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Department of Management, Marketing and Quality Assurance in Pharmacy

QUALIFICATION WORK

on the topic «**FEATURES OF THE FORMATION AND DIRECTIONS OF IMPROVEMENT OF MODERN ORGANIZATIONAL STRUCTURES OF PHARMACEUTICAL COMPANIES»**

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ANNOTATION

The work is devoted to the study of modern organizational structures of pharmaceutical companies, key characteristics of organizational design, factors influencing contemporary organizational design, and comparative analyses of the organizational structures of the world's largest pharmaceutical producers and pharmacy chains.

The work consists of an introduction, 3 chapters, a conclusion, and a list of sources used. It is laid out over 49 pages and contains 9 tables and 5 figures. There are 46 sources of literature.

Key words: organizational structure, pharmacy, pharmaceutical enterprises, medicines, management

АНОТАЦІЯ

Робота присвячена вивченню сучасних організаційних структур фармацевтичних компаній, їх ключових характеристик, факторів, що впливають на їх формування, порівняльному аналізу організаційних структур найбільших фармвиробників та аптечних мереж у світі.

Робота складається зі вступу, 3 розділів, висновків, списку використаних джерел. Розміщена на 49 сторінках, містить 9 таблиць, 5 рисунків. Містить 46 джерел літератури.

Ключові слова: організаційна структура, фармація, фармацевтичні підприємства, ліки, менеджмент

Contents

INTRODUCTION

Actuality of theme. Analyzing the organizational structures of pharmaceutical companies is essential due to the numerous factors influencing the global healthcare and business environment. Pharmaceutical firms encounter significant pressure to adapt to rapid technological advancements, increasingly stringent regulations, and shifting healthcare requirements. To remain competitive, these organizations must adopt contemporary organizational models and align internal processes with emerging market trends, including accelerated drug development, enhanced safety standards, and increased globalization.

The aim of the study is to research and synthesize the main trends in the design of organizational structures within pharmaceutical companies.

Objectives of the study. To achieve the goal, the following tasks were performed:

- conduct a study of key characteristics of organizational designs;
- to carry out a comparative analysis of substantial differences in traditional and contemporary organizations;
- to study factors influencing contemporary organizational designs;
- to highlight indicators of organizational structure estimation;
- to research methodology for evaluating the effectiveness of organizational structure and reasons for organizational restructuring;
- to carry out comparative analyses of organizational structures of the top 10 pharma producers;
- to carry out comparative analyses of organizational structures of the top 4 pharmacy chains in the world.

The object of research is pharmaceutical organizations (producers and pharmacy chains).

The research subject is the design of pharmaceutical companies' organizational structures and the contemporary features of their formation.

Research methods. The following methods were used in the research to solve these tasks: content analysis, descriptive method, structural-logical, generalization, comparative, and grouping.

Approval of research results. The results of the research presented in the work have been made public on XII scientific and practical internet-conference with international participation «MANAGEMENT AND MARKETING IN THE MODERN ECONOMY, SCIENCE, EDUCATION AND PRACTICE» (19 March 2026) and XXXII International scientifical and practical conference of young scientists and students «TOPICAL ISSUES OF NEW MEDICINES DEVELOPMENT» (April 15-17 2026) presented in Appendix A.

Structure and scope of qualification work. The work consists of an introduction, 3 chapters, conclusions, and a list of used sources. It is laid out on 49 pages, contains 9 tables, 5 figures. Source of literature 46.

CHAPTER 1. THEORETICAL APPROACHES TO ORGANIZATIONAL STRUCTURE FORMATION

1.1 The key characteristics of organizational designs

An organizational structure serves not merely as a reporting hierarchy but as a strategic lever that determines the pace of operational processes and innovation capacity. In an industry where business viability depends on the speed with which drugs are brought to market, a company's architectural choice becomes a critical success factor.

Organizational design is based on a set of dimensions that shape its internal environment: vertical differentiation (hierarchy), span of management control, departmentalization principles, level of centralization, and process formalization. These elements determine how work is organized, how decision-making is carried out, and how roles are distributed within a company.

Hierarchy (Vertical Differentiation) (fig 1.1). Hierarchy defines the distribution of authority and the chain of command within an organization. It determines how tasks and responsibilities flow from top management to operational-level employees. There are two types of hierarchies: tall and flat.

Tall structures (Fig. 1.1) are characterized by multiple layers of management. This model allows for closer supervision and clearer accountability, but often suffers from delays in information transfer and slower decision-making [1].

Flat structures (fig. 1 .2) have fewer levels of management, resulting in a broader span of control. They promote a more decentralized approach to decision-making, leading to greater employee autonomy and faster communication. However, a broader span of control might stretch managers thin, reducing the effectiveness of supervision [2].

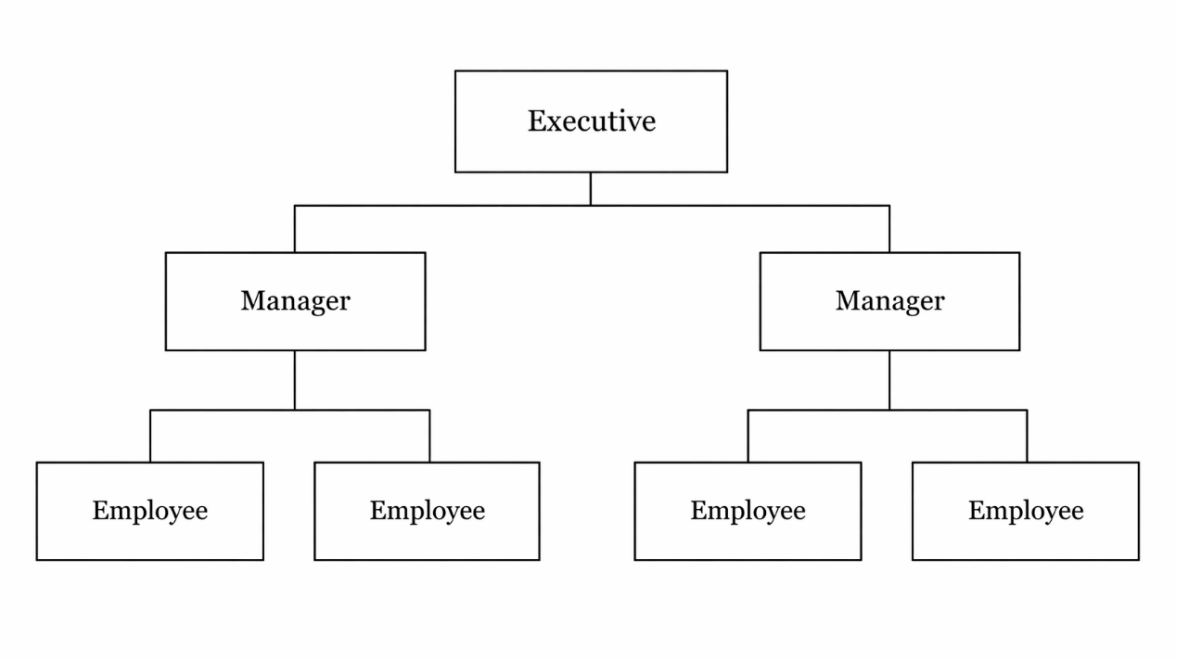

Fig 1.1 Hierarchical organizational structure

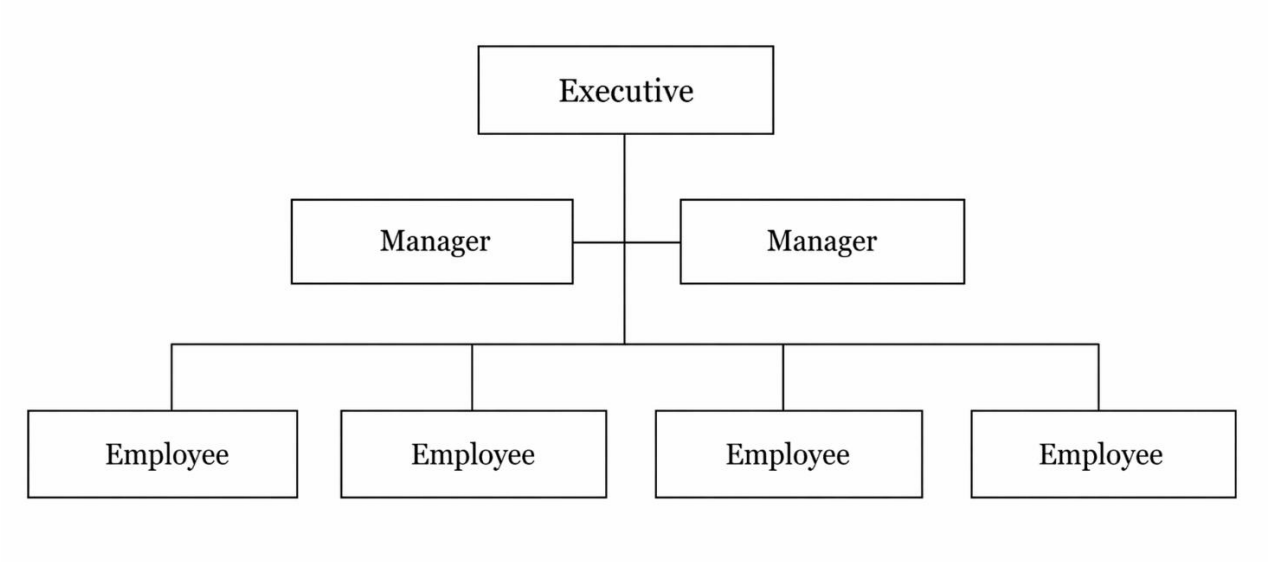

Fig 1.2 Flat organizational structure

Span of control refers to the number of direct reports a manager supervises. It affects the organization's agility and the level of autonomy granted to employees. When a manager supervises many subordinates, the structure tends to be more decentralized. Wide spans encourage delegation and can lead to increased employee autonomy and faster decision-making. However, it can lead to managerial overload and less hands-on supervision [3].

Narrow spans mean fewer employees per manager, enabling closer supervision and more detailed guidance. However, this may result in more

micromanagement, slower decision-making, and higher operational costs due to the need for more managers [4].

Departmentalization is the way organizations group jobs and activities. It plays a key role in shaping communication, workflow, and coordination across the organization. In Functional Departmentalization, employees are grouped by specialized function (e.g., marketing, finance, human resources). Functional structures encourage expertise within departments but can create silos, where communication between functions becomes inefficient [2].

Companies that diversify their products or services often adopt a divisional structure. These divisions may be based on product lines, geographical regions, or customer segments. Each division operates as a semi-autonomous entity with its own resources and objectives. Divisional structures improve focus on specific markets or products but may result in redundancy across divisions [3].

A matrix structure (fig. 1 .3, 1.4) combines two or more forms of departmentalization, usually functional and divisional. Employees report to both a functional manager and a divisional or project manager. While matrix structures promote flexibility and enhance cross-functional collaboration, they can create confusion due to dual reporting relationships and potential power struggles [5].

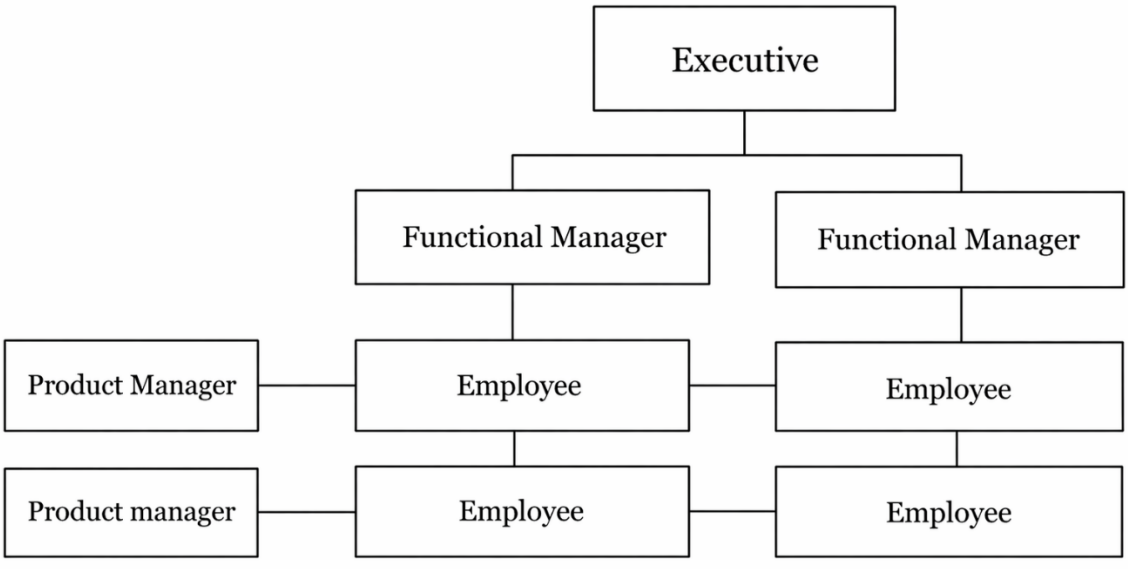

Fig 1.3 Matrix organizational structure

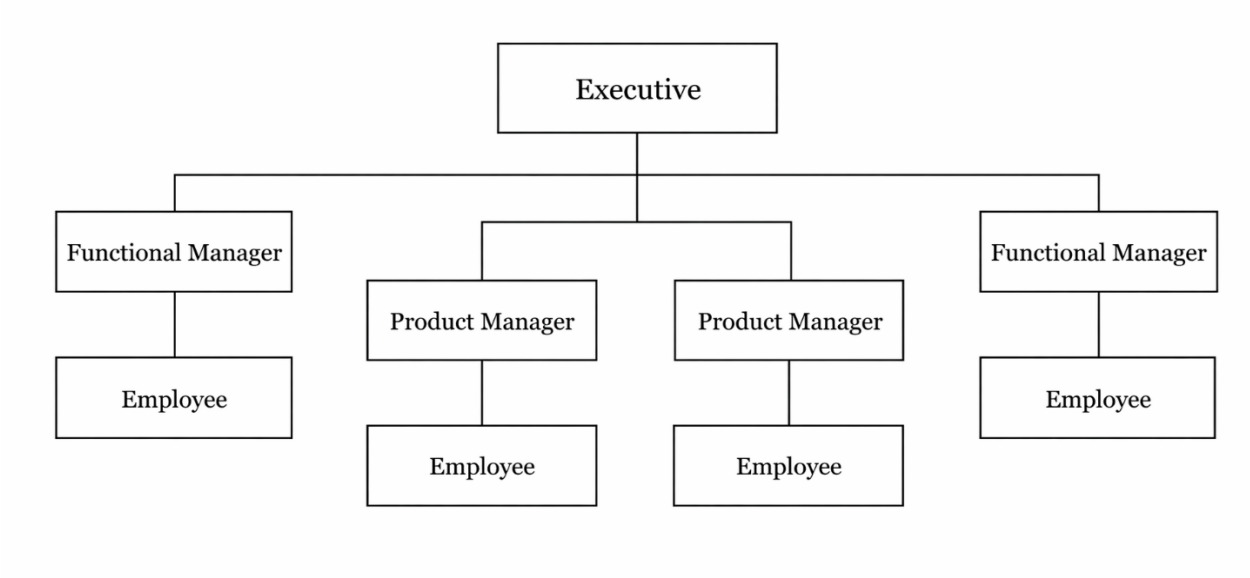

Fig 1.4 Hybrid organizational structure

Centralization and decentralization define where decision-making authority lies within the organization. In centralized organizations, decision-making power is concentrated at the top. Centralization ensures consistency in decision-making and tight control over operations. It is beneficial in stable environments that require uniformity, such as large bureaucratic organizations. However, centralization can slow down decision-making, especially in dynamic environments [4].

Decentralized structures allow lower levels of management to make decisions, thereby improving responsiveness and employee morale by giving local units greater control. This structure works well in rapidly changing environments where quick decision-making is essential. However, it can result in inconsistent decision-making across the organization and reduce alignment with company-wide objectives.

Formalization refers to the extent to which rules, procedures, and job descriptions are standardized and documented. Highly formalized structures use written policies and job descriptions to ensure consistency and predictability, which is often necessary in larger organizations [4]. In highly formalized organizations, employee behaviors are governed by strict rules, reducing flexibility and leaving little room for discretion. This approach is common in industries with regulated environments or those requiring precise operations, such as banking and manufacturing [2].

In contrast, low-formalization organizations allow greater discretion in how tasks are performed, providing flexibility to employees and managers. This is often seen in creative industries or startups, where adaptability and innovation are key [6].

Effective organizational structures ensure that different parts of the organization coordinate and communicate well to meet overall goals. Coordination mechanisms include:direct supervision, standardization, and mutual adjustment.

Hierarchical structures rely on managerial supervision to ensure coordination across teams and departments [2]. Some organizations standardize processes or outcomes to ensure that different parts of the organization work harmoniously without requiring constant supervision. In more organic structures, coordination occurs informally through direct communication between employees, especially in dynamic environments where flexibility is essential.

Flexibility or Stability is characterized by mechanistic structures and organic structures. Mechanistic structures are rigid structures with clear hierarchies, high formalization, and centralized decision-making. Mechanistic structures promote efficiency, stability, and control, making them suitable for organizations operating in stable environments with little need for innovation. Organic structures are more flexible, decentralized, and adaptable. Organic structures encourage informal communication, cross-departmental collaboration, and decentralized decision-making. They are ideal for dynamic environments that require innovation and rapid change [7,8].

The matrix structure, which combines different forms of departmentalization, is designed to handle complexity in large organizations with diverse products or geographical markets. Employees report to both a functional manager and a product or project manager, fostering both technical expertise and responsiveness to market demands. While the matrix structure can improve flexibility and innovation, it can also lead to conflict between managers and confusion over priorities [5]. Matrix structures often rely on cross-functional teams, which increase the ability to respond to customer needs or project goals more effectively, enhancing flexibility. However,

managing these teams can be complex, requiring clear communication channels and conflict resolution strategies [3].

This deeper understanding helps organizations design structures that foster both efficiency and adaptability in achieving their strategic goals.

1.2 . Comparative analysis of substantial differences in traditional and contemporary organizations

The evolution from bureaucratic systems to adaptive networks is driven by the transition from stable industrial production to a knowledge economy. Classic models were created for low market volatility to maximize standardization. Organizational structures are evolving significantly, reflecting the needs of modern business environments. Modern approaches do not reject the classics but reinterpret them. If the traditional model perceives a firm as a closed mechanism, modern design views it as an open organism capable of self-improvement. A significant difference lies in the perception of personnel: from «personnel administration» through coercion to "process partnership" and respect for individual contribution. Traditional structures often emphasize a rigid hierarchy, with clear chains of command and well-defined roles. These structures, such as the pyramid model, are typically characterized by centralized decision-making, with authority flowing from the top down, making them suitable for stable environments. This structure allows for strong control and consistent messaging across the organization, but it can also stifle flexibility and innovation.

In contrast, modern or contemporary structures focus on flexibility, collaboration, and adaptability. These structures often flatten the hierarchy and encourage cross-functional teams to collaborate on projects. Employees in modern organizations have greater autonomy, enabling them to contribute more directly to decision-making processes and project execution. Examples include matrix or flat organizations, where roles are less rigid, and communication flows more freely

across departments. These structures are particularly suited to dynamic industries like tech or aerospace, where rapid adaptation is necessary to stay competitive.

The shift towards contemporary organizational designs is driven by several factors, such as technological advancements, increased competition, and the need for faster decision-making. The traditional model may still work well in predictable, low-uncertainty environments, but contemporary structures excel in fast-changing industries by promoting innovation and adaptability.

Key distinctions in decision-making, communication, and flexibility [9,10,11].

Contemporary models of organizational structure do not recognize any new principles of organization not known from traditional or classical models. The fundamental difference between the traditional (classical) and contemporary models of organizational structures is reflected in the focus of organizational principles (Table 1.1) [12, 13]. Studies confirm that companies with organic structures have higher rates of innovation activity due to the removal of bureaucratic barriers and intensive cross-functional interaction.

Table 1.1

Characteristics of essential differences between models of the traditional (classical) and contemporary organizations

Feature for Comparison	Conservative (Classic) Paradigm	Creativity-Oriented (Modern) Paradigm
Management	Centralized vertical	Network decentralization
Construction	Deep, multi-layered hierarchy	Concise, horizontal structure
Supervision	Rigid personal control	Collective responsibility and coaching
Style	Rigidity and resistance to innovation	Flexibility and strategic lability
Essence of Tasks	Execution of static operations	Creation of an innovative product

Relationships	Formalism and subordination	Trust and team solidarity
Culture	Weak identification or non-existence	Corporate culture as an integrating factor
Changes	Perceived as a threat to stability	Viewed as a source of opportunity

At the same time, it is important to note that contemporary organizational models do not completely reject the principles of classical management. Instead, they reinterpret them. Fundamental principles such as division of labor, coordination, and control remain relevant, but their implementation shifts from rigid formalization to adaptive mechanisms. Thus, the key difference between traditional and contemporary models lies not in the existence of new principles but in their prioritization and practical application. The choice of organizational structure is not arbitrary; it depends on the external environment and the company's strategic priorities. Traditional structures are better suited to stable industries where efficiency, cost control, and risk minimization are critical. In such contexts, centralized decision-making ensures consistency and reduces operational uncertainty.

However, in highly competitive, rapidly changing markets, contemporary structures offer a significant advantage. Decentralization and flexibility enable faster decision-making, improve responsiveness to customer needs, and facilitate continuous innovation. As a result, companies with adaptive organizational designs tend to demonstrate higher innovation performance and stronger long-term competitiveness.

The correlation between organizational structure and innovation performance can therefore be explained by several mechanisms: reduced bureaucratic barriers, enhanced knowledge sharing, and increased employee engagement in decision-making. Organizations that successfully align their structure with environmental

complexity gain a strategic advantage, while those that rely on outdated, rigid models risk losing competitiveness.

1.3. Factors Influencing Contemporary Organizational Designs

Contemporary organizational designs are influenced by a variety of factors that determine how companies structure themselves to achieve their strategic objectives. These factors shape whether organizations adopt more traditional, hierarchical structures or lean toward flexible, adaptive forms. Key factors influencing contemporary organizational design are as follows:

- Technology. Technology plays a critical role in shaping how organizations are structured, especially in today's digital age. The rapid advancements in information technology, automation, and digital communication have transformed how work is coordinated and managed within organizations. The rise of automation and artificial intelligence (AI) allows organizations to streamline operations and reduce the need for manual supervision in certain functions. This leads to flatter structures with fewer layers of middle management, where decisions can be made quickly [3].

The use of digital tools, such as collaboration platforms (e.g., Slack, Microsoft Teams), enables remote work and real-time communication across geographies. This reduces the need for centralized control, making decentralized, flexible structures more feasible [6].

Data-driven decision-making enables organizations to be more agile by enabling them to react quickly to changes in the market or operational performance. This supports flatter, more adaptive structures that prioritize responsiveness over rigid hierarchies [3, 14-16].

- Globalization has intensified competition and increased the complexity of managing organizations operating across multiple countries or regions. Multinational organizations must coordinate operations across different cultural, legal, and economic environments. This often leads to the adoption of divisional

structures based on geography or product lines to better manage the complexities of different markets.

The integration of global supply chains demands flexible organizational designs that can adapt to external factors such as geopolitical risks, currency fluctuations, and trade policies. Matrix structures, where employees report to both regional and functional managers, often arise in such settings to balance global efficiency with local responsiveness [5].

- Organizational Strategy. The strategy an organization adopts directly influences its design. Different strategies call for different organizational structures, as they must align with the company's objectives. Companies pursuing a cost leadership strategy, such as Walmart, typically adopt mechanistic structures that emphasize efficiency, standardization, and tight cost control. These structures are characterized by centralized decision-making, a narrow span of control, and high formalization. Organizations that focus on innovation and customer differentiation, such as Apple or Google, often require organic structures. These structures are decentralized, with a broad span of control, allowing for flexibility, innovation, and quick response to market changes [2].
- Size of the Organization. The size of an organization influences its structural complexity. Larger organizations often require more formal structures to support greater coordination and control.

Small businesses or startups often adopt simple structures characterized by low formalization, centralized decision-making, and direct supervision. These structures are flexible and agile but may struggle with scaling as the organization grows [4].

As organizations grow in size, they tend to become more complex, necessitating divisional or matrix structures to manage diverse products, services, or geographical locations. Larger organizations require clear delegation of responsibilities and more formal communication and control systems [3].

- Business Environment. The external business environment—defined by factors such as market dynamics, competition, and regulatory constraints—

significantly affects organizational design. In stable environments with minimal change, companies can afford to adopt mechanistic structures with rigid hierarchies, clear roles, and formalized processes. This is because predictability enables long-term planning and standardized approaches.

In contrast, organizations operating in fast-changing industries benefit from organic structures. These flexible designs allow for rapid adaptation to environmental changes, fostering innovation and quick decision-making.

- Culture and Workforce. Organizational culture and the nature of the workforce also significantly influence how organizations are designed.

A company's culture—its shared values, beliefs, and behaviors—affects how decisions are made and how power is distributed. Organizations with a culture of empowerment and innovation, like Google, often adopt decentralized, flat structures to support creativity and autonomy [6].

If the workforce is highly skilled and educated, organizations are more likely to adopt decentralized structures that allow employees to make decisions at lower levels. In contrast, less skilled or entry-level workforces might require more centralized structures with close supervision and control [3].

- Innovation and Adaptability. Companies that prioritize innovation need flexible, adaptive structures that encourage collaboration, experimentation, and rapid decision-making. Industries such as technology, pharmaceuticals, and entertainment often require organic structures that are less formalized and more decentralized. These structures enable cross-functional collaboration and a fast response to changes in the competitive landscape [2].

In highly competitive markets or industries undergoing rapid technological change, organizations need to pivot quickly. Matrix structures are often chosen because they offer high flexibility and responsiveness, though they can also lead to increased decision-making complexity [5].

- Regulatory and Legal Factors. Organizations must design their structures to comply with industry regulations and legal requirements. Highly

regulated industries such as healthcare, finance, and energy tend to have more formalized structures.

Regulatory demands often require strict adherence to laws and standards. Organizations in such industries may need to implement additional layers of control and oversight, making them more hierarchical and formalized. For example, financial institutions must implement rigorous compliance measures, leading to more centralized structures with formal processes [4].

Government regulations regarding labor laws, environmental standards, or reporting requirements can influence organizational design. These factors might drive the need for specialized departments (such as legal or compliance divisions) or more robust internal reporting structures.

- Social Responsibility and Ethics. The growing importance of corporate social responsibility (CSR) and ethical behavior is influencing organizational design. Companies with strong commitments to CSR may adopt more collaborative structures to involve multiple stakeholders in decision-making processes.

Socially responsible companies often engage with a broader array of stakeholders, including customers, local communities, and governments. This engagement can lead to more decentralized structures that allow for greater transparency and inclusivity in decision-making.

Organizations that emphasize ethical behavior may establish dedicated teams or departments to monitor and ensure compliance with ethical standards, adding layers to the organizational structure .

These factors illustrate how organizations must continuously adapt their structures to remain competitive and responsive in contemporary business environments [17-20].

Thus, organizational structures are shaped by numerous characteristics, each influencing how the company operates, how employees interact, and how decisions are made. Selecting the right organizational structure depends on the organization’s size, industry, goals, and external environment. Effective structures align

organizational resources with strategic objectives, whether through rigid hierarchies or flexible, decentralized arrangements.

The design of contemporary organizations is influenced by multiple factors, including technology, globalization, strategy, size, business environment, culture, and regulatory demands. Each of these factors shapes how an organization balances control with flexibility, enabling it to respond to the demands of its internal operations and external environment. As organizations continue to evolve, understanding and adapting to these influencing factors will be critical to achieving.

The current stage of the industry's development is characterized by the transition to Pharma 4.0 — a business-oriented digital transformation that combines IT (information technology) and OT (operational technology). This leads to the emergence of matrix structures, in which employees report simultaneously to both functional managers and project or therapeutic area managers. Companies such as Pfizer and AbbVie use a matrix approach to combine global scientific expertise with local market adaptability. The factors influencing the design of modern organizations have become significantly more complex. In addition to size and technology, regulatory volatility and geopolitical risks now play a key role [21].

The correlation between organizational structure and innovation performance has been widely confirmed in recent empirical studies. Decentralized and less formalized structures facilitate knowledge sharing and organizational ambidexterity, which are critical for innovation development. Furthermore, organizations that strategically align their structural design with innovation objectives demonstrate higher performance and adaptability.

Recent research also highlights that there is no universal organizational model; instead, structural effectiveness depends on alignment with environmental complexity and decision-making processes. In the context of digital transformation, flexible organizational structures significantly enhance innovation capacity by enabling faster responses to market changes and improved data-driven decision-making.

Additionally, digitalization strengthens innovation performance through enhanced knowledge exchange and collaboration, particularly in hybrid and network-based organizational models . Flexible structures further amplify this effect by fostering team interaction and adaptive organizational culture [22-25].

Conclusions to Chapter 1.

The theoretical analysis confirms that organizational structure is a fundamental determinant of how effectively a company operates, adapts, and competes. Key structural characteristics such as hierarchy, span of control, departmentalization, centralization, and formalization directly influence decision-making speed, coordination efficiency, and employee autonomy. The balance between mechanistic and organic elements determines whether an organization prioritizes stability or flexibility, a distinction that becomes especially critical under different environmental conditions.

The comparative analysis demonstrates that the shift from traditional to contemporary organizational structures is driven by increasing environmental complexity, digitalization, and the need for innovation. While traditional structures ensure control and efficiency in stable contexts, contemporary models enhance adaptability, collaboration, and responsiveness. Importantly, modern research confirms a strong correlation between decentralized, flexible structures and higher innovation performance, as they facilitate knowledge sharing, reduce bureaucratic barriers, and enable faster decision-making.

Furthermore, the study highlights that organizational design is shaped by a complex system of factors, including technology, globalization, strategy, organizational size, and regulatory requirements. The emergence of concepts such as digital transformation and Pharma 4.0 illustrates how structural models continue to evolve toward hybrid and matrix configurations. As a result, organizations that align their structures with strategic goals and environmental dynamics gain a sustainable competitive advantage, whereas rigid, outdated designs increasingly limit innovation and long-term performance.

CHAPTER 2. ESTIMATION OF ORGANIZATIONAL STRUCTURE

2.1. Indicators of organizational structure estimation

Estimating an organizational structure is a diagnostic process that determines how effectively a company's design facilitates its strategic objectives. Unlike the theoretical formation discussed in Chapter 1, estimation focuses on performance metrics, alignment, and functional health. A well-aligned structure enables the company to meet its strategic objectives by optimizing communication channels, decision-making processes, and resource allocation. By periodically evaluating this alignment, companies can pinpoint areas where the current structure either supports or hinders these goals.

Additionally, estimating the structure's effectiveness helps improve communication and collaboration within the organization. A well-structured environment fosters efficient information flow, helping teams coordinate efforts and avoid confusion about roles and responsibilities. Regular evaluations can highlight bottlenecks, such as departments that don't communicate well with others, and suggest areas for improvement.

Adaptability is another critical reason for assessing organizational structure. As businesses face changing markets and technologies, their structures must evolve as well. A rigid or outdated structure can slow a company's response to external changes, while a flexible, well-estimated structure enables swift adaptation to new conditions, giving the organization a competitive edge.

From an employee perspective, a clear and efficient structure enhances satisfaction and productivity. Employees are more engaged when they understand their roles, how their work contributes to the company's success, and who to approach for collaboration or support. On the other hand, poorly structured organizations tend to have lower morale, increased confusion, and higher turnover rates. Estimating structural effectiveness helps identify areas where clarity or adjustments are needed to boost overall employee well-being.

Effective resource allocation is another major benefit of evaluating organizational structure. By regularly reviewing the design, companies can ensure that their human and material resources are optimally deployed. It enables the elimination of redundant roles or processes and aligns departmental efforts with the company's strategic direction.

Moreover, organizational structure estimation is crucial for growth and scalability. As businesses expand, the complexity of their operations increases. Evaluating the structure periodically allows leaders to make necessary adjustments, such as adding new departments or refining reporting lines, to ensure the company continues to grow without losing efficiency. Without such evaluations, companies may struggle to scale effectively, risking operational chaos or misallocation of resources.

Indicators of Organizational Structure Estimation are metrics or key dimensions used to assess an organization's structure for efficiency, effectiveness, and suitability. These indicators help in assessing how well the structure aligns with the organization's goals, strategy, and external environment. The following are the main indicators commonly used:

Managerial Efficiency of Hierarchy. Instead of simply counting levels, estimation measures the information distortion rate and decision-making lead time. A «tall» structure is negatively estimated if the time to approve a clinical trial protocol exceeds industry benchmarks, due to excessive vertical layers.

Span of Control. This indicator assesses whether the number of subordinates per manager is balanced. In estimation, we look for the managerial overload ratio. If a manager in a high-stakes department (such as Regulatory Affairs) has too many direct reports, the risk of compliance errors increases [26].

Centralization / Decentralization. Evaluates the degree to which decision-making is concentrated at higher levels (centralized) or distributed throughout the organization (decentralized). More decentralized structures encourage employee involvement in decision-making.

Formalization consistency. Measures the extent to which roles, procedures, and responsibilities are codified in written documentation. High formalization ensures uniformity but can reduce flexibility.

Departmentalization. Refers to how work is divided within the organization into different functions or departments (e.g., by function, product, geography). Different departmental structures (functional, divisional, or matrix) suit different business strategies and environments.

Integration Mechanisms. These are mechanisms to promote coordination between departments or units. They include committees, liaison roles, task forces, and cross-functional teams.

Adaptability and Flexibility. Examines the structure's ability to adapt to changes in the business environment. More organic structures are flexible and responsive, while mechanistic structures are rigid.

Communication Flow measures the efficiency and openness of communication within the organization. Horizontal communication flows are key indicators in less hierarchical structures, whereas vertical flows dominate in more formal, traditional organizations.

These indicators can be used to evaluate whether an organization is aligned with its strategic goals and external environment, as well as to identify inefficiencies or areas for improvement in its structure. Evaluating these dimensions helps in making structural changes that better support the organization's mission and objectives [27, 28].

In the contemporary business landscape, estimating an organizational structure has shifted from analyzing static hierarchies to evaluating dynamic ecosystems. While classical indicators such as hierarchy levels and span of control remain relevant, they no longer fully capture a modern firm's efficiency. In the era of digital transformation, a structure’s value is measured by its agility—the ability to reconfigure resources rapidly in response to market volatility. Modern estimation must therefore focus on how well the design facilitates the flow of information rather than just the exercise of authority.

A critical modern indicator is the density of horizontal connections enabled by digital platforms. Traditional departmentalization often creates «silos» that obstruct innovation. Today, evaluators look for «networked» structures where cross-functional teams can collaborate via cloud-based ecosystems without constant vertical approval. The effectiveness of a structure is now tied to its digital maturity, or how seamlessly technology automates routine coordination, allowing managers to oversee larger, more autonomous teams.

The focus of estimation has also moved toward Distributed Decision-Making. In high-velocity environments, centralized structures often become bottlenecks. Modern indicators measure the Autonomy Index of local units—the degree to which frontline teams are empowered to make strategic adjustments without having to escalate every issue. This shift is essential for hybrid and remote work models, where direct physical supervision is replaced by trust, clear output-based KPIs, and shared organizational values.

Finally, modern estimation prioritizes organizational resilience over mere stability. Instead of rigid job descriptions (formalization), companies now evaluate Role Fluidity—the ease with which employees can shift between projects based on their skill sets. An effective modern structure is «skills-based» rather than «position-based.» By assessing these dynamic indicators, organizations can ensure they are not just efficient for today's operations but are also «future-ready» for tomorrow's disruptions. A comparative characteristic of classical and modern indicators for assessing organizational structures is given in Table 2.1 [29, 30].

Table 2.1

Comparison of Classical and Modern Structural Indicators

Indicator	Classical Approach (Industrial Era)	Modern Approach (Digital/Agile Era)
Primary Focus	Command, control, and stability.	Agility, speed, and adaptability.

Hierarchy	Number of vertical management layers.	Network density and cross-functional connectivity.
Decision-Making	Top-down authority.	Distributed at the «point of impact»
Role Definition	Rigid formalization (Job Descriptions).	Role fluidity (Skills-based assignments).
Communication	Vertical channels and formal reporting.	Multimodal, horizontal, and real-time digital flows.
Coordination	Functional «Silos» (Departments).	Squads, Tribes, and Project Ecosystems.
Key Metric	Span of Control (Number of subordinates).	Velocity (Time-to-market/Time-to-decision).

2.2. **Methodology for Evaluating the Effectiveness of Organizational Structure**

Evaluating an organizational structure involves both qualitative and quantitative measures to assess how well it supports the organization's strategy, operational efficiency, adaptability, and overall performance. In the 2025–2026 period, the methodology for evaluating organizational structures has evolved from periodic manual reviews to dynamic, data-driven assessments. Modern organizations utilize Organizational Network Analysis (ONA) and People Analytics to measure how work actually gets done, rather than relying solely on formal charts. This approach allows for the identification of «digital silos» and communication bottlenecks in hybrid and remote work environments.

Here is Table 2.2 summarizing the methodology for evaluating the effectiveness of organizational structure based on the provided information.

Table 2.2

Methodology for evaluating the effectiveness of organizational structure

Evaluation Step	Description	Key Indicators/Aspects	References
Define Organizational Goals and Strategy	Clarify strategic objectives to align the structure with the goals (e.g., growth, innovation, cost control, customer service).	Alignment of structure with strategy. Misalignment can lead to inefficiencies and missed opportunities.	Galbraith, J.R. (2014), Designing Organizations
Data Collection	Gather qualitative and quantitative data through interviews, surveys, and direct observation.	Employee feedback on communication, decision-making, task completion, and operational challenges.	Cummings, T.G., & Worley, C.G. (2019), Organization Development and Change
Analysis of Key Indicators	Assess specific indicators to measure structural effectiveness.	1. Span of Control: Number of employees per manager. 2. Decision-Making Speed. 3. Communication Flow.	Burton, R.M. et al. (2020), Organizational Design: A Step-by-Step Approach

		4. Resource Allocation & Collaboration. 5. Adaptability. 6. Employee Satisfaction.	
Performance Metrics	Evaluate productivity, profitability, and efficiency before and after changes to the structure.	Productivity, profitability, operational efficiency.	Jones, G.R. (2020), Organizational Theory, Design, and Change
Benchmarking	Compare the structure with industry standards and competitors to identify best practices.	Comparison to industry benchmarks and competitors' structures for competitive advantage.	Deloitte Human Capital Trends Report (2020)
Feedback Loops	Implement regular feedback to monitor and adjust the structure based on ongoing evaluations.	Continuous assessment for adaptability to changes in strategy, environment, or performance.	Deloitte Human Capital Trends Report (2020)
Organizational Network Analysis (ONA)	Mapping informal connections and cross-unit	Node centrality; network density; identification of isolated teams.	McKinsey (2025)

	collaboration beyond the hierarchy.		
Continuous Feedback Loops	Shifting from annual audits to quarterly adaptation cycles (Agile Reviews).	Organizational Resilience Index; speed of reconfiguration.	Gartner (2025)
Dynamic Benchmarking	Comparing with industry leaders using AI-driven labor market analytics.	Role churn rate; Cost of Management (administrative burden).	Deloitte Insights (2026)

Before evaluating, the organization's strategic objectives must be clarified. A structure should be aligned with these goals, whether they are growth, innovation, cost control, or customer service. Misalignment between structure and strategy can lead to inefficiencies.

Data is gathered through interviews, surveys, and direct observation. Employee feedback is essential to understand how effectively the structure supports communication, decision-making, and task completion.

Analysis of Key Indicators. Specific indicators are analyzed to measure the structure's effectiveness. Some common indicators include: span of control (measures the number of employees reporting directly to a manager). A wider span can indicate efficiency, but an overly wide span may lead to managerial overload.

Decision-Making Speed. The time taken to make decisions across different levels is evaluated. Delays in hierarchical structures can reduce responsiveness, while decentralized structures often improve agility.

Communication Flow. Assesses how information is passed through the organization. Effective structures promote open, multidirectional communication, ensuring that all relevant parties are informed.

Resource Allocation and Collaboration evaluates whether resources (personnel, time, budget) are effectively distributed. Collaboration across departments is also assessed.

Flexibility and Adaptability examines the organization's ability to adapt to environmental shifts. More organic structures are often better at adapting to change than rigid, mechanistic ones. Employee Satisfaction and Engagement. Higher satisfaction can be an indicator of an effective structure, as it reflects employees' comfort and ability to function within the system.

Performance metrics such as productivity, profitability, and operational efficiency are analyzed to determine the direct impact of the organizational structure. Additionally, comparing metrics before and after structural changes can provide insight into effectiveness.

The structure is compared with industry standards or competitors. Benchmarking helps to identify best practices and determine whether the structure supports competitive advantage.

Regular feedback mechanisms are implemented to continuously assess the structure's effectiveness over time. Periodic evaluations help ensure that the structure evolves with organizational needs and environmental changes [31].

Key indicators for effectiveness evaluation are presented in Table 2.3.

Table 2.3

Indicators for effectiveness evaluation

Key Indicator	Description
Span of Control	Evaluates the number of subordinates per manager; a broader span can reduce administrative costs but may impact the quality of supervision and coordination.

Decision-Making Efficiency	Measures the velocity and quality of decision-making and implementation across various organizational levels.
Communication Effectiveness	Assesses the multidirectional flow of information, clarity of messaging, and the reduction of «silos» between departments.
Adaptability to Change	Evaluates the structure's resilience and its ability to reconfigure resources in response to internal shifts or external market volatility.
Resource Allocation	Measures the efficiency of distributing human, financial, and technological assets to support strategic priorities.
Employee Engagement and Satisfaction	Gauges how the organizational design empowers staff, provides role clarity, and supports overall professional well-being.
Task Completion Time (Velocity)	Measures process efficiency and the time required to execute operational workflows from initiation to delivery.
Cross-functional Collaboration	Evaluates the degree of integration between different functional units and the effectiveness of horizontal coordination mechanisms.

Modern effectiveness is no longer about «perfection» in the hierarchy, but about the flow of value and the reduction of friction between digital and physical teams.

2.3. Reasons for Organizational Restructuring

Rapid shifts in market demands, technological advancements, or customer preferences may require companies to realign their structures. For instance, a move

toward digital transformation often requires a more flexible and innovative organizational design [32, 33].

Inefficiencies in decision-making, communication, or workflow often lead organizations to restructure. Centralized structures might hinder fast decision-making, while decentralizing authority can streamline operations and increase responsiveness [34].

When organizations merge or acquire other companies, restructuring is often necessary to integrate functions, cultures, and strategies [35].

Economic downturns or pressure to improve profitability may drive restructuring to eliminate redundant roles, reduce operational costs, or optimize resource allocation [36].

To foster innovation, organizations might shift from traditional, hierarchical structures to more agile, cross-functional teams that emphasize collaboration [37].

Process of Organizational Restructuring may be described into a few steps (fig. 2.1)

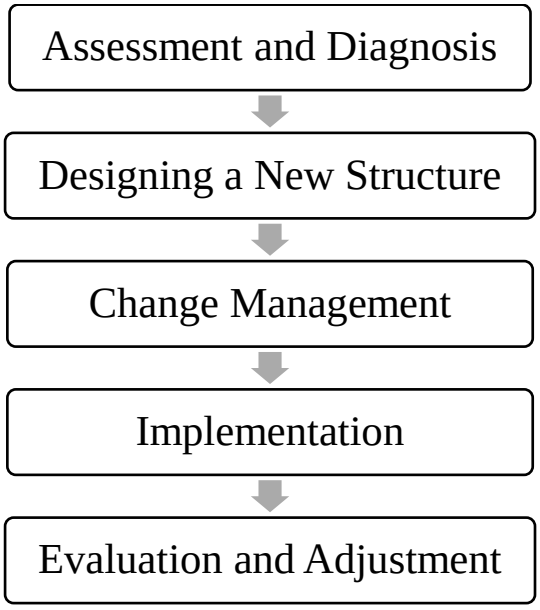

Fig. 2.1 Process of Organizational Restructuring

The first step is to analyze the current structure and identify inefficiencies or misalignments with strategic goals. Tools like SWOT analysis or employee surveys may be used [38].

Based on the diagnosis, a new organizational design is created. This may involve changes in departmental responsibilities, flattening hierarchies, or introducing new roles or teams. A key focus is aligning the structure with strategy [32].

Communication is critical during this phase. Employees need to understand why the change is happening and how it will affect their roles. Resistance to change is often managed through training and leadership engagement [39].

The restructuring plan is implemented in phases to minimize disruption. This includes reassigning employees, retraining, and altering workflows [36].

After implementation, the new structure is continuously monitored. Feedback from employees and performance metrics (e.g., productivity, profitability) guide further adjustments if necessary [33].

Future organizations will likely adopt even more flexible, agile structures to respond to an increasingly dynamic business environment. These structures will emphasize fluid roles, temporary teams, and project-based work rather than rigid hierarchies [37].

With the rise of remote work and digital transformation, structures will become more hybrid. Digital tools will support distributed teams and seamless collaboration across borders [31].

Decision-making will continue to decentralize, as organizations move towards empowering employees at all levels. This can foster innovation, as employees closer to the operational level can make decisions quickly without waiting for top-down approval [40].

Future organizations may operate within broader ecosystems or networks, collaborating with external partners, freelancers, and temporary teams. This model moves away from a closed organizational structure to an open, collaborative framework [41].

In summary, organizational restructuring is driven by factors like market adaptation, innovation needs, and operational efficiency. The process involves assessing current structures, designing new ones, managing change, and evaluating

outcomes. The future points toward more agile, decentralized, and digital structures that are better equipped to thrive in an evolving business environment.

Conclusions to Chapter 2.

The estimation of organizational structure has transitioned from a static assessment of formal hierarchies to a dynamic evaluation of organizational ecosystems. While classical indicators like the span of control and hierarchy levels remain fundamental, modern efficiency is increasingly defined by «digital maturity» and the density of horizontal connections. In the contemporary landscape, a structure's value is measured by its agility and capacity to facilitate seamless information flow across multimodal digital channels rather than by the exercise of vertical authority.

The methodology for evaluating structural effectiveness has become significantly more data-driven, moving beyond periodic manual reviews. The integration of advanced tools, such as Organizational Network Analysis and People Analytics, enables organizations to map informal collaborations and identify «digital silos» in real time. This shift toward continuous feedback loops and quarterly adaptation cycles ensures that the organizational design remains resilient and can rapidly reconfigure resources in response to internal shifts or external market volatility.

Organizational restructuring is increasingly viewed as a proactive strategic tool rather than a reactive crisis-management measure. It is primarily driven by the need for digital transformation, operational efficiency, and the fostering of innovation. By moving from rigid, centralized models to decentralized, distributed decision-making frameworks, organizations can empower frontline teams at the «point of impact,» thereby reducing decision-making friction and enhancing overall responsiveness to market demands.

The future of organizational design points toward a «skills-based» rather than «position-based» paradigm. Future-ready organizations are adopting hybrid, fluid frameworks characterized by role fluidity, temporary project-based squads, and

open, collaborative ecosystems. These structures prioritize organizational resilience and cross-functional synergy, enabling firms to thrive within broader networks of external partners and distributed teams, which is essential for success in an increasingly complex and unpredictable global business environment.

CHAPTER 3. RESEARCH OF ORGANIZATIONAL STRUCTURE OF PHARMACEUTICAL COMPANIES

3.1. Comparative analyses of organizational structures TOP 10 global pharma producers

The global pharmaceutical landscape in 2024 is dominated by corporations that have successfully aligned their internal architectures with aggressive R&D strategies and market expansion [42].

1. Pfizer - US$58.5bn
2. Johnson & Johnson - US$54.76bn
3. AbbVie - US$54.32bn
4. Merck & Co - US$53.6bn
5. Roche - US$49.9bn
6. Sanofi - US$46.16bn
7. AstraZeneca - US$45.8bn
8. Novartis - US$45.4bn
9. Bristol-Myers Squibb - US$45bn
10. GSK- US$38.4bn

We have conducted a comparative analysis of the organizational structures of the largest pharmaceutical manufacturing companies on the basis of open sources of information.

The organizational structures of the world's largest pharmaceutical companies reflect both traditional hierarchies and modern approaches to innovation and collaboration.

Pfizer follows a matrix structure, combining both functional and product-based divisions. It organizes its operations by key regions and product portfolios (oncology, vaccines, etc.), promoting flexibility and faster responses to market needs. They rely heavily on collaboration across global teams to drive R&D efforts.

Johnson & Johnson employs a decentralized structure. It operates in three broad sectors: pharmaceuticals, medical devices, and consumer health. Each sector is semi-autonomous, allowing for agility in decision-making, and there are global

franchises that focus on specific therapeutic areas, such as oncology or cardiovascular care.

AbbVie operates under a matrix structure that emphasizes both geographic and functional divisions. R&D is decentralized, with major hubs focusing on specific disease areas, while its commercial teams are aligned globally to ensure efficient product launches and regulatory approvals.

Merck & Co. uses a functional organizational structure, with clear divisions for R&D, manufacturing, and sales. However, it also emphasizes collaboration between its global teams. The R&D division has significant autonomy, allowing for focused innovation, especially in areas such as oncology and vaccines.

Roche utilizes an integrated structure where its pharmaceuticals and diagnostics divisions work closely together to accelerate innovation. This allows the company to leverage data from its diagnostics to develop more personalized medicines. They focus heavily on decentralized decision-making, empowering teams across global R&D centers to drive innovation in oncology, immunology, and more.

Sanofi has a hybrid structure combining regional divisions and product-specific units. This structure ensures the company's global reach while focusing on key therapeutic areas like immunology, oncology, and rare diseases. Their R&D teams work globally but are coordinated centrally to optimize resource use.

AstraZeneca adopts a flat structure, fostering collaboration across departments and reducing hierarchy to promote innovation. The company has specialized R&D hubs in different countries and integrates these through global teams that focus on therapeutic areas such as oncology and respiratory care.

Novartis operates a divisional structure, where it is divided into key segments like Innovative Medicines, Sandoz (generic medicines), and its global drug development division. This approach ensures specialization in R&D while promoting global collaboration across its numerous R&D sites and commercial units.

Bristol-Myers Squibb (BMS) follows a product-focused structure, where different business units focus on therapeutic areas like oncology and immunology. They also emphasize a flexible and agile operating model, promoting cross-functional collaborations across global teams in R&D and marketing.

GlaxoSmithKline (GSK) structure is product-centric, organized around three global businesses—Pharmaceuticals, Vaccines, and Consumer Healthcare. The firm emphasizes global R&D collaborations, with a focus on open innovation and partnerships with academic and biotech institutions worldwide.

These companies balance global reach with localized decision-making and specialization in key therapeutic areas. They combine traditional structures (functional and divisional) with more modern, matrix-based or flat models to promote innovation and collaboration, ensuring they remain competitive in a rapidly evolving market [36,37]

In the table 3.1 a comparative outlining the organizational structures of the ten largest pharmaceutical companies, highlighting key characteristics.

Table 3.1

Organizational structures of the ten largest pharmaceutical companies

Company	Organizational Structure	Key Features	Focus Areas
Pfizer	Matrix	Combines functional and product divisions, promoting collaboration across teams and focusing on global R&D for rapid market response.	Vaccines, Oncology, Rare Diseases
Johnson & Johnson	Decentralized	Semi-autonomous sectors for pharmaceuticals, medical devices, and consumer health, allowing flexibility in decision-making.	Pharmaceuticals, Medical Devices, Consumer Health

AbbVie	Matrix	Emphasizes both geographic and functional divisions; decentralized R&D hubs focus on specific disease areas for innovation.	Immunology, Oncology, Neuroscience
Merck & Co.	Functional	Clear divisions for R&D, manufacturing, and sales; R&D has significant autonomy to foster innovation in key therapeutic areas.	Vaccines, Oncology, Infectious Diseases
Roche	Integrated	Strong collaboration between pharmaceuticals and diagnostics; emphasizes decentralized decision-making for innovation.	Oncology, Immunology, Personalized Medicine
Sanofi	Hybrid	Combines regional divisions and product-specific units to optimize global reach and resource utilization in R&D.	Immunology, Rare Diseases, Diabetes
AstraZeneca	Flat	Encourages collaboration across departments, reducing hierarchy; global teams focus on specific therapeutic areas.	Oncology, Respiratory, Cardiovascular
Novartis	Divisional	Organized by segments like Innovative Medicines and Sandoz; focuses on global collaboration in R&D and commercialization.	Innovative Medicines, Generic Medicines

Bristol-Myers Squibb	Product-Focused	Business units focus on therapeutic areas like oncology and immunology; promotes agile operating models for cross-functional collaboration.	Oncology, Immunology, Cardiovascular
GSK	Product-Centric	Organized around Pharmaceuticals, Vaccines, and Consumer Healthcare; emphasizes global R&D collaborations and open innovation.	Vaccines, Pharmaceuticals

Decentralized Structures (e.g., Johnson & Johnson, Roche) enable flexibility and rapid decision-making across product lines.

Matrix and Hybrid Structures (e.g., Pfizer, AbbVie) facilitate collaboration across global teams and functional areas, enhancing innovation.

Flat, product-centric structures (e.g., AstraZeneca, GSK) promote cross-departmental collaboration and focus on specific therapeutic areas.

This comparative overview illustrates how each company's organizational structure aligns with its strategic goals and market demands.

3.2. Comparative analyses of organizational structures TOP 4 pharmacy chains in the World

We analyzed the organizational structure of the 4 largest pharmacy chains in the world. The following tables 3.2-3.5 present the characteristics of networks, their structural subdivisions, and the organizational structures. Top 4: CVS Health, Wal-Mart Pharmacy, Cardinal Health, Inc., and Walgreens Boots Alliance are described [45, 46].

Table 3.2

CVS Health

Number of Stores/type of organizational structure	Structural Divisions	Description CVS Health
7,800+/ CVS Health utilizes a matrix organizational structure, which integrates both functional and divisional elements. This structure supports its strategy of vertical integration, enabling efficient coordination across the company's diverse healthcare operations	CVS Pharmacy (Retail Pharmacy Operations). This division serves as the consumer-facing segment, specializing in the distribution of prescription pharmaceuticals, over-the-counter (OTC) medications, and a diverse range of health and wellness commodities. Furthermore, it maintains a robust mail-order infrastructure to facilitate remote pharmaceutical access. CVS Caremark (Pharmacy Benefit Management - PBM). Operating as a strategic intermediary, this segment collaborates with corporate employers, insurance underwriters, and public sector programs to administer prescription drug benefits. Its primary objectives include the negotiation of pharmaceutical pricing, the optimization of formulary management, and the streamlining of claims processing	Operational Scope. The company's pharmaceutical distribution network is comprehensive, encompassing community-based neighborhood outlets, specialized pharmacy services, and a robust mail-order delivery system designed to enhance consumer accessibility to prescription medications and healthcare products. Market Position. As of October 2025, CVS Health maintains a significant global footprint as one of the world's preeminent pharmacy retailers. Financial Standing. With a market capitalization of $92.13 billion, the corporation represents a major entity within the

	to enhance cost-efficiency for both plan sponsors and beneficiaries. Aetna (Health Care Benefits). Acquired to foster vertical integration, this division aligns insurance underwriting with clinical service delivery. By bridging the gap between financial coverage and direct medical intervention, Aetna enables a holistic approach to healthcare, leveraging the corporation's extensive network of physical pharmacies and outpatient clinics.	public equity markets, reflecting its scale and systemic importance to the U.S. healthcare infrastructure.

Table 3.3

Walmart, Inc.

Number of Stores/type of organizational structure	Structural Divisions	Description
5000+/ Divisional with Functional Overlay: The pharmacy segment operates as a division within Walmart's	Specialty Pharmacy Services. This segment is dedicated to the clinical management of complex, chronic, and high-cost pathologies, such as oncology and diabetes. These pharmacies provide specialized therapeutic interventions and high-touch clinical support required for sophisticated medication regimens.	Walmart, Inc. (NYSE:WMT) has a diversified business which includes a strong pharmacy network of more than 5,000 pharmacies across the US. Services such as refilling prescriptions, transferring prescriptions,

broader business but shares functional services (like IT, marketing, and HR) with the rest of the company. This structure ensures autonomy for the pharmacy network, while also benefiting from Walmart's larger functional infrastructure.	Mail-Order Distribution Channels. To optimize consumer convenience and ensure adherence for maintenance medications, Walmart utilizes a mail-order infrastructure. This service facilitates the direct-to-home delivery of pharmaceuticals, mitigating geographic barriers to healthcare access. Veterinary Pharmacology (Pet Pharmacy). Recognizing the increasing integration of veterinary care into the broader pharmaceutical market, Walmart has established a dedicated pet pharmacy. This division provides a comprehensive range of veterinary prescriptions and wellness products, reflecting a strategic pivot toward the growing "humanization of pets" economic trend.	and scheduling vaccines are offered by the company. Walmart, Inc. (NYSE:WMT) is one of the largest pharmacy chains in the world and recorded an annual revenue of $42.83 billion from its pharmacy business in 2022.

Table 3.4

Walgreens Boots Alliance

Number of Stores/type of organizational structure	Structural Divisions	Description
9,000+/	Domestic Retail Pharmacy (USA). This segment encompasses the extensive network of	Global pharmacy-led

WBA uses a divisional structure based on its major business segments (Retail Pharmacy USA, Retail Pharmacy International, and Pharmaceutical Wholesale). Each division is managed separately but leverages central functional areas like IT, finance, and supply chain to ensure operational efficiency across all regions. This structure helps WBA manage	Walgreens locations across the United States. Beyond the traditional distribution of prescription and over-the-counter (OTC) pharmaceuticals, this division increasingly functions as a provider of primary clinical services, including diagnostic screenings and immunization programs, thereby reinforcing its role within the public health infrastructure. International Retail Pharmacy: Centered predominantly around the Boots brand, this division maintains a significant presence across Europe and Asia. It integrates professional pharmaceutical care with the retail of health and aesthetic products. The segment is recognized for its high brand equity in the United Kingdom and Ireland, providing essential clinical services such as vaccinations and medication management. Pharmaceutical Wholesale and Distribution. Through Alliance Healthcare, WBA operates a sophisticated logistical network that serves as a critical link in the global medical supply chain. This segment facilitates the large-scale distribution of healthcare products to various institutions, including independent pharmacies, hospitals, and integrated health systems across multiple international markets. Healthcare Services and Digital Transformation. Moving beyond the legacy retail model, WBA has pursued a strategy of	health and beauty group, providing pharmacy services, retail pharmacy products, and health services.

its global operations and integrate new business models like healthcare services and digital health solutions.	vertical integration into primary care, notably through equity stakes in entities such as VillageMD. Furthermore, the corporation is advancing an omnichannel healthcare strategy by scaling its digital health capabilities, which include telemedicine platforms and e-pharmacy solutions, to create a seamless interface between wholesale logistics, retail access, and direct patient care.	

Table 3.5

Cardinal Health, Inc.

Number of Stores/type of organizational structure	**Structural Divisions**	**Description**
29000+/ Cardinal Health operates a divisional organizational structure. This is evident from the company's major divisions: pharmaceutical distribution, medical products, and nuclear	Pharmaceutical Distribution and Specialty Services. Representing a core pillar of the corporation, this segment manages the large-scale distribution of prescription pharmaceuticals to a vast network exceeding 29,000 pharmacies and approximately 90% of U.S. hospital systems. Furthermore, it provides specialized logistical support for high-complexity therapeutic areas, such as oncology. Medical Products and Supply Chain Management. This division is tasked with	Cardinal Health, Inc. is an established distributor of pharmaceuticals and medical products. The company claims to make 7,000 daily deliveries to healthcare facilities in the country. 29,000 pharmacies,

pharmacy services. Each division operates semi-autonomously, focusing on specific healthcare sectors while sharing common resources like supply chain management and technology platforms. This structure allows Cardinal Health to manage its complex product and service offerings effectively across different markets and customer segments	the procurement and distribution of essential medical consumables, including surgical instrumentation, personal protective equipment (PPE), and infection-control supplies. Beyond product provision, it serves as a critical supply chain partner, ensuring streamlined inventory management for integrated health systems. Nuclear Pharmacy and Precision Diagnostics. A highly specialized segment that operates over 170 nuclear pharmacies across the United States. This division manages the synthesis and distribution of radiopharmaceuticals—highly regulated substances essential for diagnostic imaging and targeted therapies—facilitating the delivery of over 14 million doses annually. At-Home Solutions and Decentralized Care. In response to the evolving paradigm of "hospital-at-home" care, Cardinal Health has developed the "Velocare" program. This initiative focuses on the rapid, direct-to-patient delivery of critical medical supplies, reflecting a strategic pivot toward home-based clinical interventions and the digital transformation of healthcare logistics.	10,000 specialty physician offices and almost 90% of the US hospitals are served by the company's pharmaceutical business. 24/7 remote pharmacy services are also offered to assist healthcare systems. As of October 12, Cardinal Health, Inc. (NYSE:CAH) is worth $22.586 billion and is one of the largest pharmaceutical networks in the world.

To provide a clearer comparative view, the characteristics of the Top 4 pharmacy groups are consolidated in Table 3.6.

Table 3.6

Structural Characteristics of the TOP 4 Global Pharmacy Networks

Corporation	Structure Type	Stores/Units	Key Divisions & Innovations
CVS Health	Matrix (Vertical)	7,800+	CVS Pharmacy, CVS Caremark, Aetna. Integrates insurance, PBM, and retail.
Walmart Inc.	Divisional	5,000+	Specialty & Pet Pharmacy. Uses functional overlay (shared HR/IT) for cost efficiency.
Walgreens Boots Alliance	Divisional	9,000+	WBA USA, International (Boots), Wholesale. Focus on primary care and digital health.
Cardinal Health	Divisional	29,000+	Pharma, Nuclear Pharmacy, At-Home Solutions. High specialization in radiopharmaceuticals.

Considering the presented information, modern Trends in Pharmacy Retail Structures are allocated:

Vertical Integration. CVS Health exemplifies the modern trend of combining healthcare delivery, insurance, and pharmacy benefits management under one matrix roof.

Omnichannel Shift. All analyzed chains are moving toward Digital-First structures, incorporating telemedicine and «At-Home Solutions» (e.g., Cardinal Health’s Velocare) as core structural subdivisions.

Specialization. Cardinal Health utilizes semi-autonomous divisions to manage the high regulatory complexity of nuclear and specialty medicines.

The comparative research shows that modern pharmaceutical organizations are moving away from traditional models toward agile ecosystems. While manufacturers prioritize R&D flexibility through matrix and flat designs, retail giants prioritize scale and logistics through divisional structures with shared functional services. The common denominator for both is the increasing structural presence of Digital and AI-focused units, reflecting the industry's transition to data-driven healthcare delivery.

Conclusions to Chapter 3.

The comparative analysis of the TOP 10 global pharmaceutical giants reveals a clear dominance of matrix and hybrid models. These frameworks allow corporations to effectively balance broad global market reach with highly specialized R&D efforts. As seen in companies like Pfizer and AbbVie, integrating functional departments with specific product portfolios is critical for accelerating the drug development cycle and adapting swiftly to evolving regulatory environments and therapeutic demands.

The study highlights a significant trend toward decentralized decision-making among industry leaders such as Johnson & Johnson and Roche. By establishing semi-autonomous sectors and divisions, these large corporations can operate with the agility of smaller biotech firms. Delegating authority to specialized teams fosters innovation in high-stakes areas such as oncology and immunology, where local expertise and rapid response times are decisive factors in maintaining a competitive edge.

Within the pharmacy retail sector (CVS Health, Walgreens, Cardinal Health), there is a strategic shift toward vertical integration and omnichannel structures. Organizational models in this segment are evolving from simple retail chains into complex ecosystems that combine insurance, pharmacy benefits management, and

direct healthcare delivery. This allows companies to control the entire value chain and ensure seamless patient access to medications through digital platforms and «at-home» care solutions.

The overarching vector for the entire pharmaceutical industry is the digital transformation of organizational design. Regardless of whether the primary model is functional or divisional, all leading players are incorporating specialized IT units and AI centers, reflecting a transition to data-driven management. Modern pharmaceutical structures are increasingly resembling dynamic ecosystems where traditional hierarchies are replaced by flexible, cross-functional teams focused on digital collaboration and patient-centricity.

CONCLUSIONS

1. The study of the theoretical foundations of organizational design focused on the evolution from traditional mechanistic hierarchies to contemporary organic models, establishing that modern firms are moving toward «flat» structures with a wider span of control. This transition, driven by the need for rapid adaptation, has transformed organizational evaluation from a static analysis of vertical layers into a dynamic assessment of digital maturity and role fluidity. It was found that effectiveness is now measured by the density of horizontal connections and the speed of information flow within digital ecosystems, rather than solely by the exercise of formal authority.

2. In the research on global pharmaceutical producers, the study analyzed the organizational architectures of the TOP 10 industry leaders, including giants such as Pfizer, Johnson & Johnson, and Roche. The results obtained reveal a clear dominance of matrix and hybrid models that effectively balance global functional expertise with decentralized, semi-autonomous divisions for specific therapeutic areas. This design enables large corporations to maintain the innovative agility of smaller biotech firms, facilitating faster R&D cycles and a more responsive approach to complex regulatory and medical requirements.

3. The analysis of the world's TOP 4 pharmacy chains, such as CVS Health and Walgreens Boots Alliance, examined the structural integration of retail, wholesale, and healthcare services. The research established a clear trend toward vertical integration and the creation of omnichannel ecosystems in which traditional retail pharmacy is merged with insurance and pharmacy benefits management. What was obtained is a model of complex healthcare delivery that ensures seamless patient access to medications through a combination of physical storefronts, digital platforms, and direct-to-home solutions.

4. The work investigated the impact of digital transformation and the transition to «Pharma 4.0» on internal organizational design. It was determined that leading companies are increasingly incorporating specialized IT and AI units, shifting from a position-based hierarchy to a skills-based paradigm. This

transformation fosters the emergence of cross-functional «squads» and project-based ecosystems that prioritize data-driven management. The study found that such structures significantly enhance innovation capacity by reducing bureaucratic friction and promoting collaborative knowledge sharing across global borders.

5. The study explored the drivers and processes of organizational restructuring, identifying it as a proactive strategic tool for maintaining a competitive edge in a volatile market. It was established that modern pharmaceutical restructuring is primarily driven by the need to accelerate R&D and by the shift toward patient-centricity. The research concluded that success in the contemporary landscape requires an open, collaborative framework that integrates external partners and freelancers into the corporate structure. Ultimately, the work proved that the most resilient pharmaceutical organizations are those that operate as dynamic, flexible networks capable of continuous self-reconfiguration.

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APPENDICES

Appendix A

Національний фармацевтичний університет

Кафедра менеджменту, маркетингу та забезпечення якості у фармації

XII Науково-практична internet-конференція з міжнародною участю "Менеджмент та маркетинг у складі сучасної економіки, науки, освіти, практики"

СЕРТИФІКАТ УЧАСНИКА № 181

Gokay Deniz

брав(ла) участь у роботі круглого столу "Сучасні виклики та інноваційні рішення у фармацевтичному менеджменті, маркетингу та охороні здоров'я" за програмою обсягом 6 годин / 0,2 кредита ЄКТС
19 березня 2026 року, м. Харків

Досягнуті результати навчання:
використання у професійній діяльності знань щодо впровадження сучасних інноваційних підходів у фармацевтичному менеджменті та маркетингу, розвиток управлінських і креативних компетентностей у сфері охорони здоров'я

Ректор закладу вищої освіти **Олександр КУХТЕНКО**

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ

СЕРТИФІКАТ УЧАСНИКА

Цим засвідчується, що

Gokay D.

Scientific supervisor: Malyi V.V.

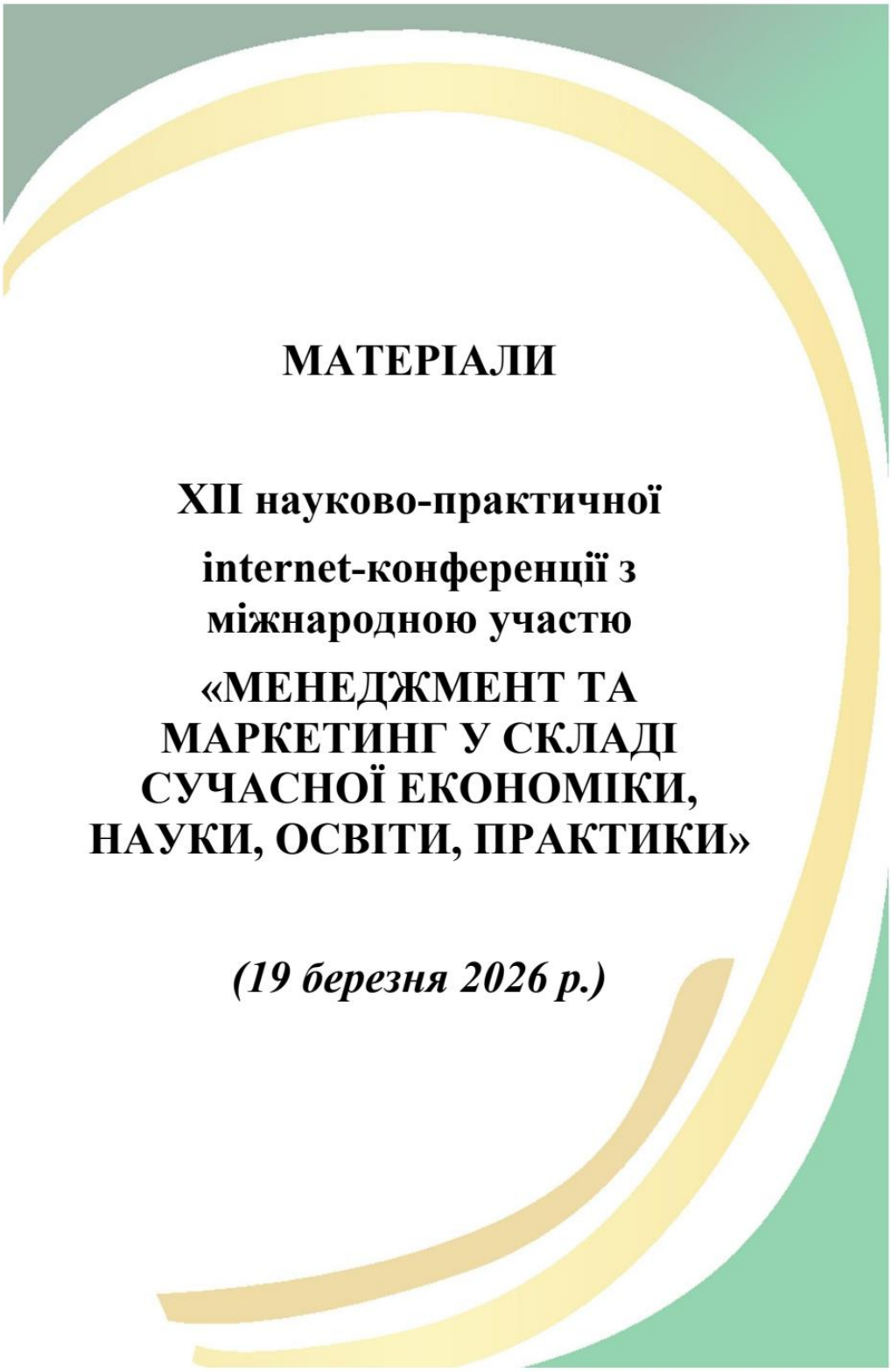
брав(ла) участь у роботі
XXXII Міжнародної науково-практичної конференції молодих вчених та студентів
«АКТУАЛЬНІ ПИТАННЯ СТВОРЕННЯ НОВИХ ЛІКАРСЬКИХ ЗАСОБІВ»

Ректор
Національного фармацевтичного університету

Олександр КУХТЕНКО

15-17 квітня 2026 р., м. Харків, м. Ужгород

Continuation of Appendix A



Continuation of Appendix A

ТЕЗИ

СЕКЦІЯ 1 МЕТОДОЛОГІЯ ТА ТЕОРІЯ УПРАВЛІННЯ В УМОВАХ ТРАНСФОРМАЦІЙ

FRAMEWORK FOR ASSESSING THE EFFECTIVENESS OF ORGANIZATIONAL STRUCTURE

Gokay Deniz, Malyi V.V.

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Organizations often invest significant effort in designing formal structures, yet many fail to systematically assess whether those structures actually support strategy, performance, and adaptability. An organizational chart may look coherent on paper, but if decision-making is slow, communication is fragmented, or employees feel constrained, the structure is not functioning effectively. Evaluating organizational structure therefore becomes a base managerial task.

The aim of these work is to present a methodology for assessing the effectiveness of organizational structure using both qualitative and quantitative indicators.

The methodology is grounded on structural-logical analysis.

The evaluation process begins with clarifying organizational goals and strategy. Before measuring structural effectiveness, it is necessary to understand what the organization is trying to achieve: the priority rapid growth, innovation, operational efficiency, cost control, or customer intimacy. Structure should serve strategy, not the other way around. As emphasized in organizational design theory, misalignment between strategy and structure often results in duplicated roles, unclear accountability, internal conflict, and missed opportunities. Therefore, the first evaluative question is simple but fundamental: does the current structure genuinely support strategic objectives?

Continuation of Appendix A

Once strategic alignment is examined, the next step is systematic data collection. Both qualitative and quantitative data are necessary to form an accurate picture. Interviews, employee surveys, and direct observation help capture how the structure operates in practice rather than in theory. Employees' perspectives are particularly important, as they experience daily how decisions are made, how communication flows, and how tasks are completed. Their feedback provides insight into bottlenecks, overlapping responsibilities, and structural barriers that formal documents may not reveal.

After collecting data, the evaluation focuses on key structural indicators. One of the primary indicators is span of control, which measures how many employees report directly to a manager. A wider span can increase efficiency and reduce administrative costs, but if it becomes too wide, managers may struggle to provide adequate guidance and supervision. Decision-making efficiency is another essential indicator. The time required for decisions to be made and implemented across hierarchical levels reflects how responsive the organization is. Excessive centralization may slow processes, while thoughtful decentralization can improve agility.

Communication effectiveness must also be assessed. An effective structure enables clear and multidirectional communication across departments and levels. When information is delayed, distorted, or restricted to silos, performance suffers. Resource allocation is closely related: evaluating how personnel, time, and financial resources are distributed helps determine whether the structure supports coordinated action or creates internal competition for resources.

Adaptability to change represents a crucial indicator in dynamic environments. Organizations with more flexible and organic structures tend to respond faster to technological shifts and market uncertainty than rigid, mechanistic systems. Employee engagement and satisfaction further reflect structural effectiveness. When employees feel empowered and supported within the structural framework, engagement levels typically increase. In addition, task completion time provides measurable evidence of process efficiency and coordination.

Continuation of Appendix A

Beyond internal indicators, performance metrics such as productivity, profitability, and operational efficiency must be analyzed. Structural effectiveness ultimately manifests in organizational results. Comparing performance indicators before and after structural changes offers concrete evidence of whether adjustments produce measurable improvements.

Benchmarking strengthens the evaluation process by introducing an external perspective. Comparing the organizational structure with industry standards or competitors allows identification of best practices and structural innovations that may enhance competitive advantage. Without such comparison, organizations risk evaluating themselves in isolation.

Finally, the methodology emphasizes continuous feedback and periodic reassessment. Organizational structures cannot remain static in dynamic environments. Regular evaluations ensure that the structure evolves alongside strategic priorities and external conditions. Feedback mechanisms help detect emerging inefficiencies before they become systemic problems.

In conclusion, evaluating the effectiveness of organizational structure requires a comprehensive and iterative approach. It involves clarifying strategic alignment, collecting empirical data, analyzing key structural indicators, measuring performance outcomes, benchmarking against industry standards, and maintaining continuous feedback loops. Structural effectiveness is not determined by hierarchy alone but by how well the structure supports strategy, facilitates communication, enhances adaptability, and ultimately contributes to sustainable organizational performance.

Матеріали та методи. Для досягнення мети було проведено контент-аналіз експертних публікацій, звітів профільних організацій та наукових джерел за 2023–2026 рр. Використано метод порівняльного аналізу.

Результати дослідження. У ході дослідження встановлено, що головними векторами розвитку є цифровізація, розширення клінічних функцій та впровадження високотехнологічних рішень:

- відбувається перехід від локального програмного забезпечення до хмарних систем, ШІ-аналітики та IoT-моніторингу. Штучний інтелект у 2025–2026 рр. став драйвером прогнозування попиту та підтримки клінічних рішень для аналізу профілів пацієнтів;
- омніканальний маркетинг, впровадження моделей e-Pharmacy (вебсайти, додатки, чат-боти) забезпечує «безшовний» клієнтський досвід через сервіси click-and-collect (модель доставки товарів, зазвичай до стаціонарної аптеки, після того, як вони були замовлені на сайті) та дистанційні консультації;
- аптеки інтегруються у первинну ланку медицини, пропонуючи вакцинацію, скринінг та телефармацію. Роботизація складів скорочує технічні операції на 30–50%, а технології 3D-друку ліків (наприклад, принтери Aurum) відкривають шлях до прецизійної медицини та виготовлення персоналізованих ліків;
- відбувається трансформація ролі персоналу, фармацевт еволюціонує з «технічного продавця» у «навігатора здоров'я». Емпатія та якісна комунікація стають головною конкурентною перевагою людини над алгоритмами ШІ.

Успіх аптечних мереж у 2026 році та надалі залежить від здатності збалансувати технологічну інноваційність (ШІ, 3D-друк, FinTech) із розвитком людського капіталу (клінічне консультування, Soft Skills). Цифровізація перетворилася з конкурентної переваги на обов'язковий стандарт операційної діяльності. Впровадження ШІ потребує суворого дотримання етичних принципів (прозорість, конфіденційність, аудит) за обов'язкової умови збереження моделі «людина-в-контурі», де остаточне клінічне рішення залишається за фахівцем.

Висновки. Як свідчать проведені дослідження, аптеки стають центрами турботи про здоров'я. Головний секрет конкурентоспроможності —розумне поєднання технологій (штучного інтелекту, замовлень через смартфони та роботів на складах) із живою професійною порадою. Цифрові інструменти стають звичною нормою, але справжньою перевагою стає сам фармацевт, який завдяки автоматизації рутини має більше часу, щоб вислухати пацієнта, надати емоційну підтримку та стати справжнім провідником у питаннях профілактики та лікування.

COMPARATIVE ANALYSIS OF THE ORGANIZATIONAL STRUCTURES OF THE GLOBAL PHARMACEUTICAL PRODUCERS

Gokay D.
Scientific supervisor: Malyi V.V.
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Introduction. The modern pharmaceutical market is characterized by rapid shifts and a constant demand for innovation. The operational efficiency of global industry leaders is directly linked to their internal organizational architecture. The relevance of studying these structures is driven by the unprecedented pace of biotechnological advancement and the need for companies to integrate

breakthrough R&D into commercial pipelines rapidly. Furthermore, the post-pandemic landscape has forced a shift toward more resilient supply chains and decentralized decision-making to mitigate global risks. As therapeutic areas become increasingly specialized, traditional management models often fail to provide the agility required for personalized medicine. Understanding how market leaders balance centralized control with local flexibility offers vital insights into the survival strategies of high-tech enterprises. Consequently, analyzing the organizational evolution of top-tier firms provides a blueprint for maintaining stability in a volatile global economy.

Aim. The aim of the study is to conduct a comparative analysis of the organizational structures of the ten largest pharmaceutical manufacturers. The research aims to identify key patterns in management systems that sustain competitiveness at a global scale.

Materials and methods. The study is based on an analysis of open-source data, financial reports, and official corporate documentation. The primary method used is a comparative analysis of the management frameworks of the Top 10 producers (Pfizer, J&J, AbbVie, Merck & Co, Roche, Sanofi, AstraZeneca, Novartis, BMS, and GSK), ranked by their pharmaceutical sales volume.

Results and discussion. The analysis reveals that market leaders employ diverse structural configurations tailored to their specific strategic goals and market positions. Companies such as Pfizer, AbbVie, and Sanofi utilize matrix or hybrid structures to maintain high levels of flexibility. By effectively combining functional and product-based divisions, these organizations are able to foster internal collaboration and significantly accelerate the time-to-market for new therapeutic solutions.

In contrast, other industry giants like Johnson & Johnson and Roche favor decentralized models that grant substantial autonomy to specific sectors, including pharmaceuticals, diagnostics, and medical devices. This structural choice facilitates faster local decision-making and allows each business unit to respond more precisely to the unique demands of its niche. Meanwhile, firms such as GSK, Bristol-Myers Squibb, and AstraZeneca have adopted product-centric or flat structures. These designs are intended to minimize bureaucratic hierarchy, thereby fostering cross-disciplinary collaboration and maintaining a rigorous focus on specialized therapeutic areas like oncology and immunology.

Finally, organizations like Novartis and Merck & Co. continue to benefit from divisional and functional approaches that emphasize clear specialization. By separating key activities such as R&D and manufacturing across distinct segments, these companies can focus on the specific operational requirements of innovative medicines versus generic products. This variety of approaches demonstrates that there is no single ideal model; rather, the most successful pharmaceutical companies align their organizational architecture with their long-term research priorities and global commercial strategies.

Conclusions. The organizational structures of global pharmaceutical leaders are evolving from traditional rigid hierarchies toward more flexible, collaborative models. The dominant trend is the balance between global reach and local agility. The choice of a specific structure—whether matrix, decentralized, or flat—depends on corporate priorities, such as R&D autonomy or the integration of diagnostics with therapeutics for personalized medicine. Ultimately, each model is designed to optimize resource allocation and drive innovation in a highly competitive environment.

Ф А2.2.1–36-366

National University of Pharmacy

Faculty Pharmaceutical
Department of Management, Marketing and Quality Assurance in Pharmacy
Level of higher education master
Specialty 226 Pharmacy, industrial pharmacy
Educational and professional program «Pharmacy»

APPROVED
The Head of Department of Management, Marketing and Quality Assurance in Pharmacy

_____
Volodymyr MALYI
"01" September 2025

ASSIGNMENT
FOR QUALIFICATION WORK
OF AN APPLICANT FOR HIGHER EDUCATION

Deniz GOKAY

1. Topic of qualification work: «Features of the formation and directions of improvement of modern organizational structures of pharmaceutical companies», supervisor of qualification work: Volodymyr MALIY, DSc, professor

approved by order of NUPh from "6th" of October 2025 № 266

2. Deadline for submission of qualification work by the applicant for higher education: May 2026.

3. Outgoing data for qualification work: scientific and professional literature, statistical data, websites of pharmaceutical organizations

4. Contents of the settlement and explanatory note (list of questions that need to be developed): conduct a study of key characteristics of organizational designs; to carry out a comparative analysis of substantial differences in traditional and contemporary organizations; to study factors influencing contemporary organizational designs; to highlight indicators of organizational structure estimation; to research methodology for evaluating the effectiveness of organizational structure and reasons for organizational restructuring; to carry out comparative analyses of organizational structures of the top 10 pharma producers; to carry out comparative analyses of organizational structures of the top 4 pharmacy chains in the world.

5. List of graphic material (with exact indication of the required drawings):
Tables – 9, figures – 5

6. Consultants of chapters of qualification work

Chapters	Name, SURNAME, position of consultant	Signature, date	
		assignment was issued	assignment was received
1	Volodymyr MALIY, Head of Department of Management, Marketing and Quality Assurance in Pharmacy, DSc, professor	11 September 2025	11 September 2025
2	Volodymyr MALIY, Head of Department of Management, Marketing and Quality Assurance in Pharmacy, DSc, professor	21 November2025	21 November 2025
3	Volodymyr MALIY, Head of Department of Management, Marketing and Quality Assurance in Pharmacy, DSc, professor	21 March 2026	21 March 2026

7. Date of issue of the assignment: «01» September 2025

CALENDAR PLAN

№ з/п	Name of stages of qualification work	Deadline for the stages of qualification work	Notes
1	Review of literary sources on the topic of the work	September-November 2025	**done**
2	Theoretical approaches to organizational structure formation	December 2025	**done**
3	Estimation of organizational structure	February 2026	**done**
4	Research of organizational structure of pharmaceutical companies	March 2026	**done**
5	Completion of the work and submission to the EC	April 2026	**done**

An applicant of higher education _____ Deniz GOKAY

Supervisor of qualification work _____ Volodymyr MALYI

ВИТЯГ З НАКАЗУ
По Національному фармацевтичному університету

«06» жовтня 2025 р. **№ 266**
Фармацевтичний факультет

Затвердити теми кваліфікаційних робіт здобувачам вищої освіти 5 курсу 2025-2026 н. р., група Фм21(4,10д)англ-01, освітньо-професійна програма «Фармація», спеціальність «226 Фармація, промислова фармація», галузь знань «22 Охорона здоров'я», рівень вищої освіти другий (магістерський), денна форма здобуття освіти, термін навчання 4 роки 10 місяців, мова навчання англійська.

Прізвище, ім'я здобувача вищої освіти	Тема кваліфікаційної роботи (українською мовою)	Тема кваліфікаційної роботи (англійською мовою)	Керівник кваліфіка-ційної роботи	Рецензент кваліфіка-ційної роботи
Кафедра менеджменту, маркетингу та забезпечення якості у фармації				
Гьокай Деніз	Особливості формування та напрями вдосконалення сучасних організаційних структур фармацевтичних компаній	Features of the formation and directions of improvement of modern organizational structures of pharmaceutical companies	проф. Малий В.В.	доц. Волкова А.В.

Підстава: подання декана фармацевтичного факультету доцента Олександра ГОНЧАРОВА

Ректор
Вірно. Секретар

ФА2.8-03-317

ВИСНОВОК

експертної комісії про проведену експертизу

щодо академічного плагіату у кваліфікаційній роботі

здобувача вищої освіти

«04» травня 2026 р. № 333743767

Проаналізувавши кваліфікаційну роботу здобувача вищої освіти ГЬОКАЙ Деніза, групи Фм21(4,10д)англ-01, спеціальності 226 Фармація, промислова фармація, освітньої програми «Фармація» очної (денної) форми здобуття освіти на тему: «Особливості формування та напрями вдосконалення сучасних організаційних структур фармацевтичних компаній / Features of the formation and directions of improvement of modern organizational structures of pharmaceutical companies», експертна комісія дійшла висновку, що робота, представлена до Екзаменаційної комісії для захисту, виконана самостійно і не містить елементів академічного плагіату (компіляції).

Заступник голови Комісії,
заступник директора інституту
в складі ЗВО ННІПФ,
доцент Олена НОВОСЕЛ

Ф А2.2.1-36-353

REVIEW

of scientific supervisor for the qualification work of the master's level of higher education of the specialty 226 Pharmacy, industrial pharmacy

Deniz GOKAY

on the topic: «Features of the formation and directions of improvement of modern organizational structures of pharmaceutical companies»

Relevance of the topic. In the modern dynamic business environment, the efficiency of any enterprise directly depends on its organizational design. For the pharmaceutical sector, which faces constant regulatory changes, global competition, and the need for rapid innovation, the study of organizational structures is becoming a critical task for management. The relevance of this research lies in the necessity to identify optimal ways of transforming traditional hierarchical models into modern, flexible structures. Such transformation is essential for improving internal communications, accelerating decision-making processes, and ensuring the strategic stability of companies in the face of global economic challenges and digital transformation.

Practical value of conclusions, recommendations and their validity. The practical value of the work is determined by a comprehensive comparative analysis of the organizational structures of the world’s leading pharmaceutical corporations and major pharmacy chains. The author has successfully identified the factors influencing organizational design, including company size, technology, and environment.

Assessment of work. The qualification work of Deniz GOKAY is a complex scientific study, which was performed at the appropriate scientific level and deserves a positive evaluation based on the topicality of the topic, practical significance, obtained results and conclusions.

General conclusion and recommendations on admission to defend. The qualifying work of the second (master's) degree of higher education, specialty 226 Pharmacy, industrial pharmacy of Deniz GOKAY on the topic: «Features of the formation and directions of improvement of modern organizational structures of pharmaceutical companies» is a completed scientific study, which in terms of relevance, scientific novelty, theoretical and practical significance meets the requirements for qualifying works of the second (master's) degree of higher education, and can be presented to the EC of the NUPh.

Scientific supervisor _____ Volodymyr MALYI

«11» of May 2026

Ф А2.2.1-36-356

REVIEW

for qualification work of the master's level of higher education, specialty 226 Pharmacy, industrial pharmacy

Deniz GOKAY

on the topic: «Features of the formation and directions of improvement of modern organizational structures of pharmaceutical companies»

Relevance of the topic. In the modern business environment, the organizational structure of a pharmaceutical company is a fundamental factor in its strategic success. The relevance of the topic is determined by the transition of the global pharmaceutical industry to flexible (Agile) management models, which allow companies to respond quickly to market fluctuations and technological innovations. Studying the features of organizational design is essential for optimizing business processes and improving the competitiveness of pharmaceutical manufacturers and retailers.

Theoretical level of work. The author has demonstrated a solid grasp of management theory by systematizing the evolution of organizational structures from classical hierarchical models to modern matrix and divisional types. The work accurately describes the internal and external factors that influence the formation of a company’s structure. The theoretical material is presented in a logical sequence and is well-supported by a review of contemporary academic literature.

Author's suggestions on the research topic. The author proposes the implementation of flatter organizational structures for pharmacy chains to enhance operational efficiency and speed up decision-making at the local level. Furthermore, the author suggests that large pharmaceutical corporations should focus on decentralization and the integration of cross-functional teams to foster innovation. The proposal to strengthen digital communication channels within the organizational framework is also highly relevant for modern management.

Practical value of conclusions, recommendations and their validity. These improvements can lead to increased competitive advantage, better patient outcomes, and higher profitability

Disadvantages of work. A minor drawback of the research is the limited focus on the organizational structures of small and medium-sized pharmaceutical enterprises, which may face different resource constraints. Additionally, there are occasional minor stylistic inaccuracies in the terminology used, which, however, do not diminish the overall high quality of the research.

General conclusion and assessment of the work. The qualification work of Deniz GOKAY on the topic: «Features of the formation and directions of improvement of modern organizational structures of pharmaceutical companies» is a scientifically based analytical study that has theoretical and practical significance. The qualifying work meets the requirements for the qualifying work of the second (master's) degree of higher education, and can be submitted to the EC of the National University of Pharmacy.

Reviewer _____ DPharmSc, As. professor Alina VOLKOVA

«13» of May 2026

Ф А2.2.1-36-230

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ

ВИТЯГ З ПРОТОКОЛУ № 19

14 травня 2026 року

м. Харків

засідання кафедри менеджменту, маркетингу
та забезпечення якості в фармації

Голова: завідувач кафедри ФММ, доктор фарм. наук, професор Малий В.В.

Секретар: доцент ЗВО, канд. фарм. наук, доц. Жадько С.В.

ПРИСУТНІ: зав. кафедри ММЗЯФ, доктор фарм. наук, проф. Малий В.В., професор ЗВО, докт. фарм. наук, проф. Пестун І.В., професор ЗВО, докт. фарм. наук, проф. проф. Літвінова О.В., професор ЗВО, докт. фарм. наук, проф. проф. Коваленко С.М., професор ЗВО, докт. фарм. наук, проф. Крутських Т.В., професор ЗВО, докт. фарм. наук, проф. проф. Посилкіна О.В., доцент ЗВО, канд. фарм. наук, доц. Бабічева Г.С., доцент ЗВО, канд. фарм. наук, доц. Бондарєва І.В., канд. екон. наук, доц. Деренська Я.М., доцент ЗВО, канд. фарм. наук, доц. Жадько С.В., канд. фарм. наук, доц. Зборовська Т.В., канд. юрид. наук, доц. Коляда Т.А., канд. фарм. наук, доц. доц. Лісна А.Г., доцент ЗВО, канд. фарм. наук, доц. Малініна Н.Г., доцент ЗВО, канд. фарм. наук, доц. Рогуля О.Ю., здобувачі вищої освіти фармацевтичного факультету**.**

ПОРЯДОК ДЕННИЙ: Про допуск здобувачів вищої освіти випускного курсу фармацевтичного факультету спеціальності 226 Фармація, промислова фармація, освітньо-професійної програми Фармація до захисту кваліфікаційних робіт в Екзаменаційній комісії НФаУ.

СЛУХАЛИ: Про допуск здобувача вищої освіти випускного курсу фармацевтичного факультету спеціальності 226 Фармація, промислова фармація, освітньо-професійної програми Фармація групи Фм21 (4,10д)-01 англ Деніза ГЬОКАЙ до захисту кваліфікаційної роботи в Екзаменаційній комісії НФаУ. Кваліфікаційна робота на тему «Features of the formation and directions of improvement of modern organizational structures of pharmaceutical companies».

ВИСТУПИЛИ: В обговоренні кваліфікаційної роботи взяли участь докт. фарм. наук, проф. Літвінова О.В., канд. фарм. наук, доц. Жадько С.В., канд. фарм. наук, доц. Бондарєва І.В. Керівник кваліфікаційної роботи: звідувач каф. менеджменту, маркетингу та забезпечення якості у фармації, докт. фарм. наук, проф. Малий В.В.

УХВАЛИЛИ: Допустити здобувача вищої освіти Деніза ГЬОКАЙ до захисту кваліфікаційної роботи на тему «Features of the formation and directions of improvement of modern organizational structures of pharmaceutical companies» в Екзаменаційній комісії НФаУ.

Зав. каф. ММЗЯФ, доктор фарм. наук,
професор Володимир МАЛИЙ

Секретар, доцент ЗВО,
канд. фарм. наук, доцент Світлана ЖАДЬКО

Ф А2.2.1-36-042

НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ

ПОДАННЯ
ГОЛОВІ ЕКЗАМЕНАЦІЙНОЇ КОМІСІЇ
ЩОДО ЗАХИСТУ КВАЛІФІКАЦІЙНОЇ РОБОТИ

Направляється здобувач вищої освіти Деніз ГЬОКАЙ до захисту кваліфікаційної роботи
за галуззю знань 22 Охорона здоров'я
спеціальністю 226 Фармація, промислова фармація
освітньо-професійною програмою «Фармація»
на тему: «Features of the formation and directions of improvement of modern organizational structures of pharmaceutical companies»

Кваліфікаційна робота і рецензія додаються.

Декан факультету _____ / Олександр ГОНЧАРОВ /

Висновок керівника кваліфікаційної роботи

Здобувач вищої освіти Деніз ГЬОКАЙ виконав на кафедрі менеджменту, маркетингу та забезпечення якості у фармації НФаУ кваліфікаційну роботу, яка присвячена дослідженню особливостей формування та напрямків удосконалення сучасних організаційних структур фармацевтичних компаній. У першому розділі роботи розглянуті теоретичні аспекти організаційного дизайну. Другий розділ роботи присвячений аналізу чинників, що впливають на формування організаційних структур у сучасних умовах, та характеристиці основних моделей управління фармацевтичними підприємствами. Третій розділ містить порівняльний аналіз організаційних структур провідних світових фармацевтичних корпорацій та аптечних мереж, а також обґрунтування шляхів їх удосконалення через впровадження гнучких моделей управління. Отже, подана до захисту кваліфікаційна робота Деніза ГЬОКАЯ на тему «Features of the formation and directions of improvement of modern organizational structures of pharmaceutical companies» відповідає вимогам, що висуваються до кваліфікаційних робіт, оцінюється позитивно та може бути рекомендована для захисту в Екзаменаційну комісію НФаУ.

Керівник кваліфікаційної роботи
_____ Володимир МАЛИЙ
«11» травня 2026 р.

Висновок кафедри про кваліфікаційну роботу

Кваліфікаційну роботу розглянуто. Здобувач вищої освіти Деніз ГЬОКАЙ допускається до захисту даної кваліфікаційної роботи в Екзаменаційній комісії.

Завідувач кафедри
менеджменту, маркетингу та
забезпечення якості у фармації

_____ Володимир МАЛИЙ
«14» травня 2026р.

Qualification work was defended
of Examination commission on
«09» June 2026
With the grade _____
Head of the State Examination commission,
DPharmSc, Professor
_____ / Volodymyr YAKOVENKO /