

Transformation of the Management Competency Model in the Conditions of Global Challenges

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Abstract— In the current crisis conditions caused by the global challenges of the 21st century: globalization, digitalization, the COVID-19 pandemic, managerial competencies are of particular importance. The need to rethink modern approaches to managerial competencies determines the choice of the research topic, its theoretical and applied significance. The aim of the study is to develop theoretical and methodological foundations and substantiate the model of managerial competencies of the future. For this purpose, the article analyzes scientific views on the essence and content of managerial competencies and identifies their features in modern economic conditions; the basic models of "competencies of the future" are studied; clusters of management competencies of the future that are similar in meaning are identified.

Keywords— Global challenges, management competencies; professional management competencies, over-professional management competencies, digital competencies, competency models, clusters of competencies.

I. INTRODUCTION

The global challenges of the 21st century, associated with the globalization and digitalization of the economy, the increasing speed of changes in technics and technology, pose new requirements for the structure and content of the competencies of managers. A modern leader must possess not only professional technical competencies (hard skills), but also a wide range of universal competencies (soft skills): communication, ability to work in a team, systemic and critical thinking, etc., which were out of the question a few years ago. ... At the same time, all modern studies indicate a constant increase in the importance of universal competencies for management personnel.

Thus, at present there is an urgent need for research and the formation of the necessary and sufficient set of managerial competencies for effective work in modern conditions.

II. PROBLEM STATEMENT

The modern labor market dictates new requirements for management personnel, on the professionalism and personal qualities of which the effectiveness of the organization's activities directly depends. These requirements define the competencies required to successfully implement the organization's strategy.

Competencies are considered as "a set of knowledge, skills and abilities, value attitudes and motivation, abilities and potential of an employee, necessary both for self-realization and self-development, and for achieving the strategic goals of the organization" [1].

Competencies are grouped into competency models - "a complete set of characteristics and indicators of behavior necessary for the successful performance of an employee of his functions" [1].

The most important type of competence is managerial competencies - competencies required by employees who are engaged in managerial and administrative activities and have other employees subordinate to them. Managerial competencies are the characteristics of a managerial employee that are necessary to effectively perform managerial functions in managing people, processes, and projects.

For the first time, managerial competencies as a type of functional competence were identified by the American Association of Managers in the 60s. XX century. Later, as a result of a study of more than 2,000 managerial workers, R. Boyatzis developed an integrated model of managerial competencies, including 19 competencies, incl. specialized knowledge, leadership qualities, action management, subordinate leadership, etc. [2].

The study of managerial competencies was continued by Spencer L. and Spencer S., who developed a model of 21 competencies, including: teamwork, leadership, employee development, cooperation, etc. [3].

J. Raven continued the study of competencies, the model he developed includes 39 competencies, including a number of managerial ones, such as: "the ability to make decisions; personal responsibility; the ability to work together to achieve a goal; the ability to encourage other people to work together to achieve a goal; the ability to listen to other people and take into account what they are saying; striving for a subjective assessment of the personal potential of employees; willingness to allow other people to make independent decisions; the ability to resolve conflicts and mitigate differences "and others" [4].

In the 21st century, the challenges of a complex, full of uncertainty VUCA-world are changing the economy and society, making higher demands on management personnel and, accordingly, predetermining changes in managerial competencies.

Managerial competencies become dominant and necessary for any employee, since "there will be no linear hierarchy, where the subordinate does not have the ability to make a decision, and all responsibility lies with the bosses" [5]. According to experts, in the future, it is the management personnel who will be the main specialists who are able to set goals and objectives, determine the best options for their solution, form teams to solve problems and manage them. According to forecasts, the managerial workers of the future can be represented at three levels:

- 1st level - manager - an employee who has a basic skill for all professions of the future - process management;
- 2nd level - manager-engineer - an employee with higher-order skills: setting tasks, organizing the process of solving them, analyzing the results;
- 3rd level - super manager-engineer - an employee with a set of skills of both managerial and creative, creative order - systemic and strategic thinking, strategic (horizon: 15-25 years) planning skills, cross-industry skills, work skills the logic of the international context, etc. [6].

Among the main trends of the XXI century, causing the need to change the model of competencies, the following stand out [5].

1. technological:

- digitalization of all spheres of life - there is more digitized data, the Internet is becoming more accessible, and digitalization technologies are mastering ever new areas of human activity;
- automation and robotization - the development of autonomous systems capable of complex physical and cognitive actions, transforms the role of human labor in all sectors of the economy;

2. techno-social:

- globalization (economic, technological and cultural) - production chains, consumer goods, scientific knowledge and cultural codes arise and exist in a hyper-connected world, where the role of transnational cooperation is increasing;
- greening - the growing attention to ecology among consumers and manufacturers is accompanied by the transformation of the very concept of environmental friendliness and the widespread use of environmental metaphors in business;

3. social:

- demographic changes - rising life expectancy, continuing urbanization, the growing role of women in the economy and changing childhood patterns are defining a new social landscape;
- the formation of a network society - the emergence of new more flexible ways of managing companies and communities is complemented by the development of network technologies and the spread of solutions based on blockchain technology;

4. metatrend:

- acceleration - increasing rate of change. New technological solutions and social practices are emerging more and more rapidly. This metatrend not only affects the indicated changes, but also sets the pace of renewal of the surrounding world - the pace

for which most of the currently existing social institutions are not ready.

Based on the main trends of the XXI century, in the future all employees should possess the following competencies [5]:

1. Competences to work with new technologies.
2. Competencies that help to work in conditions of uncertainty and ambiguity (for example, entrepreneurial skills and creativity); increasing the personal resilience of the employee (for example, stress resistance, adaptability) as well as helping to understand and accept the future (for example, strategic thinking).
3. Competencies that help to cope with the increasing complexity of the outside world (e.g., ecosystem thinking, design thinking).
4. Competencies that allow you to do work that machines cannot do (for example, empathy and emotional intelligence).

Under the influence of these trends, a new competency model has now been formed. So, in the national program "Digital Economy of the Russian Federation" it is determined that "in the conditions of the digital economy, there is a growing demand for specialists possessing a complex of rigid, flexible and special digital competencies" [7].

Thus, the modern competency model includes professional competencies (Hard skills) and supra-professional competencies (Soft skills).

Professional (technical or hard) competencies (Hard skills) are the competencies required to perform specific professional tasks in a specific area.

Over-professional (universal, flexible, or soft) competencies (Soft skills) are over-subject, non-specialized competencies that allow you to effectively and harmoniously interact with other people and find optimal solutions to various issues and tasks.

The foundations for some supra-professional competencies are given to a person from birth, for example: perseverance, good memory, curiosity.

As digital technologies develop, experts identify another group of competencies - digital (digital skills), but due to the rapid digitalization of all spheres of activity, these competencies can be included in both the group of professional and supra-professional competencies.

It should be noted that the deeper digital technologies penetrate into our lives and perform routine work, the more in demand are the over-professional competencies [8].

III. RESEARCH QUESTIONS

Professional managerial competencies characterize knowledge, skills, and abilities of managerial activity in specific functional areas (production, finance, marketing, personnel management, etc.) in various sectors of the economy. They are differentiated by the levels of management: the highest - strategic, middle - tactical and lower - operational levels [9].

The list and description of professional management competencies for various positions, industries and management levels are formed in accordance with the performed labor functions and are contained in the relevant job descriptions; Professional standards; universal models of managerial competencies developed by the largest consulting companies; corporate models of managerial competencies developed by HR services.

Over-professional competencies are universal for different professions, incl. and management, various industries and fields of activity. "Mastering such competencies allows the employee to increase the efficiency of professional activity in his industry, and also makes it possible to move between industries, while maintaining their relevance" [10].

This thesis is confirmed by the results of a study conducted by specialists from the Stanford Research Institute in conjunction with the Carnegie Melon Foundation among top managers of Fortune 500 companies showing that the success of company leaders is 75% determined by above-professional competencies, and only 25% - professional [11].

The results of world research show that there is no single list of supra-professional competencies in the 21st century, each research group identifies its own classification.

Below are the results of the analysis of the main models of "competencies of the future", built on the consensus of one or another expert community under the auspices of various authoritative Russian and foreign organizations:

- Model "Foresight of Competencies - 2030" (Moscow School of Management "SKOLKOVO" and the Agency for Strategic Initiatives), competencies: environmental thinking, project management, systems thinking, working with people, working in uncertainty, programming / robotics / artificial intelligence, artistic skills creativity, multilingualism and multiculturalism, intersectoral communication, customer focus, lean production [10];

- Model "10 skills needed for development in the context of the 4th industrial revolution" (World Economic Forum), competencies: complex problem solving, critical thinking, creativity, people management, interaction with people, emotional intelligence, forming one's own opinion and decision making, customer focus, ability to negotiate, flexibility of mind [13];

- Model "Target Competency Model 2025" (Boston Consulting Group, Sberbank, Sberbank Charitable Foundation "Contribution to the Future", WorldSkills Russia and Global Education Futures), competencies: cognitive skills (self-development, organization, management skills, achieving results, solving non-standard tasks adaptability); social and behavioral skills (communication, interpersonal skills, intercultural interaction skills), digital skills (systems creation, information management) [12];

- Model "Map of professional skills of the future" (Institute of the Future Research Institute of the University of Phoenix, USA), competencies: transdisciplinarity, definition of meaning, social intelligence, innovative adaptive thinking, computational thinking, literacy in the new media environment, cognitive load management, intercultural competence, project mindset, virtual collaboration [14];

- Model "Competencies of the 21st century" (Public Service Ontario, Canada), competencies: critical thinking and problem solving, innovation, creativity and entrepreneurship, learning / self-awareness and independent learning, collaboration, communication, global citizenship [15];

- Model "4K" (Non-profit organization Partnership for skills in the 21st century (P21)), competencies: communication, creativity, critical thinking, teamwork [16];

- Model "Meta-competencies" (HR club SKOLKOVO), competencies: key competencies common to all professions (multidisciplinarity, multicultural, programming, work in distributed IT-rich environments);

oversubject skills (problem-solving and empowerment thinking, entrepreneurial competence, creativity, collaboration, empathy and emotional intelligence, ethics of responsibility); meta-competencies (the ability to concentrate and control attention, flexibility, adaptability, internal stability, the ability to learn and relearn throughout life [17];

- Model "Basic Skills of the XXI Century" (Harvard Center for Curriculum Redesign), competencies: concentration and management of attention, emotional literacy, digital literacy, creativity, ecological thinking, cross-cultural, ability to (self) learning [18].

Generalization, systematization and analysis of competency models made it possible to identify the following clusters of similar in meaning managerial competencies of the future [19] (Fig.):

| | |
|---|--|
| Cluster "Thinking and Problem Solving" | <ul style="list-style-type: none"> • systems thinking, • critical thinking, • search and analysis of information, • development and adoption of decisions, • sensitivity to the problem, • solving complex problems, • tactical and strategic thinking, • innovativeness, • creativity |
| Cluster "Interaction and cooperation with other people" | <ul style="list-style-type: none"> • emotional intelligence, • sociability, • coordination with others, • negotiating, • persuasiveness, • service orientation, • the ability to work with people, • the ability to adequately respond to criticism and accept it; • conflict resolution skill |
| Cluster "Learnability and openness to new things" | <ul style="list-style-type: none"> • learnability, • curiosity, • openness to new experience, • multilingual and multicultural |
| Cluster "Meta-competence" | <ul style="list-style-type: none"> • awareness, • ability to concentrate and control of attention, • flexibility, • adaptability, • internal stability, • attitude to development, • the ability to unlearn and relearn throughout life, • entrepreneurial competence (the ability to act in uncertainty and take responsibility). |
| Cluster "Resource, process and project management" | <ul style="list-style-type: none"> • financial resource management skills, • material resource management skills, • personnel management skills, • time management skills (time management), • lean manufacturing skills, • cross-industry communication skills, • project thinking, • ecological thinking |

Fig. Clusters of management competencies of the future.

IV. CONCLUSION

The effective development of the economy and production in the context of the global challenges of the 21st century is impossible without professional management, which is of

particular importance today. The most important trend in modern management development is the professionalization of management activities. The need of society and production for effective professional management determines higher requirements for management personnel and, accordingly, predetermines changes in management competencies.

At the same time, in modern conditions, over-professional managerial competencies are becoming more and more in demand.

Generalization, systematization and analysis of the currently existing models of competencies made it possible to form clusters of similar in meaning managerial competencies of the future, the main among which are "Thinking and problem solving", "Interaction and cooperation with other people", "Learning and openness to new things", "Meta - competence" and "Resource, Process and Project Management".

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