ISNN 3030-3907

2026/3
VOLUME 1

DEVELOPMENT OF SCIENCE

ILMIY JURNAL



Development of science

Ilmiy jurnal

2026/3 VOLUME 1

ISSN 3030 -3907

Ilmiy jurnal OAK rayosatining 2024 yil 27 sentabrdagi 361-son qaroriga asosan 02.00.00 kimyo fanlari hamda 2025 yil 12 fevral 367- son qaroriga asosan 05.00.00 texnika fanlari bo‘yicha falsafa doktori (PhD) va fan doktori (DSc) ilmiy darajasiga talabgorlarning dissertatsiya ishlari yuzasidan dissertatsiyalari asosiy ilmiy natijalarini chop etish tavsiya etilgan milliy ilmiy nashrlar ro‘yxatiga kiritilgan.

BOSH MUHARRIR:
Temirov Alisher Hoshim o‘g‘li – texnika fanlari falsafa doktori (PhD),Dotsent.
TAHRIRIYAT KENGASH RAISI:
Fozilov Sadriddin Fayzullayevich – texnika fanlari doktori, professor
TAHRIRIYAT KENGASH A’ZOLARI

TEXNIKA FANLARI/ TECHNICAL SCIENCES/ ТЕХНИЧЕСКИЕ НАУКИ

Bozorov G‘ayrat Rashidovich
Buxoro Davlat Texnika Universiteti, professor
Abdurahmonov Olim Rustamovich
Buxoro Davlat Texnika Universiteti, professor
Adizov Bobur Zamirovich
O‘zbekiston Respublikasi Fanlar akademiyasi Umumiy va noorganik kimyo instituti, professor
Hayitov Ruslan Rustamjonovich
Buxoro Davlat Texnika Universiteti, professor
Jumayev Qayum Karimovich
Buxoro Davlat Texnika Universiteti, professor.
Berdiyev Dorob Murodovich
Islom Karimov nomidagi Toshkent Davlat Texnika Universiteti, professor
Maxmudov Rafiq Amonovich
Buxoro Davlat Texnika Universiteti, professor.
Tilloyev Lochin Ismatilloyevich
Buxoro Davlat Texnika Universiteti, dotsent.
Raxmonov Qahramon Sanakulovich
Buxoro Davlat Texnika Universiteti, dotsent.
Barakayev Nusratullo Rajabovich
Islom Karimov nomidagi Toshkent Davlat Texnika Universiteti, professor.
Jo‘rayev Xayrullo Fayziyevich
Buxoro Davlat Texnika Universiteti, professor.
Panoyev Erali Rajabboyevich
Buxoro Davlat Texnika Universiteti, dotsent.
Ataullayev Sherzod Nabiullyevich
Buxoro Davlat Texnika Universiteti, dotsent.
Murodov Malik Negmurodovich
Buxoro Davlat Texnika Universiteti, dotsent.
Axmedova Ozoda Bahronovna
Islom Karimov nomidagi Toshkent Davlat Texnika Universiteti.
Safarov Bahri Jumayevich
Buxoro Davlat Texnika Universiteti, dotsent.
Xaydarov Axtam Amonovich
Buxoro Davlat Texnika Universiteti, dotsent.
Safarov Jasur Alijon o‘g‘li
Buxoro Davlat Texnika Universiteti, dotsent.
Асадова Раъно Дилмуратовна
Тошкент Давлат техника университети доценти

KIMYO FANLARI/ CHEMICAL SCIENCES/ ХИМИЧЕСКИЕ НАУКИ

Axmedov Voxid Nizomovich
Buxoro Davlat Texnika Universiteti, professor
Umarov Baqo Bafoyevich
Buxoro Davlat Universiteti, professor
Kodirov Abduaxad Abduraximovich
Qarshi davlat Universiteti, professor
Qurbonov Mingniqul Jumagulovich
Qarshi davlat Universiteti, dotsent
Turemuratov Sharibay Naurizbaevich
O‘zbekiston Respublikasi Fanlar akademiyasi Qoraqalpog‘iston bo‘limi Bosh ilmiy kotibi, professor
Tursunov Kaxor Shonazarovich
Qarshi davlat Universiteti, professor
Do‘stov Hamro
Buxoro Davlat Texnika Universiteti, professor
Panoyev Nodir Shavkatovich
Buxoro Davlat Texnika Universiteti, dotsent.
Olimov Bobur Bahodir o‘g‘li
Buxoro Davlat Texnika Universiteti, dotsent.
Kasimov Sherzod Abduazimovich
Termiz Davlat Universiteti, professor.
Aliqulov Rustam Valiyevich
Termiz Davlat Universiteti, professor
Tropov Xamza Tursunovich
Samarqand Davlat Universiteti, professor

IQTISODIYOT FANLARI/ ECONOMICS/ ЭКОНОМИЧЕСКИЕ НАУКИ

Nizamov Aslitdin Badreddinovich
Buxoro Davlat Texnika Universiteti, professor.
Boboyev Akmal Choriyevich
Buxoro Davlat Texnika Universiteti, professor.
Ergashxojayeva Shaxnoza Djasurovna
Toshkent davlat iqtisodiyot universiteti, professor
Saidaxmedova Nodira Ilxomovna
Toshkent davlat iqtisodiyot universiteti, professor
Muxsinov Bekzod Toxirovich
Buxoro Davlat Texnika Universiteti, dotsent.
Shakarov Qulmat Ashirovich
Renessans ta'lim universiteti,dotsent.
Jumaeva Zulfiya Qayumovna
Buxoro Davlat Texnika Universiteti, dotsent.
Norova Salomat Yusupovna
Buxoro Davlat Texnika Universiteti, dotsent.
Avezova Shaxnoza Maxmudjonovna
Buxoro Davlat Texnika Universiteti, dotsent.
Jalilov Jamshid G‘anijonovich
Toshkent davlat iqtisodiyot universiteti, dotsent
Xasanova Gulruh Djumanazarovna
Buxoro Davlat Texnika Universiteti, dotsent.

PEDAGOGIKA FANLARI/ PEDAGOGICAL SCIENCES / ПЕДАГОГИЧЕСКИЕ НАУКИ

Siddiqova Sadoqat G‘afforovna
Buxoro Davlat Texnika Universiteti, dotsent.
Zoyirov Erkin Xalilovich
Buxoro Davlat Texnika Universiteti, DSc, professor
Gaffarov Feruz Hasanovich
Puchon Universiteti, *professor*
Ruziyev Davron Yuldashevich
Buxoro Davlat Universiteti, professor
Muradova Firuza Rashidovna
Buxoro Davlat Texnika Universiteti, professor.
Yunusova Gulandon Samiyevna
Buxoro Davlat Texnika Universiteti, professor.
To‘xtayeva Zebo Sharifovna
Buxoro Davlat Texnika Universiteti, professor.
Navro‘zova Gulchixra Nigmatovna
Buxoro Davlat Texnika Universiteti, dotsent.
Uzoqova Laylo Polvonovna
Buxoro muhandislik – texnologiya instituti, dotsent.
To‘raqulova Marjona Qiyom qizi
Buxoro Davlat Texnika Universiteti, dotsent.
Muradova Zarina Rashidovna
Buxoro Davlat Texnika Universiteti, dotsent.
Murodov Sanjar Aslonovich
Buxoro Davlat Texnika Universiteti, dotsent.
Shodiyev Jahongir Jo‘raqulovich
Buxoro Davlat Texnika Universiteti, dotsent
Gaffarov Laziz Hasanovich
Buxoro muhandislik – texnologiya instituti, dotsent.

Tahririyat a’zolarning to‘liq ro‘yxati jurnalning www.devos.uz saytida keltirilgan.

Tahririyat hay’ati a’zolarining tarkibini o‘zgartirish hamda qo‘shimcha kiritish yoki tahririyat a’zoligidan chiqarish bosh muharrir tomonidan amalga oshiriladi.

ISSN 3030-3907

Development of science ilmiy jurnali 2024 yil 15 aprel kuni №256445 sonli guvohnoma bilan Davlat ro‘yxatidan o‘tgan.

To‘plam elektron ko‘rinishda (pdf formatida) mualliflarga taqdim etiladi. To‘plamga kiritiladigan maqolalarning mazmuni, ulardagi statistik ma’lumotlar va me’yoriy hujjatlarning to‘g‘riligiga hamda har qanday fikr - mulohazalarga mualliflarning o‘zlari mas’ul hisoblanadilar. Talablarga javob bermaydigan maqolalar to‘plamga kiritilmaydi. Tashkiliy qo‘mita maqola matnini qisqartirish, qisman tuzatish kiritish, seksiyalarga joylashtirish huquqiga ega.

ISSN 3030-3907

CHARACTERISTICS OF THE PHARMACEUTICAL SECTOR AND COMPETITIVE OPPORTUNITIES OF PHARMACY ORGANIZATIONS FROM THE POINT OF VIEW CHEMICAL ANALISIS

Ubaydulloeva F.

Resident in Master's Program in the Specialty "Organization of Pharmaceutical Affairs" Samarkand State Medical University,

Bazarova N.

Associate Professor, Head of the Department of Organization of Pharmaceutical Affairs PhD. Samarkand State Medical University Samarkand, Uzbekistan.

Abstract. An analysis of domestic and foreign studies has revealed a substantial body of scientific research devoted to issues of competition and the main stages of production activity (competitiveness of economic entities). Currently, numerous methods and conceptual approaches have been developed to assess organizational competitiveness, successfully applied in manufacturing, trade, and finance. These approaches differ in their assessment objectives, the range of initial data and indicators used, the degree of application of mathematical data-processing methods, result interpretation algorithms, and adaptability to dynamic market conditions. The most commonly used methods rely on a combined approach, which increases the reliability of the obtained data; however, each has its own advantages and limitations. It should be noted that to date, there is no universal methodology for assessing competitiveness that is universally recognized for all business entities.

Keywords: method, competitiveness, mathematical, condition.

Аннотация. Анализ отечественных и зарубежных исследований выявил значительный объем научных работ, посвященных вопросам конкуренции и основным этапам производственной деятельности (конкурентоспособность хозяйствующих субъектов). В настоящее время разработано множество методов и концептуальных подходов к оценке организационной конкурентоспособности, успешно применяемых в обрабатывающей промышленности, торговле и финансах. Эти подходы различаются по целям оценки, диапазону используемых исходных данных и показателей, степени применения методов математической обработки данных, алгоритмам интерпретации результатов и адаптивности к динамичным рыночным условиям. Наиболее часто используемые методы основаны на комбинированном подходе, что повышает надежность получаемых данных; однако каждый из них имеет свои преимущества и ограничения. Следует отметить, что на сегодняшний день не существует универсальной

ISSN 3030-3907

методологии оценки конкурентоспособности, общепризнанной для всех хозяйствующих субъектов.

Ключевые слова: метод, конкурентоспособность, математический, условие.

Annotatsiya. Mahalliy va xalqaro tadqiqotlar tahlili raqobat masalalari va ishlab chiqarish faoliyatining asosiy bosqichlariga (iqtisodiy sub'ektlarning raqobatbardoshligi) bag'ishlangan katta ilmiy ishlarni aniqladi. Tashkilotning raqobatbardoshligini baholashning ko'plab usullari va kontseptual yondashuvlari ishlab chiqilgan va ishlab chiqarish, savdo va moliya sohalarida muvaffaqiyatli qo'llanilgan. Ushbu yondashuvlar baholash maqsadlari, qo'llaniladigan kirish ma'lumotlari va ko'rsatkichlar doirasi, matematik ma'lumotlarni qayta ishlash usullari qo'llanilish darajasi, natijalarni talqin qilish algoritmlari va ularning dinamik bozor sharoitlariga moslashishi jihatidan farq qiladi. Eng ko'p qo'llaniladigan usullar olingan ma'lumotlarning ishonchliligini oshiradigan kombinatsiyalangan yondashuvga asoslangan; ammo, ularning har biri o'zining afzalliklari va cheklovlariga ega. Shuni ta'kidlash kerakki, bugungi kunga qadar barcha iqtisodiy sub'ektlar uchun universal qabul qilingan raqobatbardoshlikni baholashning universal metodologiyasi mavjud emas.

Kalit so‘zlar: usul, raqobatbardoshlik, matematik, shart.

INTRODUCTION

In conditions of intense competition in the pharmaceutical market, the success of pharmacy organizations largely depends on effective marketing positioning, which facilitates successful product promotion and profit generation. Marketing activities beginning with market analysis should be based on systematic data collection. The importance of such data lies in reducing the uncertainty faced by pharmacy enterprises, thereby lowering commercial risks through thorough information analysis [3,4].

Marketing research is a sequential process of identifying the necessary data set for analyzing the current market situation related to company activities, as well as collecting, processing, and presenting this data. Special attention is paid to studying the assortment of medical and pharmaceutical products to optimize it. Conducting such research requires a deep understanding of the characteristics of medicines as products, including their pharmacotherapeutic properties, areas of application, dosage forms, and other product features. The analysis of consumer quality indicators and the frequency of use of each medicinal product in a pharmaceutical company’s assortment plays a significant role [5,6].

In the pharmaceutical field, several methodological approaches exist for assessing the competitiveness of pharmacy organizations based on performance indicators. However, such methodologies often fail to cover the full spectrum of

ISSN 3030-3907

economic and social objectives. Research has shown that the primary goal of companies operating in the market remains profit generation, which serves as a criterion for successful functioning. Therefore, management must organize pharmacy operations to effectively fulfill economic functions and compete successfully with other market participants. At the same time, pharmacy organizations perform an important social role by contributing to public health maintenance. Considering the relevance of assessing pharmacy competitiveness to enhance efficiency, social responsibility in pharmaceutical business, and accessibility of services and products, it is necessary to develop methodological recommendations encompassing a wide range of economic and social parameters, which would represent a significant competitive advantage [1,7,4]..

One of the key elements in developing methodological approaches to assessing pharmacy competitiveness is the integration of quantitative and qualitative indicators. Quantitative indicators include sales volume, profitability, cost levels, and product assortment, while qualitative indicators include customer satisfaction, service level, social initiatives, and participation in public health improvement activities. A comprehensive evaluation of these factors will help identify the strengths and weaknesses of each pharmacy. Additionally, external factors must be considered: legislative changes, market trends, and technological innovations. The implementation of modern information systems for monitoring and data analysis can significantly improve pharmacy performance. The use of analytical tools enables management to make informed decisions aimed at strengthening competitive positions. Developing interaction with the population through loyalty programs and educational initiatives is also important. Social responsibility and active participation in public health issues enhance the reputation of pharmacy organizations and increase their market competitiveness [7,9]..

For the successful implementation of these recommendations, it is necessary to create a system in which pharmacists are actively integrated into a multidisciplinary team that coordinates and optimizes each patient's treatment. Such a system includes not only dispensary supervision but also educational activities aimed at increasing patient awareness of diseases and treatment methods. Pharmacists, possessing in-depth knowledge of medicines and their interactions, can significantly improve treatment outcomes by preventing adverse effects and ensuring proper adherence to therapeutic regimens.

The introduction of a patient-oriented approach can serve as a catalyst for change in pharmaceutical practice. This requires professional retraining programs focused on developing communication skills, empathy, and active interaction with patients and physicians. This updated approach enables pharmacists to go beyond

ISSN 3030-3907

traditional functions, strengthening their professional position and improving the overall quality of healthcare services, which is crucial for effective regional pharmaceutical policy [3,4]..

An important factor in the successful functioning of a pharmacy organization is not only a wide product range but also its competent management. Companies must carefully analyze customer needs, monitor market trends, and promptly update their assortment according to changing consumer preferences. Modern information technologies play a significant role in this process, enabling prompt demand analysis and adjustment of product nomenclature. Ensuring the availability of certified products is equally important. Customers tend to trust pharmacies that guarantee high quality and safety of medicinal products; therefore, the availability of appropriate certificates and documentation should be a priority for every pharmacy organization.

The competitive environment must also be taken into account: under high competition, the assortment should not only expand but also include unique offerings that allow a pharmacy to stand out among similar establishments. The creation of specialized product groups, for example, for people with special needs or elderly patients, can significantly increase the pharmacy's attractiveness.

These interconnected elements form an integrated system that facilitates effective provision of specialized pharmaceutical care. Communication among all participants—from patients to healthcare authorities—plays an important role. Each participant performs a unique function that must be considered to achieve optimal treatment outcomes [3,5]..

A key aspect is increasing patient awareness of their health and the opportunities provided by the healthcare system. Educating and informing patients about diseases and treatment methods improves adherence and fosters closer interaction with healthcare professionals. Coordinating essential aspects such as drug selection and compliance with clinical guidelines reduces risks and increases therapy effectiveness. The healthcare system must be continuously evaluated and adapted, which is possible only through close cooperation among all stakeholders, including regulatory authorities responsible for implementing best practices.

Successful marketing of a pharmacy organization requires analyzing consumer behavior and identifying current pharmaceutical market trends. This allows not only adaptation of the product assortment but also offering modern solutions such as health-oriented products, vitamins, and dietary supplements. Emphasis on disease prevention and health maintenance becomes an important factor in shaping demand. Pharmacies should actively use digital tools to promote their products. Creating websites and mobile applications where customers can

ISSN 3030-3907

conveniently order medicines and receive up-to-date information about new products opens new opportunities for interaction and makes purchasing more convenient. Staff training is equally important: qualified pharmacists can provide professional consultations on the use of medicines, increasing trust and customer satisfaction. A comprehensive marketing approach enables pharmacies to secure a stable market position and build long-term relationships with consumers. Special attention should also be paid to building trust-based relationships with customers through consultations, health monitoring, and information about new products and promotions. Thus, the pharmacy transforms from merely a retail outlet into a reliable healthcare partner. The use of digital technologies, such as online platforms and mobile applications, allows customers to access necessary information at any time, while data analytics helps identify market trends and adapt offerings to specific customer groups, ultimately increasing loyalty and satisfaction. Effective pharmacy marketing requires integrating customer orientation, technological advancement, and flexibility—qualities that determine long-term success and competitiveness in a rapidly changing pharmaceutical market [3,4,6]..

In conditions of high competition, pharmacy organizations must continuously strive to improve operational efficiency. This is achieved through optimization of internal processes, automation of operations, and improvement of inventory management systems. Rational use of resources reduces costs and accelerates customer service, positively affecting satisfaction and loyalty.

Strategic positioning also helps pharmacy organizations differentiate themselves through unique offerings, whether a wide range of specialized medicines or additional services such as pharmaceutical consultations and medicine delivery. It is essential for a pharmacy to clearly understand its target audience and offer services that best meet its needs. The balance between high operational efficiency and well-defined strategic positioning creates a solid foundation for competitive advantage. Organizations capable of harmoniously combining these aspects gain greater customer trust and ensure sustainable growth even in dynamic market conditions.

Economic uncertainty and sharp fluctuations in the Russian pharmaceutical market, caused by current socio-economic conditions both domestically and internationally, create complex challenges for sector participants. In such circumstances, maintaining and strengthening competitive positions becomes critically important for sustainability and successful functioning under instability and forecasting difficulties. The use of marketing opportunities helps identify priority areas contributing to company growth and competitiveness. One effective method is SWOT analysis, which classifies internal and external factors affecting

ISSN 3030-3907

company activities into strengths and weaknesses, as well as opportunities and threats. The first two categories relate to the internal environment, while opportunities and threats refer to factors beyond the company's control [3,4,8]..

In pharmaceutical practice, SWOT analysis occupies an important place, assisting in solving both scientific and practical tasks: identifying needs in pharmaceutical education at international and local levels, exploring new methods of quality control in drug production, analyzing the over-the-counter drug market, and other areas. This approach contributes to a deeper understanding of existing challenges and opportunities and supports the development of strategies aimed at improving product and service quality. SWOT analysis is an indispensable tool for professionals striving for innovation. Among its advantages are simplicity and low data collection and analysis costs; however, it also has significant drawbacks related to the qualitative nature of data, lack of long-term monitoring capability, and unclear cause-and-effect relationships. Empirical methods help identify factors forming the SWOT matrix and assess their interactions, highlighting the importance of researchers' subjective judgment. In this regard, modifications of the analysis are proposed to enhance the objectivity of evaluation results [5,9].

LIST OF REFERENCES

1. Citraningtyas, G., Lolo, W. A., Jayanto, I., Pratasik, A., Wijaya, H., & Gousuddin, M. (2022). Development Strategy for Pharmacy Installation at a Hospital in Bitung City Using Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis Method. Malaysian Journal of Medicine & Health Sciences, 18.
2. Etukakpan, A., Uzman, N., Ozer, O., Tofade, T., Leite, S. N., Joda, A., ... & Altiere, R. J. (2023). Transforming pharmaceutical education: A needs-based global analysis for policy development. Exploratory Research in Clinical and Social Pharmacy, 9, 100234.
3. Garattini S., Natsis Y., Banzi R. Pharmaceutical strategy for Europe: reflections on public health-driven drug development, regulation, and policies //Frontiers in pharmacology. – 2021. – T. 12. – C. 685604.
4. Gul, R., Saeed, H., Saleem, Z., Rasool, F., Hashmi, F. K., Islam, M., ... & Danish, Z. (2021). Perceptions of and barriers to ethical promotion of pharmaceuticals in Pakistan: perspectives of medical representatives and doctors. BMC medical ethics, 22, 1-16.
5. Haider, R., Mehdi, A., Zehra, A., Das, G. K., Ahmed, Z., & Zameer, S. (2024). The Impact of Current Trends in Health Care on the Pharmaceutical Sales Force of the Future.

ISSN 3030-3907

6. Long H. et al. Changing characteristics of pharmaceutical prices in China under centralized procurement policy: a multi-intervention interrupted time series //Frontiers in Pharmacology. – 2022. – T. 13. – C. 944540.
7. Memon, M. B. G., Pitafi, A., & Khaskhely, M. (2023). Employee Turnover Due to Job Stress: National versus Multinational Pharmaceutical Companies in Pakistan. European Journal of Business and Management Research, 8(6), 94-97.
8. Yuwana, S. I. P., & Fadah, I. (2022). SWOT Analysis: Marketing Strategy of Apotek Sawojajar Mas to Increase Sales And Competitiveness. Journal of Management and Business Innovations, 4(02), 73-80.
9. Zinner, M., Dahlhausen, F., Boehme, P., Ehlers, J., Bieske, L., & Fehring, L. (2022). Toward the institutionalization of quantum computing in pharmaceutical research. Drug Discovery Today, 27(2), 378-383.

ISSN 3030-3907