

# Key Business Priorities and Good Practices of Industrial Management

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**Abstract**— The topicality of the issue under consideration is determined by the need to outline the directions of development of industrial management as a result of the changes that have occurred in a national and global aspect. Good practices for introduction, dissemination and promotion in modern business organizations are presented with the possible approaches and tools for achieving more effective results and sustainable development. They will help employers and top managers to attract and retain the necessary highly qualified specialists in key professions.

**Keywords**— *business priorities, good practices, industrial management, strategic approaches.*

## I. INTRODUCTION

The relevance of the issue under consideration is determined by the need to outline the directions of development of industrial management as a result of the changes that have occurred in the national and global aspects. Good practices for introduction, dissemination and promotion in modern business organizations are presented with possible approaches and tools for achieving more effective results and sustainable development. They will help employers and top managers to attract and retain the necessary highly qualified specialists in key professions. The dynamic security environment requires a high degree of adaptability and operational flexibility from organizations and individuals. This adaptability must be supported by a strategic focus on continuous learning and improvement to anticipate and effectively manage emerging risks and threats [1, 2].

The purpose of the study is to establish the extent of the relationship between the theoretical foundations of industrial management and its state and development in the Republic of Bulgaria based on a study of practical

experience in this area. Factor analysis, SWOT analysis and the "Brainstorming" method with managers from leading industrial companies in the country were used as tools. The study examines the expected business priorities and popularization of good practices in industrial management.

The diagnostic analysis of 28 industrial companies in the districts of the Central Northern region of Bulgaria, conducted in the period March 2023 - August 2024, took into account the role of a set of strategic factors influencing changes in their organizational environment regarding:

- Complexity of the external environment;
- Dynamism and uncertainty;
- Uncertainty and risk;
- Interrelationship between objective circumstances characterizing changes in the environment and the effectiveness of the applied management methods and mechanisms [3, 4];
- Growing importance of own innovative developments and ensuring their protection as objects of industrial property on the one hand and on the other - recruitment of qualified personnel for their development and subsequent implementation [5, 6, 7].

Within the North Central Region, there are three agglomeration areas that dominate the economy of the region. According to the National Concept for Spatial Development (NCSD), the cities of Ruse, Veliko Tarnovo and Gabrovo form the so-called agglomeration cores and areas, that is, zones of functional influence. According to NSI data, Gabrovo has the most pronounced industrial profile compared to the other major economies in the North Central Region - industry in Ruse accounts for 35% of the gross added value, and

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industry in Veliko Tarnovo - 28% during the period under review.

The development of the company's activities, production, operations and people requires compliance of the key organizational parameters with the main business priorities of the Republic of Bulgaria in the 21<sup>st</sup> century, posing problems whose solution requires the need for effective industrial management.

## II. MATERIALS AND METHODS

To diagnose the changes in the specified characteristics of the environment, the following methods were used in a complex manner:

- Factor analysis;
- SWOT analysis;
- Brainstorming method and its variations.

The object of the study are industrial managers and specialists, as well as representatives of various categories of personnel in the surveyed companies.

Based on in-depth interviews conducted with line and functional managers of units, workshops and departments regarding the expected business priorities, the majority of them share that they should commit to the dissemination and promotion of good practices in the industrial management of Industry 4.0. Almost 70% of the participants indicate that management is strict control over revenues and expenses, as a mechanism for timely diagnosis and prevention of bad business practices.

The big question that arises is the implementation of an integrated approach to achieve higher labor productivity, better customer service and the development of modern entrepreneurial forms.

All managers without exception define the role of entrepreneurship as stimulating improvements and competitiveness of business. In the short term, the change is expressed in reducing the cost of production, and in the long term - in expanding development and design activities.

The analysis confirms the opinion that with the development of new ICT technologies and digitalization, companies are experiencing difficulties with their implementation due to a shortage of sufficiently experienced technical and engineering personnel. Two thirds of the interviewed managers share that they apply outsourcing to varying degrees and in different forms. For nearly 74% of them, the biggest risk is the leakage of internal company information, but a significant part of the managers also report the benefits for companies from the use of outsourcing activities, such as:

- Optimization of the organizational and management structure;
- Cost reduction and predictability;
- Focusing on the core business processes;
- Reducing labor costs;
- Achieving better quality of services;
- Ensuring a workforce with appropriate skills, as well as a cost-effective and reliable

telecommunications network and infrastructure.

Full outsourcing of business processes and services (all functions are performed by an external company due to the lack of in-house IT specialists) is gradually becoming a preferred practice for large industrial companies in the globalizing world economy and rapidly developing markets.

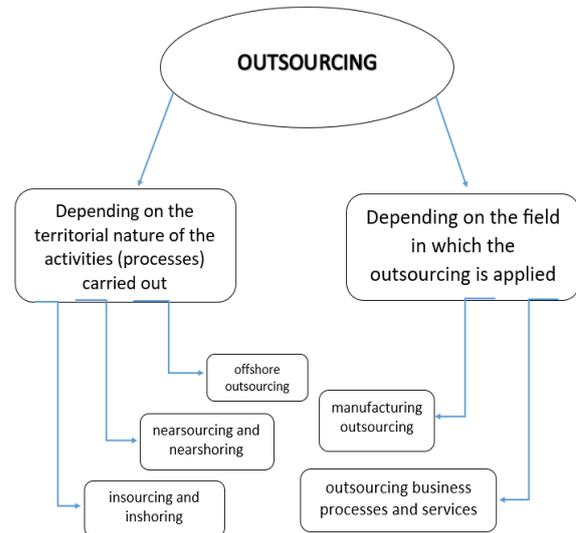


Fig. 1. Models for managing outsourcing processes according to the classification of the consulting company Gartner.

Achieving long-term prosperity requires Bulgarian industrial companies to be adequately adaptable and flexible to the dynamically changing environment. Effective results can be achieved with highly qualified, competent, motivated and committed employees to organizational goals. Success should not be sought only in new technologies and digitalizing processes, but primarily in the human factor and its synergy with the innovative company culture.

From the responses received from managers and representatives of various categories of personnel occupying key positions in the surveyed companies, it becomes clear that the establishment of effective communication is a key competence of modern management and a driver of organizational growth and company culture.

The construction of a modern organizational culture is associated with:

- The return of forgotten values, labor and professional morals;
- The acquisition of new skills and methods for creative and innovative corporate management through the formation of teams;
- The development of analytical thinking and the ability to analyze complex business processes;
- The use of open, transparent and constructive criticism-tolerant management;

- The exchange of information through feedback in the management process;
- The encouragement of entrepreneurial;
- Behavior and leadership.

The standard matrix that actually leads to results is presented in the figure:

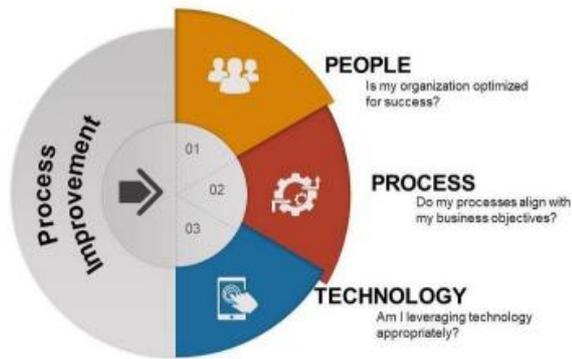


Fig. 2. People, processes, technologies – a process optimization model.

With the emergence of various service industries and the intensification of competition in the manufacturing sector, more and more companies are providing value-added services related to their products (insurance, installations, additional support, training content, etc.). The main factors that help companies navigate the macroeconomic environment are customer experience and operational excellence.

To support the sustainable development and functioning of industrial companies without harming the environment, the participants in the study point to the establishment of the green economy as a socially responsible model of discipline and principles according to which businesses can adapt in order to balance the relationship between economy, people and nature.

Job descriptions should be updated to include requirements for green literacy and workplace behavior. During job interviews, preference should be given to candidates who present environmental initiatives and express willingness to participate in such projects.

The transition to a circular and low-carbon economy requires actions to:

- Increase resource productivity throughout their life cycle and the rate of circular (secondary) use of materials in the economy;
- Extend the life of the product itself;
- Reduce waste and control the need for new resource extraction.

Measures:

- Supporting enterprises in the introduction of waste-free technologies;
- Reducing the amount of waste generated in the production process;

- Implementing green business models that allow interaction between products and services throughout the supply chain;
- Implementing design, reuse and recycling strategies that ensure longer-term use of products.

TABLE 1. MAIN MACROECONOMIC INDICATORS OF THE IMPLEMENTATION OF THE PRIORITY "TRANSITION TO A CIRCULAR ECONOMY" 2023/2024

Name	Source	Current VALUE	Target VALUE	EU average VALUE
Environmental innovation index	EK	50	83	100
Share of circular (secondary) of use of materials in the economy, %	EK	4.7	11.7	11.7
Generated waste per unit of GDR, kg/1000 €	Eurostat	418	205	65
Recycling of packaging waste, %	Eurostat	66	70	80
Share of disposed (including landfilled) of the waste submitted for treatment, %	Eurostat	65	35	46

The research we conducted confirms the fact that a prerequisite for higher achievements in the sustainable development of some of the companies is the higher satisfaction and higher motivation of their employees with green human resource management. The biggest challenge facing industrial management in the 21st century, according to the interviewees, is "management in a global environment". 52% completely agree, 38% rather agree, and a total of 11% disagree, of which only 2% are categorical in their opinion.

The main goal of the priority "technological intensity and innovation environment" of the National Development Program Bulgaria 2030 is to create prerequisites for increasing the technological level of Bulgarian products and exports through technological modernization of enterprises. [8]

As the main advantages of digital transformation, most of the surveyed production managers point out the possibilities for collecting detailed information - "clean data" for the purpose of monitoring, tracking and more effective planning, the significant increase in production capacity and shortening of execution times, the reduction of routine operations, the savings of valuable time, as well as the possibilities for automation, robotization and artificial intelligence as additional production factors to labor.

The use of the possibilities for analysis and processing of large information arrays (Big Data) allows for real-time decision-making. In the field of production, this means more flexible reactions to malfunctions and

optimization that goes beyond the boundaries of the enterprise.

TABLE 2. MAIN MACROECONOMIC INDICATORS OF THE IMPLEMENTATION OF THE "SMART INDUSTRY" PRIORITY INDICATORS 2023/2024

Name	Source	Current value	Target value	EU average value
Share of innovative enterprises, %	Eurostat	27.2	35.0	42.0
Gross fixed capital formation, % of GDP	Eurostat	18.3	21.3	21.3
Entrepreneurship opportunities	EK, EIS	23.9	30.0	122.3
Intellectual assets	EK, EIS	77.9	83.0	82.6
Innovative SMEs in collaboration with others	EK, EIS	29.9	35.0	125.8
Expenditure on R&D by enterprises	EK, EIS	40.9	50.0	79.2

The measures will be aimed at stimulating the development of innovations in enterprises; creating and developing a high-tech industrial base; increasing specialization in products and services that are of high technological intensity and innovation; stimulating research and development activities and cooperation between business and science.

From artificial intelligence and big data to cryptocurrency and blockchain, modern industrial management is constantly faced with inevitable technological challenges and paradigm shifts.

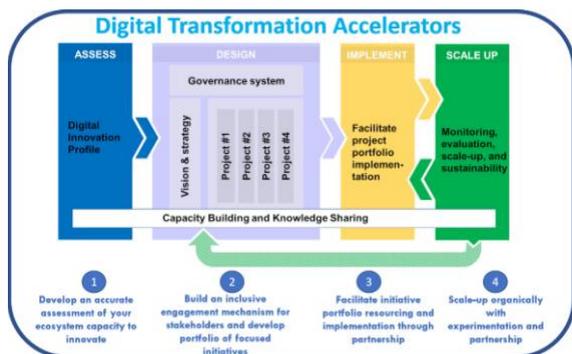


Fig.3. Accelerators for digital transformation.

87% of business leaders believe that digitalization is a company priority, yet only 40% of organizations have undertaken large-scale digital initiatives. The gap between aspiration and achievement is widening for enterprises trying to transform to a digital business. The rapid pace of digitalization is putting the industry under serious pressure and escalating transformation efforts to achieve maximum efficiency and effectiveness, maintain and develop market share, and optimize the generated profits.

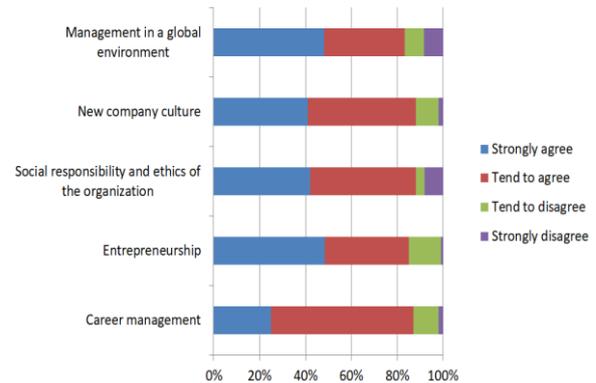


Fig.4..Main challenges facing industrial management in the 21st century (distribution among respondents).

The biggest challenge facing industrial management in the 21st century, according to the interviewees, is “management in a global environment”. 53% completely agree, 36% tend to agree, and a total of 11% disagree, of which only 2% are categorical in their opinion. “Social responsibility and ethics of the organization” and “new company culture” have a similar share of supporters (88% in total). Those who disagree with this opinion are 12% each, and with “social responsibility and ethics of the organization” the staunch opponents are more (8% compared to 2% with the new company culture). The presentation of “entrepreneurship” as a challenge gathers the convinced votes of nearly half of the respondents (49%), but also accumulates the largest share of disagreement (15% in total). “Career management” for nearly 3/4 of the respondents does not remain within the framework of categoricity (whether it is firmly “for” or “against”). Only 25% are fully convinced that it will be a challenge for industrial management, and only 2% state with the same categoricalness the opposite.

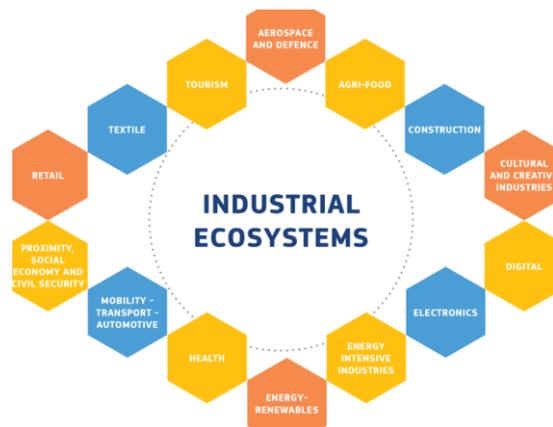


Fig.5. Monitoring the state of 14 industrial ecosystems.

Expansion, collaboration, and innovation in industrial ecosystems are part of the digital transformation of enterprises and business organizations. Managers recognize the supporting role that industrial ecosystem partners play in ensuring the growth and sustainability of their business activities.

The focus of efforts is on creating an entire ecosystem of industrial zones that meet all international criteria and good practices.

### III. RESULTS AND DISCUSSION

Regardless of the industry they are in, Bulgarian companies achieve competitive advantages when they develop and adapt. The study proves the need for customer orientation; leadership and employee engagement.

Particularly closely related to industrial management today are the topics related to: entrepreneurship, knowledge economy, network economy, industrial management in the new global environment, career management, corporate social responsibility and ethics and the new corporate culture.

Regional Innovation Center "Ambitious Gabrovo" in partnership with universities, local authorities and industry and non-governmental organizations has launched a project aimed at accelerating the digital transformation of small and medium-sized enterprises (SMEs) in the North Central region of Bulgaria with a focus on artificial intelligence. The project is part of a larger European initiative to create a network of European Digital Innovation Hubs (EDIH), designed to support local enterprises in their digital transformation. [9]

The project budget exceeds 3 million euros and lasts for three years, focusing on increasing regional digital maturity through the use of cutting-edge technologies such as artificial intelligence, the Internet of Things, sensor systems, cyber-physical systems, etc. The hub in the North Central region will provide core services such as training programs to improve the qualifications of human resources, access to innovative technological solutions and foster cooperation between local enterprises.

The main goal is to enable SMEs in the region to gain access to essential resources to help them develop in the context of the ever-increasing digitalization of the economy.

### IV. CONCLUSIONS

Summarizing the results of the study, we can conclude that modern industrial management needs to accelerate the transfer of innovative ideas and practices to increase the attractiveness of the country as an investment destination in high-tech production and services.

Sustainable development and successful European integration are impossible without flexible and effective adaptation of industrial managers and their organizations to the requirements of the global environment and the main business priorities of the century. The great challenge facing industrial management in the 21<sup>st</sup>

century is management in the modern global environment. Corporate social responsibility and ethics, as well as the new corporate culture of the organization, are coming to the fore. Among them, the expected problems in the process of functioning of organizations in the 21st century are increased competition and increasing resource prices. Others are bank loans and the globalization of business, as well as unfair competition.

### V. ACKNOWLEDGMENTS

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