commodity character, which is expressed in the ability to be realized by consumers as a kind of product [9]. S. P. Burlakov, I. E. Il'enkova, A. E. Skvortsov adheres to another point of view and considers it not quite correct to combine the concept of service with the concept of production [10]. Although the effective organization of all processes in the company is still extremely important, today it no longer guarantees success. Employees of the service company should not only perform their duties well, they should also focus on meeting the needs of consumers. The service should meet the specific needs of customers as fully as possible, have a realistic price, be offered through convenient distribution channels and actively move ahead. Today, many companies entering the services market position their services in such a way as to attract the attention of specific market segments, pursuing appropriate information and pricing and service policies. In his textbook “Fundamentals of Marketing”, Philip Kotler, taking into account these features, identifies five categories of marketing proposals [3, p.406].

“Clean” tangible goods (for example, soap or salt).

Touchable goods with related services (for example, cars or computers).

A hybrid (for example, a restaurant) that combines approximately equally the characteristics of goods and services.

The service, the provision of which involves the use of certain physical objects and the provision of additional services (for example, airfare).

“Clean” service (for example, care for young children or psychotherapy).

In table 1 we list nine major differences, which are based on the approach of K. Lavlok [4, p.42-43], which will help to distinguish between tasks related to marketing and service management. Moreover, the traditional literature basically defines four differences between goods and services, these are intangibility, non-persistence, production and consumption are carried out simultaneously, the quality is variable. In our opinion, there are differences between goods and services and generalizations that are not equally applicable to all types of services.

Table 1 – Major differences between tasks related to marketing and service management (*formed based on [3]*)

How services differ from goods	How does this affect marketing management practices
Buyers do not become owners of services	Selling a service is more like renting something, rather than a real sale. It is necessary to find the optimal amount of "rent". The criteria for assessing the leased object by the consumer differ from the criteria in force when choosing an object for purchase
Services intangible	It is necessary to consider how to increase the tangibility of services. It is necessary to describe each stage of the service provision process and manage each of them.
Greater consumer involvement in the production process	Consumer behavior and experience can contribute to or impede the speed and efficiency of the maintenance process. Sometimes it is necessary to manage consumers, considering them temporary employees of the company. Consideration should be given to using self-care. The location and opening hours of service organizations should be convenient for consumers. The interior of the company providing services and should be attractive and convenient for consumers

<p>Company employees and other consumers are sometimes considered an integral part of the service.</p>	<p>It is necessary to control the behavior of employees and consumers, as they affect the level of satisfaction of other consumers. It is necessary to hire employees who possess both technical skills; skills and communication skills with people (or able to acquire them in the process of learning); it is necessary to maintain their high motivation to work. It is often unwise to serve representatives of different market segments at the same time and on the same territory.</p>
<p>The inability to ensure consistent quality of resources used and the results obtained</p>	<p>It is more difficult to carry out quality control, especially “systematic”. Predictable results can be achieved by standardizing services. Variability can be reduced by replacing employees with automated systems.</p>
<p>It is difficult for consumers to assess the quality of many services.</p>	<p>It is necessary to create an atmosphere of trust between the service company and the client. Constantly raising the level of consumer awareness, you can help them make the right choice.</p>
<p>Inability to create stocks</p>	<p>Once a service is provided, it cannot usually be stored, so service firms must develop effective demand management strategies. It is necessary to manage production capacities, achieving their maximum compliance with the forecasted fluctuations in demand. Often, the profit of service companies with limited production capacity depends directly on their ability to offer the right services at the right time and at the right price.</p>
<p>The time factor is more important.</p>	<p>It is necessary to remember about time constraints and consumer priorities. It should be understood that the significant time spent on getting a service is perceived negatively by consumers. Competition based on faster service should be considered; try to keep the waiting period to a minimum; increase the working day of the company (the time during which services are rendered); think about the possibility of service under the scheme 24/7. (24 hours a day, seven days a week)</p>
<p>The service delivery system can use both electronic and physical channels.</p>	<p>It is necessary to consider the possibility of delivering any information elements of the service electronically. You need to think about the possibilities of simultaneously providing services around the world. If services are provided through physical channels, it is necessary to make the most efficient use of the employees of the company and its intermediaries.</p>

Modern enterprises achieve innovative development only under the condition of the availability of certain potential, management potential in particular. It is worth noting that the staff component is of great importance, i.e. personnel have become the main resource. However, a complex systemic approach remains essential. In the

process of studying the overall category of “innovative development potential”, scholars distinguish the set of interrelated resources and capabilities of their implementation, which define its capacity (intellectual, technological, information, research, economic etc.) to balance internal development opportunities against external ones on the basis of constant search, exploitation and development of new spheres and means of effective current and potential market opportunities implementation (Kibalyuk, 2006).

Strengthen the core management of the enterprise and improve the management efficiency of the enterprise As we all know, it is necessary to make detailed solutions and measures for some problems in management of enterprises, so as to ensure the stable and sustainable development of enterprise management. Relevant management departments should also make detailed predictions on the development of the enterprise, and take corresponding preventive measures in the development, risk, investment, taxation, and personnel of the enterprise to prevent emergencies. In the process of normal operation of the enterprise, it is necessary to resolutely implement the management system of enterprise management, to formulate plans for the development of the enterprise, and not to shrink back when encountering the shortcomings of enterprise management. You must be brave to overcome the difficulties and overcome the difficulties. Give full play to the role of prevention. When considering some objective or non-objective conditions, the future development of the company must be taken as the prerequisite for consideration, and the future development, decision-making, investment, personnel and other aspects of the company must be predicted. Detailed management plan.

Improve the management model of the enterprise: To improve the corporate management system and standardize corporate management and management systems, it is necessary to realize the transformation and upgrading of corporate management structure, rationally allocate corporate management powers and responsibilities, and formulate comprehensive strategic objectives based on

corporate development, strategic objectives and operating risks. Secondly, in accordance with the principles of modern economics and the regulations and requirements of the enterprise management system, specialized management departments should collect and sort out information related to enterprise management in a timely and accurate manner, strengthen effective communication within the enterprise, and make the efficiency of enterprise management consistent with the modern economics of the enterprise. Produce the connection, put modern economics through the whole process of business management, and adopt corresponding management measures to control the development of the enterprise within the tolerance. In addition, it is necessary to follow the scientific, reasonable and correct principles of modern economics to make reasonable adjustments to the management mode of the enterprise, strengthen the efficiency of enterprise management, and establish a scientific and effective enterprise management mode.

Carry out education and training to enhance corporate management efficiency: At this stage, it cannot be said that all enterprises in China have a perfect corporate management system, which needs to be strengthened and updated so as to maintain the sustainable development of the enterprise and make the enterprise go higher, longer and longer. Comprehensively improve the overall management level of enterprise management and managers, comprehensively promote the ideological principles of modern economics, and conduct in-depth study and understanding. In a sense, modern economics is a science of choice. From the perspective of an enterprise, it guides the enterprise to pursue maximization under constraints and under normal circumstances, the slope of the demand curve is negative. The basic principle is to make choices or decisions on business management and management benefits. Modern economics has developed into a huge subject with many branches, some of which constitute the teaching content of certain aspects of business management training, and some of the branches are integrated into certain aspects of business management or training in certain aspects of management ability among.

1.2 Characteristics of the enterprise sustainable development and its supports

Economic sustainability aims to maintain the capital intact. If social sustainability focuses on improving social equality, economic sustainability aims to improve the standard of living. In the context of business, it refers to the efficient use of assets to maintain company profitability over time. As stated by the UK Government (Annual Report 2000, January 2001):

“Maintaining high and stable levels of economic growth is one of the key objectives of sustainable development. Abandoning economic growth is not an option. But sustainable development is more than just economic growth. The quality of growth matters as well as the quantity.”

Critics of this model acknowledge that a great gap in modern accounting practices is not to include the cost of damage to the earth in market prices (Hawking, 2010). A more recent approach to economics acknowledges the limited incorporation of the ecological and social components in this model. New economics is inclusive of natural capital (ecological systems) and social capital (relationships amongst people) and challenges the mantra of capital that continual growth is good and bigger is better, if it risks causing harm to the ecological and human system (Benn et al., 2014).

This key challenge of embedding sustainable business practice within the business operations of SMEs is often addressed in *ad hoc* ways, with limited attention paid to establishing what constitutes sustainable business practice. Attempts to provide a sustainable business approach have included using tools such as environmental management systems (Singh et al., 2015), life cycle assessment (Luthra et al., 2013), and lean thinking (Thanki et al., 2016). ‘Lean thinking’ or ‘Lean manufacturing’ tools have emerged as the preferred business approach to deliver better value for customers by removing non-value-adding activities (Womack and Jones, 2010) which later evolved to ‘lean and green thinking’ (Miller et al., 2010). A range of lean thinking tools have been shown the ability to improve operational and

environmental performance (Verrier et al., 2016), but not necessarily achieve ‘sustainable business practice’.

It is still unclear what characterizes sustainable business practice in SMEs, or how lean and green practices could be strategically used to drive SMEs sustainable business practice (Fowler and Hope, 2007, Martínez León and Calvo-Amodio, 2017). This gap in knowledge demands more research on models and integrative theories for sustainable business management and practice (Schaltegger et al., 2016, Starik and Kanashiro, 2013). Therefore the main objective of this paper is to explore the characteristics of sustainable business practice in SMEs by focusing on a subset of companies who have been engaging in lean and green practices, considering key lessons learned to then influence future priorities. Building on previous research on characteristics for SMEs manufacturing processes to become economically sustainable (Thomas et al., 2012), this study contributes to understanding of sustainable business practice by establishing nine characteristics under the three themes of environmental stewardship, process excellence, and sustainability-oriented culture. While the Natural- Resource-Based View theory provided a robust lens for SMEs business practice the findings led to an addition of a fourth strategy of ‘regenerative development’ to foster resilience and enhance ecosystem health.

Incorporating sustainable business practice into SMEs’ business operations

SMEs are faced with increasing institutional pressures to adopt sustainable business practice and reduce environmental pollution (Hillary, 2000, Melville, 2010). In light of this challenge, SMEs attempt to employ a variety of green tools to achieve sustainable business practice, such as environmental management systems (Singh et al., 2015), life cycle assessment (Luthra et al., 2013), design for environment (Agan et al., 2013), emissions reduction (Sangwan, 2011), use of natural resources.

The exploratory approach was deemed appropriate as it facilitates exploration of sustainable business practice characteristics in SMEs and how lean and green practices could be strategically harnessed to achieve SMEs sustainable business

practice. This exploratory approach was selected to find available evidence and provide ground work for more rigorous studies in the future (Cooper et al., 2006).

Ongoing changes in companies' operating environments, such as digital transformations and the emergence of novel business models, mean that sustainable innovation is becoming the focus of companies of many types and sizes. This focus varies from merely “green” and “environmentally driven” innovations to “sustainable” innovations. A sustainable innovation is developed by considering a balanced combination of three elements: economic, social, and environmental. Economic elements traditionally dominate decision-making, yet with sustainability, the three elements are simultaneously and equally considered (Chen et al., 2015; Salonitis & Ball, 2013; Seliger, 2007; Ukko et al., 2021). Thus, the combination of the social, environmental, and economic elements in innovation processes differentiates sustainable innovations from traditional innovations. Not every innovation, as a result, is sustainable. The majority of research conducted on sustainable innovation applies to large enterprises, but sustainable innovation in small enterprises is different (Bos-Brouwers, 2010; Ukko et al., 2021), and there is a lack of literature on this type (cf. Bos-Brouwers, 2010; Ukko, Saunila, et al., 2019). The importance of sustainable innovation in small- and medium-sized enterprises (SMEs) cannot be neglected, given the large number of SMEs worldwide (Constantinos et al., 2010) and their large share of pollution production (cf. Constantinos et al., 2010). Consequently, considering sustainable innovation in SMEs is vital and needs more research (Bos-Brouwers, 2010; Klewitz & Hansen, 2014).

To close this gap, we studied the circumstances under which small enterprises are likely to engage in sustainable innovation, and insights from a review of the literature were mixed with empirical data. The data for this study were derived from small enterprises located in Finland. The results reveal that digitally oriented enterprises are more likely to adopt sustainable innovation than companies that do not

have a digital orientation. In addition, technological turbulence negatively affects the adoption of sustainable innovation.

According to Wüstenhagen et al. (2008), a deep understanding of sustainable development in SMEs requires knowledge about both internal and external factors. Internal factors include a company's characteristics in terms of vision, readiness for change, and entrepreneurial and sustainability orientation. External factors include stakeholder pressures that might create opportunities or threats to an SME (Wüstenhagen et al., 2008). The scientific relevance of this study lies in the integration of sustainable development and innovation research to study the influence of context in terms of company type, digital orientation, and the external environment on sustainable innovation. Initially, we add value to the sustainability literature by demonstrating the circumstances under which small enterprises are likely to adopt sustainable innovation. Then, we develop a contribution to the innovation management literature by offering a model of the different characteristics that drive sustainable innovation.

Sustainable innovation

During the last few decades, both practitioners and academia have expanded their knowledge about sustainable innovation to understand how social practices and cutting-edge technologies enable improvements to sustainability (Boons & Lüdeke-Freund, 2013; Bos-Brouwers, 2010; Saunila et al., 2018; Ukko, Saunila, et al., 2019; Ulucak & Khan, 2020). “Green innovation,” “environmental innovation,” “eco-innovation,” and “sustainable innovation” are among the terms that have been increasingly used during the last 20 years. Understanding the differences between these terms is essential because of the need to recognize the different interests that are pertinent to different societies (Saunila et al., 2018; Schiederig et al., 2012). The term “green innovation” primarily focuses on innovations in products, processes, and management methods, with the aim of attaining competitive advantages in an environmentally friendly way (Huang et al., 2016; Schiederig et al., 2012). According

to Carrillo-Hermosilla et al. (2010), both “environmental innovation” and “eco-innovation” can be listed as innovations in which the focus is on ecological sustainability. Moreover, they defined the term “eco-innovation” as “innovation that improves environmental performance” (Carrillo-Hermosilla et al., 2010, p. 1075). In contrast to these three terms (green innovation, environmental innovation, and eco-innovation), in which the central focus is on environmental performance (Carrillo-Hermosilla et al., 2010; Huang et al., 2016), sustainable innovation covers all three elements of sustainability and integrates the environmental, social, and financial factors for embedding in the entire life cycle of a company, including their products, services, and technologies (Boons et al., 2013; Boons & Lüdeke-Freund, 2013; Klewitz & Hansen, 2014; Schaltegger & Wagner, 2011).

Recently, the terms “sustainability” and “innovation” have been co-positioned to create the concept of sustainable innovation (Franceschini et al., 2016; Saunila et al., 2018). Sustainable development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (UN World Commission on Environment and Development, 1987, p. 54). Built on the conception of sustainable development, the integration of sustainable development principles—environmental, social, and economic—into business operations is required for corporate sustainability strategies (Saunila et al., 2019; Ukko, Nasiri, et al., 2019), in which “innovation” is often named as a vital way to contribute to sustainability (Schaltegger & Wagner, 2011). Innovation includes all kinds of products, services, processes, and organizational modes, which have a notable degree of novelty for companies (Schaltegger & Wagner, 2011). In many cases, the achievement of sustainable development in markets requires radical innovations that are disruptive for manufacturers and customers (Schaltegger & Wagner, 2011). Thus, in this study, the term “sustainable innovation” can be considered an innovation that enhances sustainability performance and contains environmental, economic, and social principles (Boons et al., 2013; Carrillo-

Hermosilla et al., 2010; Klewitz & Hansen, 2014). Since these criteria will vary due to differences in the spatial, temporal, and cultural situations of companies, there will be different features for sustainable innovation in various contexts (Boons et al., 2013; Saunila et al., 2018; Ukko, Saunila, et al., 2019). Investigating sustainable innovation in small businesses will, therefore, enable greater detection and a better understanding of the phenomenon that manifests in small businesses, in line with Klewitz and Hansen (2014).

Digital orientation and sustainable innovation

In many studies, digital orientation has been presented as one of the main enablers of sustainable innovation, covering the economic, environmental, and social elements of sustainability (Chen et al., 2015; Holmström et al., 2017). Specifically, digital technology is considered an essential driver of innovation (Banker et al., 2006; Mithas et al., 2011; Setia et al., 2013; Tanriverdi, 2005) because it is the connection between the physical entities and digital attributes of services and products (El Sawy et al., 2016). Currently digital technology is reasonable and more accessible than it had been previously. This facilitates engaging in digital innovation, which, in turn, allows for new arrangements of actors to create, develop, and spend on new digital offerings (Nylén & Holmström, 2015; Yoo et al., 2010). The reprogrammable nature of digital technology makes it technically possible to improve the functionality of products and services. Innovations can thus be generated with digital technologies that enable physical entities to be smarter with characteristics such as programmability, addressability, sensibility, communicability, memorability, traceability, and associability (Nasiri et al., 2020; Yoo, 2010). These advanced improvements in digital technologies thereby enable technical development in digital infrastructures to endorse innovations in different domains, such as semantic consistency, temporal and longitudinal traceability, figurative flexibility, knowledge and information brokering, and linguistic standardization (Lyytinen et al., 2016). Prior studies have emphasized how digital technologies enable cross-border activities without any limitations in

time, functionality, or location (Parida et al., 2015; Yoo, 2010; Yoo et al., 2012). In addition, Nylén and Holmström (2015) noted how digital technologies can create enormous changes in sales through digital distribution channels and that, currently, companies have the ability to carefully control, place, and integrate their services and products via the richness of mobile operating systems, app stores, and social media sites. Digital technologies in, for example, the manufacturing industry, can be considered to enable the combination of manufacturing practices and operational practices in different phases, such as design and planning, distribution, consumption and use, product services, and governance, for a competitive mixture of services and products that contribute to sustainable values (Holmström et al., 2017).

Digital technologies enable innovations that can contribute to areas such as social sustainability consequences, including the (re)industrialization of both regional and local development (Holmström et al., 2017). Similarly, digital technologies can generate social sustainability innovations that allow for the same opportunities for all involvement in societies and markets, reducing different kinds of gaps (e.g., cultural, educational, technological) between developing and developed countries, providing products built on users' preferences and their satisfaction levels, and generating potential advantages for the health conditions of workers (Chen et al., 2015). Digital technologies are also aimed at economic and environmental innovations. Chen et al. (2015) highlight that economic and environmental elements are strongly linked and point out that such generated innovations can relate to, for example, effective material utilization, minimal material and energy losses because of optimized inventory storage, more efficient supply chains with lower transportation costs, less waste and effective waste management through the possibility of user-oriented manufacturing, less overproduction of stock, direct recycling, and rapid design processes and prototyping (Chen et al., 2015; Holmström et al., 2017).

The external environment and sustainable innovation

Many different research streams have mentioned the critical role of external collaboration in sustainable solutions (del Río et al., 2017; Lozano, 2007; Reficco et al., 2018; Ukko et al., 2021; Ukko, Saunila, et al., 2019), whereby small businesses can compensate for resource scarcity in sustainable innovation (Bos-Brouwers, 2010) and go beyond an economic exchange via external collaboration (Reficco et al., 2018). In general, the external environments of companies are shaped by growing market turbulence and technological turbulence (Chen et al., 2016; Liu et al., 2019; Paladino, 2008; Zhou et al., 2019).

Market turbulence involves changes in customer preferences for services and products (Jaworski & Kohli, 1993), and, according to Ebrahimi and Mirbargkar (2017), it addresses the speed of modifications in terms of customers' wants and behaviors. Where customer preferences are changing toward asking for more sustainable services and products, companies need to find new solutions and innovations to meet these changing customer requirements.

Intense technological turbulence shapes the external environments of companies in different industries (Paladino, 2008). While market turbulence generally describes changes in customer favorites, “technological turbulence” addresses the rate of technological shift that is shaping different industries (Jaworski & Kohli, 1993). This intense technological turbulence not only forces companies to react to changes but also provides possibilities for new innovations. As such, Zhou et al. (2019) proposed that technological turbulence strengthens the impacts of strategic or managerial innovation on green management.

Because the external environments of companies are shaped by high turbulence, in addition to technological turbulence, market turbulence is another area where sustainable innovation can be considered a response to such changes. For example, Ukko, Saunila, et al. (2019) referred to open sustainability as one option for involving small businesses in sustainable innovation. They explained that small businesses could utilize sustainable innovation by collaborating with external

networks on sustainable initiatives (Ukko, Saunila, et al., 2019). According to del R o et al. (2017), participating in knowledge sharing and collaboration is critical for small businesses to be able to eco-innovate. From the perspective of market turbulence, it can be considered a response to changing customer preferences and behaviors. However, from the perspective of technological turbulence, sustainable innovation can be considered a competitive advantage arising from changes in available technologies.

Building on this discussion, the following propositions are presented:

P1. Sustainable innovation adoption is shaped by a company's internal and external environments.

P1a. Sustainable innovation adoption is shaped by a company's digital orientation.

P1b. Sustainable innovation adoption is shaped by market turbulence.

P1c. Sustainable innovation adoption is shaped by technological turbulence.

Sustainable innovation and company characteristics

The current literature on both sustainability and innovation places most attention on large, mature, international companies, and there is minimal research on sustainable innovation in small businesses (cf. Bos-Brouwers, 2010; Klewitz & Hansen, 2014; Ukko, Saunila, et al., 2019). Schaltegger and Wagner (2011) stated that sustainable entrepreneurs deal with sustainability problems as their core business because there is a strong link between financial success and sustainability performance. They believe that, in many cases, the achievement of sustainable innovation requires radical innovations, which are more easily adopted by small companies. Although the characteristics of small companies are a better match for radical innovation, the convergence of small and large companies is vital to creating sustainable entrepreneurship (Schaltegger & Wagner, 2011). However, given that there are many critical dissimilarities between the innovation processes of small and large companies, successful theories and practices applied to large companies might

not necessarily apply to small companies (Bos-Brouwers, 2010). Consequently, traditional forms of innovation, including research and development (R&D) expenditures, innovation counts, R&D employment, and patents, do not have successful outcomes for small businesses (Bos-Brouwers, 2010). Although small business characteristics, such as limited resources in knowledge, skilled employees, and capital, hamper them from developing sustainable innovations (Bos-Brouwers, 2010; Lewis & Cassells, 2010; Ukko, Saunila, et al., 2019), their behavioral advantages provide more opportunities for success with using sustainable innovations (Bos-Brouwers, 2010). Additionally, Klewitz and Hansen (2014) referred to the existence of different strategic behaviors toward sustainable innovation in SMEs. They believe that SMEs, with a core business in the integration of social, environmental, and economic sustainability elements, are more likely to create radical innovation and have extensive interaction with external factors. They also noted that these SMEs might develop to an industry level with dominant technologies and organizational structures. According to Dibrell et al. (2008), less established businesses, such as small businesses, are more flexible and quicker to innovate than large, well-established companies. Due to the risk of losing their current competitive advantages, large companies are less willing to move toward disruptive innovations and novel approaches (Dibrell et al., 2008). Therefore, a company's characteristics—size, maturity level, and type of business—are critical factors in sustainable innovation (Boons & Lüdeke-Freund, 2013; del Río et al., 2017). Based on the factors discussed, the following proposition is suggested:

P2. Company characteristics determine the contribution of a company's internal and external environments to sustainable innovation.

P2a. Company size determines the contribution of a company's internal and external environments to sustainable innovation.

P2b. Company maturity determines the contribution of a company's internal and external environments to sustainable innovation.

Theoretical implications

This study examined the circumstances under which small enterprises are likely to engage in sustainable innovation. In this study, sustainable innovation was defined as a type of innovation that enhances sustainability performance, which includes a combination of environmental, social, and economic sustainability (Boons et al., 2013; Boons & Lüdeke-Freund, 2013; Carrillo-Hermosilla et al., 2010). Due to the dissimilarity in the concept of sustainable innovation in different contexts (Boons et al., 2013; Saunila et al., 2018; Ukko, Saunila, et al., 2019), this study clarified the role of companies' internal and external environments in sustainable innovation. Thus, the scientific relevance of this study lies in the integration of sustainable development and innovation research in the context of small businesses.

Initially, we contribute to the prior literature by demonstrating the circumstances under which small enterprises are most likely to adopt sustainable innovation. The results revealed that the level of digital orientation had a significant impact on the adoption of sustainable innovation. This is in agreement with prior research that considered digital technology to be an enabler of sustainable innovation (Chen et al., 2015; Holmström et al., 2017). Because the main characteristic of digitality is making borderless activities possible (Parida et al., 2015; Yoo, 2010; Yoo et al., 2012), including remote monitoring of production lines, product conditions, and customer satisfaction, many opportunities arise for sustainable innovation with less energy consumption, less stock overproduction, and more comfort for human beings. For example, digitality, by using less energy and making waste production feasible, can cause them to be influential factors in sustainable innovation.

Referring to the external environment, including both market and technological turbulence, the results highlighted the negative role of technological turbulence in sustainable innovation, but no significant effect was found for market turbulence on the contribution of small businesses to sustainable innovation. The negative impact of technological turbulence could be due to small companies' resource scarcity (Bos-

Brouwers, 2010; Lewis & Cassells, 2010; Ukko, Saunila, et al., 2019), because if there is a lack of resources with which to run daily activities, there is no energy left to scrutinize the external environment and determine its possible influence on sustainable innovation.

We also add value to the body of literature by examining the determinant role of company characteristics—size and maturity—on the contribution of a company's internal and external environments to sustainable innovation. The results of the study did not indicate a moderating effect of company characteristics and showed that a company's size and maturity are not connected to the contribution of that company's internal and external environments to sustainable innovation. This means that larger or more mature companies are not more likely to turn their internal and external environments to sustainable innovation than smaller or younger ones. This is in line with Schaltegger and Wagner (2011), who found that the convergence of small and large businesses was an influential factor in creating sustainable entrepreneurship. There are some other important elements that affect the contribution of a company's internal and external environments to sustainable innovation.

1.3 Application of modern management technologies at the enterprise

It can be differentiated from program management in that program management is concerned with managing a group of interdependent projects. From another viewpoint, process management includes program management. In project management, process management is the use of a repeatable process to improve the outcome of the project.

Key distinctions between process management and project management are repeatability and predictability. If the structure and sequence of work is unique, then it is a project. In business process management, a sequence of work can vary from

instance to instance: there are gateways, conditions, business rules etc. The key is predictability: no matter how many forks in the road, we know all of them in advance, and we understand the conditions for the process to take one route or another. If this condition is met, we are dealing with a process.

As an approach, BPM sees processes as important assets of an organization that must be understood, managed, and developed to announce and deliver value-added products and services to clients or customers. This approach closely resembles other total quality management or continual improvement process methodologies.

ISO 9000 promotes the process approach to managing an organization.

...promotes the adoption of a process approach when developing, implementing and improving the effectiveness of a quality management system, to enhance customer satisfaction by meeting customer requirements.

BPM proponents also claim that this approach can be supported, or enabled, through technology. As such, many BPM articles and scholars frequently discuss BPM from one of two viewpoints: people and/or technology.

BPM streamlines business processing by automating workflows; while RPA automates tasks by recording a set of repetitive activities implemented by humans. Organizations maximize their business automation leveraging both technologies to achieve better results.

The essence of business process management is to ensure full transparency and optimization of all processes handled by an organization, since they are the lifeblood of every business, and the main purpose of their existence is to coordinate all activities carried out within them. The most common definition of business processes sees them presented as repetitive individual activities or sets of such activities, which are carried out with the aim of achieving a specific, visible and measurable end result – making a decision, developing a product, implementing a service, creating a document, an e-mail or achieving another clearly defined objective. Business

processes comprise a sequence of steps or activities that need to be performed to achieve a goal.

Business processes can be divided into two key categories – core and back-office processes. As the name suggests, core processes are fundamental to the functioning of a company – they directly contribute to its business performance and impact its bottom line. If they break down for any reason or worse – come to a screeching halt, this situation can completely shut down the company’s operations. Back-office processes, on the other hand, serve an auxiliary function, supporting the operation and proper handling of core processes. One of the most important characteristics of back-office processes is that they generate relatively high costs, while core processes bring in the majority of revenue. However, these two layers of processes are interconnected and mutually dependent on each other, and one should not forget about this connection – without well-functioning back-office processes, the operation of key processes becomes difficult, less efficient, resulting in disruptions and even breakdowns in the long run.

Business process management (BPM) is a discipline involving any combination of modeling, automation, execution, control, measurement and optimization of business activity flows, in support of enterprise goals, spanning systems, employees, customers and partners within and beyond the enterprise boundaries.

The Association of Business Process Management Professionals defines BPM as:

Business process management (BPM) is a disciplined approach to identify, design, execute, document, measure, monitor, and control both automated and non-automated business processes to achieve consistent, targeted results aligned with an organization’s strategic goals. BPM involves the deliberate, collaborative and increasingly technology-aided definition, improvement, innovation, and management of end-to-end business processes that drive business results, create value, and enable an organization to meet its business objectives with more agility. BPM enables an

enterprise to align its business processes to its business strategy, leading to effective overall company performance through improvements of specific work activities either within a specific department, across the enterprise, or between organizations.

Gartner defines business process management as: "the discipline of managing processes (rather than tasks) as the means for improving business performance outcomes and operational agility. Processes span organizational boundaries, linking together people, information flows, systems, and other assets to create and deliver value to customers and constituents."

It is common to confuse BPM with a BPM suite (BPMS). BPM is a professional discipline done by people, whereas a BPMS is a technological suite of tools designed to help the BPM professionals accomplish their goals. BPM should also not be confused with an application or solution developed to support a particular process. Suites and solutions represent ways of automating business processes, but automation is only one aspect of BPM.

The theory and practice of business process management

Business process management is a modern approach to managing business processes, the main objective of which is to optimize their execution. As a methodology, the concept of business process management (or BPM for short) is supposed to improve the quality of operations of the enterprise as a whole while boosting the efficiency of its daily operation, thus allowing it to achieve its business goals faster and more effectively while ensuring sustainable growth and keeping up to speed with current technological trends. Proper business process management is also key for every company to gain and maintain a leading position on the market, which is particularly important for companies with serious aspirations that set a bar high for themselves in order to join or stay among the group of industry and market leaders.

Modern business process management is more than just a theory, since these days all of its assumptions and ideas are made possible by highly advanced, state-of-the-art enterprise IT systems, which enable business process automation, as well as

workflow and documentation management in the company, thus contributing to the increased efficiency of its operations, better organization of its business activities and increased competitiveness in the industry. Business process management systems are currently a must have for any company that wants to be among the leaders on the market and keep up with the requirements of digital transformation. With effective and efficient business process management, the company gains a full insight into all the processes taking place within the organization, thus moving closer towards achieving process excellence.

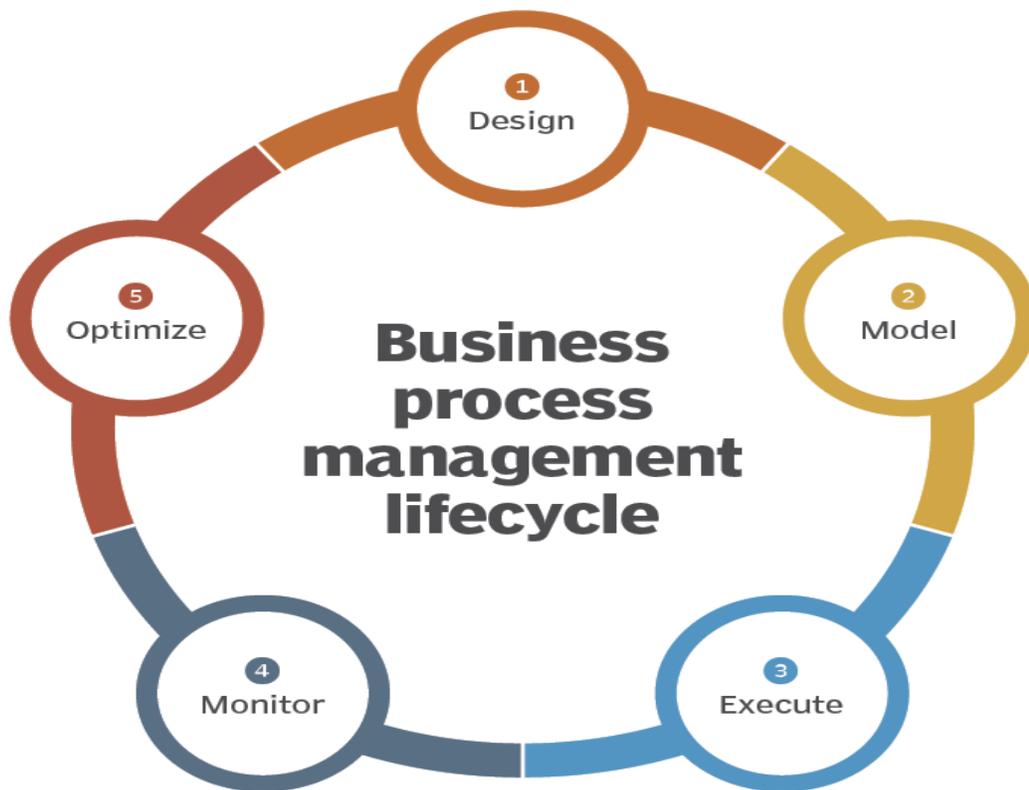


Figure 1 – Business process management Lifecycle (*formed on the base of [7]*)

Process design encompasses both the identification of existing processes and the design of "to-be" processes. Areas of focus include representation of the process flow, the factors within it, alerts and notifications, escalations, standard operating procedures, service level agreements, and task hand-over mechanisms. Whether or not

existing processes are considered, the aim of this step is to ensure a correct and efficient new design.

The proposed improvement could be in human-to-human, human-to-system or system-to-system workflows, and might target regulatory, market, or competitive challenges faced by the businesses. Existing processes and design of a new process for various applications must synchronize and not cause a major outage or process interruption.

Analyze the existing process to see what can be improved. Then, plan the business process as it should ideally exist, using standardization and automation. Most processes include a form to collect data and a workflow to process it. Build your form and identify who will own each task in the workflow.

Modeling takes the theoretical design and introduces combinations of variables (e.g., changes in rent or materials costs, which determine how the process might operate under different circumstances).

It may also involve running "what-if analysis"(Conditions-when, if, else) on the processes: "What if I have 75% of resources to do the same task?" "What if I want to do the same job for 80% of the current cost?".

Look at how the business process operates in different scenarios. Represent the process in a visual layout. Fix details like deadlines and conditions to give a clear idea of the sequence of events, and the flow of data through the process.

Business process execution is broadly about enacting a discovered and modeled business process. Enacting a business process is done manually or automatically or with a combination of manual and automated business tasks. Manual business processes are human-driven. Automated business processes are software-driven. Business process automation encompasses methods and software deployed for automating business processes.

Business process automation is performed and orchestrated at the business process layer or the consumer presentation layer of SOA Reference Architecture.

BPM software suites such as BPMS or iBPMS or low-code platforms are positioned at the business process layer. While the emerging robotic process automation software performs business process automation at the presentation layer, therefore is considered non-invasive to and de-coupled from existing application systems.

One of the ways to automate processes is to develop or purchase an application that executes the required steps of the process; however, in practice, these applications rarely execute all the steps of the process accurately or completely. Another approach is to use a combination of software and human intervention; however this approach is more complex, making the documentation process difficult.

In response to these problems, companies have developed software that defines the full business process (as developed in the process design activity) in a computer language that a computer can directly execute. Process models can be run through execution engines that automate the processes directly from the model (e.g., calculating a repayment plan for a loan) or, when a step is too complex to automate, Business Process Modeling Notation (BPMN) provides front-end capability for human input. Compared to either of the previous approaches, directly executing a process definition can be more straightforward and therefore easier to improve. However, automating a process definition requires flexible and comprehensive infrastructure, which typically rules out implementing these systems in a legacy IT environment.

Business rules have been used by systems to provide definitions for governing behavior, and a business rule engine can be used to drive process execution and resolution.

Execute improvements, including standardization and process automation.

Execute the process by testing it live with a small group first and then open it up to all users. Make sure you restrict access to sensitive information.

Monitoring encompasses the tracking of individual processes, so that information on their state can be easily seen, and statistics on the performance of one

or more processes can be provided. An example of this tracking is being able to determine the state of a customer order (e.g. order arrived, awaiting delivery, invoice paid) so that problems in its operation can be identified and corrected.

In addition, this information can be used to work with customers and suppliers to improve their connected processes. Examples are the generation of measures on how quickly a customer order is processed or how many orders were processed in the last month. These measures tend to fit into three categories: cycle time, defect rate and productivity.

The degree of monitoring depends on what information the business wants to evaluate and analyze and how the business wants it monitored, in real-time, near real-time or ad hoc. Here, business activity monitoring (BAM) extends and expands the monitoring tools generally provided by BPMS.

Process mining is a collection of methods and tools related to process monitoring. The aim of process mining is to analyze event logs extracted through process monitoring and to compare them with an a priori process model. Process mining allows process analysts to detect discrepancies between the actual process execution and the a priori model as well as to analyze bottlenecks.



Figure 2 – Steps of BPM lifecycle (*formed on the base of [10, 12]*)

Predictive Business Process Monitoring concerns the application of data mining, machine learning, and other forecasting techniques to predict what is going to

happen with running instances of a business process, allowing to make forecasts of future cycle time, compliance issues, etc. Techniques for predictive business process monitoring include Support Vector Machines, Deep Learning approaches, and Random Forest.

Keep an eye on the process as it runs through the workflow. Use the right metrics to identify progress, measure efficiency, and locate bottlenecks.

Process optimization includes retrieving process performance information from modeling or monitoring phase; identifying the potential or actual bottlenecks and the potential opportunities for cost savings or other improvements; and then, applying those enhancements in the design of the process. Process mining tools are able to discover critical activities and bottlenecks, creating greater business value. As you analyze, notice any changes that need to be done to your form or workflow to make them more efficient. Consider business process improvement steps.



Figure 3 – Types of business process management (*formed on the base of [15]*)

BPM systems can be categorized based on the purpose they serve. Here are the three types of business process management:

Integration-centric BPM

This type of business process management system handles processes that primarily jump between your existing systems (e.g. HRMS, CRM, ERP) without

much human involvement. Integration-centric business process management systems have extensive connectors and API access to be able to create processes that move fast. This type of BPM focuses on business processes that work with a business-integrated system without much human involvement. The processes often use workflow automation within a business's integrated applications. Customer relationship management applications and enterprise resource planning applications are two examples.

Human-centric BPM

Human-centric BPM is for those processes that are primarily executed by humans. These often have a lot of approvals and tasks performed by individuals. These platforms excel at a friendly user interface, easy notifications, and quick tracking. BPM can also focus on processes that people handle. These applications have features designed for human interaction, such as a well-designed user interface and notifications.

Document-centric BPM

These business process management solutions are required when a document (e.g. a contract or agreement) is at the heart of the process. They enable routing, formatting, verifying, and getting the document signed as the tasks pass along the workflow.

Most business process management systems will be able to incorporate elements of each of these, but each one will usually have one specialty. This approach centers on documents, such as formatting, signing and verifying contracts. Often business process management tools specialize in a specific document-centric task, such as signing.

Business process management examples

Human Resources.

Have you ever felt your organization's onboarding process is too complex and chaotic? Is your HR department asking the candidates to fill out paper forms that

make them exhausted? This is because your HR department lacks the principle of Business Process Management (BPM). A BPM tool can make HR departments more efficient. For example, it can simplify the review of timesheets. Onboarding new hires is another area where BPM can improve and speed up the process. When document-centric HR tasks are automated, they cut the use of paper forms throughout a company. Applying business process management, helps you automate your HR processes end-to-end, thereby cutting down on cost, time, and paper forms. Here are a couple of examples as to how business process management helps your HR department to improve their processes:

- Approve employee timesheets faster.

- Onboard new hires without hassles.

- Sales.

In most organizations, the sales team spends a significant amount of time coordinating with the Accounts Receivable (AR) team, to get sales invoices approved. Even a small typo in invoices ruins the lives of the salespeople. Sales teams also deal with a mix of human- and systems-centric processes. BPM tools can coordinate the exchange of sales quotes and invoices, and ultimately shorten sales cycle workflows. This is where business process management comes into the picture, since it automates the invoice approval process, thereby eliminating the chances of manual errors and the back and forth clarifications between the salespeople and the AR team. Here are a couple of scenarios in the sales department, where business process management can help them streamline their processes:

- Shorten your sales cycle workflows.

- Be on time with quotes and invoices.

- Finance

A finance team is bombarded with paper forms and emails every day since anything that involves money has to go through them. For instance, if the asset management team wants to purchase 50 laptops, they send the quotation that they

received from the vendor to the finance team for approval. This is just one case. Imagine how many emails and paper forms they receive on a daily basis from various teams. Without a system in place, it is cumbersome for them to manage all of these. Finance departments receive a variety of documentation from both systems-centric and human-centric processes. They receive a large volume of emails and paper forms about the company's internal and external financial processes. For example, a BPM platform enables finance departments to process employee travel requests faster. It can also streamline purchasing processes. A business process management (BPM) system helps them manage all of this. Here are a couple of scenarios in the finance department, where business process management comes as a saving grace:

- One-click approvals for travel requests.

- Customize workflows for unique scenarios.

- Business process management systems and their features.

Modern business process management systems are technologically advanced solutions developed in line with the highest standards of enterprise IT solutions, which enable developing and building modern business applications, efficiently managing business processes in an organization, and handling simple and standard process scenarios, as well as their more advanced and complex counterparts. What is more, BPM-class systems can be easily integrated with other software solutions and suites already deployed within the company, including ERP and CRM platforms, as well as domain systems. Some of the most noteworthy among the business process management solutions available on the market include innovative low-code platforms.

Low-code platforms are highly-advanced tools, which enable their users to quickly and easily build business applications, thus eliminating the need for knowing programming languages and learning how to code. The best such platforms on the market take advantage of bespoke technologies to enable efficient real-time change management, which offers the users the ability to implement changes and modifications in both currently developed, as well as already deployed applications,

according to the rhythm of business, with immediate result, thus making sure that the time-to-business is as short as possible. Such capabilities are critical for fast-growing companies, as they ensure a smooth response to the ever-changing business needs, with no downtime or transition periods and full control over the business application stack.

Now that you know why exactly a BPM system is necessary, here's a list of the features a good business process management system should have.

Visual process diagramming tool.

Drag-and-drop form designer.

Role-based access control.

Mobile support.

Powerful administrator features.

Single sign-on (SSO).

Integration with existing software systems.

Reports and analytics.

Performance for large user bases.

Process performance metrics.

Some features to look for in a BPM application, wherever it is used, include the following:

mobile features;

reporting and analytics;

document management;

easy software integration;

role-based access control; and

an intuitive user interface.

BPM tools and vendors.

BPM software (BPMS) offers a suite of tools and functions for mapping, modeling, automating, managing and optimizing processes.

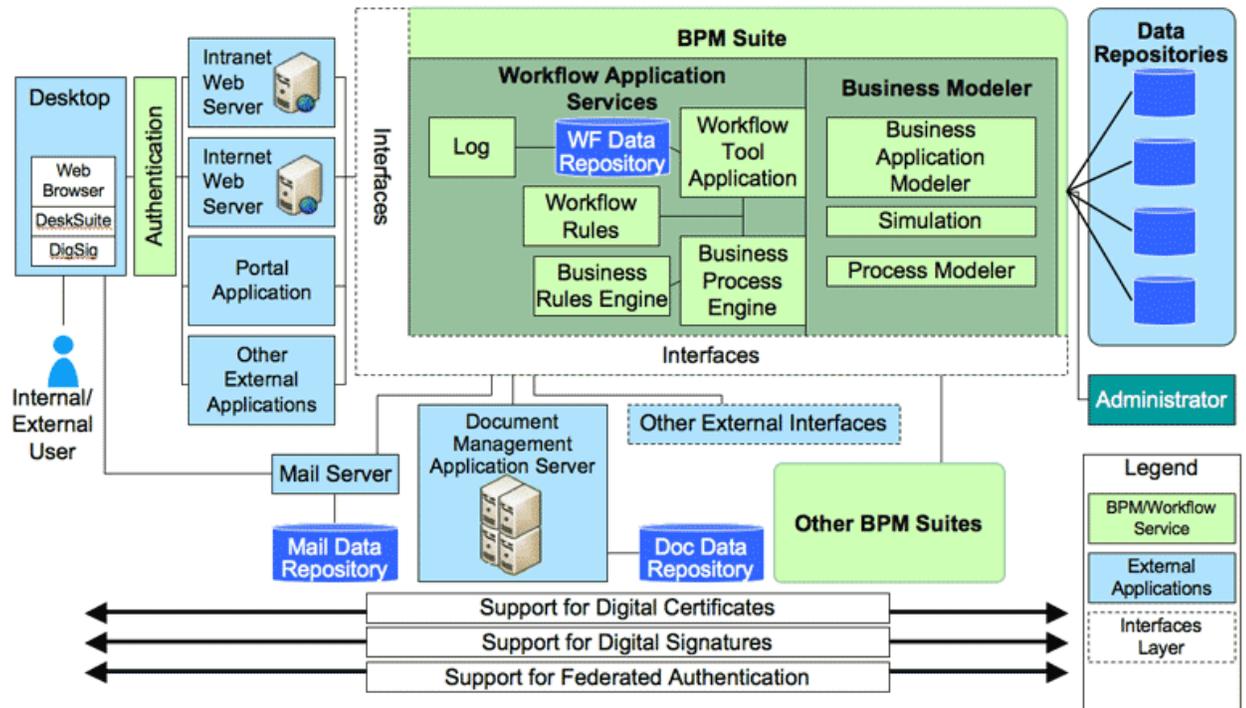


Figure 4 – BPM suite (formed on the base of [16, 22])

BPMS supports activities such as business rule management, user communication and analytics. Intelligent BPMS, or iBPMS, offers next-generation capabilities such as adaptive analytics and advanced collaboration tools.

There are dozens of BPM software options on the market. Vendors include the following:

Appian.

BP Logix.

IBM.

Kofax.

Oracle.

Pegasystems.

Tibco Software.

Some examples of BPM tools include the following:

IBM Blueworks Live has process mapping in this cloud-based collaboration software.

Kissflow has API integration capabilities that let users integrate automated business process workflows with other applications.

Novacura Flow uses low-code software in its BPM application. That makes customizing the application easier because few programming skills are needed.

Quixy is a no-code software platform, which also makes managing business processes within the application easier because programming skills are not needed.

Wrike automates business tasks with collaborating teams of any size.

Features every competent business process management tool should have

Now that you know why exactly a BPM system is necessary, here's a list of the features a good business process management system should have.

Visual process diagramming tool.

Drag-and-drop form designer.

Role-based access control.

Mobile support.

Powerful administrator features.

Single sign-on (SSO).

Integration with existing software systems.

Reports and analytics.

Performance for large user bases.

Process performance metrics.

Read this article for a detailed explanation of the above features of a good business process management system.

What are the benefits of incorporating business process management?

Here are some of the primary benefits of using BPM in your business:

Gain control of chaotic and unwieldy processes.

Create, map, analyze, and improve business processes.

Run everyday operations more efficiently.

Realize bigger organizational goals.

Move toward digital transformation.

Improve and optimize tangled operations.

Closely track individual items as they move through a workflow.

Implementing Enterprise Business Process Management - The change starts with the practitioner.

Over the past year, our Business Process Excellence practice has been working to develop an Enterprise Business Process Management (BPM) Framework for our organization, with implementation beginning this year. We utilize Lean, Six Sigma, Workout, Kaizen and facilitation methods to improve business processes that drive measurable business outcomes. BCBSNC is an \$8 Billion dollar business with over 4500 employees and have had an established Business Process practice since 2008. We have a very strong brand and have driven over \$80+ million in results since inception.

To initiate the next evolution of our business process practice, we culturally assessed the maturity and enterprise adoption of the tools and capabilities to solve business problems. In early 2015, we brought in an external partner to help us look at our current maturity, industry best practices and help us design an iterative solution. They also conducted a methodology gap assessment, measuring our maturity, and identified targeted initiatives to increase our maturity to a level 2 initially.

We then added it to our annual goals, worked to gain leadership commitment and created an executive steering committee that would help us with the rollout and change adoption. We wrote our case for change, completed a stakeholder management assessment, presented to our senior leadership and got a green light to go forward. We were excited by finally making it to this point. Taking this big step forward has been our vision for many years, waiting for the right time to roll out. We

attempted this in the past, without success, so we did have some strong apprehensions.

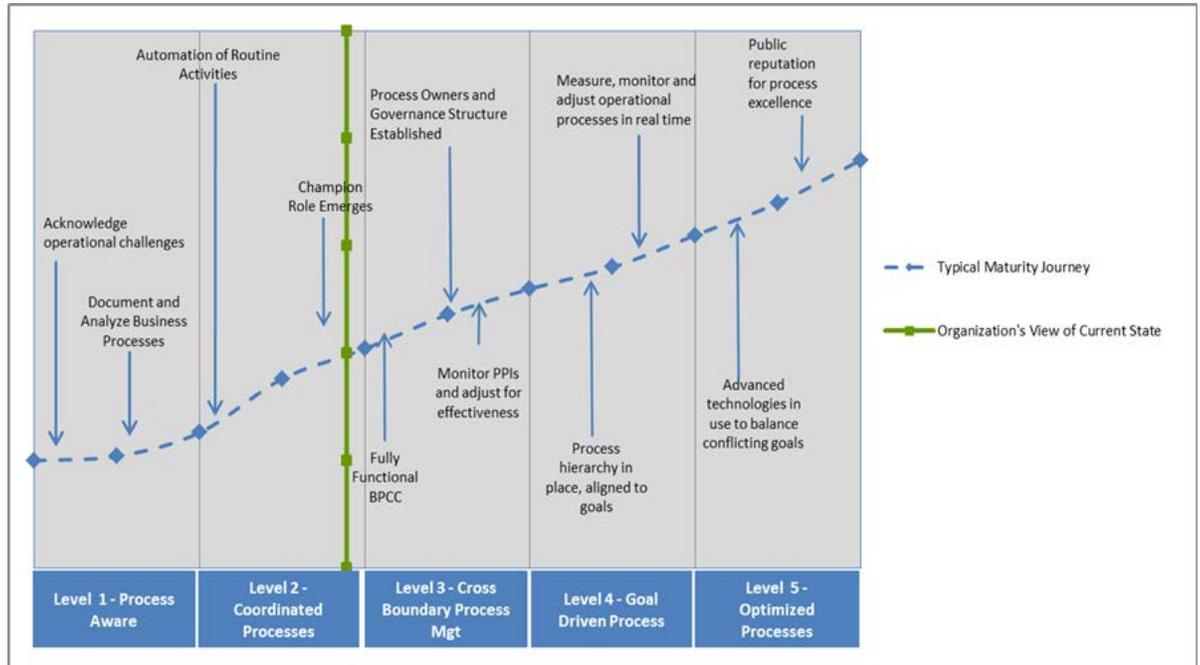


Figure 5 – Enterprise Business Process Management (*formed on the base of [20]*)

We began with the end in mind and developed a multiyear road map with measurable outcomes.

When we defined Business Process Management, we believed the hardest problem to solve was clear and accepted value stream management owners as we would be asking them to have accountability for process aspects they did not directly manage. Gaining agreement to own something that does not report into you, is extremely difficult, but necessary in a highly matrixed organization. But working with our stakeholders, senior management and our steering committee we began to make solid progress.

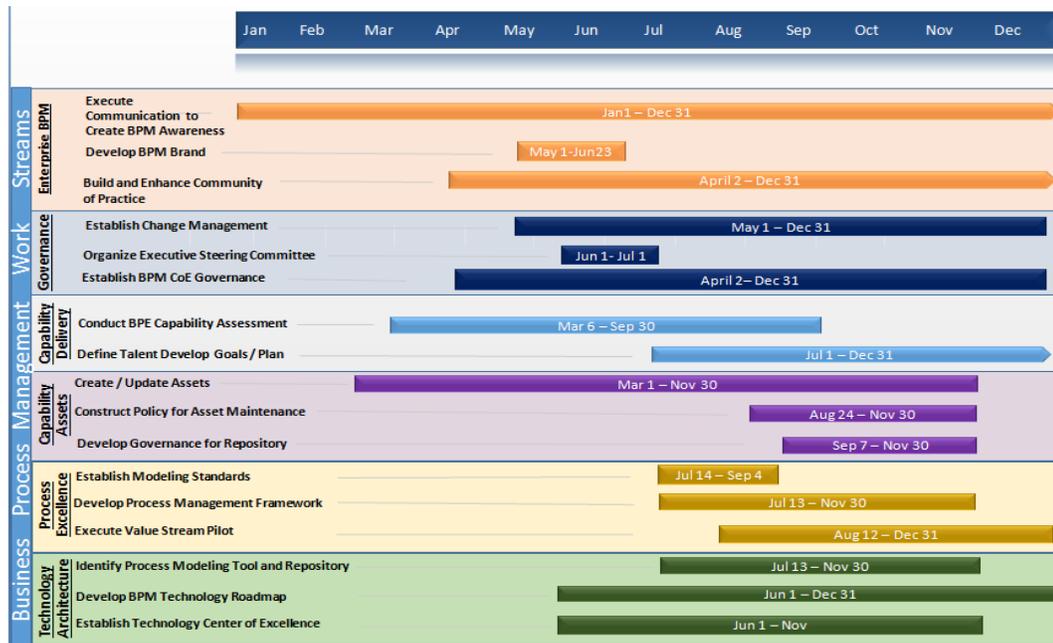


Figure 6 – Enterprise Business Process Management road map with measurable outcomes (*formed on the base of [22]*)

By now, the reader is probably thinking “sounds like you did everything right, so what is the story here?” In all our outward focus, we made a fundamental miscalculation in our approach to this next evolutionary step. We did not start with fully understanding the impact for the internal team. We would be shifting the very foundation of their work, to include: skills, tools and accountabilities.

When we prepared the case for change, it was focused on the great things it would do for the enterprise. We did not recognize or see this change to be a significant one for our staff regarding the way they work and interact. For them, this new methodology was risky; it was challenging the “status quo”. We also missed that this would change the way we, as a business process team, were organizationally structured and how we approached our work. We uncovered gaps in our tools and skill sets for designing and improving processes, and providing consultative support to the enterprise in a new and more meaningful way.

The team rolling out the new BPM Framework couldn’t understand why the BPE team wasn’t more excited. They are change agents after all and really should be

“getting this” before the enterprise. The situation we found ourselves in was the enterprise leadership was more excited than our staff. Having this disconnect impacted the team, the camaraderie and provided setbacks to the progress.

We literally had to take a step back and work in parallel to ensure our business process consultants understood the value, what was in it for them (WIIFM) and make an internal case for change. We had informal and formal discussions, identified where roles needed to change and introduced a new role focused on supporting the Value Stream business owners.

In the end, we have found that the team has a much tighter relationship with our business leaders; we are working on identifying more strategic initiatives and beginning to see a clearer path to driving value. In order to do this, we had to recognize that our team members have to see the clear alignment to the work, how they can positively impact change and deliver solid results.

We are just ramping into one main Value Stream around our Member Acquisition process. We have a value stream owner, an assigned Business Process consultant lead and other business process consultants that are helping to map out the value stream, identify the metrics and pull together the prioritization process. This will be a great case study as to how we can shift the organization with these new tools and also to better understand the process areas that need redesigning vs. automating. The latter is where a strong partnership with your Information Technology group comes into play. They can help you identify the right business process automation tools and also benefit from the work the Business Process teams do.

In order for Business Process Management to be successful, it is critical that your business process consultant team understand why this is needed. How they will engage and how they will be supported as they learn new skills. It is a dual journey, one of evolving your team and the other of evolving the business process owners and enterprise leaders. Without the right engagement and support from both entities, you cannot be successful.

CHAPTER 2

ANALYSIS OF THE MANAGEMENT SYSTEM AT THE PJSC FIRM POLTAVPIVO

2.1 Analysis of the object and the subject of the management system PJSC “Poltavpyvo Company”

PJSC “Poltavpyvo Company” is one of the enterprises of the food industry of Ukraine. PJSC “Poltavpyvo Company” was created on the basis of the Poltava Brewery, which began its operations back in 1965. Today, Poltava Pivo is a successful enterprise with a positive image, the products of which are in demand and have been awarded many gold medals at professional competitions in Ukraine and abroad, because at the base technology of beer production lies in the natural method of fermentation, the use of high-quality and natural ingredients.

PJSC “Poltavpyvo Company” is involved in the production and sale of beer, soft drinks, and malt. The enterprise has mastered modern yeast propagation equipment and an automatic SIR station. The automatic line for bottling beer in KEG containers reached a production capacity of 120 KEGs per hour. The brewing workshop of the company "Huppmann AG " with full computerization of the wort brewing process was completed and launched.

It is common knowledge that brewing in food products is considered seasonal, for example, beer consumption is the largest in summer and on holidays. Traditionally, the beer season at PJSC “Poltavpyvo Company” begins in April and lasts until September-October, and the highest consumption peak occurs in May-July, during which almost 60% of the annual volume of beer production is sold.

The subject of activity of PJSC “Poltavpyvo Company” is:

production, bottling, implementation, research and development of beer, malt, bread kvass, beer groats, brewer's yeast, fruit drinks, non-alcoholic drinks, carbonated water, slightly carbonated drinks, other liquor-vodka products and other products;

creation of own sales network using various forms and types of trade, organization of a network of specialized enterprises, trading houses and branded trade;

organization, conduct and acceptance of participation in product tasting;

implementation of containers, trade equipment;

implementation of foreign economic activity;

implementation of barter operations;

implementation of marketing activities, marketing research and services;

carrying out effective advertising activities;

participation in charity and various social projects;

acquisition and use of licenses, patents, other property and non-property rights;

implementation of design and construction works of industrial facilities;

special use of water resources;

production and sale of consumer goods;

procurement and storage of commodity resources;

provision of transport and forwarding services for transportation and organization of cargo storage;

production, procurement, processing, storage and sale of agricultural products;

implementation of procurement activities;

lease and use of movable and immovable property;

implementation of trading and purchasing activities, representative, dealer, intermediary, innovative, commission, commercial, investment, holding and financial activities, etc.

The goal of PJSC “Poltavpyvo Company” is to obtain the maximum profit based on the implementation of production, commercial, intermediary and other activities. In practice, PJSC “Poltavpyvo Company” focuses specifically on the production of beer products to meet the needs of consumers.

On the basis of the approved mission, PJSC “Poltavpyvo Company” formulates and sets general goals both for the company and for each department. In order to ensure the fulfillment of goals, PJSC “Poltavpyvo Company” has created an appropriate organizational structure that allows it to perform all functions and build business processes.

The mission of P PJSC “Poltavpyvo Company” is the main general goal, the reason for its existence, and consists in satisfying the needs of consumers, expanding the assortment, increasing the volume of manufactured products, obtaining new competitive advantages, ensuring profit for shareholders and fair treatment of the company's employees. The competitive advantage lies in lower prices for goods, due to the reduction of trade mark-ups, high-quality advertising, and the availability of qualified personnel.

In terms of the number of trademarks, the company is above the average level (13 pieces), because the policy of PJSC “Poltavpyvo Company” is aimed at satisfying the tastes of all consumers and manufactures the following products, such as: light, dark, strong, live beer (“Zhigulovske”, “ Riga”, “Barley Ear”, “Ai-Nikola”, “Savage Evenings”). Each of these types has its own special, original, harmonious taste.

The function of management should be understood as a product of the division and specialization of managerial work, a separate direction of managerial activity of PJSC “Poltavpyvo Company”, which allows for managerial influence. In the course of the research, it was found that Poltavpivo Firm PJSC has a linear-functional organizational management structure (Fig. 2.2), in which all authority is assumed by a line manager who heads a department or service.

During the development of specific issues and the preparation of relevant decisions, programs, plans, he is assisted by a special apparatus consisting of functional services.

Functional services of PJSC “Poltavpyvo Company” deliver their decisions to the executors through the senior manager. As a rule, functional services do not have the right to independently issue orders to production units, since they are deprived of the right to directly influence the executors, they prepare decisions for the line manager, who exercises direct administrative influence on the executors.

Functional services of PJSC “Poltavpyvo Company” carry out all technical preparation of production, prepare alternative options for solving key issues related to the management of the production process, relieve line managers from planning, financial calculations, etc. The general structure of PJSC “Poltavpyvo Company” is formed by the totality of all production, non-production and management divisions of the company, which function according to the principles of balanced interaction to achieve a single result from the company's activities. Functional divisions include the following:

- planning and economic department;
- marketing department;
- logistics department;
- sales department;
- Human Resources Department;
- accounting;
- department of the chief engineer;
- chief mechanic and chief brewer departments.

In addition to the main ones at PJSC “Poltavpyvo Company”, there are auxiliary departments that are designed for maintenance, repair of fixed assets, provision of spare parts for equipment repair, the laboratory is designed for constant

analysis of product quality and cultivation of yeast as the main component in beer production.

There are also service farms that perform work that provide the necessary conditions for the stable course of the main and auxiliary processes. For storage of material assets, the plant has warehouses - a grain warehouse, a warehouse for finished products, as well as a transport and packaging area.

The general management of PJSC “Poltavpyvo Company” is carried out by the Director, who resolves issues of a strategic nature and controls the activities of all departments and reports to the shareholders. Director of Poltavpivo PJSC:

- plans, coordinates, formulates and carries out all types of activities of the company;

- determines the strategic directions of the company's development;

- stimulates the activities of deputies to achieve results;

- takes measures to provide the company with highly qualified employees;

- ensures the development, conclusion and implementation of the statute, collective agreement;

- resolves issues within the limits of the rights granted to him, entrusts the performance of certain functions to deputies;

- carries out measures for the social protection of the company's employees.

The chief economist reports directly to the director and actually manages the company's activities at the operational level. It resolves issues related to the movement of financial flows.

His job functions at PJSC “Poltavpyvo Company” include:

- organization of accounting and analysis of the results of the company's economic and financial activities;

- control over the economical use of labor, material and financial resources, preservation of the company's property;

formation and timely submission to the management of complete and reliable information about the activities of the company, its property status;

development and implementation of measures aimed at strengthening financial discipline at the company;

carrying out an economic analysis of economic activity based on the data of management accounting and reporting in order to identify intra-economic reserves, eliminate unjustified expenses, effective use of the company's resources;

manage employees of the financial department and ensure the storage of accounting documents, as well as their submission to the archive.

The economic department of PJSC “Poltavpyvo Company” carries out work on economic planning, organizes the development of planned technical and economic standards, analyzes material and labor costs, forms prices for products based on the analysis of market prices.

Also, together with the chief economist of PJSC “Poltavpyvo Company”, the directions of production activity, the product program and production facilities are determined by the head of the workshop, the chief engineer and the chief accountant.

The functions of the personnel department of PJSC “Poltavpyvo Company” include:

determination of the need for personnel, planning of personnel support, personnel reserve and movement of personnel of the company;

organization of selection, certification of company personnel;

research and analysis of business, professional and personal qualities of employees;

organization of office management;

professional development of personnel;

improving working conditions and solving social issues;

development of motivation, career growth of employees.

Next, we will describe the general structure of the staff of Poltavpivo PJSC by categories of employees for the research period of 2018-2020 (Table 2.1).

Table 2.1 – Characteristics and dynamics of the general structure of personnel of PJSC “Poltavpyvo Company” by categories of employees for 2018-2020

Category of employed	2018		2019		2020		Change(+; -) specific gravity 2020 p. to	
	persons	%	persons	%	persons	%	2018 p.	2019 p.
Management staff	26	9,49	27	9,64	27	9,61	0,12	(0,03)
Including: leaders	9	3,28	9	3,21	9	3,20	(0,08)	(0,01)
Specialists	16	5,84	17	6,07	17	6,05	0,21	(0, 02)
Technical workers	1	0,37	1	0,36	1	0,36	(0,01)	0
Production staff	247	90,51	253	90,36	257	90,39	(0,09)	0,03
Total	273	100	280	100	281	100	x	x

During the analysis, it was found that the number of management personnel during 2019 and 2020 remained unchanged - 27 people, as well as other administrative personnel. As for the production staff, a positive trend towards its increase was observed. Thus, in 2019, the number of production workers was 253, and in 2020 – 257 (4 more). Accordingly, this course of events affected the increase in the total number of employees, in 2020 there were 281 people (one more than the previous year). As for the norm of management, it is approaching the limit, because it should be within the limits of 5-7 people per manager, and at PJSC “Poltavpyvo Company” the norm of management is 9 people.

Next, it is necessary to analyze the age structure of the personnel for 2018-2020 (Table 2.2). The conducted research showed that the largest number is made up of employees aged 25 to 49 years. This is a positive situation, as it indicates the rejuvenation of the team, the hiring of specialists with and without work experience. Also, one person was hired in the category from 15 to 24 years old.

Table 2.2 – Characteristics and dynamics of the age structure of the staff of PJSC “Poltavpyvo Company” for 2018-2020

Age categories (years)	2018		2019		2020		Deviation of specific gravity (p.p.) in 2020 to:	
	number of people	specific weight, %	number of people	specific weight, %	number of people	specific weight, %	2018 p.	2019 p.
15-24	23	8,42	22	7,86	23	8,18	(0,24)	0,32
25-49	144	52,75	147	52,5	147	52,31	(0,44)	(0,19)
50-59	57	20,88	61	21,79	60	21,35	0,47	(0,44)
60-65	31	11,35	33	11,79	34	12,1	0,75	0,31
66-74	18	6,59	17	6,07	17	6,05	(0,54)	(0,02)
Total	273	100	280	100	281	100	x	x

The company also employs employees of retirement age (from 66 to 74 years old), as of 2020 there are 17 of them, which is one person more than in 2018.

It is also necessary to analyze the educational structure of the employees of PJSC “Poltavpyvo Company” (Table 2.3).

Table 2.3 – Characteristics and dynamics of the educational structure of PJSC “Poltavpyvo Company” for 2018-2020

Educational level	2018 .		2019 .		2020 .		Deviation of specific gravity (p.p.) in 2020 to:	
	number of people	specific weight, %	number of people	specific weight, %	number of people	specific weight, %	2018 p.	2019 p.
Secondary education	28	10,26	31	11,07	31	11,03	0,77	(0,04)

Continued table 2.3

Special professional training of workers (PTU)	154	56,4 1	156	55,71	157	55,87	(0,54)	0,16
Higher education (high school I-IV accreditation level - OKR "bachelor")	66	24,1 8	67	23,93	67	23,84	(0,34)	(0,09)
Complete higher education (high school I-IV accreditation level - OKR "specialist", "master")	25	9,16	26	6,29	26	9,25	0,09	(0,04)
Total	273	100	280	100	281	100	x	x
Retraining of personnel	26	9,52	18	6,43	21	7,47	(2,05)	1,04
Education abroad	1	0,36	0	0	1	0,36	0	0,36

Most of the employees (157 people as of 2020) have special professional training, this is the norm for a brewery, since most of the employees are involved in production, which does not usually require them to receive a higher education.

In 2020, 67 people will have a bachelor's degree, and 26 people have a master's degree in 2020. It is the administrative staff who have such a level of education that allows them to manage their business processes and control the work of the department or service. A positive point is that the company sends employees abroad for internships, so in 2020 one employee was able to go abroad for training.

The next stage is the analysis of staff turnover indicators of PJSC “Poltavpyvo Company” for 2018-2020 (Table 2.4).

The conducted analysis showed that there are negative trends at Poltavpyvo Firm PJSC, in particular, it was found that during 2018-2020 there was a decrease in the renewal rate, the difference between 2019 and 2020 is 0.011 points; there is a corresponding increase in the staff turnover rate, so it increased in the period from 2019 to 2020 by 0.014 points. This affected the overall staff turnover rate, which had an upward trend, in 2019, it was 0.007 points, and in 2020, it was 0.018, an increase of 0.011 points. Also, the coefficient of internal mobility decreased during the studied period, which indicates a decrease in the number of people moving up the career ladder. That is, almost all personnel remained in their positions.

Table 2.4 – Characteristics and dynamics of staff turnover indicators of PJSC “Poltavpyvo Company” for 2018-2020

Indicators	2018.	2019.	2020.	Deviation 2020 to:	
				2018.	2019.
Staff renewal rate	0,022	0,032	0,021	(0,001)	(0,011)
Staff attrition rate	0,09	0,007	0,021	(0,008)	0,014
Staff turnover rate	0,026	0,007	0,018	(0,008)	0,011
Coefficient of internal mobility	0,011	0,007	0,004	(0,007)	(0,003)

Finally, it is necessary to determine the trends related to the remuneration fund of employees of PJSC “Poltavpyvo Company” (Table 2.5).

Table 2.5 – Structure and composition of the salary fund of PJSC “Poltavpyvo Company” for 2018-2020

Indicators	2018.		2019 p.		2020 p.		Відхилення 2020 р. до:			
							2018 p.		2019 p.	
	thousand hryvnias	specific weight, %	thousand hryvnias	specific weight, %	thousand hryvnias	specific weight, %	thousand hryvnias	specific weight, %	thousand hryvnias	specific weight, %
Total wage fund	32154,2	100	39619,4	100	39632,8	100	7478,6	x	134	x
Including:										
1.1. Basic salary fund	17943,4	55,8	24902,4	62,8	24756,3	62,5	6812,9	6,7	(146,1)	(0,3)
1.2. Additional salary fund	13786,6	42,9	14362,8	36,2	14632,2	36,9	845,6	(6)	269,4	0,7
1.3. Other incentive and compensation payments	424,2	1,32	354,2	0,9	244,3	0,6	(3,94)	(3,02)	424,2	(3,9)

The conducted analysis showed that the salary fund increased in 2020 by UAH 134,000 compared to 2019 based on the growth of additional payments. Thus, the additional salary fund amounted to UAH 14,362.8 thousand in 2019, and already in 2020 – UAH 14,632.2 thousand, which is 0.7% more than the previous year. At the

same time, there are also negative trends, accordingly, the basic salary fund and the fund of other incentive payments decreased.

In 2019, the fund of the main social security fund amounted to UAH 24,902.4 thousand, and already in 2020 it amounted to UAH 24,756.3 thousand, which is 0.3% less than the previous year. The fund of other incentive payments decreased in 2020 compared to 2019 by 3.9%.

As for the observance of safety techniques, PJSC “Poltavpyvo Company” has a number of regulatory documents on the conduct, control and management of technological processes, operating and working instructions have been developed and applied for all types of work that are dangerous to life and health at PJSC “Poltavpyvo Company” has developed instructions on occupational health and safety.

According to Art. 15 of the Law "On Labor Protection" at PJSC “Poltavpyvo Company”, the labor protection service operates in accordance with the Standard Regulation on the Labor Protection Service, the Regulation on the Labor Protection Service of PJSC “Poltavpyvo Company”, which defines the structure, composition, main tasks, functions and rights of its employees.

Before the start of work of a new employee at PJSC “Poltavpyvo Company” according to Art. 29 of the Labor Code, under the signature, informs about working conditions, safety techniques, about all dangerous or harmful production factors that can affect the health of the employee, as well as about possible benefits and compensation for working in such conditions.

Workers who are involved in work with harmful and dangerous working conditions, according to Art. 164 of the Code of Civil Procedure, special clothing, special shoes and other means of personal protection are issued free of charge.

So, the conducted research showed that PJSC “Poltavpyvo Company” carries out its activities in the field of production and sale of beer, soft drinks, malt, and has a positive image. The company works to promote its own products on foreign and

domestic markets, tries to update the main facilities, implement innovative technologies for the production of beer and other beverages.

PJSC “Poltavpyvo Company” has a linear and functional organizational structure of management, each department has its own regulations, staffing structure, all adhere to safety techniques. In the course of the study, it was found that the number of management personnel remained unchanged during 2019 and 2020 - 27 people, but the number of production personnel increased: in 2019, there were 253 production workers, and already in 2020 - 257 people (4 people more). The conducted analysis showed that there are negative trends at Firm Poltavpivo PJSC, in particular, it was found that during 2018-2020.

there is a decrease in the renewal rate, the difference between 2019 and 2020 is 0.011 points; there is a corresponding increase in the staff turnover rate, so it increased in the period from 2019 to 2020 by 0.014 points. The wage fund increased in 2020 by UAH 134,000, compared to 2019, based on the growth of additional payments. At the same time, there are also negative trends, accordingly, the basic salary fund and the fund of other incentive payments decreased.

2.2. Financial and economic analysis of the results of economic activity of PJSC “Poltavpyvo Company”

Conducting an analysis of the financial and economic status of PJSC “Poltavpyvo Company” is an important condition for identifying the characteristics of production, commercial, and financial and economic activity. The main goal of managing the financial results of PJSC “Poltavpyvo Company” is to make effective management decisions aimed at ensuring the sustainability of its activities.

The main measure of the success of PJSC “Poltavpyvo Company” is its financial performance, which allows us to identify the effectiveness of the use of property, equity and investments for each type of economic activity of the company.

Indicators of financial results should reflect the level of financial efficiency of the use of assets, equity and investments by types of activity of PJSC “Poltavpyvo Company” (Table 2.8).

For the analysis for the years 2018-2020, the financial statements of PJSC “Poltavpyvo Company” were used:

- form 1 "Balance";
- form 2 "Report on financial results";
- form 3 "Cash flow report";
- analytical reports;
- auditor's report;
- information on the company's website.

Analyzing the data in Table 2.6, we can generally conclude that the company's work is improving compared to previous periods. However, it is worth analyzing more thoroughly all indicators of financial and economic activity of PJSC “Poltavpyvo Company” in order to identify trends and forecast for future periods.

Thus, the analysis of the company's capital proved that there are positive trends in the growth of the value of the total capital and the growth of the value of equity capital (Fig. 2.3). In 2019, equity amounted to UAH 122,255 thousand, and in 2020 it was UAH 197,207.5 thousand, which is more than the previous one by UAH 74,952.5 thousand. Therefore, the company increases its financial stability, because the increase in the value of equity capital allows the company to settle its obligations on time and use borrowed funds less.

Table 2.6 - Financial and economic indicators of the activity of PJSC “Poltavpyvo Company” for 2018 - 2020

Indicators	Years			Deviation of 2020 to:			
	2018	2019	2020	2018.		2019.	
				Absolute (+,-)	Growth rate, %	Absolute (+,-)	Growth rate, %
1. The capital of the company, thousand UAH							
1.1. Average cost of total capital	171256,5	182210	252647	81390,5	47,52	70437	38,66
1.2. Average cost of equity capital	99044,5	122255	197207,5	98163	99,11	74952,5	61,31
2. Resources of the company, thousand hryvnias							
2.1. Average annual cost of fixed assets	74029	71579,5	125448	51419	69,46	53868,5	75,26
2.2. Average annual value of intangible assets	1209	718,5	1552,5	343,5	28,41	834	116,08
2.3. Average balances of current assets	171256,5	109906,5	125396,5	(45860)	(26,78)	15490	14,09
2.4. The average registered number of employees, persons	273	280	281	8	2,93	1	0,36
3. Economic indicators, thousand UAH							
3.1. Net income (revenue) from the sale of products (goods, works, services)	293278	323013	311784	18506	6,31	(11229)	(3,48)
3.2. Volume of sold products, works, services	319071,4	318341,9	318156,7	(914,7)	(0,29)	(185,2)	(0,06)
3.3. Operating expenses	278876	292402	278437	(439,0)	(0,16)	(13965,0)	(4,78)
3.4. The wage fund of all employees	32154,2	39619,4	39632,8	7478,6	23,26	134	0,03
3.5. Average monthly salary of one employee, hryvnias	9998,2	12319,5	11795,5	1797,3	17,98	(524)	(4,25)
4. Financial results, thousand UAH							
4.1. Gross profit	78 639	101709	107163	28524	36,27	5454	5,36
4.2. Profit from operating activities	24637	40178	44443	19806	80,39	4265	10,62
4.3. Profit from ordinary activities before taxation	20328	37514	42141	21813	107,31	4627	12,33
4.4 Net profit	16628	29718	31819	15191	91,36	2101	7,07
5. Indicators of the efficiency of the use of resources and costs							
5.1. Labor productivity of employees, thousand hryvnias/person	1168,76	1136,93	1132,23	(36,53)	(3,13)	(4,7)	(0,41)
5.2. Depreciation rate of fixed assets at the end of the year	0,64	0,67	0,69	0,05	7,81	0,02	2,99
5.3. The rate of renewal of fixed assets	0,306	0,41	0,41	0,05	13,89	0	0
5.4. The coefficient of disposal of fixed assets	0,38	0,46	0,46	0,08	21,05	0	0
5.5. Fund return, hryvnias/hryvnias	4,31	4,45	2,54	(1,77)	(41,07)	(1,91)	(42,92)
5.6. Turnover ratio of current assets, turnover	1,71	2,94	2,49	0,78	45,61	(0,45)	(15,31)

Continuation of Table 2.6

5.7. Average period of turnover of current assets, days	210,53	122,45	144,58	(65,95)	(31,33)	22,13	18,07
5.8. Asset turnover ratio (return on capital), turnover	0,46	0,56	0,42	(0,04)	(8,7)	(0,14)	(25)
5.9. Operating expenses for UAH 1. of sold products, cop.	(111,06)	(112,098)	(88,52)	22,54	(20,3)	23,57	(21,03)
6. Indicators of profitability of the enterprise							
6.1. Return on aggregate capital	11,87	20,59	16,68	4,81	x	(3,91)	x
6.2. Return on equity	16,79	24,31	16,13	(0,65)	x	(8,17)	x
6.3. Product profitability	(8,75)	(13,63)	(15,78)	(7,03)	x	(2,15)	x

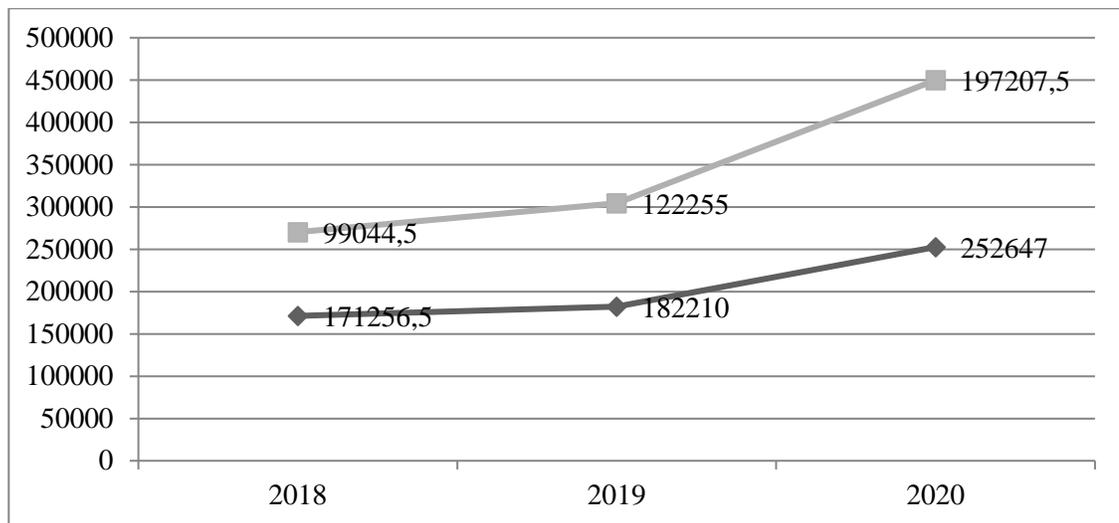


Figure 2.3 – Dynamics of changes in the capital of PJSC “Poltavpyvo Company” for 2018-2020, UAH thousand

Analysis of the company's resources showed that positive changes are taking place. Thus, the average annual cost of fixed assets increased by UAH 53,868.5 thousand. in 2020, compared to the previous year 2019 (Fig. 2.4).

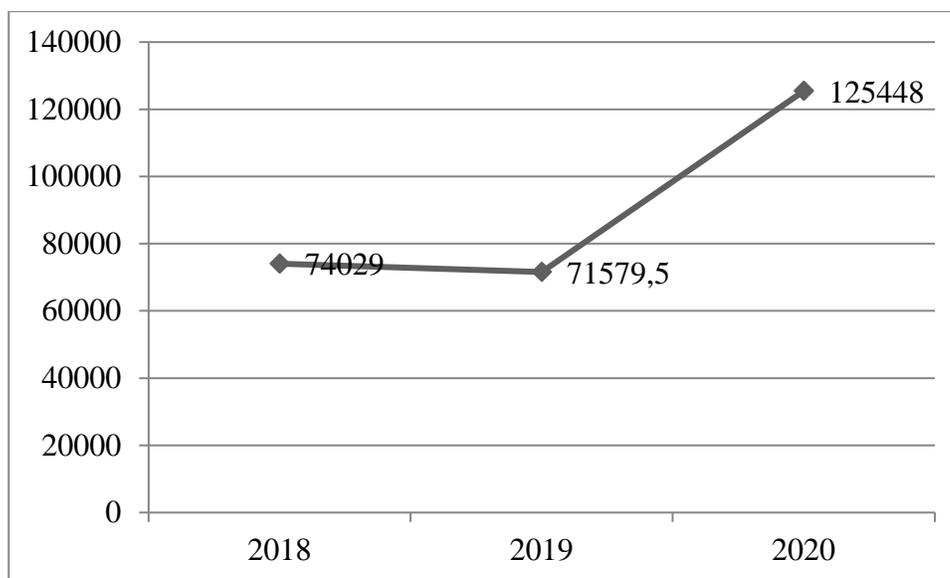


Figure 2.4 – Dynamics of changes in the average annual cost of fixed assets of PJSC “Poltavpyvo Company” for 2018-2020, thousand UAH

The average annual value of intangible assets also increased, in 2019 it amounted to UAH 718.5 thousand, and already in 2020 it was UAH 1552.5 thousand. (by 16% increase). PJSC “Poltavpyvo Company” receives new patents and licenses, which is usually positive and protects the production technology from competitors' encroachments. Average working capital balances increased by 16% in 2020 compared to 2019, but decreased by 26% compared to 2018.

The analysis of economic indicators showed a decrease in the volume of sold products (Fig. 2.5). Net income decreased from UAH 323,013 thousand. up to UAH 311,784 thousand (by UAH 11,229 thousand or 3.48%).

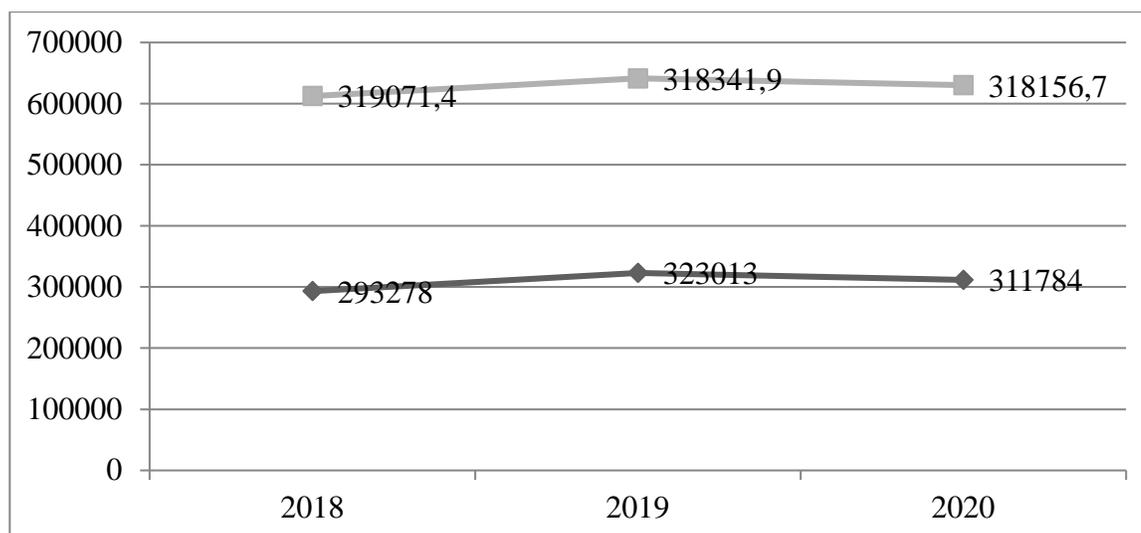


Figure 2.5 – Dynamics of changes in net income and volumes of sold products of PJSC “Poltavpyvo Company” for 2018-2020, thousand UAH

Reduction of operating costs in 2020 by UAH 13,217,000. compared to 2019, affected the decrease in the volume of sold products. Thus, in 2019, PJSC “Poltavpyvo Company” sold products worth UAH 319,071 thousand, and in 2020 - in the amount of UAH 318,156.7 thousand. (decrease by 0.29%).

The management of the enterprise should pay attention to the sales policy of the enterprise, with the aim of increasing sales volumes, entering new markets, as well as ensuring the reduction of stocks in warehouses.

The analysis of the financial results of PJSC “Poltavpyvo Company” for 2018-2020 showed positive trends (Fig. 2.6).

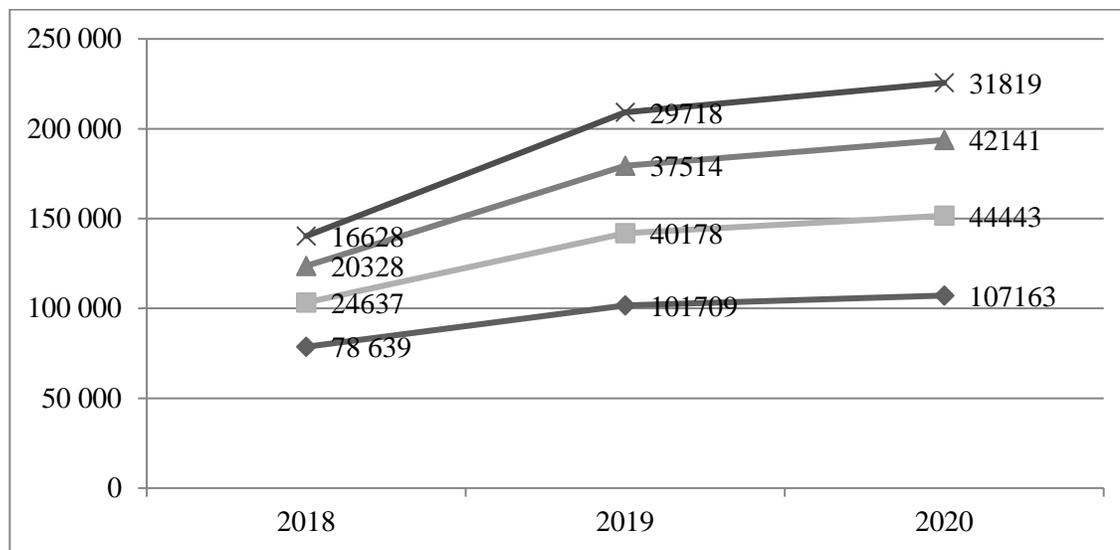


Figure 2.6 – Dynamics of changes in financial results of PJSC “Poltavpyvo Company” for 2018-2020, thousand UAH

Gross profit in 2020 compared to 2019 increased by UAH 5,454,000, and operating profit by UAH 4,265,000. Even with reductions in sales volume, the company received net income thanks to other types of activity, except for the main one, as well as due to the adjustment of operating expenses. Accordingly, the net income increased in 2020 compared to 2018 by UAH 15,191 thousand, compared to 2019 by UAH 2,101 thousand, so PJSC “Poltavpyvo Company” is profitable.

We will analyze the indicators of the efficiency of the use of resources at PJSC “Poltavpyvo Company” for 2018-2020. First of all, it is worth noting the decline in the labor productivity of employees, so in 2029 labor productivity

amounted to 1,136 thousand UAH/person, and already in 2020 amounted to UAH 1,132 thousand/person (a decrease of 0.41%), and compared to 2018 by 3.13%.

The analysis of the use of fixed assets showed (Fig. 2.7) that the ratio of renewal and disposal remained unchanged during the studied period, but the ratio of wear and tear increased by 0.02 points. This indicates the wear and tear of fixed assets and the need for their further renewal.

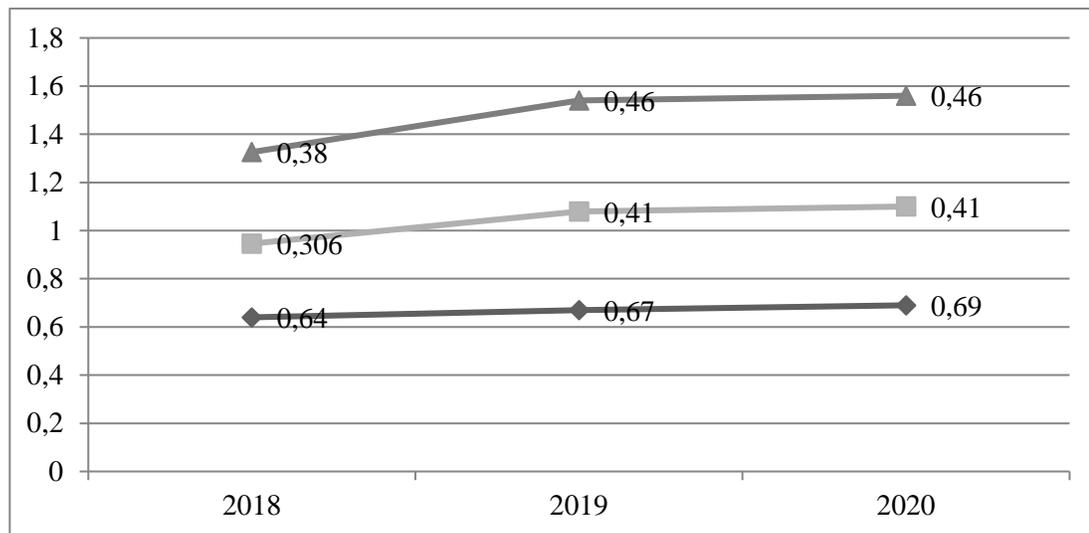


Figure 2.7 – The dynamics of changes in the coefficients of use of fixed assets of PJSC “Poltavpyvo Company” for 2018-2020

The index of fund return had a tendency to decrease, so in 2020 it was 2.54 UAH/UAH, and in 2019 it was 4.45 UAH/UAH, which is 1.91 UAH/UAH less. This situation indicates a decrease in the efficiency of the use of labor resources, that is, the number of products produced from a unit of basic production assets.

The decrease also occurred in the turnover ratio of current assets, in 2020 it was 2.49 turnovers, and in 2019 – 2.94 turnovers. This indicates a decrease in the efficiency of the use of fixed assets, which is not surprising due to an increase in the share of their wear and tear. The average turnover period also decreased, so in 2020 it was 144.58 days, and in the previous year it was 122.45 days (increase by 18%).

The profitability indicators of PJSC “Poltavpyvo Company” showed a decrease in the profitability of the total capital (Fig. 2.8). Thus, in 2020, this indicator decreased by 3.91% compared to 2019. The same applies to the indicator of return on equity, it decreased by 8.17% during 2019-2020.

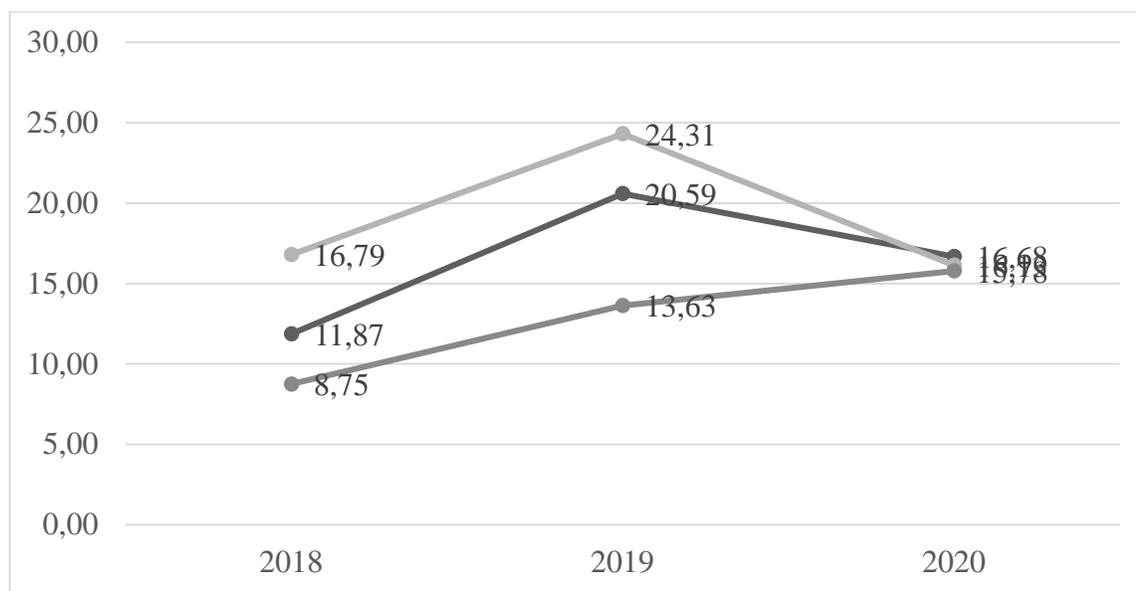


Figure 2.8 – Dynamics of changes in profitability indicators of PJSC “Poltavpyvo Company” for 2018-2020, %

But the indicator of profitability of products had an upward trend, in 2018 it was 8.75%, which is less than the indicator of 2020 by 7.03%, and in 2019 - 13.63%, which is less than in 2020 by 2, 15%. This is a positive trend, which indicates significant attention of consumers to the products of Poltava Pivo Company PrJSC, and is also confirmed by the positive dynamics of the growth of product sales.

For a more in-depth determination of the financial condition of Poltavpivo Firm PJSC, an analysis of financial stability indicators for 2018-2020 should be conducted (Table 2.7).

The study of indicators of financial stability made it possible to determine that there is an increase in the indicator of autonomy, so in 2020 it increased by 0.10

points, which is positive and also shows the independence of the enterprise from credit resources. The indicator is within the norm.

Table 2.7 – Analysis of indicators of financial stability of PJSC “Poltavpyvo Company” for 2018-2020

Indicators	2018	2019	2020	Deviation (+,-) 2020 period to	
				2018	2019
1	2	3	4	5	6
1. Coefficient of autonomy ($\geq 0,5$)	0,62	0,72	0,82	0,20	0,10
2. Concentration ratio of the capital involved ($< 0,5$)	0,38	0,31	0,30	(0,08)	(0,02)
3. Coefficient of financial dependence (< 2)	1,61	1,39	1,22	(0,39)	(0,17)
4. Funding ratio (> 1)	1,63	2,08	4,75	3,12	2,67
5. Debt ratio (< 1)	0,61	0,39	0,14	(0,47)	(0,25)
6. The coefficient of long-term attraction of borrowed funds	0,00	0,01	0,08	0,08	0,07
7. Stock availability ratio ($> 0,8$)	0,68	1,46	2,06	1,38	0,60
8. Current assets coverage ratio ($\geq 0,5$)	0,35	0,55	0,57	0,22	0,02
9. Maneuverability coefficienti ($> 0,5$)	0,32	0,48	0,29	(0,03)	(0,18)
10. Short-term debt ratio	0,99	0,98	0,63	(0,36)	(0,35)

The capital employed concentration ratio had a downward trend of 0.02 points in 2020 compared to 2019. It confirms the previous trend of an increase in equity capital and a decrease in the amount of credit funds. Accordingly, the coefficient of financial dependence decreased by 0.17 and 0.39 in 2019 and 2018 compared to 2020.

The financing ratio also had an upward trend, so in 2020 the indicator increased by 2.67 points compared to 2019, which is a positive trend.

The decrease occurred according to indicators of long-term attraction of loan funds and the debt ratio, which indicates the repayment of PJSC “Poltavpyvo Company” credit lines, an increase in the provision of own resources.

The stock availability ratio also increased by 0.6 and 1.38 points in 2029 and 2018 compared to 2020.

The management of PJSC “Poltavpyvo Company” should pay attention to the coefficient of maneuverability, because in 2019 and 2020 it is lower than the normative indicator. Compared to the normative value of 0.5 points in 2020, it is less than the norm by 0.21, in 2019 it is less than the norm by 0.02, and in 2018 it is less than the norm by 0.18 points.

Next, it is necessary to evaluate the indicators of solvency (liquidity) of PJSC "Firma "Poltavo Pivo" (Table 2.8).

Table 2.8 – Analysis of indicators of solvency (liquidity) of PJSC “Poltavpyvo Company” for 2018-2020

Indicators	2018	2019	2020	Deviation (+,-) 2020 period to	
				2018	2019
1	2	3	4	5	6
Coverage ratio	1,54	2,21	3,65	2,11	1,43
Quick liquidity ratio	0,74	1,38	2,64	1,90	1,26
Absolute liquidity ratio	0,29	0,69	1,51	1,22	0,82

The solvency indicators of PJSC “Poltavpyvo Company” show that the company has positive trends towards increasing coverage ratios, quick liquidity and absolute liquidity. In 2020, they increased by 1.43 points, 1.26 points and 0.82 points, respectively. This indicates an increase in the company's ability to settle its obligations with its own funds. That is, these indicators confirm previous calculations and testify to the financial stability of PJSC “Poltavpyvo Company”.

In order to obtain complete information and form a final conclusion about the financial condition of PJSC “Poltavpyvo Company”, it is necessary to calculate the general indicators of financial stability, which are given in the table. 2.9.

The analysis of general indicators of financial stability of PJSC “Poltavpyvo Company” showed that in 2018, the company had problems with a lack of its own

working capital, as well as a lack of working and long-term loan funds for the formation of reserves.

Table 2.9 – Analysis of general indicators of financial sustainability of PJSC “Poltavpyvo Company” for 2018-2020, thousand UAH

Indicators	2018	2019	2020
1	3	4	5
1. The availability of own working capital for the formation of reserves - H1	34749	65154	74760
2. The availability of own working and long-term loan funds for the formation of reserves – H2	35240	66068	95747
3. The availability of own circulating, long-term and short-term loan funds for the formation of reserves - H3	54437	84461	103312
4. Reserves - H4	50889	44504	36281
5. Surplus (+) shortage (-) of own working capital for the formation of reserves - E1	(16140)	20650	38479
6. Surplus (+) shortage (-) of own working and long-term loan funds for the formation of reserves - E2	(15649)	21564	59466
7. Surplus (+) shortage (-) of own circulating, long-term and short-term loan funds for the formation of reserves - E3	3548	39957	67031

But thanks to the effective work of the company's management, the increase in the average annual cost of own funds, the calculation of liabilities and the active policy of product sales, which increased the gross and net profit, made it possible to improve these indicators in 2019 and 2020. Thus, in 2020, compared to 2018, PJSC “Poltavpyvo Company” has a surplus of its own working capital, which is greater than in 2018 by UAH 54,619 thousand. Own working capital and long-term loan funds for the formation of reserves in 2020 are greater than in 2018 by UAH 75,115,000. Calculations show that PJSC “Poltavpyvo Company” is financially stable.

Therefore, the calculations made it possible to reveal that during the years 2018-2020 there was a decrease in operating expenses in 2020 by UAH 13,217 thousand. compared to 2019, which affected the decrease in the volume of sold products in the amount of UAH 318,156.7 thousand. (decrease by 0.29%). The management of the enterprise should pay attention to the sales policy of the enterprise, with the aim of increasing sales volumes, entering new markets, as well as ensuring the reduction of stocks in warehouses.

Accordingly, the net income increased in 2020 compared to 2018 by UAH 15,191 thousand, compared to 2019 by UAH 2,101 thousand, so PJSC “Poltavpyvo Company” is profitable. The management of PJSC "Firma "Poltava Pyvo" should pay attention to the coefficient of maneuverability, because in 2019 and 2020 it is lower than the normative indicator. The solvency indicators of Poltava Pyvo Firm PrJSC show that the company has positive trends towards increasing coverage ratios, quick liquidity and absolute liquidity.

In 2020, they increased by 1.43 points, 1.26 points and 0.82 points, respectively. This indicates an increase in the company's ability to settle its obligations with its own funds. That is, these indicators confirm previous calculations and testify to the financial stability of PJSC “Poltavpyvo Company”.

2.3 Evaluation of the existing management system PJSC “Poltavpyvo Company”

Organizational assessment is a systematic process to obtain reliable information about the effectiveness of the organization and the factors that affect performance. It differs from other types of evaluation in that the evaluation focuses on the organization as the main unit of analysis.

Organizations are constantly trying to adapt, survive, operate, and influence. However, they don't always succeed. To better understand what they can or must change to improve their ability to perform, organizations can conduct organizational assessments. This diagnostic tool can help organizations gain actionable performance data, identify important factors that contribute or hinder performance, and position themselves against the competition. Interestingly, the demand for such evaluations is growing. Donors are increasingly seeking to deepen their understanding of the activities of the organizations they fund (for example, government ministries, international financial institutions and other multilateral organizations, non-governmental organizations, and research institutions) not only to determine the contribution of these organizations to development results but also to better understand the capacities of these organizations to support the achievement of results.

In the past, the assessment of the benefits of SI focused on project ideas. The investigated questions were: What benefits can information systems create? What are the benefits? expected from the proposed information system, and whether they will justify the costs associated with implementation and operation system? What tools and techniques should be used in evaluation of project ideas? While these issues still deserve attention, the latter Achievements in the management of information systems have created a new approach: the assessment of benefits

The reasons for this change include the following:

IT budgets are no longer defined by systems. development independently. Corporate IT spending is ten percent of a company income. At the moment, they are divided into three roughly the same components: development, maintenance, and operation. Top management wants to get clear information about benefits associated with each of these components.

The "productivity paradox" has caused IT and business managers to question previous assumptions. A few years ago, it was widely recognized that the intense use of office automation and related technologies is increasing white collar productivity.

Several studies have shown however, overall productivity in services and the administrative departments of the companies were preserved nearly constant despite all investments in SI (Roach, 1991, Franke, 1987). Another study shows that significant parts of existing systems are regularly maintained, but never used (Saxer, 1993, pp. 49-83). As a result, the company begins to study your current information systems and look for opportunities to reduce non-productive costs programs. Evaluation of existing systems helps with designing future systems.

Comparison of initial goals and current indicators of existing systems provides useful information for approval and specification of new systems (Capper, 1988, page 317), New hardware and software concepts enable redesign of current systems. Advantages of client-server computing, object orientation and other concepts imply architecture redesign of existing programs. Information about updated technical and trading indicators are required to select candidates for this redesign.

IT plays an important role in the redesign of business processes. IT is seen as an important tool for reengineering and rethinking business processes (Davenport, 1993). Therefore, any business process reengineering project requires a thorough analysis of the systems that currently support the relevant processes (Kaplan and Murdoch, 1991, p. 39). It often turns out that there are no clear ideas about the influence of these systems on the process because

These effects have never been observed before. Both IS and business managers are showing a growing interest in the contribution of modern information systems to the achievement of business goals. In practice, the measurement or the assessment of such contributions is complicated by several problems

First of all, cultural differences and the lack of a common base definition make it difficult to evaluate information systems. For example, the word "performance" has a different meaning value for users, administrators and IT staff. Users want the information system to run when needed and what products they want. Managers strive

to achieve business goals at low costs. The IS people see their mission as providing good technical performance of the system.

Second, evaluations often consider only financial aspects. score. Non-financial benefits are mentioned but not measured.

Thirdly, if we consider non-financial benefits, most methods of their assessment are based on a qualitative approach. They identify relevant factors such as better customer service or better data quality, but do not use strict measures. Instead, personal judgments are expressed ratings (e.g., 1 = excellent, 5 = unsatisfactory, (Remenyi, et al.,1991, p. 219-238)). These numbers may show trends, but they do not satisfy the need for objective information.

Fourth, the assessment of existing systems is usually a post-project audit. It is carried out by specialized auditors who collect various data and survey selected users and administrators.

As a rule, the result is a report addressed to a senior manager or committee. It focuses on the costs and mistakes made in the past. Therefore, respondents often do not want to identify weaknesses in the system for fear that they may persist responsibility for them.

The methodology is thoroughly developed in CC CRIS documented in the manual (Brecht et al., 1993). For each step, this guide contains techniques (for example, how to find activities), results (for example, reports) and participants. Developing method was based on the practical experience of the group members, in connection with the evaluation of methods and techniques participating companies have already used (Brogli, 1993), and in the analysis of various existing approaches and frameworks including Ginzberg and Zmud (1988), Kargl (1993), Parker et al. (1988), Nagel (1990), Remenyi, etc. (1991), Sokolovsky (1992), Sprague and McNurlin (1987). This description of the method focuses on the main concept and procedural model. Users and business managers play an important role.

SI developers cannot evaluate the business benefits. They lack both knowledge and daily experience. Outsiders, such as system audit staff, can be well qualified, but have no idea about a specific business context. Therefore, users and administrators of companies must actively participate in the evaluation process. Employees are more inclined to accept the possible negative conclusions of art. evaluations if they are the result of your own efforts or discussions with his partners. In addition, the user and management participation will contribute to the implementation of the results behavior. The techniques must be simple to enable everything. Participants apply them or at least understand them. Will ensure acceptance of the results.

The evaluation is carried out by a group of at least two people. One of them is an experienced user of the system, the other an evaluation expert (in our case, a member of CC CRIS cluster). The project team is responsible for the organization and structures the evaluation, provides technical assistance, and ensures that all relevant aspects are covered. The project includes at least one workshop with representatives from all groups and organizational units that use addition. IS staff must also accept part. If there is a person responsible for the program, then he or she should play a leadership role in identifying participants and getting their commitment to the project. Involvement of all interested parties, if we process it, we will lead to a better understanding of each other's interests and a more objective picture requirements.

Systems are evaluated on two levels.

The evaluation of an existing program cannot be limited the system itself, but must include its business context and the way it is used in the organization. So, appropriate You must choose a framework for modeling business impact.

The KRIS Central Committee chose the concept of business processes. Y

A business process (process for short) is defined as a set of interrelated actions performed to achieve a desired business result (Davenport and Short, 1990). The underlying assumption was that information systems create business benefits, support for specific steps in production or development business results.

Therefore, the current status of the information system is as follows It is evaluated on two levels:

benefits that the system creates by supporting the business process

technical and functional quality of the system itself The interests of users and administrators are naturally focused on business. benefits received. Information systems create advantages auxiliary processes. Still, a simple consideration of business processes is not enough. Since business efficiency depends on technical stability and reliability, then technical and functional level features, often software quality also needs due attention.

In many cases, the evaluation of the efficiency of the process, any skillfully executed, will not give an accurate statement of the system's contribution to its productivity. But if the business process is not defined too broadly, there should be a strong correlation between the performance of the process and the quality of the support offered information system.

Analysis of cerebrospinal fluid and total CSF for evaluation process level to assess the impact of the system on process performance, it is necessary to determine the appropriate evaluation criteria. CC CRIS used a critical success factor (CSF) approach (Rockart, 1979) identify relevant aspects. Each organization and each business process has its own characteristics. CSSF set. However, the CSFS process follows the general pattern All business processes have customers, internal or external, and their success depends on how well they perform requirements of the client. Basically there are these requirements triple: The customer wants a product or service with a defined properties at a certain time and at a low price common CSFS

Therefore, for any process there is: quality (ability to offer desired products or services), speed (ability to provide time) and costs (ability to effectively use resource). Also, you usually have to deal with the process numerous clients, each with different needs. This leads to flexibility (the ability to respond to diverse and changing requirements and quantities) as another common CSF

For example, someone who takes out life insurance expects fast processing of your application (speed), low premiums (costs) and insurance coverage according to your needs and combined with capital formation (quality). Different insurance buyers have different requirements: some want to protect themselves from risk, others want to save for old age (flexibility).

The importance of these four CSFS depends on the process in banking. For example, costs are more important when dealing with retail bank accounts than when processing an issue of shares. Quality, on the other hand, definitely plays a much bigger important role in the last process. How information system performance relates to this csfs process? What process characteristics can the program have support? Some information systems have a direct impact on speed (e.g. payment processing), quality (e.g. investment advice) or expenses (e.g. accounting). Support for other systems auxiliary factors. These are critical factors for the workflow. as part of the process. The CC CRIS group identified the following supporting factors

- proximity to customers and suppliers (for example, an ATM machines, online order entry systems)

- innovative features (for example, desktop publishing, solutions systems support)

- management potential (for example, management information systems, Email)

- knowledge management (for example, expert systems, management information systems)

- smooth and safe operation (for example, workflow systems, technical control systems)

- security (for example, databases, security mechanisms)

These general and subsidiary CSFS lists are a starting point to analyze the CSFs of a data-supported process request. They must be changed and supplemented with help from the Liquor analysis technique.

Societies, by their very nature, are organized groups of people whose activities are coordinated through institutional channels. In industrialized societies, Official organizations are a ubiquitous and indispensable artifact of modern human life. Organizational researchers have conceptualized organizations using a variety of expressions, including rational entities that pursue goals (Latham & Locke, 1991; Perrow, 1970); coalitions that respond to strategic groups (Pfeffer & Salancik, 1978); individual cooperatives to satisfy needs (Cummings, 1977); trash cans (Cohen, March, & Olsen, 1972); open systems (Katz & Kahn, 1978); social contracts (Keeley, 1980); political arenas (Gaertner & Ramnarayan, 1983); mental prisons (Morgan, 1986); so in. Each of these conceptualizations illuminates or reveals organizational phenomena that have been overlooked or ignored by other definitions. As the organization has changed, the definition of what an effective organization is has also changed. It's the fragmentation of organizational conceptualizations that left efficiency to build in a chaotic state and prevent cumulative efforts to develop an agreed model or framework for evaluating organizational performance. Conceptually, organizational effectiveness is a mystery. On the one hand, it is one of the most important constructs studied by organizational researchers. This is the best dependent variable for organizational researchers and highly relevant for professionals and those involved in the organization. On the other hand, its definition and conceptualization is ambiguous and many views have been taken to describe the effectiveness of the organization. Despite considerable attempts to clarify concepts of organizational efficiency and anticipatory organizational efficiency assessment, limited progress has been made in reaching consensus on a single model or coming closer. Instead, most development focuses on a particular conceptualization. organizational efficiency determined by a certain characteristic organization and the values of the relevant group (e.g. management, employees, consumers, owners, taxpayers, investors, directors, community members). In addition, various approaches ignore or minimize the problems associated with marginal specifications (including field of activity),

instability of criteria, weighting of merit criteria, suboptimization and synthesis of several evaluation results probably the most.

A worrying aspect of established approaches is their tendency to fail clear evaluative conclusions and allowing the audience to make their own conclusions about the value, value, or importance of an assessment. Evaluation is the systematic determination of the merits, value, or importance of something (Scriven, 1991). This something, called an evaluator, can be further classified as a program, product, person, policy, performance, proposal, or portfolio. In organization-specific terms, an evaluator can also be referred to as an activity, initiative, strategy, department, division, business unit, or the organization itself. as it goes by

Other than transdisciplines such as design, logic, measurement, and statistics, evaluation serves many practical purposes and its general use permeates society. However, its extreme multidisciplinaryity (i.e., the use of methods from several disciplines, such as economics, psychology, sociology, management, and ethics) suggests that evaluation is central to human endeavour, and can more appropriately be called transdisciplinary.

The correct evaluation allows people and organizations to distinguish between the valuable and the useless, the good from the bad. Evaluation leads to identification of merit or quality (or lack thereof); decision support, such as which school to attend, which car to buy, which program to develop, which charity to continue funding, which change initiatives to allocate resources to and which to abandon, and which strategy is most cost-effective. It also provides information and accountability at various stages of the evaluation life cycle, from needs assessment through planning, quality control, risk management and process improvement.

Evaluation can also be done retrospectively (ie, ascriptive evaluation), usually to document or seek historical truth rather than support a decision. Complementing the formative and final orientations to support decision-making, ascriptive evaluation demonstrates the exploratory role of evaluation (Scriven, 1993). Although the

intellectual roots and systems approaches of evaluation predate the social sciences by millennia (Scriven, 1991), the methodological roots of contemporary evaluation lie in social research methods applied to program improvement (Fitzpatrick, Sanders, & Worthens, 2004). During the rapid development of evaluation in the 1960s, the programs studied were, as a rule, social programs in education, social security, public works, urban development, health care, and other public service areas. In the private sector, planning, control, and accountability during the same period were strongly influenced by the scientific approach to management (Taylor, 1923), which focused on efficiency and systematization in the organizational setting. Internal control, standard operating procedures and compliance audits have become integral components of organizational structure and processes. Accountability in organizations was internally driven by the organization's focus on efficiency, productivity, and profit maximization. Returns Boards, shareholders, competition, and consumer choice provided external accountability for the organization. Consequently, private sector organizations had to be accountable to both internal and external groups, and the survival of the organization depended on the satisfaction of these groups. This type of accountability did not exist for government-sponsored social programs, and the large increase in government spending on poverty alleviation and other social programs after World War II raised concerns in Congress, the media, and the public about the lack of accountability. Hence, the Congressional mandate for assessment was adopted in 1965, marking the birth of modern assessment (Fitzpatrick et al., 2004). Evaluation in one form or another is a regular activity in organizations, but few managers or business professionals refer to their work as evaluation. Terms such as benchmarking, evaluation, audit, investigation, and review are used loosely in organizational settings, while evaluation is reserved primarily to refer to performance evaluations. In addition to the natural tendency of most people and organizations to do good work rather than bad work, three basic levels of evaluation can be used to distinguish between the types of evaluation conducted in organizations (Scriven, 2008).

The first level involves the deliberate use of qualified evaluation, usually in the form of quality assurance methods or performance measurement systems. The specific techniques used can range from standard operating procedures and company policies to advanced statistical models and performance dashboards. This basic level of assessment also includes gathering feedback from the organization's customers about the organization's quality and performance and using explicit methods designed to scan the external environment for emerging trends that may affect the organization.

Furthermore, the application of the first level of assessment can be found in the organization's attempt to self-assess with the help of external benchmarks or accreditation guidelines issued by various international or national assessment agencies or standardization organizations (for example, International Organization for Standardization [ISO], International Electrotechnical Commission [IEC], American National Standards Institute [ANSI], German Institute for Standardization [DIN], Commission on Accreditation of Rehabilitation Facilities [CARF], Association for the Advancement of Collegiate Schools of Business [AACSB]). Most organizations today use some form of this first level of qualified assessment, even if it is done on a one-off basis.

This basic level of conscious use of evaluation in organizations is not surprising given the great emphasis that organizations, including those in the public and non-profit sectors, place on performance measurement (Ekerson, 2006; McDavid & Thorn, 2006). Although performance measurement and evaluation share a number of common elements (for example, identification of measures and indicators, data collection, data analysis and interpretation), performance measurement is more appropriately categorized as a component of data collection and evaluation. data monitoring of the evaluation process rather than as an alternative to serious evaluations As noted above, organizational effectiveness reflects a constructivist perspective in which organizational conceptualization is the primary focus. In

contrast, performance measurement maintains a process perspective with an emphasis on quantifying internal processes through a set of indicators (Henri, 2004).

Organizations use a variety of performance measurement systems, from cyber models that rely on financial information for planning and control cycles to more recent holistic approaches that consider non-financial metrics and are used as signaling and learning tools (Simons, 2000). The main emphasis on quality assurance and the widespread use of performance measurement tools by organizations have broadened the use of first level evaluation in organizations and increased the potential to promote evaluation in the organizational environment.

At the intermediate level, the organization tries to supplement its internal evaluation systems with regular external evaluations. In this case, the primary role of the external evaluator is that of an auditor who conducts an independent third-party evaluation to confirm or confirm compliance with specific procedures and policies. For example, a financial audit is a review of an organization's financial statements by an external auditor or a group of auditors, the result of which is the provision of an independent opinion on whether the statements are current, accurate and complete. no conclusions made in relation to the benefits of the financial results or the effectiveness of the financial activities carried out by the organization, for example. Organizations can use internal auditors to conduct this type of audit. However, the internal auditor usually does not certify financial statements. Rather, the internal auditor's focus is on the control of the organization. External auditors may choose to place limited reliance on the work of internal auditors. Other commonly considered areas of external auditing include risk assessments, quality assurance (such as ISO certification or recertification), Sarbanes-Oxley compliance (applicable to US public companies), and certificates or specific accreditations for a specific industry or product offering.

Performance auditing is a new practice that has grown out of traditional auditing and is somewhat similar to evaluation. In the performance audit, the traditional criteria of the correctness of the procedure are supplemented by more

complex criteria, which include saving resources, efficiency, effectiveness and quality (Pollitt & Suma, 1996). However, a number of arguments have been advanced to demonstrate the distinct differences between traditional auditing and evaluation, as well as the challenges, advantages and disadvantages of integrating the two activities (e.g. Chelimsky, 1985. One thousand nine hundred and ninety six; Dyvorskyi, 1996; Leew, 1996).

The third level of conscious use of evaluation in organizations requires that the value of evaluation be internalized as part of the organizational culture. The implementation of this level includes not only the first and second levels (i.e., qualified internal evaluation and the use of external evaluators), but requires an integration and acceptance of the evaluative attitude as the essence of the organization. Scriven (2008) refers to organizations that embrace this value of evaluation as evaluation organizations.

An evaluative organization can be thought of as an "enhanced" learning organization, which recognizes that learning is worthless unless it informs action. A learning organization is typically defined as one that has the capacity and processes to identify and correct errors or improve performance based on experience or knowledge gained (DiBella & Nevis, 1998). Being a learning organization means that it actually learns (that is, it acquires knowledge and implements behavior changes) as a result of the learning process, rather than simply supporting staff to attend seminars or internal training for the sake of learning.

Although a learning organization actively captures, transfers, and uses relevant knowledge to adapt to a changing environment, it does not necessarily collect information to determine to what extent its changes have contributed or contributed to improving organizational performance. In other words.

A learning organization does not attempt to specifically identify the merits, value, or importance of a strategic initiative or business process and its contribution to organizational performance. To reach this evaluative conclusion, something more

than just learning is required. Unlike a purely learning organization, an assessment organization fully integrates assessment attitudes and culture into its business processes and practices. Information that has been collected specifically to determine the effectiveness of a particular process or activity and its contribution to the productivity of the organization. In addition, the evaluating organization recognizes that learning allows the organization to adapt to the environment and enhances organizational learning by evaluating the benefits of initiatives resulting from the learning process and their contribution to improving organizational performance.

Although an evaluation organization is a learning organization, a learning organization is not always an evaluation organization. An evaluative organization "adds value" to the concept of a learning organization by assessing the extent to which knowledge acquired or embedded in the organization is worthwhile and used to improve organizational performance. Therefore, an evaluative organization is a learning organization that instinctively reflects on its actions and the external environment and constantly improves.

As a result of those reflections. The nature of the testing organization is such that its testing actions are not just compliance with the rules, but are a component of the organization's activities value system (Scriven, 2008).

In other words, the *modus operandi* of the evaluation of the organization is the inclusion of an evaluative attitude as an implicit element of the organizational culture, which goes far beyond the explicit recognition of a commitment to evaluation or simply to carrying out evaluations. An evaluation organization is one that goes beyond performance measurement and monitoring to include relentless pursuit of quality and value through evaluation-based thinking and action to improve organizational performance.

CHAPTER 3
WAYS OF MODERN MANAGEMENT TECHNOLOGIES IMPLEMENTATION
IN THE DEVELOPMENT PJSC “FIRM POLTAVPIVO”

3.1 Directions of the improving management of PJSC “FIRM POLTAVPIVO”

Today, innovations have become the most important element of the country's economic development, as they provide a qualitative increase in the efficiency of processes or final production, which the market requires. In this article, the process of innovation, viz. Processes of logistics management of a production and economic organization are proposed. Innovations in logistics management, as a direction of improvement of logistics activity, involve the development of new tools (methods, criteria, indicators) on the methodological basis of logistics, as well as improvement of the mechanism of formation and functioning of micro- and macro-logistics systems.

The purpose of the research is the development of scientific and methodological recommendations for the application of innovations in logistics management, which provide for the design of the logistics system by improving the organizational structure of the enterprise as an element of the economic macro-environment. An approach to the design of the logistics system is proposed, which involves the formation of the organizational structure of the enterprise according to the principle of the matrix of processes. (Unification of functional and process approaches to management) and creation of an effective logistics service of the company, which plays the role of coordinator and integrator of its business processes. The basis of the authors is the formation of an effective organizational structure that ensures the implementation of the logistics approach in the practical activities of companies. The result of innovations in the logistics management device is the

effective design of the logistics system, in which the coordinated movement of material, information and financial flows is carried out. As a result, it ensures the efficient functioning of the company's business processes and the organic improvement of its organizational structure.

In the conditions of globalization of the logistics economy it became an important component of the company's competitiveness and innovative activity. And at the national level, the logistics industry makes a very significant contribution to GDP, total income and the country's competitiveness, of course, if there is effective logistics management. The role of logistics and its relationship with the profitability and wealth of the country is the data provided in the World Bank report for 2007-2018 show. The basis for ensuring the efficiency of logistics management must be its innovative nature. Increasing the efficiency of business management on the basis of innovative activity is a matter of regulation not only at the level of a separate country and internationally. Since a certain productive and economic organization is a link in the supply chain, the efficiency and reliability of the entire chain depends on the rationality and efficiency of its material and technical system. Therefore, let us focus more on this link, that is, the formation of the logistics system of the company as an element of the supply chain. The main component of logistics innovation systems is the formation of an organizational management structure with a high level of innovative perception. This contributes to cross-functional coordination in the operation of the company's business processes.

To study the theoretical achievements of foreigners and domestic scientists on the problems of innovative activity development of companies Davenport and Andrusiv & Galtsova, it can be concluded that it prevails most research is production oriented the concept of innovative development that focuses mainly in product and technological innovation Becheikh and others and Ilyashenko and Shipulina. According to the international standards of Oslo, innovation is the result of innovative activity carried out as a new or improved product that is presented on the market.

Many scientists emphasize the organizational aspect of innovation Armbruster et al, Andrusiv et al, Crossan & Apaydi. Some researchers link the technological and organizational innovations of Camisón & VillarLópez. and Cherchata et al. among others.

However, in the conditions of the instability of the external environment, intensifying competition on the national and international markets, and the search for new reserves of entrepreneurial activity, not only industrial, but also organizational and management innovations become the key success factors.

Therefore, the topic of intensification of the production of innovative approaches to the management of logistics processes is relevant today. Organizations can be considered logistic innovations and management innovations aimed at flexible integration construction of management systems that ensure the consistency and balance of management decisions both within individual functional units of the company and at the interfunctional level, as well as in the process of commercial relations with external counterparties. Such scientists as Kinash, Gonzalez; A little; Rykalina and others. who investigate the problems of the functioning of logistics processes pay attention to logistics innovations.

It is necessary to use a complex of special methodical tools for the design of logistics systems, analysis, and evaluation of the effectiveness of integrated management of flow processes in order to optimize costs, which is the ultimate goal of implementing a logistics strategy. According to the majority of scientists Krykavskiy and Chornopysk and Popovychenko and Cherchat, one of

Typical management structures are used to design the organizational structure of the enterprise's logistics management: linear, functional, matrix, divisional, etc.

According to Sergienko et al. All productive and economic organization consists of three functional areas: production, finance and marketing. This is a classic idea of the functional principle of the organizational structure of the company.

The company may implement an approach that does not cover the whole process but, according to Brown's proposals, matrix processes are used. At the same time, vertical and horizontal business process management mechanisms will be combined, while some areas of functional responsibility will be preserved. But how can this matrix process principle be applied in the formation of the company's logistics system and in the management of this system, which is essentially cybernetic? Remember the definition of the term "cybernetic system" and formulate the definition of logistics a system to verify the legitimacy of the logistics system perception as cybernetic with all the consequences that derive from it. According to academic Orlovska, a cybernetic system is "a large number of interconnected objects, called system elements, that can perceive, remember and process information, as well as exchange it." Hazhinsky defines the logistics system as an adaptive feedback system that performs certain logistics functions and logistics operations, usually consisting of several subsystems and having developed connections to the external environment. From the point of view of business practice, the following definition of a logistics system can be given as a structured economic system:

"The logistics system is a relatively stable complex of links (structural/functional divisions of the company, as well as suppliers, customers and logistics intermediaries), interconnected and united by the same management logistics process (its material and accompanying flows) to implementation of the company's operational strategy". In fact, a supply chain is a cyber logistics system, and supply chain management is the integration of key business processes starting with the end customer and spanning all suppliers of goods, services and information. The issue of the influence of supply chain partners, as elements of the system, in the performance of each others are explored in the article. A sample of vertical links in supply chains (22,500 observations) was investigated. The Firm Poltava PIVO has reached the conclusion that the presence of a productive partner in the supply chain helps the company to improve its own productivity, especially if the company's customer is a

more productive co-worker. Furthermore, the authors believed that supply chain concentration and relationship maturity affect the performance of the firm as a supply chain element.

The importance of the supplier selection policy under conditions of possible production interruptions in the activities of the company investigated in the article. The costs and benefits of a flexible supplier sourcing strategy, that is, having permanent and backup suppliers, are evaluated in the article. The authors noted that supply chain performance can be affected due to the availability of flexible sourcing. In practice, as a rule, a single source

The factors that allow a relatively effective implementation of the productive process in the innovative management of companies have been studied. In addition to the special role of the business sector in ensuring the competitiveness of the national economy, there are certain problems of the development of innovative processes, the solution of which is important not only for the development of the industry, but also for economic stability. They include:

- inefficiency of the mechanisms for accumulating and mobilizing large amounts of funds necessary for the implementation of innovative processes in corporate structures;

- lack of use of domestic and foreign technological connections of production in the gradual replacement of obsolete equipment and technology of joint-stock companies with new and modern means of production;

- low activity of investment projects in companies with multi-stage technological processes of production of innovative products;

- existing problems of equipping production with modern equipment and technologies and introducing new types of innovative management methods.

In the current situation, solutions to problems related to innovative processes in business structures, the implementation of innovative projects in production and the wide implementation of innovative technologies require attracting large investments

for the implementation of investment projects of strategic importance. The main source of financing for such large and strategically important investment projects is the placement of corporate securities on the financial markets, and many joint-stock companies do not have the expected results due to the lack of guarantees of private ownership. With the rapid development of scientific and technical potential in the world, the use of intellectualization factors in production is increasing. Therefore, the introduction of innovations must become an important factor in ensuring economic growth and competitiveness in the market. This, in turn, requires effective use of advanced scientific and technical achievements in the field innovations in all areas, as well as strengthening the competitiveness of the existing economic potential. Therefore, today many countries invest significant funds in the development of research and innovativeness.

Improving the mechanisms of strategic management of innovation processes, which can be expressed in the form of separate stages, it would be convenient to develop and implement measures in a number of stages and directions. Development and improvement of legal, organizational, economic and financial support for the improvement of the innovation environment in corporate structures in the field of improvement of mechanisms for strategic management of innovation processes, issuance of licenses and patents for innovative product offers and solutions to existing problems in the development of innovative ideas and offers, production continues to expand ability. justified by economies of scale, learning, and trust, despite their vulnerability to production disruptions.

Communications between the manufacturer and the retailer are explored in a job like Popadynets. Paradoxically, the authors conclude that the enormous uncertainty of demand can promote the sharing of reliable information and, surprisingly, can benefit both companies. The optimization of multispecialty inventory management under conditions of uncertainty of the demand for each product in each period of time, proposed in Simkiv's article, allows finding a balance

between the expected cost and the corresponding cost variation. In fact, the authors used a simulation in which the resulting metric is a target value for storage costs. The Cui & Shin article proposes a strategy of exchanging information with buyers on the quantitative and qualitative composition of inventories of vertically differentiated products to smooth the mismatch between supply and demand and avoid shortages.

One way or another, all of the above studies understand supply chain management as an open cybernetic system where suppliers, manufacturers, consumers, as well as internal and external factors that affect their activities, are interconnected and interconnected elements of the system. . Therefore, many researchers are looking for effective approaches and mechanisms to manage complex cyber business systems. And the proposed incentive schemes for managers of a large company by improving the content and linking qualitative and quantitative indicators of their work make it possible to analyze the management effectiveness of individual functional divisions of the company, but to a lesser extent, focused on evaluation. business process management and logistics flows Englmaier & Roider. Astashov scientists propose a multidimensional approach to supply chain management, which is based on the distinction between two related management objects: the subsystem of current business processes and the subsystem of business interaction of chain participants. This will allow taking into account the specificity and complexity of the logistics chain as a management object. In his paper, Fugate examines the impact of logistics productivity on business efficiency. The results show a positive impact of logistics on organizational effectiveness, effectiveness and efficiency being complementary indicators. Manlig points out that if you don't innovate companies' business processes, they won't survive. We fully agree with this statement, since the high requirements for the quality of business process control increasingly require the use of auxiliary tools that allow their detailed analysis to be obtained.

However, despite numerous earthworks, there was the problem of highlighting innovative approaches in the field of logistics management in the context of

improving the organizational structure of business management and creating an effective logistics system with the possibility of quantitatively monitoring the efficiency of individual divisions and business processes is adequately investigated through a system of interconnected criteria and indicators, which requires further in-depth investigation.

The data show that the inability of some managers of enterprises to predict changes in the national and world markets, to study consumer demand and taste, to determine in which direction the company can achieve sustainable competitive advantage from a management perspective leads to competitive failure. According to scientists conducting research in this area, globalization, integration, investment, innovation and competition will influence the development of the world economy in the 21st century.

Therefore, the issues raised in this section were investigated from a scientific-theoretical and practical approach to improving the mechanisms of strategic management of innovative processes. On the basis of the above analysis and theoretical knowledge, innovative goals, prospects and long-term innovative strategies of the enterprise, their implementation and monitoring were developed the results will increase the level of competitiveness of the company. As a result, the innovative environment of the company is formed and improved. Therefore, the above considerations show that strategic management of innovation processes is an important factor in increasing the competitiveness of companies. Since the strategy of innovation processes is a set of interrelated measures to achieve the set goals aimed at strengthening the potential and strength of the company in relation to competitors.

This creates opportunities for the correct choice of the company's innovative strategy, effective organization of mechanisms for increasing product competitiveness, attracting domestic and foreign investments in production. As a result, conditions for promotion will create competitiveness in the company. It should be noted that corporate structures have the ability to create high synergy effects due to

the improvement of the mechanisms of strategic management of innovative processes. As a result, risk sharing measures will be developed and expected production losses will be reduced. It is clear that the effective management of innovation processes in business structures requires a systematic socio-economic analysis of quantitative and qualitative indicators of the activity of business structures.

In addition, based on the results of the system analysis, innovative strategies for the company's development will be developed.

Assessment of the industry and sectoral potential of the country in the development of a strategy for the formation and development of innovative processes, identification of innovative potential industry, the definition of innovation priorities of the economy leads to significant qualitative changes in production.

Therefore, improving the mechanisms of strategic management of innovation processes in corporate structures will allow not only to increase the efficiency of production and management, but also to significantly increase the level of implementation of innovation and investment projects and improve the conditions of innovation activity.

One of the important elements of modernization and increasing the competitiveness of the national economy is an innovative approach to production and services. As a result, under the influence of a competitive environment, the interaction of business entities based on different forms of ownership is formed.

The process of forming an innovative economy in Uzbekistan is based on the gradual implementation of economic reforms and the constant and effective renewal of products and services through the application of knowledge, economics and science-based economics. In addition, the acceleration of the introduction of innovative approaches to the economy, modernization, technical and technological renewal of production and services will contribute to the increase in the production of competitive products on the domestic and foreign markets.

Therefore, the purpose of this article is to provide experts and to interested users, the author's vision of an approach to the design of a rational logistics system of an enterprise in the context of improving the organizational structure of this enterprise as an element of a macrological system (or an element of a supply chain). According to the authors, the proposed approach will make it possible to transparently control and regulate the effectiveness and efficiency of the company's operational and logistics processes according to 4 criteria and a system of quantitative indicators related to these criteria. We assume that such a system of indicators. It will balance the functional and process directions of the logistics management of the company and will ensure the implementation of the role of organization, coordination and integration of the logistics service of the company.

The organizational structure unites people and gives them guidelines for work. A well thought out and balanced structure leads to success. As the English writer Arthur Phelps said: "There is success in a balanced organization striving for a common goal."

When reviewing an organizational structure, three factors should be considered:

First, what is the long-term vision for your business? What is its main purpose and task?

Second, who are your customers and what have you promised (or want to promise)?

Third, according to the competitive system, what must your customers do better to keep your promises and achieve your goals?

Use these tips to improve your organizational structure:

Solve the needs and problems of your business. What is the best way to do the job? If there are major business issues, address them first.

Make sure your hierarchy aligns with your company's purpose, goals, and objectives.

Build on what already works.

Use the power of your best talent.

Develop ownership and responsibility at all levels of the organization.

Be clear about your intentions, then listen carefully to the feedback.

Create open boundaries so employees can thrive, Build trust among all stakeholders.

3.2 Implementation of modern management technologies at PJSC “FIRM POLTAVPIVO”

Organizational survival and long-term viability require efficiency. However, models proposed to assess organizational performance have faced numerous challenges regarding their utility outside of the specific paradigms used to develop the models. For example, issues of fairness, narrow or inappropriate premises of value, justification for choosing merit criteria, differential weighting of criteria, balancing of short-term and long-term interests, sensitivity to context, synthesis of multiple evaluation outcomes, generalizability, and lack of ethical considerations are ubiquitous. Given the importance and centrality of organizations to modern society, developing a framework that overcomes these challenges and contributes to the understanding of organizations and organizational effectiveness is a worthwhile endeavor. The approach to organizational performance assessment presented in this chapter is designed to address this problem. Addresses deficiencies in existing organizational assessment models by focusing on similarities in organizational functions (ie, the input-output loop) and ultimate survival criteria and yield maximization as described in Section 3.1. It also relies heavily on evaluation logic and methodology to address the most significant problems in evaluating organizational performance. After a general description of the purpose of assessment checklists, a new structure has been introduced.

A checklist is a mnemonic device consisting of a list of actions, elements, functions, properties, aspects, components, and criteria used to perform a specific task (Scriven, 2007a). When used in evaluation, checklists provide guidance on the collection of relevant evidence that is used to determine the merits, value, or importance of an evaluation.

The inherently systematic process of using the checklist makes it highly relevant and useful for assessment purposes. Scriven (2007a) outlines seven general conclusions about the value of checklists, paraphrased as follows:

Checklists reduce the chances of forgetting to check something important; they reduce errors of omission directly and errors of commission indirectly.

Checklists are easier for the layman to understand and validate than most statistical theories or analyses.

Checklists reduce the halo effect by forcing the evaluator to consider each relevant dimension of potential benefit.

Merit criteria checklists moderate the tendency to see what one wants to see by forcing one to evaluate each dimension separately and draw a conclusion based on those judgments.

Using a valid merit criteria checklist eliminates the problem of double counting.

Checklists often include a great deal of specific knowledge about a particular assessment in an inexpensive way. Therefore, checklists are a form of subject area knowledge organized to facilitate rapid assessment.

In general, evaluation checklists can be more easily developed than evaluation theories; therefore we can often estimate where we cannot explain. Therefore, checklists can significantly contribute to improving the validity, reliability, and validity of an assessment; and useful domain knowledge. The merit checklist criteria mentioned in points 4 and 5 above are of particular importance for evaluation purposes. Unlike non-valuable species checklists (eg, a flow chart showing the sequence of events or a set of assembly instructions for an industrial product), a

quality criteria checklist presents clear criteria used to determine the quality, value, or importance of an evaluation.

Checklists of merit criteria can be used to score using the numerical method of weight and addition (Scriven, 1991). The Baldrige National Quality Award, discussed in the previous section, uses a numerical weighting and addition methodology based on a list of merit criteria. The general approach when using the numerical weighting and addition procedure is as follows common sense: weigh the criteria, assign a performance score to each criterion, and add the product of these two numbers for each criterion. A simple algorithm leads to an overall score that can be used to rank multiple raters. However, this approach can often be misleading due to a number of logical flaws associated with the approach, including the assumption that a single scale can be used for weights, measures, and number of criteria (Scriven, 1994). Other disadvantages of the traditional numerical weight and sum approach include the exclusion of non-quantifiable data, without considering minimum acceptable performance levels (i.e., no bars), random weighting, and saturation (i.e., a large number of trivial criteria "saturate" critical criteria and cause invalid scores). Although modifications to the traditional numerical weighting and addition approach can be made in response to most of these problems, an alternative estimation procedure called weight and quality complement is a practical and often more appropriate option (Scriven, 1991, 1994; see also Davidson, 2005).

The Organizational Effectiveness Evaluation Checklist (OEC) is a tool for professional evaluators, organizational consultants, and management practitioners to use when conducting an evaluation of organizational effectiveness. It outlines a systematic process to assess organizational effectiveness that addresses many of the deficiencies found in existing models for evaluating organizational effectiveness. The framework is intended to offer a practical method for evaluating organizational effectiveness that provides direction for the evaluator and value to the organization. The approach used to guide the development of the OEC was based on Stufflebeam's

(2000) Guidelines for Developing Evaluation Checklists: The Checklist Development Checklist (CDC). The twelve major steps of the CDC include (fig. 1).

Performance management is simply the periodic evaluation of employee performance against set goals. Although this terminology is not new to organizations, its origins are ancient. Let's go back to the evolution of the performance management system and see how it started.

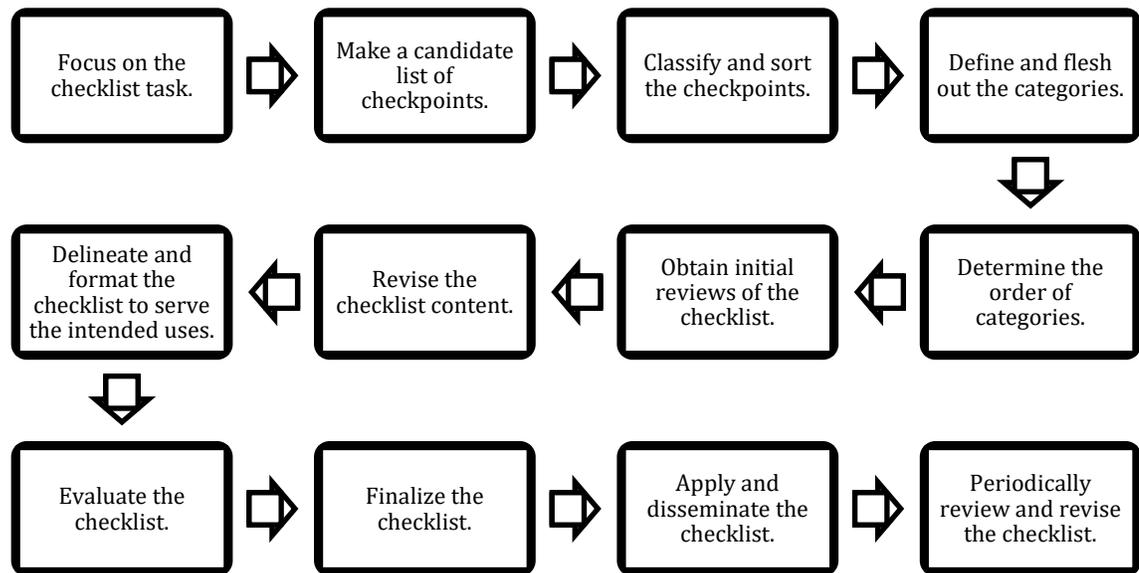


Figure 1 – The twelve major steps of the CDC (*conducted by author*)

The performance appraisal process was invented by Walter D. Scott during World War I (1914-1918), introducing the concept of man-to-man comparison. It started with the fact that there was a problem with the selection of officers and personnel. Scott then developed a rating scale and his success led to the concept of performance appraisal to assess the skills and performance of his employees. However, the idea did not gain much traction at the time, and around the 1950s, companies moved to formal performance appraisal based on employee personalities. Over the years, the performance management system evolved, and the 1980s marked a turning point when 360-degree feedback and multi-person appraisals became

popular. By 2010, companies had moved to continuous feedback using technology tools and had left traditional methods behind.

Organizations have continually sought to improve their performance management processes as they have realized that it is critical to survive in an age of hyper-competition. Gradually, companies have also discovered that performance management helps align employee goals with organizational goals. The need is not limited to alignment, but even identifying training needs, clarity, improving employee productivity, and accurately rewarding top performers are a must.

Performance management may seem simpler, but that's not always the case. Implementing a system that works well for an organization's needs can be tedious and difficult for small, medium, or non-technical organizations. But with the commercialization of technology and the availability of cloud-based performance management software, companies of all sizes and types can easily overcome these challenges.

Have you not yet implemented a performance management process in your organization? Do you want to rethink your performance management process and make it powerful? If your answer is yes to any of the questions, this article will give you a 360-degree overview of the performance management system, its types, benefits, current trends, and much more.

A performance management system is a process and methodology followed to evaluate employee performance. This is a systematic approach to aligning the goals of the organization with its individual employees. The goals and objectives of the company can only be achieved when each employee works in a direction that can lead to fruitful results. And therefore, employees must clearly understand their duties and how to perform them with maximum benefit.

Managers need to set a goal, delegate it to employees, and then evaluate their performance and final results. When this process is done through strategic planning, it will highlight gaps and lead to a refined process. But all this is possible only with

strong PMS. You would understand why PMS is needed. In addition, the goals are expanded with a cycle and key elements.

Having understood what PMS is, you should have an idea about its importance and necessity. Below are the main objectives of organizations implementing PMS:

Effective communication between managers and employees.

Constant communication between employees and managers is necessary to establish clear goals and expectations. Managers must define what they expect from the employee and how they should fulfill it. If there are no gaps or misunderstandings, the organization is moving closer to its goals.

To set performance standards.

It is important to set goals first because employee performance must be measured against certain standards. Defining standards for each function is a prerequisite for measuring employee performance and knowing what is missing and what needs to be evaluated.

Identifying skills gaps.

Effective performance management can help an organization find existing gaps in employee skills. It becomes easier for managers to identify gaps when the system allows for practical and clear communication, goal setting and evaluation.

Transparent and fair evaluation of performance.

Appreciating employees for their contributions is important, but outstanding performance can only be determined by proper evaluation. Therefore, fair treatment of employees requires a reliable performance evaluation system.

Productivity growth and organizational development.

One of the significant forms of organizational development is the constructive and productive activity of employees. Collectively setting goals and providing constant feedback through PMS can ultimately lead to better results and growth. Having an effective PMS is important and helps an organization achieve its goals and retain employees. Research has shown that 69% of employees believe they would

work harder if their efforts were recognized. This is possible when companies correctly and timely evaluate the indicators. Below are the steps for a successful PMS implementation:

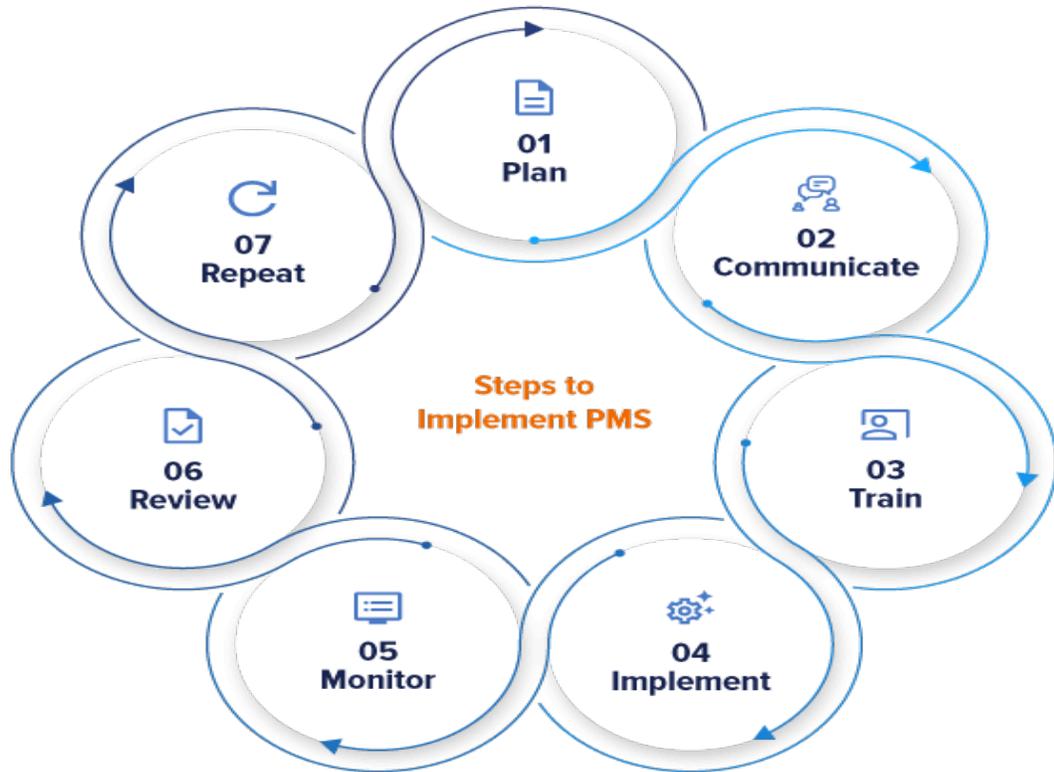


Figure 2 – Steps to implement PMS

Plan

The first and most important step in this process is to manage it strategically and plan with a clear idea of what you expect from the new system. Consider the objectives of the performance review and decide how to proceed.

Communicate

Communicating changes in performance appraisal to employees is necessary to familiarize them with the new system and gain their acceptance. Employees should know how their work will be evaluated and should consider it fair.

Managers may need training to familiarize themselves with the new performance management system. This is a necessary step as it will fill the existing gaps and provide the necessary knowledge and skills to facilitate implementation.

Realize

Always implement a pilot, as this will help identify the changes needed to maintain performance in line with the organizational goal. Here, managers and employees will get real-time experience.

Display

After the implementation phase, track how the analysis is going, what isn't. the number of employees and the quality of information collected by the system are evaluated. Control all important points for your organization.

Reviews

Re-evaluate the system capabilities and check that they are all being used properly. Review whether the goals and objectives of the PMS implementation have been achieved. Make changes as needed based on review and feedback.

To repeat

Finally, implement the PMS after ensuring that all steps have been completed and steps have been taken to improve the process. Tell managers and employees to follow the same process and repeat the cycle.

Advantages of the performance management system

A flawless performance management process will have numerous positive effects, and these can vary from organization to organization. Here we have mentioned some of the general benefits that organizations can gain from implementing a PMS:

Employee performance evaluation based on standardized indicators

When a performance management process is systematically designed and the process is equally applicable to all employees with an established standard of metrics being used, it provides consistency and transparency.

Evaluation of the best employees and satisfaction of training needs

Accurate measurement of employee performance helps management identify skill gaps and address training needs. The best ones can also be identified and rated. Improved employee motivation. Appreciating employees for their efforts builds a sense of ownership and increases their motivation and satisfaction. Decreased staff turnover rate .When employees are satisfied, they will be willing to work for the same organization for a longer period of time and therefore the turnover rate is reduced. Automated and saved time.

The process is automated by software. Because feedback can be provided to employees on an ongoing basis, errors are addressed halfway, saving time later.

Types of employee performance evaluation

An important part of performance management is evaluating the performance of employees. However, depending on the organization and job roles, performance appraisal and evaluation methods may differ. Therefore, among the various approaches, organizations must choose the one that best suits their needs. If you don't know which method to choose, here are 5 different methods. Read about all the other methods and choose the one that's right for your organization.

Management by Objectives (DPO)

Management by objectives is a strategic approach that focuses on defining goals and objectives for employees to work towards. This approach is intended to have a clear idea of the purpose of the company and the purpose of all actions. When the end goal and the objective are clear in the mind of the employee, they will be aligned. MBO is about collectively setting company goals and objectives and encouraging employees to work towards achieving them.

There are basically three types of MBO. The first is the team development goal, where goals are set for the overall development of the team. The second is an individual development goal, where goals are set for individual employees only. And one more is a strategic development objective, where the objectives relate to the

overall development of the organization. The MBO process consists of the following stages (fig. 3).

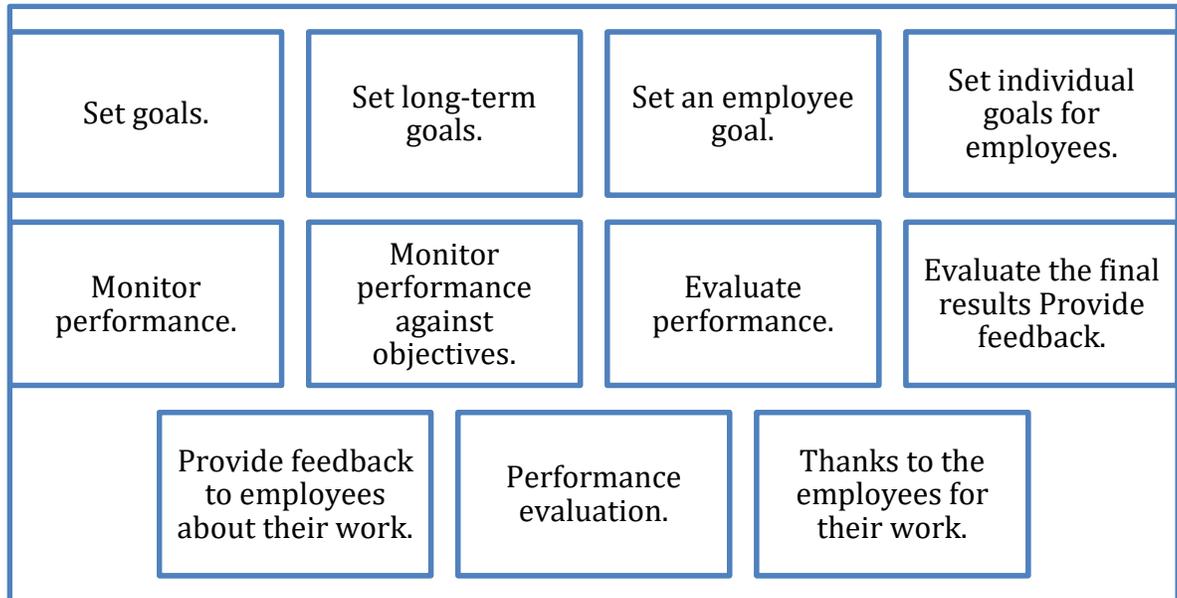


Figure 3 – The MBO process stages (*conducted by author*)

The Behavioral Rating Scale (BARS) is an employee performance appraisal method that collects and evaluates both qualitative and quantitative data. This method of analysis is one of the oldest and is based on the method of critical events to determine behavior. The way it works is that categories of behavior are first identified and assigned numerical values. Employees are then rated on various behavioral categories. With this method, employers can assess employees at each stage, such as during recruitment and after employment.

Large companies often use the BARS method because it takes less time. Categories and their ratings are specified once, and then the process does not need much explanation; therefore, it saves managers' time. In addition, the method ensures consistency because sometimes very little change is required. And the likelihood of bias is also low because behavior is evaluated, not individuals.

Objectives and Key Results is a performance appraisal method in which objectives are set and then key results are measured and evaluated. The technique is useful for an organization to directly align organizational goals with employee goals. It also allows managers and employees to communicate before setting goals and avoid any confusion. A key element of OKR-based performance management is transparency. When managers and employees can discuss goals, it brings openness and clarity to the organization. To some extent, it also saves time and requires less resources. Best of all, employees can clearly define their role and contribution to the organization's goal, and managers can easily measure it against established standards. Self-evaluation is a completely different method compared to all other approaches, because here employees evaluate themselves. Employees must independently evaluate their work according to predetermined criteria or indicators. This method is used by organizations to increase self-awareness among employees. When employees review their own performance, they will have a better understanding and awareness of their achievements and shortcomings.

In addition, it saves managers time as they do not need to be involved in multiple steps. Another aspect of this approach is that employees can accurately justify and clarify their own work, which managers, in some cases, may miss. Basically, before certification, employees are asked for a self-assessment.

Modern PMS Trends

Workplace dynamics change over time. Especially after the pandemic, workplace scenarios are changing. With the introduction of home working and flexible work models, employee control is becoming more difficult. To meet the challenges, performance management systems were updated. Below are current PMS trends:

A shared and flexible system

Organizations and their employees desperately need a system that offers more flexibility. They wanted a single platform that was collaborative with employees and

flexible enough to work similarly when the workforce was working from home or had a hybrid model. Most of the solutions available now are flexible and meet the needs of employers.

Real-time data and human experience

Important decision-making, such as performance reviews, cannot be based on assumptions; It must be based on data. To get the best results from the performance management process, organizations need real-time data that they can act on. Employees want their organization to treat them as people, not just employees. Therefore, employees also want to include various aspects, such as personal well-being, when evaluating their performance.

Ongoing interactions and feedback

Gone are the days when annual performance reviews worked. But now continuous interaction between managers and employees is required to improve the effectiveness and efficiency of the process. As a result, there will be a massive shift from annual inspections to continuous inspections, and the market is expected to grow at a CAGR of 13%. Providing feedback during projects or work makes the scope for improvement and development huge.



Figure 4 – Steps to choose the right PMS

It can be difficult and confusing for organizations to choose the right performance management software, especially when they have multiple options. That's why we're here to provide you with a step-by-step guide to help you choose the right PMS:

Establish your goals, needs and requirements.

Analysis is the first and important step. Identify pain points and requirements against your end goal. Next, decide what features and integrations you want. Prepare a checklist that includes all of them and proceed to the next step with them in mind.

Estimate and allocate budget

Once you are clear about your needs, make a budget estimate. If necessary, involve the finance department for clarity and to avoid any miscalculations. Consider total costs, which also include implementation and maintenance.

Create a vendor list and shortlist

Once your needs and budget are in place, make a short list of all the vendors that fall into that category. Again, comparing all the providers will be helpful as you will know all the pros and cons of choosing any of them. Always ask suppliers for a trial period.

Communicate with end users and make decisions

Communicate with all members who will be involved in this process. You will find different opinions and perspectives on how to improve your organization. Finally, consider and double-check all aspects and decide which one meets all the requirements.

3.3 Evaluation of the proposed measures effectiveness on PJSC “FIRM POLTAVPIVO”

An organization is a deliberately planned and structured social unit to achieve certain goals (Parsons, 1960). Ever since the pharaohs built the pyramids and the Chinese emperors built irrigation systems, formal social groups of people have been created and rebuilt for specific purposes. Etzioni (1964) identified three general characteristics of organizations, which include

- non-random and planned division of work, authority and communication responsibilities for support achievement of specific goals;

- the presence of one or more centers of power (i.e., dominant coalitions) that direct the concerted efforts of the organization toward its purposes;

- staff rotation, whereby unsatisfactory members can be removed and others can be assigned to their tasks. These features further describe Parsons' definition of organization and introduce concepts of power, politics, and the substitutability of organizational members.

However, there are certain types of social units that are excluded from this definition of organization, including tribes, classes, ethnic groups, and families. The main distinguishing factor between social units that are classified as organizations and those that are not is that membership in the latter is not based on choice. In other words, a person does not choose a particular ethnicity or family into which he is born. Another distinguishing factor is the absence of staff turnover in social units such as families and tribes. The term "deliberately structured" implies a certain type of coordinated management within an organization. More specifically, this management refers to the consciously coordinated management of the interactions between the members of the organization.

As part of the organizational structure, there are relatively clear boundaries that distinguish organization members and organizational participants, with the former

including those who act legally on behalf of the organization, including employees, management, boards directives and agents. The stakeholders of an organization are those affected by the organization, including customers, suppliers and society, among other external actors. Members of an organization often have an explicit or implicit contract with the organization to perform certain functions in exchange for compensation.

Conversely, members of voluntary organizations often contribute in exchange for natural rewards, such as the satisfaction of helping others or social interaction, rather than monetary considerations (Robbins, 1990).

An organic perspective

Among the main tasks that all organizations face are environmental ones.

transactions (ie the supply of inputs and the exchange of quality outputs), production (ie the transformation of inputs) and the maintenance or support of these activities and the people who carry out these activities. As Katz and Kahn (1978) suggest, the basic theoretical construction for understanding the organization begins with the input, output, and functioning of the organization as a system, not necessarily with its rational goals. This does not mean that the purpose of the organization is ignored.

This product is exchanged for something of value (such as money), and the exchange provides energy to continue the cycle. To enable this input-output cycle, individuals (i.e., organizational members) perform various activities individually or in groups. This activity, combined with the exchange of information within and outside the organization, supports the open system perspective of the organization.

A mechanical perspective

The organic conception of organizations summarized above can be contrasted with the mechanistic (Burns & Stalker, 1961) or machine-theoretic (Worthy, 1950) conceptions, which are variations on the classical bureaucratic model inspired by Weber (1947). The classic bureaucratic model and its derivatives, including Taylor's

(1923) scientific management approach, emphasize task specialization, standardization, centralization of decision-making, and an overwhelming emphasis on efficiency. Lean enterprise and Six Sigma are examples of modern approaches that reflect the classic bureaucratic model and are used in both service industries and manufacturing organizations.

Typical modern approaches to manufacturing organizations include, but are not limited to, 5S, cellular, just-in-time manufacturing, statistical process control, and total productive maintenance. In contrast to the organic conception of organizations, bureaucratic models pay limited attention to influencing organizational actors or changing environmental elements. Rather, these models view the organization as a rational system that works to achieve certain goals. Ignoring or minimizing the influence and influence of organizational participants and the external environment limits the mechanistic concept to a focus on the internal closed system and ignores the main task of the organization: environmental transactions that ensure the supply of material resources and the exchange of organizational resources. . outputs Based on the premises of the organization definition (i.e., deliberate, planned, purposeful), its systemic role in modern society, and influences from inside and outside the organization, the organizational perspective used in this dissertation acknowledges clearly the importance of integrating the rational-systemic perspective (Cyert & March, 1963) and the open systems perspective (Katz & Kahn, 1978).

Because the element of resource acquisition (such as environmental transactions) in an open system perspective is considered one of the types of constraints that must be met before the objectives of the organization can be achieved.

Aspects of organizational effectiveness

Theoretically, the construct of organizational effectiveness is the basis of all organizational models. In fact, it is the last dependent variable in organizational research. However, despite numerous works and studies on organizational effectiveness, there remains little consensus on how to conceptualize, measure, and

explain the concept. Therefore, a major challenge for organizational assessment is the determination of the most useful lines for distinguishing between effective and ineffective organizations (Cameron, 1980).

Level of analysis

A key issue that must be addressed in the study of organizational effectiveness is the level of analysis. Katz and Kahn (1978) provide a useful distinction between levels of phenomena and levels of conceptualization in organizational analysis.

A phenomenon refers to something that can be found, observed, measured, and manipulated. The conceptual level is related to ideas and theories about phenomena.

For example, a service provided by a food bank is the result of the activities of a group of people, and in this sense it is an emergent phenomenon, not just a collection of individual actions. However, the actions of individuals, both internal and external, are interconnected organizations are those that are directly observed during the creation of this provided service. Because the study of organizational effectiveness is at a higher level conceptual than phenomenological, Katz and Kahn (1978) argue that "the study of organizations must take as its conceptual starting point the level of the social system, but many of the actual measurements are constructed from observations and reports of individual behavior and attitude" (p. 13). The social level referred to by Katz and Kahn refers to the costs and benefits associated with the current functions of the organization, while

The organizational level is concerned with maximizing profits over a period of time.

The nature of the organization

The second question regarding the study of organizational effectiveness is the definition of the nature of the organization. In other words, determine what makes an organization effective. Various definitions of organizational effectiveness have been developed and proposed, all influenced by certain organizational perspectives of the authors or initiators. Numerous organizational models, structures and goals combined

with the various theoretical and philosophical roots of organizational theorists this has contributed to the conceptual confusion and methodological ambiguity surrounding the organizational effectiveness framework.

Thorndike (1949) was the first to point out the general tendency among organizational researchers to measure organizational performance using a unidimensional model that focuses on an endpoint such as profit or productivity. This approach directed attention to organizational results and considered the organization as a rational system that allows achieving certain goals. Organizational effectiveness, when described from this perspective, is the degree to which an organization achieves desired end states.

Despite the frequent use of univariate models, there is considerable difficulty in advocating the use of a particular variable as a comprehensive measure of organizational performance when there are a large number of variables capable of effectiveness of influence (Boswell, 1973; Steers, 1975). Georgopoulos and Tannenbaum (1957) changed the approach from unidimensional to multidimensional by trying to expand the list of criteria to include organizational flexibility and intra-organizational stress based on their empirical study of industrial firm performance. Performance under this concept focuses on how well an organization can achieve its goals given certain resource constraints, without excessive burden on members of the organization. This systemic approach does not exclude goal achievement as a measure of organizational effectiveness. Rather, it pays more attention to functional complementarity between parts of the organization and emphasizes the need for maintenance. Subsequent multivariate models of organizational effectiveness have incorporated one or both of these perspectives on the nature of organizations and the criteria for organizational effectiveness, cumulatively contributing to many aspects building organizational efficiency.

As mentioned in the previous sections, all definitions are organizational. Efficiency implies some assumptions about the frame of reference (ie the nature of the

organization) and the level of analysis. There are four main components that make up a complex organizational system: inputs, transformations, outputs, and maintenance. Inputs can include labor, materials, physical resources, and knowledge. Labor is used to transform inputs into a good or service using equipment, materials, knowledge, or other resources. A product or service has been created called output. The output is exchanged with an external party (such as a customer or an internal OU) in exchange for something of value. In the case of a commercial organization, this exchange usually involves the transfer of money. In the case of a non-profit service organization where its services are offered to recipients free of charge, the exchange may consist of time, effort or something else in exchange for the service rendered. As a result of this operation, the organization receives income.

This return allows the organization to obtain additional resources and maintain the system. An organization provides value by effectively managing and maintaining input-transformation-output cycles while minimizing harm from its activities (Keeley, 1984). Enduring value is communicated to organizational groups in a variety of ways.

CONCLUSIONS

1. "Human change is not what we do, it's all we do." (Burlton 2001) All IT systems and process improvement projects aim to change the way people do their jobs. Change management is not something that can be added to the end of a project. Instead, it should affect all aspects of the project, from start to finish.

Just as we can't relegate change management to a specific phase of a project, we can't see it as the responsibility of a single person either. Change projects require multiple job roles to ensure their success. In addition to program and project managers, we have change managers whose job it is to plan and coordinate change efforts. But one role that involves working directly with stakeholders to meet their needs is that of a business analyst. We act as a bridge between the business and the IT service or outsourcing provider and play a critical role in ensuring the success of all aspects of business change. The role of business analysts has expanded significantly in recent years, so we now need to have a broader understanding of the change process, why change must be managed, and what must happen for change to be successful. The successful Business Analyst will be seen as a positive change agent and our successes will ensure this role is invaluable to our organizations as they strive to compete in a global economy.

2. The approach proposed by the authors to the construction of the logistics system of the company is based on the application of the well-known idea of the balanced scorecard system (BSC) of Norton and Kaplan, but modified and adapted for the evaluation of logistics. the activity itself as a supplement. operational activity of the economic organization of production, namely: operational business processes. A set of author's criteria has been developed (four criteria: financial and economic, production (resource), external integration, organizational criteria), according to which it is proposed to form certain sets of indicators that quantitatively characterize the state of individual operational and economic processes in which certain functional

divisions of the company engaged. This makes it possible to improve the organizational structure of the company by creating an effective logistics service with instances of coordination and integration, which, at the same time, monitors, analyzes and evaluates costs (logistics, operation, transaction) and clearly identifies both business processes and functional structural divisions of the company to the level of individual performers.

3. An organizational "template" is proposed in which logistics functions are related to other functional areas of the company based on criteria characterizing these functional areas. Within the framework of the proposed sets of groups of quantitative indicators "template" company management and management the logistics service can form relevant indicators, accept take into account the specifics of a specific business. Thus, the results of the research in the form of a specific matrix structure (model) of the organizational process represent a new organizational method in the practice of management, which will allow to increase the efficiency of the economic activity of enterprises due to the improvement of logistics management.

Based on the above considerations, in our opinion, special attention should be paid to the strategic management of innovation processes in Ukraine:

rapid development of the process of applying innovations in production, services and education;

provide ample opportunities to import new technologies, information and communication devices, means of production and modern methods of management from foreign countries;

provision of short-term training of young specialists in developed countries with the aim of starting the production of goods and services that meet international standards.

4. It will be necessary to develop economic, financial, organizational-managerial and legal instruments for state support for the execution of development programs and implementation of the national innovation system.

Such circumstances determine the prospects for the establishment of innovative production in the country, the modernization of the national economy and the effective use of local raw materials, and the increase of export opportunities.

Building an organizational structure is a smooth process as you understand your business. Understanding your business is key to choosing a framework that provides better communication, transparency and accountability, and fast-tracking project management processes.

Consider the size and resources of your company and make sure that both you and your employees are aware of the organization's goals and the role you have to play in achieving them.

A weak or incompatible organizational structure can stifle the workflow behind the scenes, affecting your service delivery over time. It's also intimidating when you don't have an integrated data system like SweetProcess that has all the resources you need to keep everyone in the organization on top of events and workflows.

The organizational structure unites people and gives them guidelines for work. A well thought out and balanced structure leads to success. As the English writer Arthur Phelps said: "There is success in a balanced organization working towards a common goal."

5. When reviewing an organizational structure, three factors should be considered:

First, what is the long-term vision for your business? What is its purpose and main objectives?

Second, who are your customers and what have you promised (or want to promise)?

Third, according to the competitive system, what must your customers do better to keep your promises and achieve your goals?

Use these tips to improve your organizational structure:

Solve the needs and problems of your business. What is the best way to do the job? If there are major business issues, fix them first.

Make sure your hierarchy aligns with your company's purpose, goals, and objectives.

Build on what already works.

Use the power of your best talent.

Develop responsibility and accountability at all levels of the organization.

Be clear about your intentions, then listen carefully to the feedback.

Create open boundaries so employees can thrive.

Build trust among all stakeholders.

Providing a support structure is essential to help employees emotionally and practically adapt to change and develop the behavioral and technical mastery needed to achieve desired business outcomes. Some changes may lead to redundancies or restructuring, so you may want to consider providing support, such as counseling services, to help people cope. To help employees adjust to changes in the way jobs are performed, a mentoring or open-door policy can be implemented with management to ask questions as they arise.

6. In summary, the smart university concept, based on smart teaching, smart research and smart continuing education, is capable of supporting local university policies that are suitable for better integration of students in the community and society and the implementation of the construction of a new culture at the center of the intelligent university and its cultural principles. A smart university that uses appropriate modern tools that contribute to the educational process must adhere to high quality and be able to take into account the different cultures and subcultures of students, scientists, and administrators. In today's society, it is a serious challenge for educators to find a concrete and suitable way to integrate data from different scenarios in smart cities and create data-driven smart education to provide continuous learning and personalized services for students.

To bring information systems and information technologies of corporate Management to a state that meets the needs of management bodies and personnel of the enterprise, it is necessary to:

development of the company's technical support, including computers, server and network devices, office equipment and communication facilities; training of company specialists; inventory of goods and correction of the database for the enterprise as a whole and for individual divisions.

7. For all enterprises and organizations, regardless of what goals they pursue and what strategies they implement, advanced information systems and information technologies of corporate governance are the key success factor that ensures their successful functioning. Information systems and information technologies are increasingly becoming the substance of business that permeates all areas of the enterprise. To effectively ensure the operation of enterprises with distributed production, information systems are used, including Internet tools that allow effective management of extensive production and sales networks in online mode.

In the document, we present our concept of the technology, which is very similar to other dominant concepts of technology in the literature (technology management). However, there are some minor elements in our concept that are clearly not present in other concepts. We also made it clear what our empirical basis was on which we conceptualized the technology. One question that needs further investigation is whether our empirical criterion is sufficient, or whether we should add some other relevant empirical material and modify our view accordingly.

8. We have explained the general and fundamental relationship between technology and wealth in society. While there is a lot of literature on the relationship between technology and economic growth, there is not as much literature on the fundamental relationship between technology and capitalism (and its forms of wealth)

or technology and real socialism (and its forms of wealth) or between technology and other past socioeconomic order or the possible future (and its forms of wealth).

9. Economic growth itself is a very abstract and dubious definition (organisms grow, while economic orders do not grow, but are established, enforced, enforced), and in different socio-economic orders, the so-called "growth economic" means very different things.

He emphasized that this is just a proposed concept and that it builds on our previous concept of the technology itself. Other researchers should examine our concept of technological capabilities and test whether this concept convincingly captures the technological practices and technological capabilities of contemporary firms. In their practice, companies and other organizations and institutions do not talk so much about technological capabilities (as they talk about technology), so the technological capabilities of an organization are more of a theoretical concept in the scientific field, although fundamental.

We live in a society of ever faster and more diverse technologies. changes and progress, so the challenges for modern motorcycle practice are also constantly changing. In this document, we have presented some of the most prominent and common issues. However, this list can go on indefinitely and include increasingly specific trends and challenges. One of the constant main tasks is to scan, analyze and predict such challenges.

REFERENCE

1. Taticchi P., Balachandran K. and Tonelli F. Performance measurement and management systems: state of the art, guidelines for design and challenges. *Measuring Business Excellence*. 2012. Vol. 16 No. 2. Pp. 41-54. <https://doi.org/10.1108/13683041211230311>
2. Aniskina N. Quality assurance in continuing adult education: from the European to the national level. *International Journal for Quality Research*. 2015. Vol. 9(3). P. 373.
3. Ahmed I. Reducing process variability by using DMAIC model: a case study in Bangladesh. *International Journal for Quality Research*. 2013. Vol. 7(1). Pp. 127-140.
4. Gushchina L. Creation of mathematical model of a quantitative assessment of enterprise risks for justification of investment decisions by personnel preparation. *European Social Science Journal (The European magazine of social sciences)*. 2011. Vol. 9. Pp. 363-372.
5. Vasilkov Y., Gushina L. Analysis of the effectiveness and efficiency of management systems based on system analysis methodology. *International Journal for Quality Research*. 2014. Vol. 8(3). Pp. 110-112.
6. Gushchina O., Ochepovsky A. Data mining for the e-learning risk management. *Turkish online journal of distance education*. 2019. Vol. 20(3). Pp. 181-196.
7. Hammer M., Stanton S. How Process Enterprises Really Work. *Harvard Business Review*. 1999. Vol. 77(6). Pp. 108–118.
8. Benner M. J., Tushman M. L. Exploitation, Exploration, and Process Management: The Productivity Dilemma Revisited. *Academy of Management Review*. 2003. Vol. 28. Pp. 238–256.

9. Felder R.M., Silverman L.K. Learning and Teaching Style in Engineering Education. *Engineering Education*. 2008. Vol. 78(7). Pp. 674–681.
10. Hord S.M., Rutherford W.L., Huling-Austin L., Hall G.E. Taking Charge of Change. Alexandria, VA: ASCD. Johnson, 2008.
11. Kotter J. P. Leading change: Why transformation efforts fail. *In Museum management and marketing*. 2007. Pp. 20-29.
12. Maslow A. A theory of human motivation. *Psychological Review*. 1993. Vol. 50. Pp. 370–396.
13. Mende M. W., Brecht L., Österle H. Evaluating existing information systems from a business process perspective. *In Proceedings of the 1994 computer personnel research conference on Reinventing IS: managing information technology in changing organizations: managing information technology in changing organizations*. 1994. Pp. 289-296.
14. Mendling J., Weber I., Aalst W. V. D., Brocke J. V., Cabanillas C., Daniel F., Zhu L. Blockchains for business process management-challenges and opportunities. *ACM Transactions on Management Information Systems (TMIS)*. 2018. Vol. 9(1). Pp. 1-16.
15. Hammer M. What is business process management? *Handbook on business process management 1: Introduction, methods, and information systems*. 2015. Pp. 3-16.
16. Weske M., Van Der Aalst W. M., Verbeek H. M. W. Advances in business process management. *Data & Knowledge Engineering*. 2004. Vol. 50(1). Pp. 1-8.
17. Aalst W. M. Business process management: a personal view. *Business Process Management Journal*. 2004. Vol. 10(2). Pp. 143-154.
18. Harmon P. The scope and evolution of business process management. *Handbook on Business Process Management 1: Introduction, Methods, and Information Systems*. 2010. Pp. 37-81.

19. Anand A., Fosso Wamba S., Gnanzou D. A literature review on business process management, business process reengineering, and business process innovation. *Enterprise and Organizational Modeling and Simulation: 9th International Workshop, EOMAS 2013, Held at CAiSE 2013, Valencia, Spain, June 17, 2013. Selected Papers.* 2013. Vol. 9. Pp. 1-23.
20. Smart P. A., Maddern H., Maull R. S. Understanding business process management: implications for theory and practice. *British journal of management.* 2009. Vol. 20(4). Pp. 491-507.
21. Van Der Aalst W. M., La Rosa M., Santoro F. M. Business process management: Don't forget to improve the process! *Business & Information Systems Engineering.* 2016. Vol. 58. Pp. 1-6.
22. Brocke J., Zelt S., Schmiedel T. On the role of context in business process management. *International Journal of Information Management.* 2016. Vol. 36(3). Pp. 486-495.
23. Grover V. From business reengineering to business process change management: a longitudinal study of trends and practices. *IEEE Transactions on Engineering Management.* 1999. Vol. 46(1). Pp. 36-46.
24. Roach S.S. Services Under Siege--The Restructuring Imperative. *Harvard Business Review.* 2001. Vol. 69(5). Pp. 82-91.
25. Rockart J. Chief Executives Define Their Own Data Needs. *Harvard Business Review.* 2009. Vol. 57(2). Pp. 81-93.
26. Tiwari A., Turner C. J., Majeed B. A review of business process mining: state-of-the-art and future trends. *Business Process Management Journal.* 2008. Vol. 75. Pp. 82-88.
27. Arnold E., Thuriaux B. Developing Firms Technological Capabilities. Technopolis Ltd. 2007. URL: http://www.technopolis-group.com/.../094_Capabilities_970707.pdf

28. Da Xu L. Enterprise systems: state-of-the-art and future trends. *IEEE transactions on industrial informatics*. 2011. Vol. 7(4). Pp. 630-640.
29. Yadav N., Sagar M. Performance measurement and management frameworks: Research trends of the last two decades. *Business Process Management Journal*. 2013. Vol. 19(6). Pp. 947-971.
30. Griffin R. W. Management. Cengage Learning. 2021.
31. Bhutt A. A Dynamic Technological Capability (dte) Model for the Next Generation of Technology Evolution. Nottingham: The Nottingham University Business School. 2008.
32. The Boeing Company 2009 Annual Report. URL: <http://www.envisionreports.com/ba/2010/27525ja10e/index.html>
33. Burgelman R. A., Maidique M. A., Wheelwright S. C. Strategic Management of Technology and Innovation. 2nd ed. New York:McGraw-Hill / Irwin. 1998.
34. 2008 Summary Annual Report ExxonMobil. URL: <http://ir.exxonmobil.com/phoenix.zhtml?c=115024&p=irol-reportsAnnual>.
35. Fusfeld A. R. How to Put Technology into Corporate Planning. *Technology Review*. 1978. Vol. 80 (6). Pp. 51–5.
36. Gallon M. R., Harold M. S., Coates D. Putting Core Competency Thinking into Practice. In *Management of Technology: The Key to Competitiveness and Wealth Creation*, ed. T. M. Khalil, 1995. Pp. 235–47.
37. Garcia-Arreola J. Technology Effectiveness Audit Model: A Framework for Technology Auditing. Master's thesis, University of Miami. 1996.
38. Gegenstandpunkt. Die Konkurrenz der Kapitalisten. 1983. URL: <http://www.gegenstandpunkt.com/vlg/konkurr/konkap.htm>
39. Annual Report on Form 10-k. iRobot. 2009. <Http://investor.irobot.com/phoenix.zhtml?c=193096&p=irol-reportsannual>.

40. Janeš A., Dolinšek S. Technology Audit Model (tam) and the Impact of Technology on Companies and Society. *Paper presented at the Seventh International Conference on Enterprise in Transition*. Bol-Split, Croatia, 24–6 May. 2007.

41. Khalil T. M. Management of Technology: The Key to Competitiveness and Wealth Creation. New York: Irwin McGraw-Hill. 2000.

42. Oluwatosin Ogunyemi, Chaikina A. Innovative management technologies for the sustainable development of the economy in the conditions of digitalization. *Сучасні інноваційно-інвестиційні механізми розвитку національної економіки в умовах євроінтеграції: матеріали ІХ Міжнародної науково-практичної Інтернет-конференції, 03 листопада 2022 р.* Полтава: Національний університет «Полтавська політехніка імені Юрія Кондратюка», 2022. С. 118-119.