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Original Research

Modern characteristics of specialists of pharmacy based on the results of sociological research

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Abstract

Introduction: In the context of growing economic uncertainty and regulatory challenges in Kazakhstan, the sustainability and development of pharmacy practice require informed strategic management decisions. Personnel with pharmaceutical education, directly involved in operational processes, represent a valuable source of data for assessing organisational efficiency, financial resilience, and adaptation capacity in the current market.**Objectives:**This study aimed to characterise pharmaceutical workers and the internal structure, as well as the economic stability, of pharmacies in Kazakhstan based on employee perspectives. It also examined workforce motivation, strategic trends, logistics, and client base analytics in the context of sectoral transformation.**Methods and materials:** A cross-sectional survey was conducted among 200 pharmacy professionals across Kazakhstan, all holding a pharmaceutical education. The survey instrument consisted of five thematic blocks: (1) influence of external and internal factors; (2) use of human resources; (3) financial sustainability; (4) development trends and strategic initiatives; and (5) client base analysis.**Results:** Most organisations provide for personnel training (91%) and use predominantly material forms of motivation (58.1%). At the same time, the share of those who confirmed the presence of strategic planning in case of external instability was 61.6%. More than a third of respondents are unaware of financial strategies and capital structure, indicating a low level of personnel involvement in management processes. The analysis also revealed the need to develop management competencies, especially in the field of "soft" skills and strategic thinking, which emphasizes the need to revise pharmaceutical education programs.**Conclusion:** The study revealed significant variation in the strategic and financial management practices of pharmacies in Kazakhstan. While some companies exhibit adaptive capacity and invest in human capital, others face constraints due to regulatory and structural gaps. The findings underscore the importance of enhancing financial strategies, employee involvement, and internal communication to ensure resilience and long-term competitiveness in the pharmaceutical sector.

Keywords: pharmacy, pharmaceutical organisations, human resources, financial stability, marketing strategies, survey.

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INTRODUCTION

The modern pharmaceutical industry in Kazakhstan operates in a highly competitive environment, an unstable macroeconomic environment, and a constantly changing regulatory policy. Sustainable development of pharmaceutical organisations requires not only effective strategic and operational management, but also a deep understanding of internal processes that reflect the opinion of key participants - employees with specialised pharmaceutical education. Their professional perception, involvement in processes and assessment of the state of organisations are an important source of information for making informed management decisions. A company's strategy is a long-term action plan formulated by management to achieve organisational goals and ensure sustainable development. It covers key growth areas, the formation of competitive advantages, setting targets

and distributing the necessary resources, which corresponds to the principles of rational management and effective functioning of the organisation in a market economy[1,2].

In the context of the pharmaceutical business, strategic planning includes several key components:

- Analysis of the state of the regional pharmaceutical market, which allows identifying promising areas of growth and objectively assessing the current position of the organisation.
- Interaction with government regulators and compliance with legal requirements, including the processes of registration of medicines and licensing of activities.
- Marketing support and promotion of products aimed at increasing brand awareness, informing consumers and stimulating demand for pharmaceutical services.
- Expanding market presence, including entering new territorial markets, developing export potential and establishing partnerships with other organisations, including foreign ones.
- Compliance with quality standards and regulatory requirements, ensuring the safety and effectiveness of pharmaceutical products, as well as the trust of consumers and regulatory authorities.
- Investing in scientific research and personnel training, which contributes to the innovative development of the company and improving the competence of employees.

Diversification of the product portfolio, including expansion of the product range in order to meet growing and changing market needs. Development of a pricing strategy focused on competitiveness and balance between costs, the market situation and regulated segments, such as the list of vital and essential drugs (VED), the prices of which are controlled by the state. The latter factor is an example of the limitations faced by the pharmaceutical business. In the context of the impossibility of free pricing of drugs from the VED list, companies are forced to adapt their strategies by optimising marketing communications, actively interacting with the medical community and introducing innovative promotion tools. Modern economic realities, characterised by instability and a high degree of uncertainty, require flexibility in strategic management. At the same time, it is critically important to avoid abrupt transformations of corporate strategy, especially those affecting the mission, values and basic principles of activity, since this can negatively affect both the organisation itself and its internal and external environment[3,4,5].

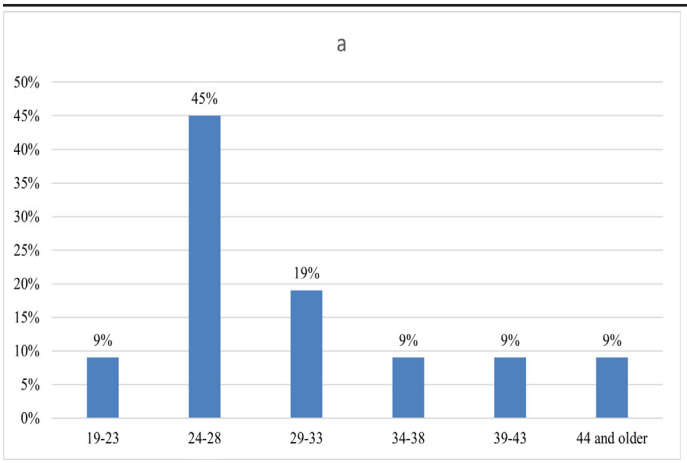
The most adaptive to changes are functional strategies, which initially imply the possibility of adjustments under the influence of the internal and external environment. One of the most significant among them is the financial strategy, since financial stability and profitability remain key performance indicators of any commercial structure. However, in practice, this area is often insufficiently developed, which emphasises the need for a systematic approach to planning and implementing financial policies in pharmaceutical organisations[6]. The purpose of the survey was a comprehensive assessment of various aspects of the functioning of pharmaceutical organisations from the perspective of personnel directly involved in professional activities.

METHODS AND MATERIALS

This study included a survey of 200 employees in the pharmacies and pharmacy related organisations with specialised pharmaceutical education. A cross-sectional descriptive study was conducted to assess the internal and external factors influencing the sustainability and development of organizations they are working in. Purposive sampling was used to include key staff with expertise in pharmacy management. The target group consisted of employees with formal pharmaceutical education and holding leadership or managerial positions (middle/senior management, pharmacy managers, department/project managers) aged 20-60 years who provided voluntary informed consent. Exclusion criteria included lack of pharmaceutical education, non-managerial positions, incomplete questionnaire completion (20% missing data), or duplicate applications. The total sample size was N = 200 respondents, which was considered sufficient to conduct descriptive statistical analysis and characterize managerial perspectives in various sectors. Data were collected using a structured questionnaire. The questionnaire included five thematic blocks, covering both internal and external factors of sustainability and development of pharmaceutical structures:

- Block No. 1 - “Analysis of the influence of external and internal factors of pharmaceutical organisations”: the conditions of enterprise functioning in the context of market, regulatory and organisational influences were studied.
- Block No. 2 - “Analysis of the use of human resources in a pharmaceutical organisation”: the personnel structure, HR policy, motivation and training system were considered.
- Block No. 3 - “Assessment of the financial stability of a pharmaceutical organisation”: the sources of financing, the ratio of equity and debt capital, and the perception of the financial situation by employees were analysed.
- Block No. 4 - “Analysis of development trends of pharmaceutical organisations”: innovative practices, project implementation, strategic planning and accounting for market trends were identified.
- Block No. 5 — “Analysis of information on the client base of pharmaceutical organisations”: included questions on the type of clients, sales volumes, and methods of interaction with consumers. Data collection was carried out in compliance with the principles of voluntary participation and anonymity.

The content validity of the questionnaire was established by expert opinion from five specialists in pharmaceutical management and academic pharmacy. A pilot test was conducted among 27 target group participants to assess clarity and relevance, after which ambiguous items were adjusted. The study protocol was approved by the ethics committee



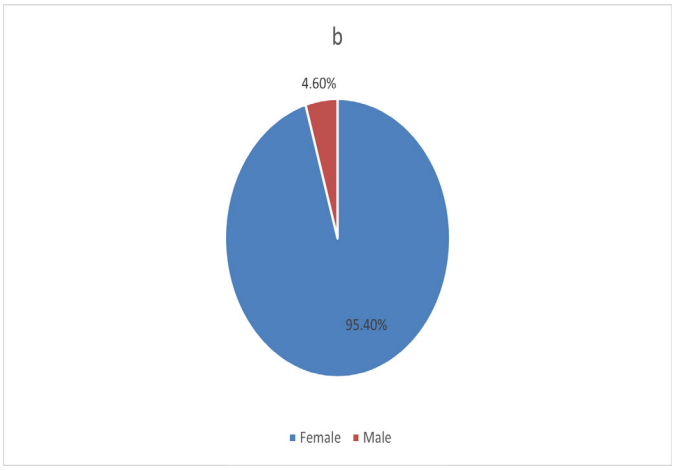
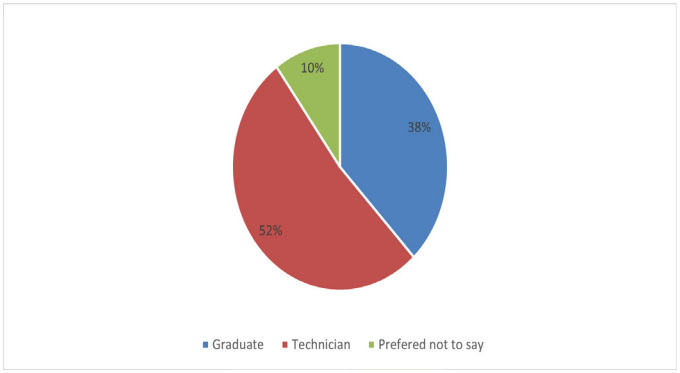


Figure:1. The age (a) and sex (b) of respondents



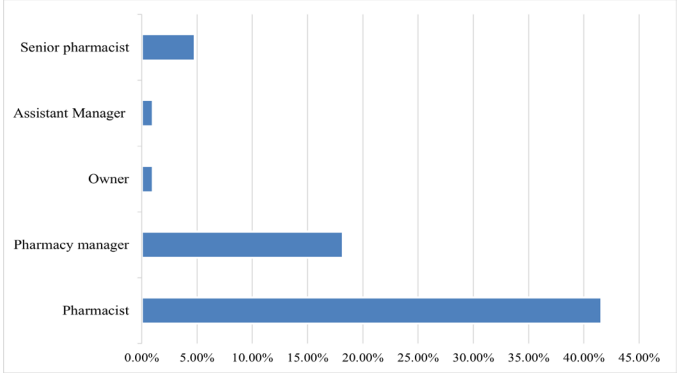


Figure 2. Educational and professional characteristics of respondents

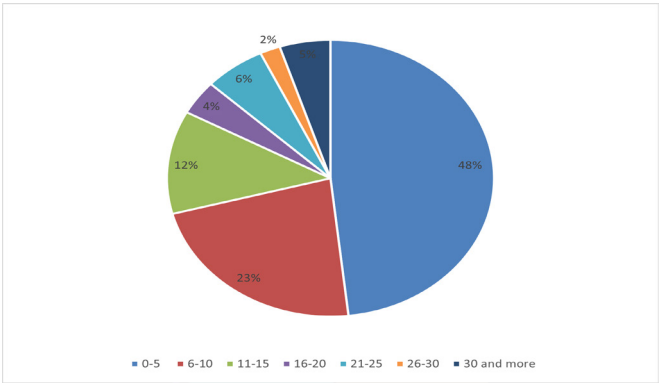


Figure 3. Length of service in this pharmaceutical organization

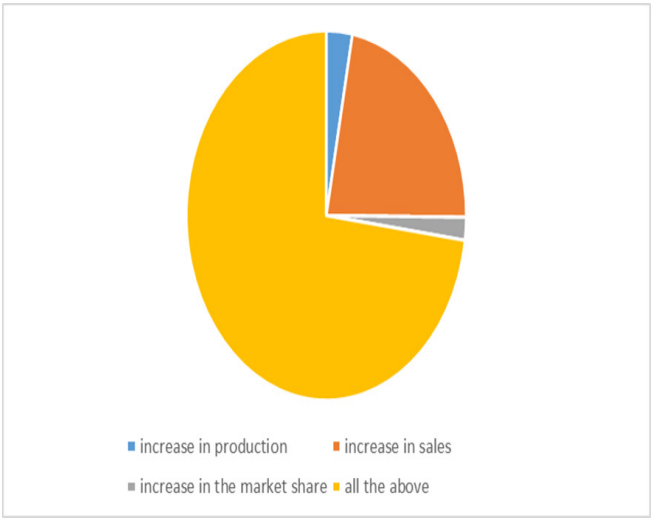


Figure 4. Forecasting the development of respondents' organization occurs in the context of the following direction

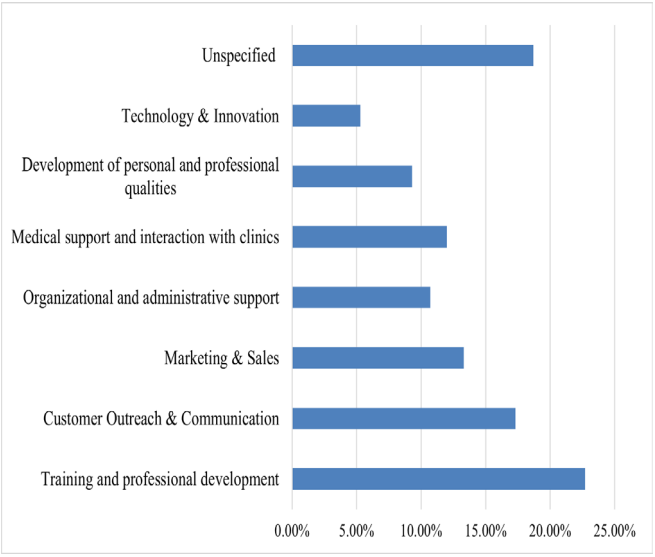


Figure 5. A type of additional activity (auxiliary) that contributes to the effectiveness of the main activity

in SKMA. Data collection was conducted anonymously via an online survey platform (Google Form). Respondents were provided with an electronic informed consent form before participation. Descriptive statistics were used for statistical analysis, specifically, frequencies and percentages were calculated for categorical variables.

RESULTS

The main characteristics of the respondents include age, gender, position held, total length of service, and length of service in the current organisation.

The age structure of the respondents is presented in Figure 1a. Figure 1a shows the distribution of the respondents' ages, where the largest share (45%) falls in the 24-28 age group. It is followed by the 29-33 age group (19%), and 19-23, 34-38, 39-43, and 44 and older (9% each).

The gender distribution (Figure 1b) shows the ratio of men and women among the respondents. The results indicate that the majority (95.4%) of the respondents are women, which may be due to the specifics of the personnel structure of the pharmaceutical industry in Kazakhstan and cultural views on the profession.

The educational background and professional characteristics of the respondents (Figure 2) include information about the level of education and positions they hold. It follows that 38% of respondents are graduates (Graduate), 52% are technical specialists (Technician), and 10% preferred not to indicate their position. The survey participants include specialists of different levels: from ordinary employees to department heads. This allows us to assess the influence of factors on various categories of personnel. The professional composition of the respondents included 38% graduates and 52% technicians. In terms of job titles, the majority of respondents held the position of pharmacist (41.60%), 18.20% were pharmacy managers, 4.80% were senior pharmacists, and 1% each were assistant managers and owners.

Important aspects are the total length of service and the length of service in the current organisation. The respondents' length of service in the pharmaceutical organisation was most often from 0 to 5 years (48%), followed by 23% of respondents with 6 to 10 years of experience, 12% with 11 to 15 years of experience, 6% with 21 to 25 years of experience, 5% with 30 years or more of experience, 4% with 16 to 20 years of experience, and 2% with 26 to 30 years of experience. These indicators reflect the level of professionalism of the majority of respondents and their involvement in the processes occurring within the company is small. However, it also might indicate that the answer would be more unbiased (Figure 3).

The results are presented in the form of a pie chart (see Figure 4), which demonstrates the distribution of preferences of survey participants regarding key development guidelines.

The analysis showed that the absolute majority of respondents (73%) indicated a comprehensive approach to forecasting, choosing the option "all of the above", which simultaneously includes an increase in production, sales growth and expansion of market share. This indicates the desire of pharmaceutical organisations for balanced and multifaceted development. A significant portion of respondents - 22.2% - are focused primarily on increasing sales, which emphasizes the relevance of commercial indicators as the main guideline in strategic planning. Other areas, such as increasing production and increasing market share, were chosen by only a small number of participants (visually less than 5% in total), which indicates their lower priority compared to a more comprehensive or commercial focus.

Thus, the data obtained reflect current trends in the pharmaceutical sector, where priority is given to integrated growth strategies aimed at the simultaneous development of several key areas of activity.

The respondents consider training and development of competencies to be the most significant auxiliary activity (Figure 5). Working with clients and informing also occupy a key place, which reflects the importance of communication in the pharmaceutical sector. Organisational and administrative functions are also mentioned, confirming the importance of the internal structure. There is an understanding that marketing and sales directly affect the effectiveness of the main activity.

An analysis of responses to the question about the availability of alternative options for the development of a pharmaceutical organisation in the context of a turbulent external environment showed that 61.6% of respondents noted the availability of such strategies in their institutions (Figure 6). This may indicate the formed management maturity of some pharmaceutical organisations, capable of developing scenarios for responding to external challenges and risks in advance. The availability of such approaches reflects the desire for sustainability and adaptability in the context of an unstable economy, changes in the regulatory framework, or disruptions in supply chains. At the same time, 22.2% of participants indicated the absence of such strategies in their organisations, which may be due to both limited resources and an insufficient level of strategic planning. The absence of anti-crisis plans in such companies increases their vulnerability to external shocks and may complicate the rapid adoption of management decisions in critical situations. Additionally, 16.2% of respondents found it difficult to answer this question, which may indicate weak involvement of personnel in strategic development processes and an insufficient level of employee awareness of internal management mechanisms. This highlights the need to increase the transparency of intra-organisational processes and develop internal communication between management levels. Thus, despite the positive trend in terms of strategic readiness for change, the survey results reveal the need to strengthen systemic anti-crisis planning, train personnel in the basics of strategic management, and involve employees in the processes of forming sustainable development scenarios.

The majority (61.2%) of organisations plan to expand their product portfolio. Only about 11 responded that they do not plan to. Every sixth (15.5%) could not decide or did not understand the question (Figure 7).

In figure 8 70% of respondents confirm that strategy

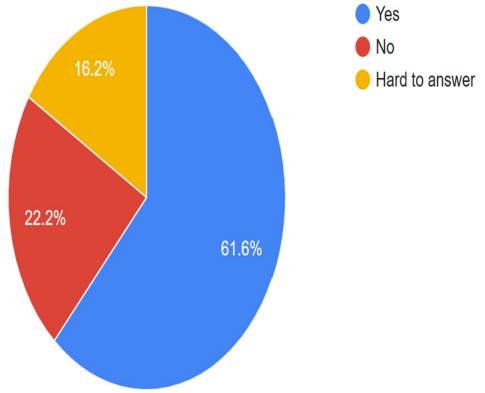


Figure 6. Development of alternative options for the development of your organisation in the event of turbulence in the external environment

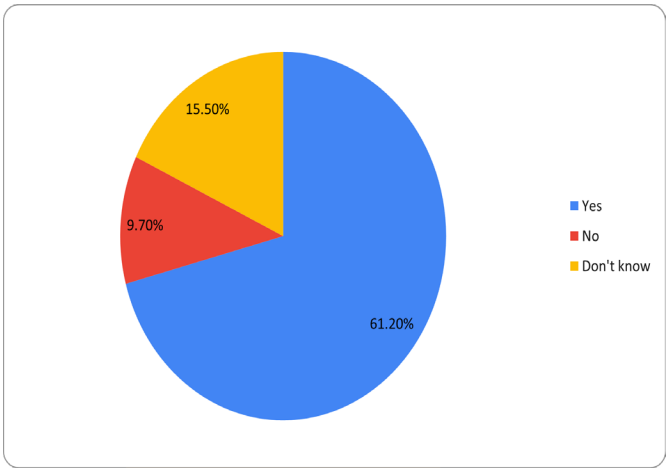


Figure 7. Plans to expand your "product portfolio" in your organisation

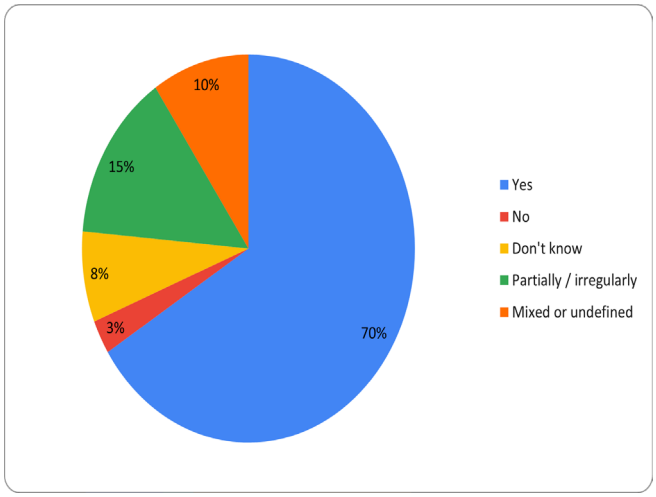


Figure 8. Monitoring the implementation of your organisation's strategic plan on an ongoing basis

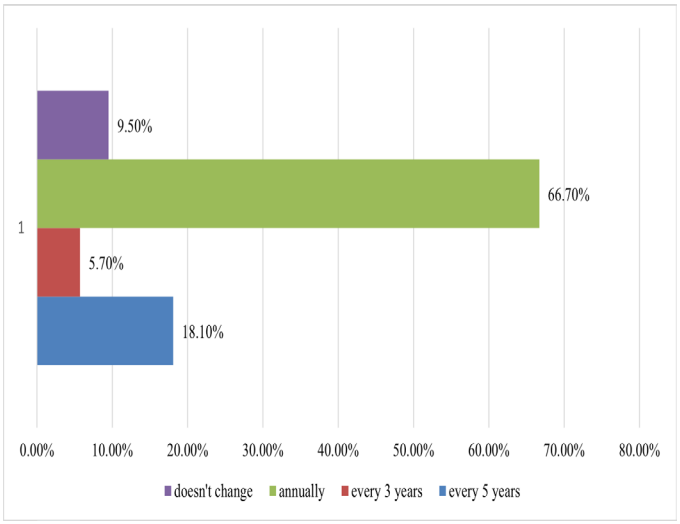


Figure 9. Frequency of production process upgrades

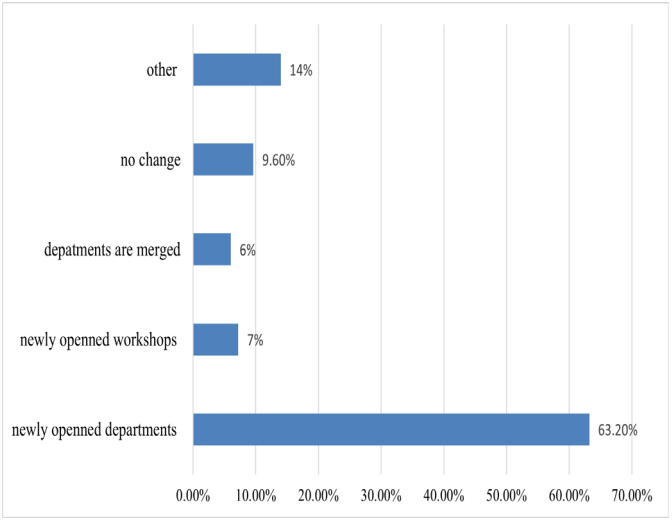


Figure 10. Frequency of changes in your organisation's organisational structure

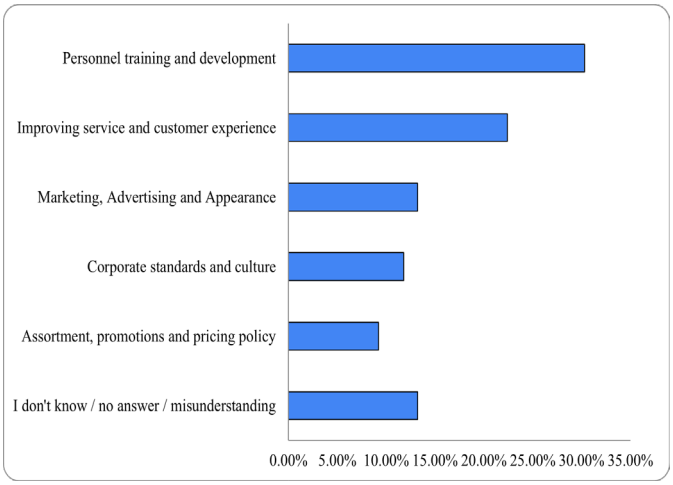


Figure 11. Work to maintain and develop the organisation's image

implementation is regularly monitored. A number of organisations conduct monitoring irregularly (15%) or find it difficult to assess (8–10%). Very few (3%) directly indicate the absence of such monitoring.

The majority of respondents (two thirds) noted that modernization occurs annually, which indicates a high level of attention to innovation and improvement of production processes. However, almost 10% of participants indicated that processes do not change, which may indicate a conservative approach or limited resources. A relatively small proportion of companies update processes every 3 or 5 years (Figure 9).

The majority of respondents (over 60%) noted that their organisations undergo changes due to the opening of new departments, which may indicate growth and expansion of the enterprises' activities (Figure 10). Only about 10% indicated no changes in the structure, which indicates stability, but may also indicate limited flexibility. The remaining responses are related to partial reorganisations (merging departments, new workshops), as well as individual cases classified as "other".

The most common measures to maintain the image are staff training and improving service quality (Figure 11). Work is also underway to improve the marketing image and compliance with corporate standards. About 13% found it difficult to answer or answered vaguely.

An analysis of the responses to the question on the number of employees revealed a significant diversity in the assessments and ways of expressing them (Figure 12). The largest share of respondents (31.9%) indicated that they did not know the exact number of employees or found it difficult to answer, choosing unformulated or generalised expressions such as "A lot" or "All in due time". About 21.3% of participants indicated that their organisation employs up to 10 people, which indicates the predominance of small businesses among respondents. The category from 11 to 100 employees accounted for 10.6%, and from 101 to 1000 people, 8.5%. At the same time, about 6.4% of respondents stated that they had more than 1000 employees, which may indicate the presence of large organisations in the sample. About 10.6% of the responses were informal or incomplete, including emotional or figurative expressions ("We are growing like mushrooms", "Honest work..."), which should also be taken into account when interpreting the data. Overall, the data indicate a predominance of small and medium-sized enterprises, as well as certain difficulties with accurate self-assessment of the number of personnel among respondents.

An assessment of the share of employees with higher education among the surveyed organisations showed that in most cases, this figure exceeds 50% (Figure 13). Thus, 41.3% of respondents indicated that from 50% to 79% of the personnel have higher education. Another 26.6% estimated this figure within 80–99%, and 15.5% noted that all employees (100%) have higher education. This allows us to conclude that the level of personnel qualification is high in a significant number of organisations. At the same time, 7.6% indicated a level of 20–49%, 6.6% — isolated cases (1–19%), and 2.4% of respondents reported the absence of employees with higher education. These data may indicate both the presence of organisations with less qualified personnel and differences in educational requirements depending on the type of enterprise or functions performed (Figure 14).

Among employees without pharmaceutical education, the largest share is made up of individuals with medical education — 46.7% (Figure 15). This indicates a close connection and intersection of professional competencies in the medical and pharmaceutical fields. Next come employees with other types of education (category "your answer") — 28.6%, which may include pedagogical, biological, chemical and other areas. Economic (financial) education accounted for 18.1%, and legal — 6.7%. These data emphasize the interdisciplinary nature of the staff and the diversity of the professional background of employees in the pharmaceutical industry.

An analysis of the distribution of respondents' answers to the question on the number of employees holding management positions throughout the hierarchy allows us to draw conclusions about the size of the organisations represented in the sample (Figure 16). The most common category turned out to be companies with 5–10 managers (31.7%), followed by organisations with 51–500 managers (27.6%) and small enterprises with 1–4 managers (23.9%). A smaller proportion of respondents indicated the presence of 11–50 (15.1%) and more than 500 (2.5%) managers. These data indicate that the majority of survey participants work in small and medium-sized pharmaceutical organisations, such as pharmacies, local manufacturers, and distributors. At the same time, the presence of answers indicating larger management structures indicates the participation of representatives of large companies in the study as well. Thus, the sample represents both small and large enterprises, which provides a more complete reflection of the current organisational structure of the pharmaceutical sector.

Analysis of the answers to the question about the structure of the organisations in which respondents work revealed a significant variety of forms and levels of detail (Figure 17). The most common were simplified references to pharmacies and pharmacy chains without specifying specific structural divisions, which indicates the prevalence of small retail organisations with a minimal internal hierarchy. About a quarter of respondents provided more detailed information, listing specific departments, such as sales, accounting, HR, warehouse, marketing and others, which indicates the presence of specialized functions within the company. Manufacturing enterprises were represented to a limited extent, among which various workshops were mentioned: bottling, packaging, casting and blanks. About 8 respondents described the structure in a general way, with an emphasis on the management level (e.g., "director, deputies, department heads"), which may reflect both limited knowledge of the hierarchy and a generalized approach to the answer. A separate category was made up of mentions of brand names or organisations without a description of the structure (about 15 responses), as well as specialized departments, such as the dietary supplement department, QMS, SB, and

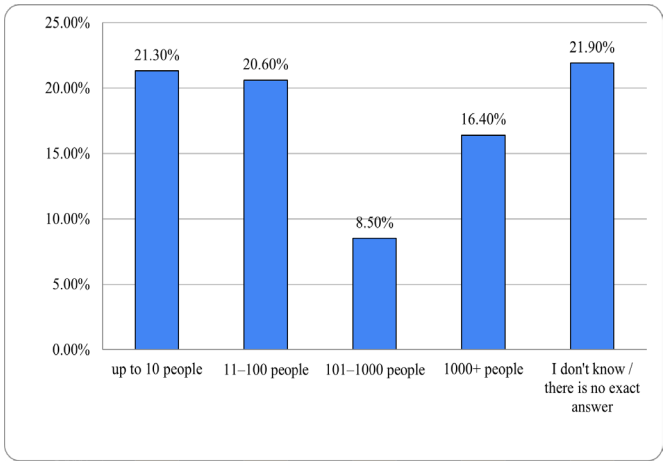


Figure 12. The number of employees in your organisation

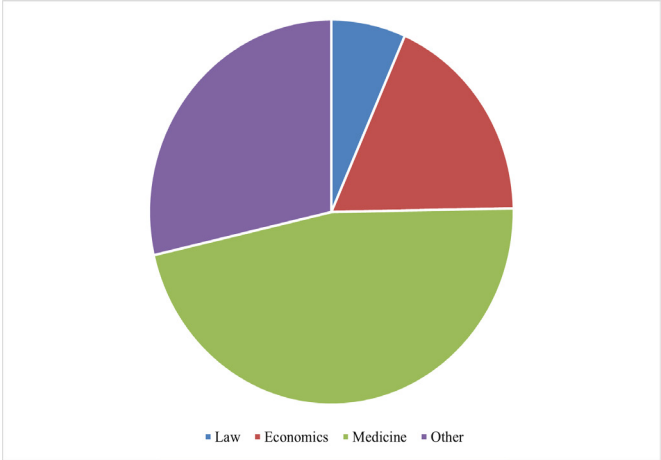


Figure 15. Personnel with non-pharmaceutical education

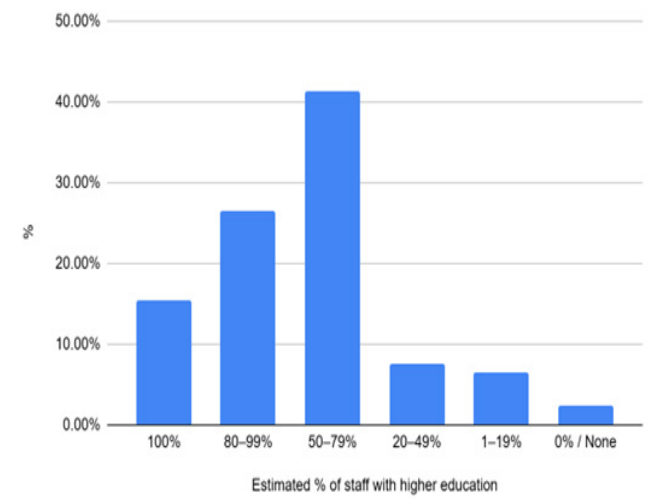


Figure 13. Personnel with higher pharmaceutical education

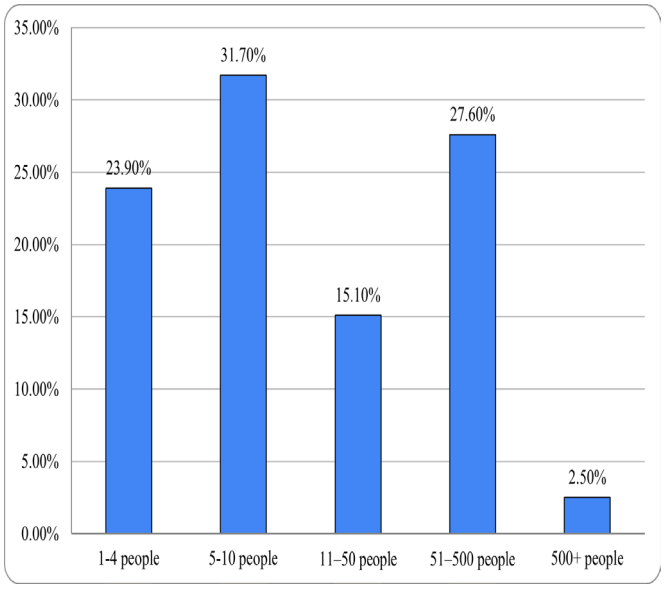


Figure 16. The number of personnel occupying management positions throughout the hierarchy.

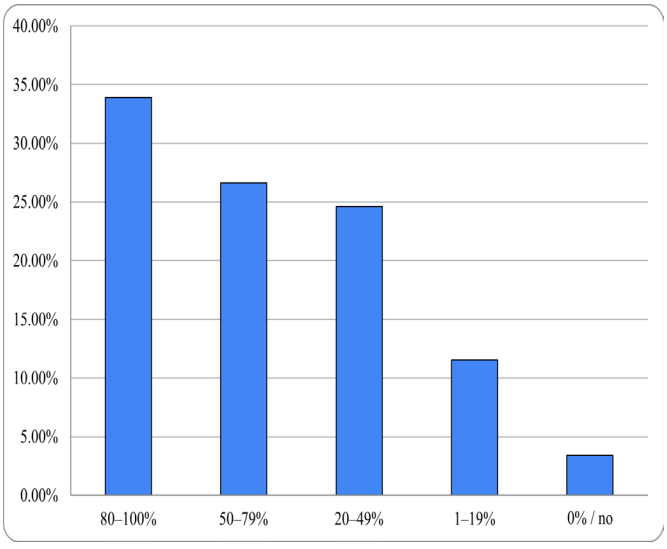


Figure 14. Personnel with secondary pharmaceutical education

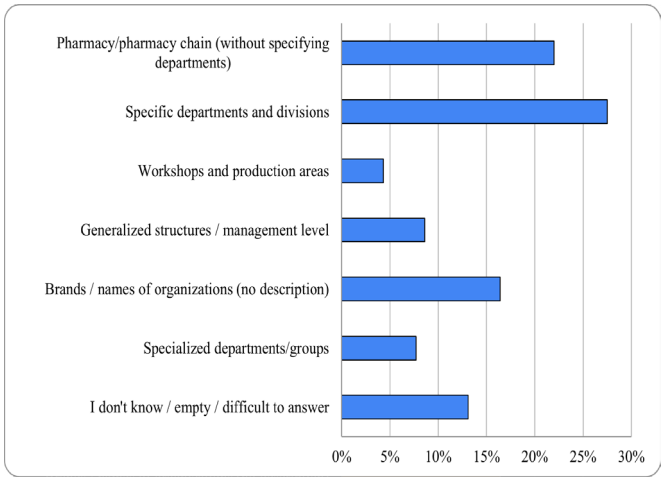


Figure 17. Structure of your organisation (names of departments, workshops, etc.)

online pharmacy (about 7 responses). A significant proportion of respondents (about 12) found it difficult to answer or left the field blank, which may indicate insufficient awareness of the formal structure of the organisation or low involvement in management processes. Taken together, these data demonstrate a wide range of organisational models in the pharmaceutical sector - from simple pharmacy formats to structured manufacturing and trading companies.

The vast majority of respondents (approximately 91%) noted that their organisations provide for activities to improve the qualifications and train personnel. The responses often indicated regular forms of training, such as monthly trainings or internal educational programs, which indicates that employers recognize the importance of continuous professional development in the pharmaceutical field. Such a high proportion of positive responses may indicate both the existence of relevant internal regulations and the influence of regulatory requirements governing the professional training of employees of pharmaceutical organisations. At the same time, about 9% of respondents reported no training or found it difficult to answer, which may be due to working in small organisations where resources for educational activities are limited, or due to insufficient awareness of employees about available opportunities. In general, the data obtained confirms that training and advanced training systems are widely integrated into the activities of most pharmaceutical structures; however, there remains a share of organisations where these processes require improvement or greater transparency (Figure 18). According to the data presented, a significant majority of respondents (89.6%) confirmed that their enterprise operates in accordance with the standards of good manufacturing practice (GMP) (Figure 19). This indicates a high level of implementation of international quality standards in the pharmaceutical organisations participating in the survey. A small proportion of respondents (5%) answered negatively, which may indicate either that their organisations belong to the retail sector, where GMP is not mandatory, or that they do not meet the requirements at an adequate level. Another 3% noted that the process of implementing GMP is underway, and 3% gave alternative or uncertain answers. Overall, the data demonstrate a high level of recognition of GMP standards in the industry, which corresponds to current requirements for the quality and safety of pharmaceutical products both at the national and international levels.

An analysis of the responses to the question about the availability of a social package showed that slightly more than half of the respondents (51.1%) confirmed the availability of social support at their enterprise (Figure 20). This indicates a partial prevalence of social guarantees in pharmaceutical organisations, such as paid vacations, medical insurance, compensation or other forms of employee support. However, a significant proportion of survey participants (28.4%) found it difficult to answer, indicating that they were not interested in this issue or had recently been hired. This may indicate insufficient awareness of the staff about available benefits or poor communication within the organisation. Negative responses - no social package or direct indications of its unforeseen - amounted to 17%, which also reflects the presence of employers who do not provide a formalized system of social support. Other uncertain or ambiguous answers amounted to 3.4%. In general, the data obtained demonstrate heterogeneity in the provision of social guarantees, which may be due to differences in the size, type and financial capabilities of pharmaceutical organisations.

The survey results (Figure 21) showed that financial incentives remain the main tool for motivating personnel in pharmaceutical organisations: 58.1% of respondents noted the use of bonuses, premiums, additional payments and KPIs, which indicates the priority of material rewards in retaining and encouraging employees. A significantly smaller share (10.5%) highlighted wages as a key motivation factor, including their timeliness and the possibility of an increase. Only 7% indicated career growth and professional development as a form of incentives, and 4.7% - participation in training and projects. Non-material motivation methods (certificates, gratitude, gifts, etc.) were mentioned in 5.8% of responses, which indicates their occasional use. At the same time, 14% of survey participants either did not answer or gave negative or vague comments, which may indicate the absence of a systemic motivation policy in a number of organisations. Overall, the data demonstrates the dominance of short-term financial incentives and relatively low involvement of non-material and long-term methods of staff motivation, which may affect the level of employee engagement and retention in the industry.

The majority of respondents (67.3%) described their organisations as financially stable, which may indicate stable operating activities, a reliable business model and the ability of companies to adapt to economic conditions (Figure 22). However, a significant proportion of survey participants (27.9%) expressed uncertainty, doubts or found it difficult to answer. This may be due to the limited awareness of employees about the financial position of the enterprise or real signs of instability that are not fully manifested in current work. Only 5.2% of respondents gave a clearly negative assessment of the financial stability of their organisation, which, despite the small share, indicates the presence of companies experiencing difficulties. Thus, although the majority of employees perceive the position of their organisation as stable, a noticeable level of uncertainty remains, requiring attention from management structures, especially in terms of internal communication and transparency of business processes.The Figure 23 results show that the most common source of financial sustainability in pharmaceutical organisations is their own budget (36.1%), which indicates the desire of companies to rely on internal resources and balanced financial planning. In second place in importance are sales revenues (29.9%), which reflects the dependence of a number of enterprises on market activity and the effectiveness of commercial activities. Investment funds were indicated by 13.4% of respondents, which may indicate both the presence of external support (including venture and private investments) and the development of projects requiring

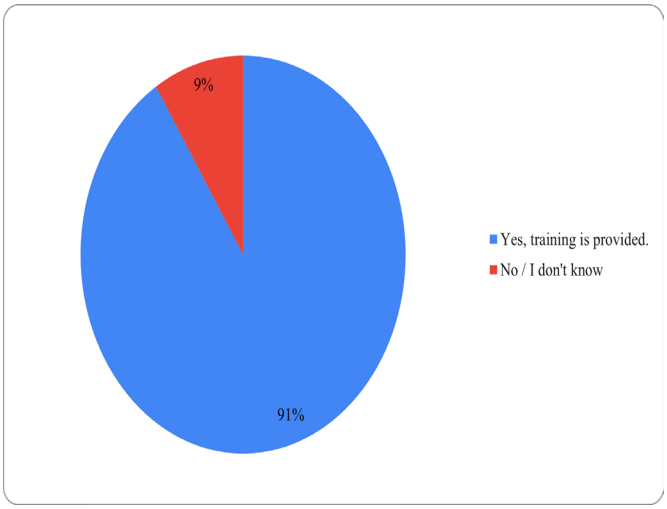


Figure 18. Availability of opportunities for advanced training and staff training

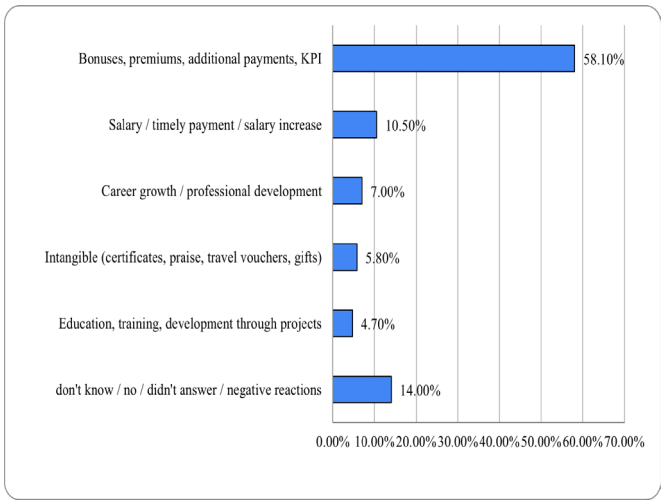


Figure 21. Types of staff motivation are used in work

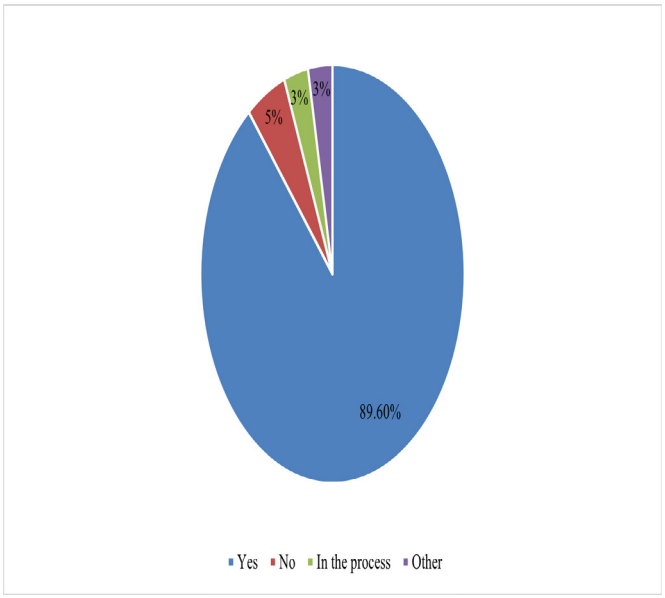


Figure 19. Companies operating in accordance with GMP standards

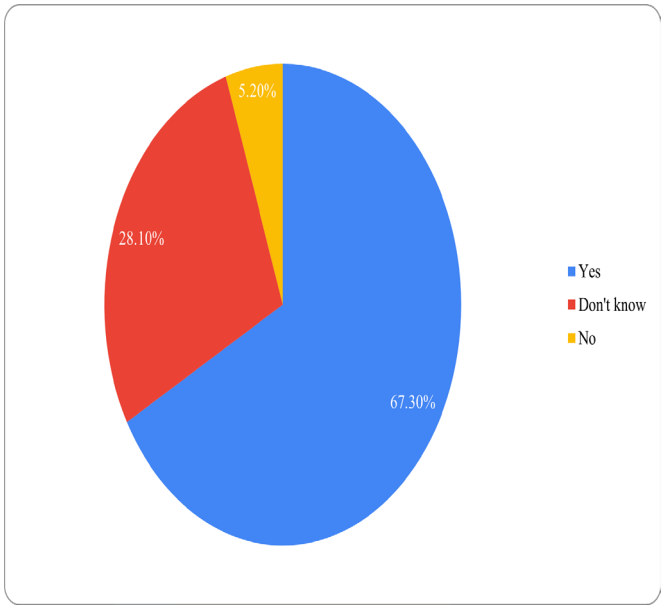


Figure 22. Assessment of the financial stability of the organisation by the staff

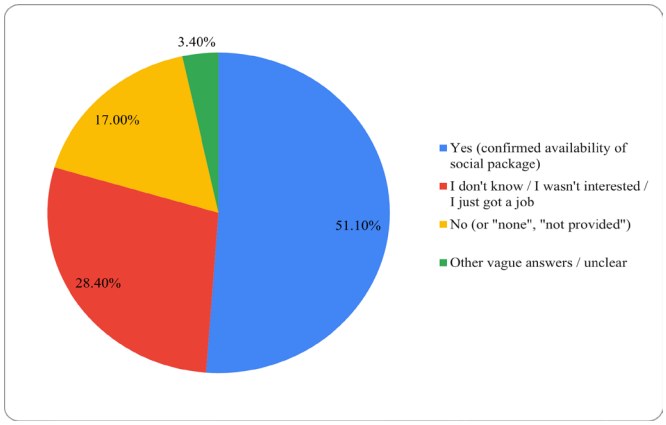


Figure 20. Availability of a social package for staff.

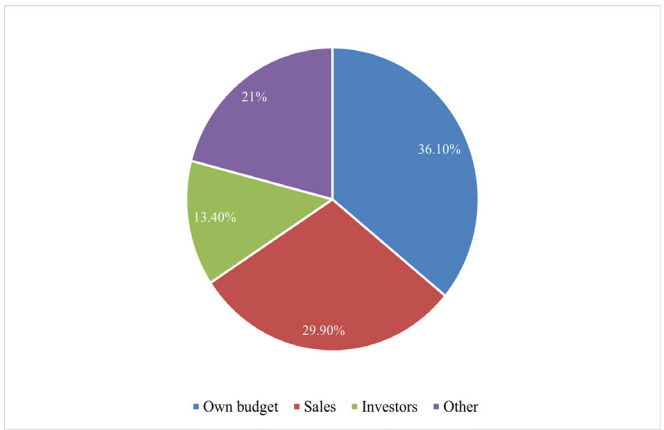


Figure 23. Means to ensure financial sustainability

long-term financing. The category "Other" (21%) includes various sources not included in the main groups and requires clarification, but its share indicates the presence of alternative approaches - possibly grants, subsidies or external support from the state and partners. In general, the structure of the responses demonstrates the diversity of financial strategies and the adaptability of pharmaceutical organisations to market conditions and the external environment.

The obtained data shown in figure 24 demonstrate the diversity of ratios between equity and debt capital in pharmaceutical organisations. Only about 20% of respondents indicated that equity exceeds debt, which can be interpreted as the presence of a stable financial base and a relatively low dependence on external financing. About the same number (about 20%) believe that equity and debt capital are equal, which may reflect a balanced financial policy. About 10-12% of respondents indicated a lower ratio of equity to debt, which may signal possible financial risks or a high level of attracted funds. At the same time, the largest share of responses (about 50%) fell on the "Other" category, which indicates either the difficulty of assessing this parameter for most employees, or low transparency of financial information within organisations. These results emphasize the importance of financial literacy among personnel and the need for more open internal communication on capital structure issues.

Analysis of the response obtained shows that 55.6% of respondents answered positively to the question about the implementation of new projects taking into account current trends in the pharmaceutical market (Figure 25). This indicates that more than half of the organisations are striving to adapt to changes in the industry, updating their business models and developing innovative areas. However, 44.4% of respondents indicated that they do not implement such projects, which may reflect either limited resources and initiative within the company, or a conservative approach to doing business. This almost equal distribution of opinions emphasizes the heterogeneity of development strategies in the sector and indicates the potential for broader implementation of innovations and increasing the adaptability of pharmaceutical organisations to market requirements.

In Figure 26, responses showed that only about 30% indicated specific projects implemented over the past five years. Among the initiatives mentioned, the most common were the opening of new pharmacies, the launch of online delivery services, the introduction of medical products, as well as the implementation of GPP (Good Pharmacy Practice) standards and a labelling system. These areas are in line with modern trends in digitalisation and regulatory renewal in the pharmaceutical sector. However, a significant proportion of respondents expressed uncertainty about the projects being implemented (32%) or directly indicated their absence (18%), which may indicate poor awareness of employees about strategic changes or the lack of innovative activity in a number of organisations. Additionally, about 21% of responses were uninformative or vague, such as "service", "low prices" or "a lot has changed", which makes it difficult to objectively assess the essence of the changes implemented. Overall, the findings highlight that the implementation of new projects remains a pressing issue for a significant proportion of pharmaceutical organisations, and that clearer internal communication about the goals, content and results of such initiatives is needed. When implementing new projects in pharmaceutical organisations, employees are aware of potential risks to varying degrees (Figure 27). The most frequently mentioned risks were financial (about 16%), including budget overruns, exchange rate instability, and funding shortages, reflecting the high sensitivity of projects to economic conditions. Operational risks (11%) are related to changes in logistics, human factors, and difficulties in adapting processes (for example, when working with labelling). Market and competitive risks (9%) indicate attention to competitors' activities, imported analogues, and consumer preferences. Regulatory and quality risks (7%) are also taken into account, such as compliance with labelling requirements and control over the timing and quality of medicines. Strategic and planning aspects were noted by 9% of respondents, but were often accompanied by wording that shifted responsibility to management. A significant proportion of respondents (27%) stated that no risks are taken into account or found it difficult to answer, and another 21% provided unclear or irrelevant answers, which may indicate weak employee participation in project planning or an insufficient risk management culture in organisations. Overall, the data indicate the need to develop a systematic approach to risk management in project activities, as well as to increase awareness and involvement of personnel in the planning processes and assessment of the consequences of implemented solutions. An analysis shows that 51% of respondents consciously recognise the influence of the organisation's life cycle stage on the formation and implementation of development trends (Figure 28). This indicates the presence of strategic thinking and an understanding that the needs and priorities of a business depend on its current stage - formation, growth, maturity or transformation. However, 35% of participants found it difficult to answer or expressed uncertainty, which may indicate insufficient awareness of the life cycle concept or its rare application in everyday practice. Another 14% directly stated that they do not take this factor into account, which may be due either to a focus on short-term tasks or to limited employee participation in strategic planning. Thus, despite the fact that more than half of the respondents demonstrate a strategic approach, there remains a significant proportion of those who need to improve their competencies in the field of management analysis and planning, taking into account the organisation's life cycle.

An analysis of the distribution of responses (Figure 29) showed that almost half of the respondents (48%) indicated a collegial method of making management decisions when launching new projects. This indicates a widespread use of the team approach and, possibly, the presence of working groups,

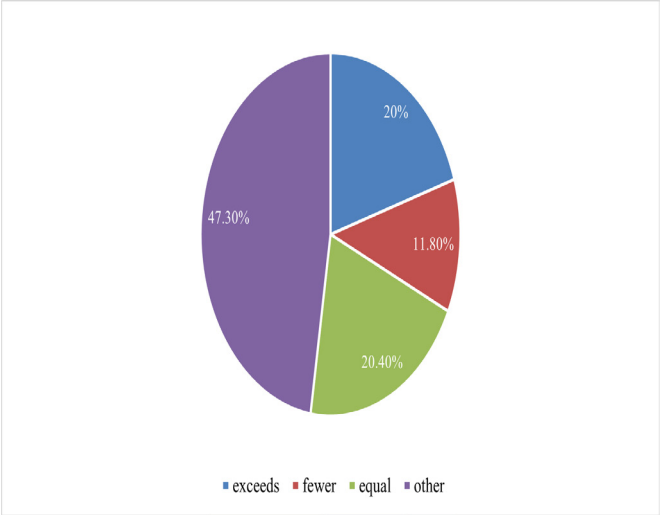


Figure 24. The size of an organisation's equity capital in relation to its borrowed capital

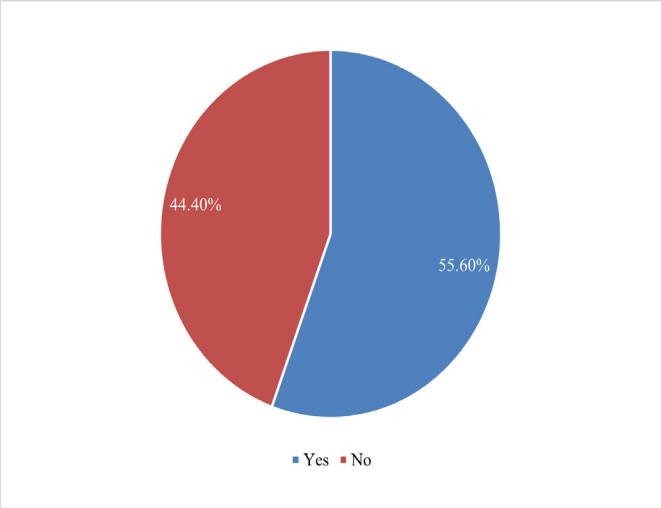


Figure 25. New projects taking into account trends in the pharmaceutical market

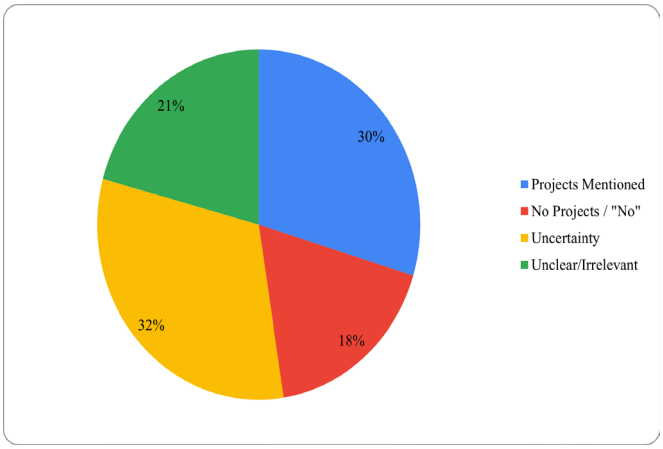


Figure 26. Projects implemented in the activities of organisations over the past 5 years

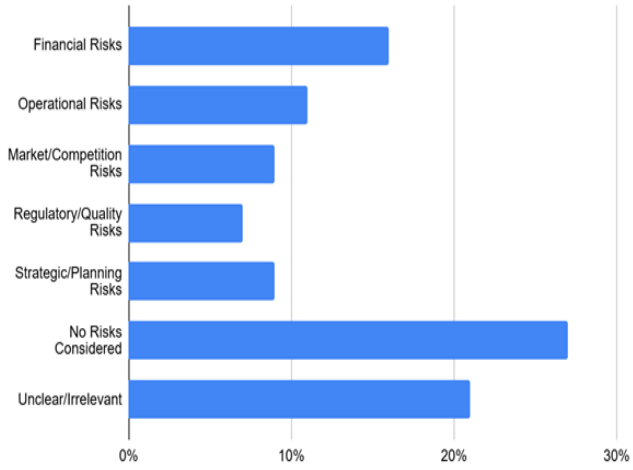


Figure 27. Risks considered when introducing projects

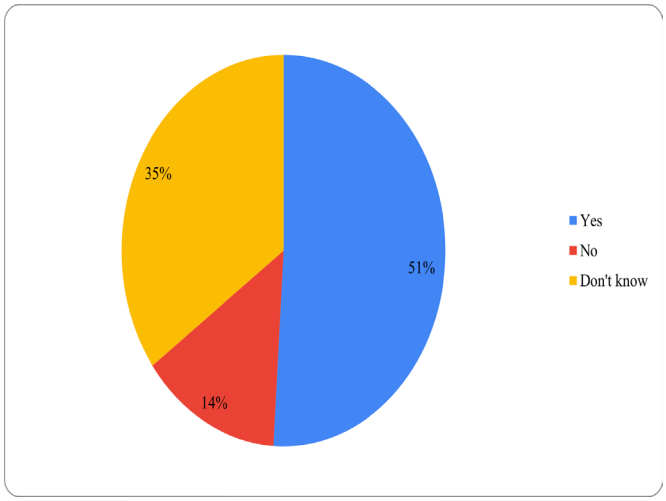


Figure 28. Taking into account the influence of the organisation's life cycle stage on the structure of development trends.

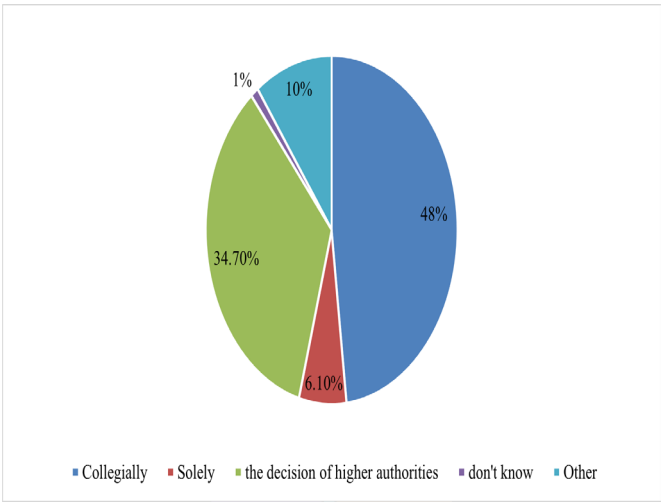


Figure 29. Management Decision-Making Process for New Projects

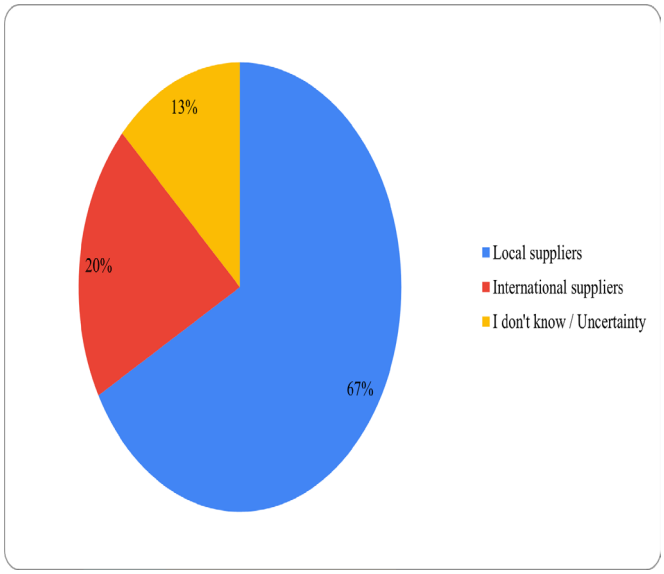


Figure 30. Types of partner suppliers

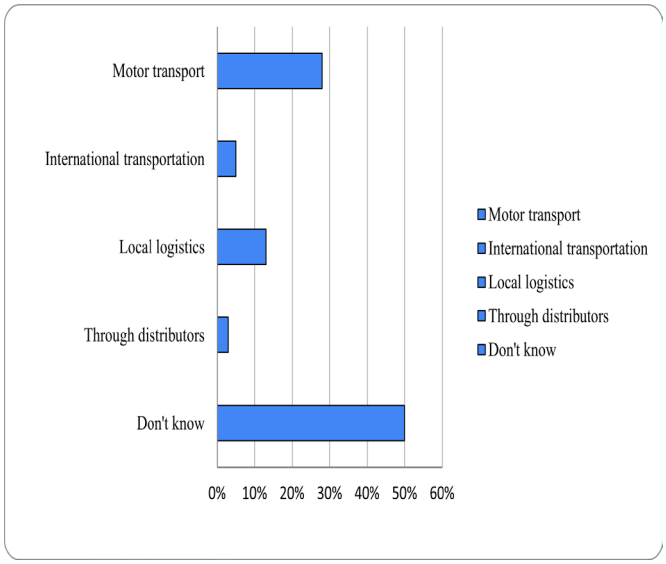


Figure 33. Logistics routes.

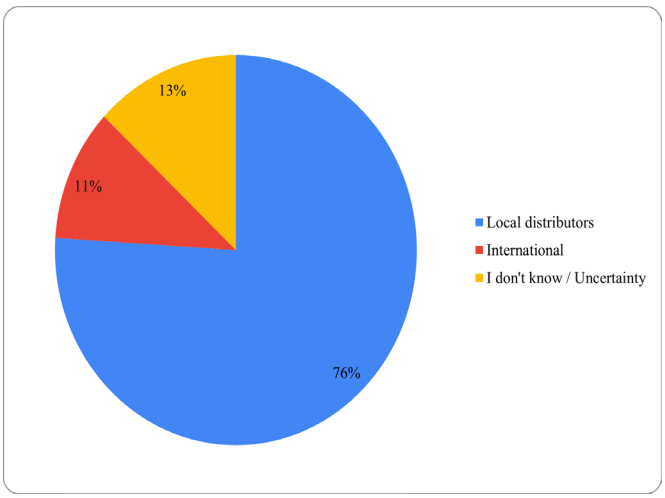


Figure 31. Types of distributor partners.

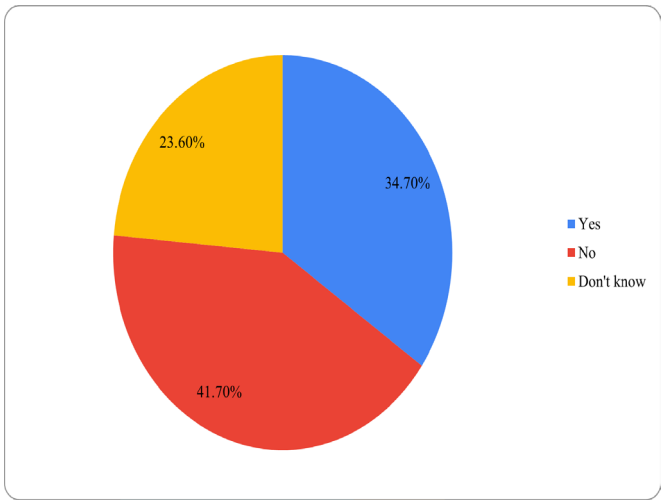


Figure 34. Presence of a logistics department in the organisation structure

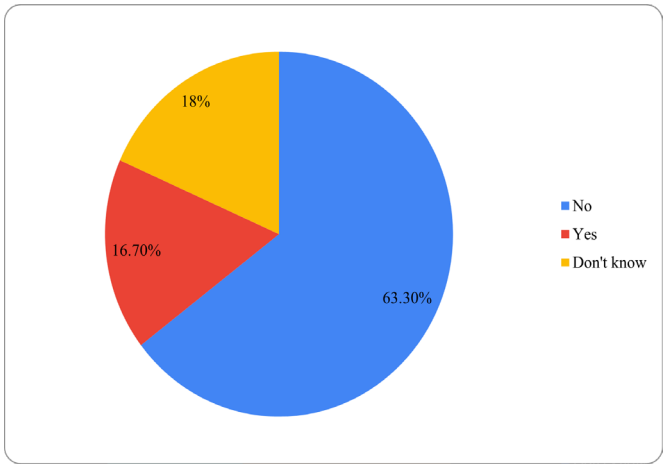


Figure 32. Share of organisations engaged in product export

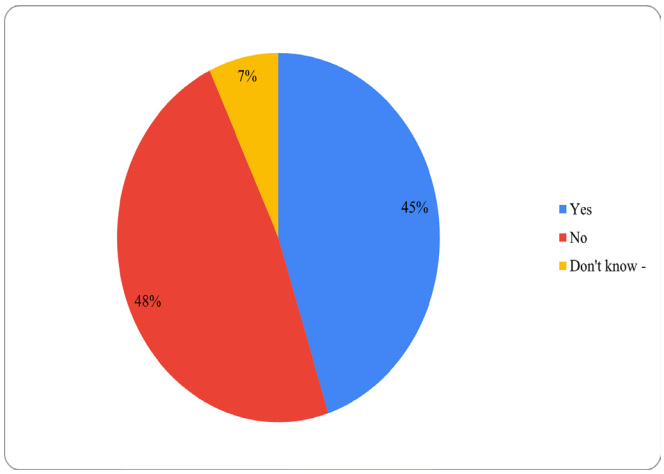


Figure 35. Availability of a pharmacy chain

project committees or advisory bodies in the structures of pharmaceutical organisations. At the same time, 34.7% noted that decisions are made on the instructions of superior bodies, which indicates a vertically oriented management model and centralised decision-making. Only 6.1% reported sole decision-making, which may reflect either the small scale of the organisations or a high concentration of power in the hands of one manager. 10% of respondents chose the "other" option, which may include non-standard or mixed schemes, such as the participation of external consultants or partners. The minimum share (1%) found it difficult to answer, indicating "I don't know", which confirms the general awareness of employees about the mechanisms for making management decisions. In general, the data demonstrate the predominance of the team and hierarchical approaches, which reflects the specifics of corporate governance in the pharmaceutical sector.

The vast majority of respondents (67%) cooperate primarily with local suppliers, among which large domestic distributors such as Medservis, Inkar and Amanat were most frequently mentioned (Figure 30). This indicates a high degree of dependence of pharmaceutical organisations on the domestic market and established logistics chains within the country. At the same time, 20% of respondents indicated cooperation with international suppliers, among which were countries such as China, Germany and Turkey, as well as large brands, including Nestlé and Coca-Cola (in the context of parapharmaceutical or dietary supplement products). 13% of participants found it difficult to answer or did not have information about suppliers, which may be due to limited involvement in procurement processes. Another 8% gave vague or generalised answers, such as "a lot" or "with everyone", which makes it difficult to accurately interpret. Overall, the data demonstrate the predominance of local connections in the supply chain, while a certain share of foreign economic contacts remains, especially in terms of imported drugs, dietary supplements and raw materials (Figure 31).

The pie chart (Figure 32) shows that the majority of organisations (63.3%) do not export pharmaceutical products, limiting their activities to the domestic market, often within one region or area. Only 16.7% of respondents confirmed their companies' participation in export activities. Among the specified areas, the CIS countries predominate - Uzbekistan, Kyrgyzstan and Russia, and China is also mentioned as an example of entering more distant markets. This indicates the existence of export potential in some pharmaceutical companies, especially those that are able to meet international requirements for product quality and certification. At the same time, 18% of participants found it difficult to answer, indicating "I don't know" or "I don't know for sure", which may indicate poor staff awareness of the organisation's foreign economic activity. Another 2.8% gave irrelevant or local answers (for example, "Shymkent", "in the city"), which also indicates low awareness or lack of export. Overall, the results reflect the limited spread of export activity in the pharmaceutical sector, as well as the need to increase transparency and employee awareness of the company's strategic development directions.

The logistic routes study results show that motor transport remains the main logistics channel for pharmaceutical organisations — 28% of respondents indicated it (Figure 33). This confirms the dominance of land transportation as the most accessible and flexible method of delivering products within the country. About 13% noted the use of local logistics, including delivery between branches and intraregional routes, which is typical for pharmacy chains and retail companies. International transportation was indicated by 5% of respondents, which may indicate the presence of foreign trade activities in a small number of companies. Only 3% noted delivery through distributors, which may be due to the fact that this process is perceived as external to the main organization. At the same time, half of the respondents (50%) found it difficult to answer or indicated that they did not know how logistics is carried out, which may indicate insufficient employee involvement in logistics processes or weak internal communication. In total, the data indicate a significant information asymmetry within companies in logistics matters, despite the key role of supplies in the pharmaceutical business. This highlights the need for increased transparency in logistics processes and staff awareness.

According to Figure 34 the presence of a logistics department in the structure of pharmaceutical organisations is not a universal practice. Only 34.7% of survey participants confirmed that such a department exists in their company. This may indicate a sufficient level of operational maturity and internal organisation in these enterprises, especially if we are talking about large distributors, manufacturers or pharmacy chains with developed infrastructure. At the same time, 41.7% of respondents reported the absence of a logistics department, which is typical for small and retail structures, where logistics functions can be outsourced or distributed among other departments. 20.8% found it difficult to answer, indicating "I don't know", which indicates that employees are poorly informed about the internal structure of their organisation. Another 2.8% gave irrelevant or off-topic comments, which did not allow them to be classified. Overall, the data highlight the heterogeneity of the organisational structure in the pharmaceutical sector and the need to increase staff awareness of logistics processes and their role in ensuring supply chain sustainability.

The distribution of answers to the question about the availability of a pharmacy chain in the organisation's structure demonstrates an almost equal ratio between companies operating in a chain and non-chain format (Figure 35). Thus, 45% of respondents confirmed the availability of a pharmacy chain, which indicates a high share of pharmaceutical companies with an extensive infrastructure and regional presence. At the same time, 48% indicated that they do not have a pharmacy chain, which is typical for single pharmacies, small retail outlets or organisations of a different profile (for example, distributors, manufacturers or wholesale companies). A relatively small share (7%)

found it difficult to answer, which may indicate weak employee involvement in organisational structure issues or uncertainty in terminology. Thus, the data obtained confirm the existence of two almost equal segments in pharmaceutical retail - chain and independent organisations, which must be taken into account when forming industry strategies, regulatory requirements and support programs.

DISCUSSION

The summarized data indicate that despite the desire of many pharmaceutical organisations to develop and adapt to external conditions, significant imbalances remain in the awareness of personnel, access to management information and the systematicity of internal processes. High dependence on external regulation, in particular in matters of pricing and certification, requires strategic flexibility and increased financial planning.

Particular attention should be paid to HR strategies: against the background of limited use of non-material motivation and partial involvement of employees in the development of the organisation, the potential human resource remains underutilised. A similar situation is observed in the field of logistics and customer base analysis - key elements of sustainability of the pharmaceutical business.

The data obtained can be used to develop recommendations for strengthening internal processes, increasing financial stability and expanding the strategic participation of employees in the management and development of pharmaceutical organisations. The respondents' assessment of the financial sustainability of pharmaceutical organisations showed a certain confidence in stability (67.3% of positive responses), but a high proportion of uncertain judgments (28.1%) may indicate insufficient transparency of financial policies within companies or the absence of effective communication between the management and executive levels.

In this regard, it is important to emphasize the role of financial strategy as a key component of ensuring business sustainability in conditions of economic uncertainty. An effective financial strategy for a pharmaceutical company covers a wide range of management tools - from planning and cost management to investment decisions and risk management[7,8,9].

One of the basic elements is financial planning, including budgeting, setting financial goals and forecasting income and expenses. This allows companies to rationally allocate resources, minimize risks and form sustainable growth models even in conditions of macroeconomic turbulence[10].

The data obtained during the survey indicate a significant need for pharmaceutical professionals to develop management competencies, especially in the area of "soft" (social and communication) skills. Despite the fact that many respondents demonstrated basic awareness of operational and financial management issues, a stable demand was identified for training in effective business management methods, including the skills of strategic thinking, teamwork, staff motivation and adaptation to changes in the external environment.

Taking this into account, it is advisable to consider the possibility of revising and expanding the educational programs of higher pharmaceutical educational institutions. Integrating the needs and inclinations of specialists identified in the study into the structure of curricula can contribute to more targeted training of future professionals capable of combining clinical and managerial roles.

One of the possible strategies for increasing managerial potential in the industry is to attract teachers and mentors with a business background, especially those who are able to work with students interested in pharmaceutical entrepreneurship and management. Such interdisciplinary integration will strengthen the connection between professional training and the real requirements of the modern pharmaceutical market [11,12,13,14].

An important area is cost management, since the growth of costs associated with logistics, production and regulatory compliance can significantly affect profitability. Cost reduction strategies — implementation of lean approaches, process automation, supply chain optimisation — allow maintaining competitiveness without compromising product quality. Investment decisions are no less important — pharmaceutical companies are forced to take a strategic approach to prioritising R&D projects, assessing licensing opportunities, and entering new markets[15,16]. Balanced investment decisions are only possible with a systematic risk assessment, a legal framework, and a predictable return on investment. In addition, in conditions of instability, the role of diversification of funding sources increases. A combination of internal resources, attracting external capital, venture financing, and strategic partnerships allows for increasing the liquidity and resilience of a business to external shocks. Active management of financial risks, including currency, interest rate, and operational risks, is also critically important, especially for companies working with imported assets or exporting products. Analysis shows that despite the declared stability, many pharmaceutical organisations do not fully utilise the potential of a systemic financial strategy. This is confirmed by the low involvement of employees in financial management processes, fragmented knowledge of funding sources and limited use of performance assessment tools (such as ROI, EBITDA, marginality, etc.)[17,18,19].

Study Limitations

The purposive sample of managerial staff with pharmaceutical education is not representative for the whole pharmaceutical sector. Results cannot be generalized to all categories of pharmaceutical employees. All information was self-reported, thus under the influence of subjective perceptions and recall accuracy of the participants. The design may be susceptible to social desirability, selection of certain answers, or over-/underreporting with regard to certain practices or perceptions, which can affect the validity of data.

CONCLUSION

Thus, for the sustainable development of pharmaceutical organisations in the context of economic uncertainty, it is necessary not only to strengthen internal processes but also to develop financial strategies at the level of the entire organisation, integrating them into the strategic management

system.

A survey among pharmaceutical specialists allowed us to obtain representative data reflecting both the current state of the industry and the most pressing challenges facing its participants. The results obtained serve as a basis for developing practical recommendations for increasing the sustainability and efficiency of pharmaceutical organisations in a dynamically changing external environment.

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