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EXECUTION ARCHITECTURE IN ORGANIZATION MANAGEMENT SYSTEMS: METHODOLOGICAL FOUNDATIONS OF DESIGN AND PRACTICAL IMPLEMENTATION EXECUTION ARCHITECTURE IN ORGANIZATION MANAGEMENT SYSTEMS: METHODOLOGICAL FOUNDATIONS OF DESIGN AND PRACTICAL IMPLEMENTATION

Shurtakova Alena [1]

[1] Business consultant, McKinsey & Company, USA, Sausalito

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Abstract

The article will focus on the execution architecture, an important element of an organization's management system that provides a link between strategy and the company's day-to-day operations. It was noted that many organizational problems are related to insufficient detail of processes, unclear distribution of responsibilities and lack of effective control. The text reveals the content of the execution architecture, including processes, roles, interactions, solutions, and metrics. The article systematizes the methodological principles on which the system is built and analyzes the causes of possible failures in its operation. Using the example of various industries, it is shown how the formalization of processes and the introduction of control mechanisms can significantly increase the sustainability and manageability of activities. The prospects of using this approach in the context of digital transformation and the introduction of artificial intelligence are also considered.

Keywords: *execution architecture, organization management system, process approach, operational model, management decisions, responsibility allocation, system failures, execution control, KPIs, digital transformation, artificial intelligence, organizational design.*

Relevance of the study

In modern conditions of rapid economic development, effective implementation of strategic goals at the level of the organization's daily work is of particular importance. Despite the widespread use of strategic management methods, operational models, and key performance indicator (KPIs) systems, there is still a gap in practice between the goals set and the actual results of achieving them. This problem has been repeatedly mentioned in scientific and applied literature.

In many organizations, the processes of completing tasks remain insufficiently formalized and largely depend on operational decisions and the individual experience of managers. This can lead to unstable results, reduced manageability, and a high dependence of efficiency on the human factor.

In the era of digital transformation and the increasing complexity of organizational systems, the need for reliable and reproducible execution with limited resources is particularly acute. However, the existing management approaches focus mainly on the strategic and structural levels, while the level of direct execution remains poorly understood.

In this regard, the study of execution architecture in organization management systems is of great scientific and practical interest. It allows you to ensure consistency between the strategic goals and the actual activities of the organization.

The purpose of the study

The purpose of this study is to reveal the essence of the execution architecture in the organization's management system. In the course of our work, we will define its methodological foundations and identify its role in overcoming system failures, ensuring the sustainable functioning of processes and improving performance in the context of digital transformation.

Materials and research methods

The research analyzed scientific and practical works on process management, organizational design, performance, digital transformation and operational efficiency. Special attention was paid to ISO 9001:2015 standards, the Balanced Scorecard concept, lean manufacturing principles, as well as experience in implementing personnel management systems, routing requests, and digital management platforms.

General scientific methods of analysis and synthesis, generalization, comparison, a systematic approach and structural and functional analysis were used in the work.

The results of the study

There is no clear definition of execution architecture in scientific and practical sources, so its content is revealed through generally accepted categories: processes, allocation of responsibility, interaction, control and indicators. According to the ISO approach, an organization is a system of interconnected processes, each with its own inputs, outputs, resources, and control methods. Based on this, execution is considered as a controlled set of actions and decisions aimed at achieving certain results (Khudaiberdina, D.M., Rossieva, D.V. (2017), p. 2).

The execution architecture is a formalized order of work execution. Unlike a strategy that sets goals and a structure that defines functions, this level describes exactly how an activity takes place: what processes are performed, in what sequence, by whom they are implemented, and how they are controlled. The ISO 9001:2015 standard requires a clear definition of the processes and their interrelationships, the appointment of responsible persons and the establishment of evaluation criteria. This allows us to consider execution as a system control element (The process approach in ISO 9001:2015).

The key content of the execution architecture includes several interrelated elements, which are shown in the figure.

Special attention should be paid to the decision-making system. Research conducted by McKinsey shows that in a complex organizational structure, the quality of decisions can decrease and responsibility can be blurred. This requires a clear definition of the authority and procedures to be applied in the decision-making process. Thus, execution includes not only processes, but also the management logic of decision allocation.

It is also important to have a system of indicators. The concept of a Balanced Scorecard shows that activities need to be assessed not only by financial, but also by operational and process indicators. This allows you to establish a link between the set goals and their actual achievement (Kurshin, A.Yu. (2013), p. 135).

The methodological principles of execution architecture design are based on generally accepted approaches to process management, organizational design, and control over results. Open sources emphasize the importance of a systematic description of processes, the allocation of responsibilities, the establishment of control criteria and ensuring their interrelation. The execution architecture design process is the sequential transformation of strategic goals and an operational model into specific processes, roles, solutions, and controls. This allows you to ensure reproducible performance of activities, which is the key to success.

Table 1 shows the key methodological elements used in the design of the execution architecture.

Figure 1. *The structure of the execution architecture in the organization's management system*

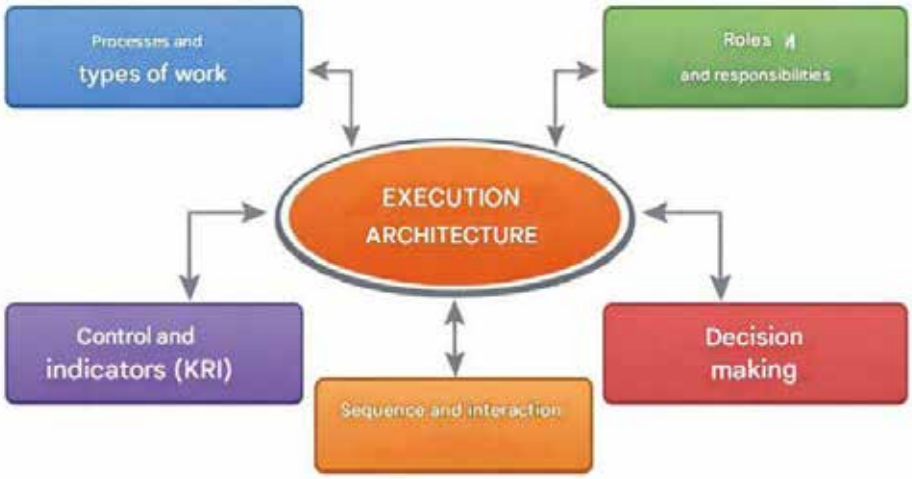

Table 1. *Methodological foundations of execution architecture design*

Stage / element	Content	Result
Analysis of goals and indicators	Setting strategic goals and key performance indicators (KPIs) that will be implemented at the operational level	A list of target indicators has been formed
Process allocation	Identify the processes needed to achieve the goals	List of organization processes
Decomposition of activities	Separation of processes into separate types of work and operations	Structure of types of work
Definition of consistency and interaction	Determining the sequence of processes and their interrelationships	The scheme of processes and interactions
Allocation of responsibilities	The appointment of those responsible for the processes, the definition of their roles and powers	The responsibility matrix
Decision-making design	Setting levels and procedures for decision-making, as well as clear boundaries of authority	A map of solutions
Setting control points	Establishing the stages of monitoring and control over the implementation of processes	List of control points
Formation of the system of indicators	Evaluation of the effectiveness of processes and results	The metric system
Defining corrective actions	Definition of procedures aimed at eliminating deviations	Response regulations
Documentation	Description of processes, roles, indicators, and procedures	Regulations, schemes, instructions
Integration into information systems	Transfer of execution logic to digital and information solutions	Automated execution system

A source: compiled based on ISO 9001:2015 standards, Balanced Scorecard concept, organizational design model, as well as practical recommendations on process management and decision-making.

In management practice, systemic failures constantly occur, which lead to non-fulfillment of planned targets, missed deadlines, reduced quality of services and increased operating costs. These failures are often caused not by a lack of strategy or resources, but by inconsistent processes, unclear allocation of responsibilities, and lack of reliable control mechanisms for their implementation.

According to ISO standards, the effectiveness of a management system depends on an organization's ability to manage processes as a single system, including their regular monitoring and continuous improvement (Table 2).

Table 2. *The main causes of system failures and the corresponding elements of the execution architecture*

The reason for the failure	The manifestation	An element of the execution architecture that eliminates the problem
Inconsistency of processes	Delays, duplication of functions, loss of information	Determining the sequence and interaction of processes
Ambiguity of responsibility	Shifting tasks, lack of process owners	Securing roles and powers
The complexity of decision-making	Slowing down the reaction, reducing the quality of solutions	Formalization of the decision-making procedure
Lack of control	Inability to detect deviations	Establishment of control points and monitoring
Lack of indicators	Inability to evaluate effectiveness	Introduction of the KPI and metrics system
Dependence on the human factor	Instability of results	Standardization and documentation of processes

A source: compiled based on ISO 9001:2015 standards, concepts of process management and operational efficiency.

Fragmented management is one of the main causes of system failures. When there is no clear logic of execution, activities are distributed between departments without a clear understanding of the boundaries of responsibility and mechanisms of interaction. This can lead to duplication of functions, delays in information transmission, and the formation of so-called "bottlenecks" in processes. Research in the field of process management shows that the inconsistency between the stages of work is one of the main reasons for the decrease in efficiency (Shelygov, A.V., Gulina, I.V., Isaeva, O.G. (2019), p. 23).

Another factor complicating the decision-making process is uncertainty. In complex organizational structures, the number of participants involved in the process is growing, which slows it down and reduces the quality of decisions made. Management analysis materials emphasize that the lack of clearly defined authority and decision-making procedures leads to a blurring of responsibility and a decrease in manageability. This is especially important in operational activities, where it is necessary to respond quickly to emerging deviations.

System failures can also be related to the fact that processes are not transparent enough and do not have clear measurable evaluation criteria. Without established indicators and control points, it is impossible to objectively assess the progress of work and detect deviations in a timely manner. ISO standards emphasize the importance of monitoring, measuring and analyzing processes as a key factor for their effective functioning and continuous improvement.

The execution architecture is a tool for a comprehensive solution to the problems described above. Its key task is to ensure the coherence of processes, identify areas of responsibility, and streamline the decision – making process and implement control mechanisms. By formalizing the sequence of actions and coordinating between depart-

ments, the likelihood of failures caused by inconsistencies and uncertainty is reduced.

The key advantage is to reduce the dependence of results on the individual efforts of managers. When there is a well – defined execution system, activities become reproducible and deviations become controllable. This corresponds to the principles of the process approach, according to which sustainable results are achieved through systematic process management, rather than through individual management decisions.

The practical application of execution architecture in organizations of various fields confirms that the most important factor contributing to long-term effectiveness is not only the availability of strategies and processes, but also a clear system for their implementation. It is important to note that the introduction of a process approach, performance management systems and digital solutions helps to increase transparency of operations, reduce costs and ensure stability in the performance of tasks.

In modern manufacturing and service companies, the concept of Lean production is widely used, which is aimed at minimizing losses and standardizing work processes. Practice shows that the introduction of work standards, visual management methods and regular monitoring can significantly reduce the variability of results and increase productivity. Similar approaches are used in the service sector, as well as in administrative processes. Standardization of operations and constant monitoring of their implementation ensure the stability of the quality of services provided and administrative procedures provided.

Personnel and operations management systems, known as Workforce Management, are widely used in retail and service industries. According to open sources, these systems allow you to effectively plan the workload of employees, distribute tasks and monitor their performance depending on demand. This is especially important in conditions of unstable customer flow and limited resources. The experience of implementing such solutions shows that they are able to increase labor productivity and improve the quality of service through a more rational distribution of workload (Lesnikova, N.Ye., Yakovenko N.Yu. (2017), p. 304).

In the field of customer service and in contact centers, systems designed for routing requests and queue management are actively used. According to research conducted in this area, the introduction of automated routing and task allocation can significantly reduce waiting times and increase service availability without the need for additional resources. This is achieved by optimizing load distribution, standardizing request-processing processes, and implementing quality control mechanisms, which in turn significantly improves customer service.

Special attention is paid to the use of information and digital technologies. Reports on digital transformation emphasize that the introduction of information systems contributes to the formalization of processes, the consolidation of work rules and automatic monitoring of their compliance. At the same time, technology is considered as a tool for implementing management logic, rather than as the main factor in improving efficiency.

Table 3 provides examples of practical applications of execution architecture in various industries.

Table 3. *Examples of practical implementation of execution architecture in various industries*

Branch	Implementation tools	Practical effect
Production	Lean manufacturing, standardization of operations	Loss reduction, productivity growth
Retail trade	Workforce Management (WFM), staff workload planning	Improving the efficiency of labor use
Service sector	Service standards, process regulations	Stability of service quality
Contact centers	Routing and queue management systems	Reduced waiting time, increased availability

Branch	Implementation tools	Practical effect
Organizations in general	ERP, BPM systems, digital management platforms	Increasing transparency and manageability of processes

A source: compiled based on ISO 9001:2015 standards, lean manufacturing concepts, and the practice of using personnel management systems.

The experience of various industries shows that execution architecture is a set of processes, allocation of responsibilities, and implementation of standards and use of digital tools. At the same time, specific solutions may vary depending on the specifics of the industry, the level of maturity of the organization and the external conditions. However, the basic elements remain unchanged.

Thus, the experience of various industries demonstrates the universality of the approach to the development of execution architecture. Regardless of the field of activity, sustainable results are achieved if processes are formalized, responsibilities are clearly allocated, control mechanisms are implemented, and technology is used to support the performance of work. This allows organizations to ensure reproducibility of activities and reduce dependence on random factors.

In the era of digital transformation, formalized management systems that ensure the stable functioning of processes are becoming increasingly important. Open sources emphasize that the effectiveness of digital technologies and artificial intelligence directly depends on the degree of structuring and a clear description of the processes into which they are integrated.

The future of execution architecture is related to the integration of control logic into information systems. Artificial intelligence opens the door to automating task allocation, load forecasting, routing operations, and decision support. The use of data and analytics facilitates the transition to more proactive management.

The key aspect is the implementation of monitoring and control systems that are capable of operating in real time. This makes it possible to quickly identify any deviations and promptly take the necessary corrective measures. At the same time, the importance of maintaining managerial control and a clear division of responsibility in the implementation of intelligent technologies is emphasized.

Conclusions

Execution architecture is an important component of the modern management system of an organization, contributing to the implementation of strategic goals in everyday practice. Its importance lies in clearly defining processes, allocating responsibilities, streamlining the decision-making process, and setting benchmarks and performance indicators. The analysis shows that the lack of such a level of design often leads to system failures, instability of results and a high dependence of activities on the human factor.

The experience of various industries shows that the implementation of execution architecture contributes to the improvement of transparency, manageability and reproducibility of processes. In the context of digital transformation, this approach is of particular importance, as it lays the foundation for the effective use of information systems and artificial intelligence in the management of an organization.

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Contact: ashurtakova@gmail.com