



STAGES OF PREPARING MANAGERS FOR DIGITAL MANAGEMENT ACTIVITIES

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ABSTRACT

The transition of public and private organizations to platform-based, data-driven and automated business processes has generated a new requirement for management personnel: the ability to plan, organize and control activities in a digital environment. Traditional management training models, which focused mainly on administrative, legal and financial competencies, are no longer sufficient to ensure effective leadership in conditions of rapid technological change. This article substantiates a stage-by-stage model for preparing managers for digital management activities and reveals the logic of moving from motivational readiness to sustainable reflective development. The proposed model includes four interrelated stages: the motivational-value stage, which forms the manager's positive attitude to digital transformation; the cognitive-instrumental stage, which equips the manager with knowledge of digital technologies, standards and regulatory frameworks; the operational-practical stage, which develops the ability to manage digital projects, data and human resources in hybrid teams; and the reflective-developmental stage, which ensures continuous professional growth, monitoring of digital maturity and adaptation to new technological waves. The article is based on the analysis of international and national regulatory acts on digitalization, scientific literature on change management and competence-based approaches, as well as on the extrapolation of best practices from corporate training systems. The result is a holistic pedagogical and organizational scheme that can be used in MBA programs, in-service training centers, sectoral academies and corporate universities.

KEYWORDS: Digital management, managerial training, digital competencies, change management, stage-by-stage preparation, digital transformation, leadership in the digital economy.

INTRODUCTION

Digital transformation has changed the very nature of managerial work. A manager in a modern organization no longer operates only with human, material and financial resources, but constantly interacts with information systems, platform solutions, analytical dashboards, cloud services and big data. Management decisions are made faster, are supported by data and must be transparent for stakeholders. At the same time, digitalization increases the risks associated with information security, personal data, technological dependence and resistance to change among staff. Therefore, the quality of training of managers for work in a digital environment



becomes one of the decisive factors in the success of institutional reforms, whether in education, banking, health care or the civil service.

However, empirical observations show that many managers perceive digital transformation only as the introduction of separate information systems or the automation of document flow, and not as a deep change in management logic. This leads to fragmentation of initiatives, duplication of functions, low involvement of personnel and, ultimately, to the slowdown of digital projects. To overcome this gap, it is necessary to build training not as a single course or technical instruction, but as a gradual, pedagogically justified movement from awareness to autonomous use and further to innovative development. A stage-based approach allows us to correlate managerial development with the maturity levels of the organization, taking into account that management competence cannot arise instantly, but is formed through interrelated motivational, cognitive, practical and reflective components.

The relevance of the study is also determined by the fact that many national strategies on digital economy, e-government, industry 4.0 and smart education declare the need to train a “new generation of managers,” but in practice educational programs still reproduce classical management content with only episodic modules on IT. The article seeks to bridge this gap by describing the internal logic of preparing managers specifically for digital management activities.

The methodological basis of the research consists of the competence-based approach, the activity approach and the ideas of change management. The competence-based approach makes it possible to describe the result of training not at the level of knowledge of technologies, but at the level of readiness to solve professional tasks in a digital context, for example, to design an electronic service, to lead an agile team, to ensure information security requirements or to interpret analytical reports. The activity approach emphasizes that managerial competence is formed in action and therefore requires the creation of practice-oriented educational situations close to real digital projects. Change management provides the logic for moving from awareness to adoption, from adoption to participation, and from participation to ownership of digital change.

The materials of the study include: strategic documents on digital transformation adopted in a number of countries and sectors; scientific publications by D. Tapscott, T. Davenport, M. Westerman, C. Kane, A. Osterwalder and others on the impact of digital technologies on business models; works by Russian-speaking and Central Asian authors on electronic government, digital education management, as well as pedagogical research on the formation of ICT competence of managers. Analytical-synthetic and comparative methods were used to identify common elements of managerial readiness for digitalization in different sectors and to generalize them into a universal stage model. Structural-functional analysis was used to justify the sequence of stages: each subsequent stage supplements, but does not cancel, the previous one, while the whole model preserves internal integrity.

In addition, the logic of the study presupposed extrapolation: practices that have proven effective in corporate universities of IT companies and banks (mentoring, project-based learning, hackathons, sandbox environments, assessment centers) were reinterpreted for the needs of public management and educational administration. Such extrapolation is legitimate because the core of digital management — working with data, managing change, using

platforms — remains similar, although the regulatory field, financing mechanisms and social mission of organizations may differ.

The analysis made it possible to formulate a four-stage model of preparing managers for digital management activities. The stages are not formal modules of a curriculum, but qualitatively different states of managerial readiness that can be achieved through various educational formats (short courses, blended learning, coaching, corporate projects). The main didactic task is to ensure a consistent transition from one state to another without gaps, so that the manager does not get stuck at the level of declarative knowledge or, conversely, at the level of purely technical skills.

At the motivational-value stage, the central task is to overcome technological indifference and managerial skepticism. Many experienced managers are used to evaluating innovations through the prism of risks, costs and staff resistance. If training begins immediately with software or with descriptions of standards, it does not change their attitudes. Therefore, the first stage should be built around demonstrating the managerial benefits of digitalization: faster decision-making, transparency of responsibility, the possibility of remote management of distributed teams, better control over key performance indicators, reduction of routine, and strengthening of the organization's image. Case discussions about successful digital transformations in comparable organizations are effective at this stage, as they reduce psychological distance and show that digitalization is not only for global corporations. The outcome of the stage is a stable internal motivation to master digital management as a necessary condition for professional relevance and career growth.

The cognitive-instrumental stage is aimed at forming systematic knowledge about the digital environment in which the manager will operate. It is not enough to know how to use a particular system; it is important to understand how data is generated, stored and processed, what information security requirements apply, how national or corporate architectures are built, what standards of electronic interaction, document management or customer identification exist. At this stage, managers master terminology, regulatory frameworks, basic principles of IT service management, agile and DevOps logic, and learn to read analytical panels. Special attention should be paid to data literacy: the ability to formulate a management problem in the form of a data request, to interpret indicators and to notice deviations that require a decision. The result of the stage is cognitive readiness: the manager speaks the same language with IT specialists, understands the technological constraints of projects and can justify management initiatives with data.

The operational-practical stage transfers training to the plane of real or simulated digital projects. Here the manager learns to plan the introduction of a new system, to assess risks, to distribute roles in a cross-functional group, to build communication with users, to organize training for personnel and to ensure feedback. Practice shows that many digital projects fail not because the technology is bad, but because managers do not design the change process: they do not form a coalition of supporters, do not work with informal leaders, do not test the system on a pilot group, and do not inform staff in advance about possible difficulties. Therefore, the educational environment at this stage should be as close as possible to real conditions: working with a test version of a system, preparing a technical assignment for the developer, drawing up a plan for migrating archives to an electronic form, or modeling a cyber incident. It is also at this stage that soft skills adapted to the digital context are strengthened: virtual team

leadership, remote delegation, online facilitation, communication in omnichannel environments. The result is a stable behavioral readiness for digital management, expressed in the ability to launch, accompany and evaluate digital initiatives.

The reflective-developmental stage ensures that the manager does not perceive digitalization as a one-time action. Technologies and regulatory frameworks change, new threats and new opportunities for automation arise, and user expectations grow. A manager prepared only for the current version of software will quickly become obsolete. Therefore, the final stage is aimed at forming mechanisms of self-development and self-diagnostics. The manager must be able to assess his or her own level of digital maturity, identify gaps, select the next educational resources (microcourses, professional communities, corporate knowledge bases), participate in benchmarking and, most importantly, act as a conductor of digital culture for his or her staff. At this stage, reflection on one's own managerial style in the conditions of digital transparency is also important: many managers discover that digital tools make their decisions more visible and that this requires more accurate argumentation, ethical sensitivity and compliance with information security rules. The outcome of the stage is a transition from a consumer attitude to digital tools to a proactive, innovative position.

The proposed stage model correlates with the logic of organizational digital maturity models, which also move from awareness and experimentation to integration and optimization. This makes it possible to embed the training of managers into broader institutional reforms: the manager does not just learn, but simultaneously pulls his or her unit to a higher level of digital maturity. Moreover, the stage approach resolves the contradiction between "IT training for managers" and "managerial training for IT specialists": at the first two stages, managers master the basic technological language, and at the third and fourth stages they apply managerial tools to digital projects, thereby forming common ground with IT departments.

An important result of the study is the conclusion that the stages cannot be reduced to the age or position of the manager. A young manager may be strong in tools, but weak in motivation if he or she has not seen strategic examples of digital transformation. Conversely, an experienced top manager may have high motivational readiness (he or she understands the inevitability of digitalization), but lack operational skills. Therefore, programs for preparing managers for digital management activities must be differentiated and diagnostic: entry testing should show at which stage the manager is actually located, and the educational trajectory should begin from this point, not from the nominal position.

Preparing managers for digital management activities is effective only when it is structured as a consistent movement through several qualitatively different stages. The motivational-value stage provides the internal energy for learning and overcomes the conservative attitude to technological innovation. The cognitive-instrumental stage equips managers with a systemic understanding of the digital environment, regulatory requirements and data-centric decision-making. The operational-practical stage transforms knowledge into action and develops the ability to launch and support digital projects in real organizational conditions. The reflective-developmental stage turns digital competence into a sustainable managerial quality and ensures lifelong learning in the face of rapidly changing technologies. Such a stage-based model is universal enough to be adapted to the needs of public administration, banking, education, health care and large industrial enterprises. Its introduction into MBA curricula, sectoral academies and corporate universities will reduce the gap between declared digitalization

strategies and real managerial practice, strengthen cross-functional interaction between managers and IT specialists, and increase the digital maturity of organizations as a whole.

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