



TOOLS FOR ENSURING THE SUSTAINABILITY OF THE ECONOMY OF THE SOCIAL SPHERE BY REGIONS OF RUSSIA (ON THE EXAMPLE OF COMMERCIAL CLINICS)

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ABSTRACT

Aim and subject. The article examines the impact of digitalization on the sustainable development of commercial clinics in Russian regions, considered as a factor in ensuring regional economic security and socio-economic sustainability. The challenges and opportunities in the stated field are analyzed and the solutions are given. **Materials and methods.** The study is based on the hypothesis that digital tools have a direct and significant impact on the sustainability of social organizations such as commercial clinics. An empirical assessment of the hypothesis included the calculation and comparison of integral indicators of the economic sustainability of commercial clinics and the level of their digital maturity using methods developed by the authors. **Results.** The presence of regional differentiation in terms of sustainable development of commercial clinics, correlating with differences in the level of digital maturity, is shown. It is proved that digital technologies can significantly improve the quality of medical services and optimize clinical processes, but their implementation may also face certain problems, including high costs for equipment upgrades and staff training, combined with data security threats. The authors propose to use innovative management methods, activate investments attraction, and develop information security strategies to solve the relevant issues. **Conclusions and recommendations.** For commercial clinics it is important to adapt to new technologies which should allow Russian commercial clinics to ensure successful functioning within the framework of the social sphere, also contributing to the economic sustainability of regions.

Keywords: Commercial clinics; Economics of the social sphere; Sustainable development; Digital tools; Digitalization of commercial clinics; Digital maturity of social organizations.



FERRAMENTAS PARA GARANTIR A SUSTENTABILIDADE DA ECONOMIA DA ESFERA SOCIAL POR REGIÕES DA RÚSSIA (COM BASE NO EXEMPLO DAS CLÍNICAS COMERCIAIS)

RESUMO

Objetivo e tema. O artigo examina o impacto da digitalização no desenvolvimento sustentável de clínicas comerciais em regiões russas, considerado um fator para garantir a segurança econômica regional e a sustentabilidade socioeconômica. Os desafios e as oportunidades no campo mencionado são analisados e as soluções são apresentadas.

Materiais e métodos. O estudo baseia-se na hipótese de que as ferramentas digitais têm um impacto direto e significativo na sustentabilidade das organizações sociais, como as clínicas comerciais. Uma avaliação empírica da hipótese incluiu o cálculo e a comparação de indicadores integrais da sustentabilidade econômica de clínicas comerciais e o nível de sua maturidade digital usando métodos desenvolvidos pelos autores. **Resultados.** Foi demonstrada a presença de diferenciação regional em termos de desenvolvimento sustentável de clínicas comerciais, correlacionada com diferenças no nível de maturidade digital. Está provado que as tecnologias digitais podem melhorar significativamente a qualidade dos serviços médicos e otimizar os processos clínicos, mas sua implementação também pode enfrentar certos problemas, incluindo altos custos para atualizações de equipamentos e treinamento de pessoal, combinados com ameaças à segurança dos dados. Os autores propõem o uso de métodos de gerenciamento inovadores, a ativação da atração de investimentos e o desenvolvimento de estratégias de segurança da informação para resolver os problemas relevantes. **Conclusões e recomendações.** Para as clínicas comerciais, é importante adaptar-se às novas tecnologias que devem permitir que as clínicas comerciais russas garantam um funcionamento bem-sucedido dentro da estrutura da esfera social, contribuindo também para a sustentabilidade econômica das regiões.

Palavras-chave: Clínicas comerciais; Economia da esfera social; Desenvolvimento sustentável; Ferramentas digitais; Digitalização de clínicas comerciais; Maturidade digital de organizações sociais.

1 INTRODUCTION

The relevance of the study is due to the enduring importance of social organizations, such as commercial clinics, for a balanced and sustainable regional socio-economic development.

The subject of this study includes the problems and opportunities for improving the sustainability of the social development in the regions of Russia on the example of commercial clinics. The purpose of this article is to analyze and justify, using the example of commercial clinics, advanced digital tools for ensuring the sustainability of the social economy in the regions of Russia.

Commercial clinics play an important role in the provision of medical services and the development of the regional economy, their sustainability and efficiency are



significant factors for providing quality medical care to the population and in many cases make a significant contribution to the sustainability of socio-economic development.

Modern opportunities for ensuring the economical sustainability of the of commercial clinics, as well as other organizations in the social sphere, are based, among other things, on the active use of digitalization tools and methods. Today, digitalization plays an increasingly important role in medical practice, and commercial clinics must be prepared to use modern digital tools. In this regard, practical solutions aimed at developing digital technologies in commercial clinics and improving the quality of medical services make an unconditional contribution both to the sustainability of the economy of the commercial clinics themselves and the regional socio-economic systems they serve.

The specifics of the organizations in the social sphere, at the same time, does not allow directly borrowing either methods for assessing economic sustainability or ways to ensure it, including digital ones. Commercial clinics, as special organizations that closely combine social and entrepreneurial components in their activities, can become an important springboard for the practical development of advanced solutions in this area.

To date, the tools for ensuring the sustainability of Russian commercial clinics have been considered fragmentarily. Some aspects characterizing the issues of digitalization of the development of commercial clinics are given in the works (Bryzgalov, 2018; Kantemirova & Alikova, 2019; Mashninova, 2022; Panov, & Bykovskaya, 2019; Simchenko et al., 2019; Tikhonova & Shekhovtsev, 2023), however, they do not form a complete picture of the real state of problems in the subject area, both taking into account the actual achievements of digitalization, and in the context of regional socio-economic systems. Empirical research in the chosen area is hampered by the fact that neither in Russian nor in international practice is there a universal methodology for assessing the economic sustainability of commercial clinics, as well as the level of their digital maturity (separate attempts are presented in (Apresyan & Zabaeva, 2020; Cresswell et al., 2019; Keulimzhaev & Zhdanov, 2018; Mettler & Pinto, 2018; Tsvetkova & Chernenko, 2016), but have not been included in widespread management practice.

Specific practice-oriented solutions developed and substantiated in this study to improve the sustainability of commercial clinics and the development of digital





technologies in medicine can be useful for regional authorities, investors, commercial clinic managers and other stakeholders.

2 MATERIALS AND METHODS

The research methodology is interdisciplinary in nature, the article uses both general scientific methods and special analytical and statistical research methods, as well as the method of scientific synthesis.

The current study is based on the hypothesis that digital tools have a direct and significant impact on the sustainability of social organizations such as commercial clinics. An empirical assessment of the possibilities of applying digital tools to ensure the sustainability of the economy of commercial clinics was carried out in three stages. At the first stage, the actual indicators of the level of economic sustainability of the clinics included in the sample were assessed.

The study included 42 commercial clinics of various functional orientations and subject specializations (including multidisciplinary, dental, aesthetic surgery, women's and family health, narcology and rehabilitation clinics), representing 14 regions of Russia, which are part of six federal districts: Moscow, Moscow Region, Yaroslavl region, St. Petersburg, Krasnodar region, Rostov region, Samara region, Perm region, Sverdlovsk region, Tyumen region, Krasnoyarsk region, Novosibirsk region, Primorsky region, Sakhalin region (3 clinics per region). The sample reflects the geographical distribution of commercial clinics in Russia. To ensure representativeness, the following rules were applied during the study:

- On the inadmissibility of repeating the scope of the subject activity of a commercial clinic (each clinic from a particular region should have a specialization that differs from others).
- On the comparability of the objects being compared in terms of revenue and the number of patients (the maximum allowable deviation, considering the differentiation of regions in terms of the level of socio-economic development, is 45%).

The sample did not include clinics that are part of federal networks.

In the absence of unified approaches to assessing the indicators of economic sustainability of commercial clinics, Table 1 presents the key elements of the methodology developed by the authors for determining the integral indicator of economic sustainability of commercial clinics. The integral indicator, expressed in



points, taking a value in the range $[0;1]$, is defined as the sum of the values of 6 partial indicators reflecting the economic, social and environmental components of the sustainability of the business of commercial clinics, weighted by weight values, reflecting the contribution to the integral indicator. The higher the final value of the integral indicator, the higher the actual level of economic sustainability of commercial clinics.

The weight coefficients, as well as private indicators that are part of the integral indicator of sustainable development of commercial clinics, were determined by experts and, together with the characteristics of private indicators and methods for calculating them, are shown in Table 1.

The pool of experts here and further on the study included the heads of five large federal networks of commercial clinics, as well as seven public servants - employees of departments of the federal ministry and regional public authorities responsible for the interaction of the state and subjects of the federation with commercial medical organizations. The arithmetic mean values of expert assessments were taken as the final ones. The determination of the consistency of expert opinion was carried out on the basis of the calculation of the concordance index. In case of inconsistency of expert assessments, the representatives of the pool of experts were asked to determine the consensus assessment by discussion.

Weights can be changed depending on the specific conditions and priorities for ensuring the sustainable socio-economic development of the commercial clinics. To assess trends in their dynamics, it is advisable to calculate the partial indicators presented in Table 1 as average values for three years, or a shorter period, if not applicable (for example, there were no systematic patient surveys). To convert individual economic indicators into evaluation scores, the values for social organizations, including commercial clinics, presented in (Berestova, 2023; Keulimzhaev & Zhdanov, 2019; Romanova, 2020).

Table 1. Methodology for determining the integral indicator of economic sustainability of commercial clinics

Partial indicator	Specifics	Measurement	Relation to the integral indicator	
			Convert to assessment scores (range [0;1])	Weight
Financial stability ratio	Assessment of the financial condition of the organization, the availability of reserves and the possibility of covering unexpected expenses	The ratio of the amount of equity and long-term liabilities to the balance sheet	Direct translation (for example, a financial stability ratio of 0.5 will correspond to 0.5 points for calculating the integral indicator)	0,1
Financial risk management assessment	Assessment of the risk management system, the availability of strategies to reduce financial risks and ensure financial stability	Expert assessment on a 10-point scale from 1 to 10	Each peer review score is assigned 0.1 evaluation point	0,15
Coverage ratio	Assessing the existence of a sustainable and stable source of funding, diversity of income sources and the possibility of attracting additional resources	The ratio of equity and long-term loans to the value of non-current assets	Less than 0.7: 0 points. 0.7–0.89: 0.1 point. 0.9–0.99: 0.3 points. 1–1.1: 0.8 points. over 1.1: 1 point	0,1
ROE	Evaluation of business performance from the standpoint of investing in entrepreneurial capital	EBIT to equity ratio	Negative value - 0. from 0 to 5%–0.1. from 5.01 to 10%–0.2. from 10.01 to 20%–0.5. from 20.01 to 30%–0.8. above 30%–1.	0,5
Satisfaction of beneficiaries with social services	Assessment of satisfaction and its dynamics, measured based on periodic independent sociological surveys	% of respondents	Converting percentages to fractions of a unit	0,2
Availability of social services	Assessed by independent public experts against a benchmark or target	Deviation from the benchmark / target, %	Converting percentages to fractions of a unit	0,15
Deviation of the carbon footprint generated by the clinic in a year from the benchmark	Environmental safety and sustainable use of resources	Deviation from the target indicator (benchmark), %	1 - actual percent deviation converted to decimals	0,15

Source: Compiled by the authors, considering expert assessments

At the second stage, the level of digital maturity of the commercial clinics included in the sample was assessed. Considering the actual lack of development of the relevant methodology in relation to commercial clinics, as well as to many other



organizations in the social sphere, the author's analysis method based on the calculation of an integral indicator of the level of digital maturity of commercial clinics has also been developed and applied in the subject area.

The assessment of each of the indicators below was carried out by an expert in points from 1 to 10, where 10 points corresponds to the highest level of achievement in the digital transformation of commercial clinics. The average value in the form of a "raw score" was then converted into a decimal indicator by dividing by 100. The final value of the integral indicator of the level of digital maturity of the analyzed business model of a commercial clinic was determined as the sum of the values of the following partial indicators, weighted by weights reflecting expert opinion on their significance in the final indicator of the level of digital maturity (given in brackets):

- State of digital infrastructure and technologies (availability and readiness of the clinic to use modern digital infrastructure and technologies, such as high-speed Internet, cloud computing, network equipment, etc.) (weight - 0.11).

- Digitalization of business processes (efficiency and use of opportunities for optimizing digital processes in the clinic, such as electronic medical records, automated patient interaction systems, electronic appointments, etc.) (weight - 0.15).

- Digital competencies and staff qualifications (availability and specifics of activities to promote the development of digital skills among clinic staff, including education and training of employees in the digital sphere) (weight - 0.14).

- Digital security (state (level) of protection of digital data and clinic information) (weight - 0.13).

- Innovative potential and adaptability (clinic's ability to innovate and adapt to new digital technologies) (weight – 0.1).

- Achievements in the field of digitalization (specific results achieved because of the introduction of digital technologies) (weight - 0.2).

- Digitalization of strategic planning and management (the presence of a clear development strategy in the field of digitalization and project management for the introduction of digital technologies in the clinic (the presence of a development strategy in the field of digitalization and project management for the implementation of digital technologies in the clinic, corresponding to the latest achievements in the field of digitalization) (weight - 0.07).

- Involvement in digital cooperation (availability and development of partnerships with digital technology providers and service providers, as well as cooperation with





other clinics or other organizations to exchange experience and transfer knowledge in the field of digitalization) (weight - 0.1).

To obtain an expanded understanding of the reasons for the state of affairs in the field of introducing digital tools to ensure the sustainability of the economy of commercial clinics in the regions of Russia, in-depth interviews were organized and conducted remotely with representatives of the expert pool.

At the final stage of the study, the impact of digital tools on ensuring the sustainability of commercial clinics was assessed by comparing the values of two integral indicators (the sustainability of the economy and the level of digital maturity of commercial clinics) and identifying the presence of statistical relationships between them.

3 RESULTS

In recent years, there has been a radical increase in scientific and practical interest in the economy of social organizations, including as a source of balanced and dynamic development of territorial socio-economic spheres.

Under the economics of organizations in the social sphere, it seems appropriate to understand the area of economic science that studies the features of the functioning and management of organizations that provide social services and care about the social well-being of the population. It includes an analysis of the efficiency and effectiveness of the use of resources in organizations such as public and private clinics, hospitals, schools, universities, kindergartens, social services and other institutions. The economics of social organizations also studies the issues of financing, organization of service delivery processes, planning and resource management in the context of social goals and needs.

Based on materials from relevant studies (de Lange et al., 2012; Krasnyukova, 2014; Ledovich et al., 2018) it can be stated that the sustainability of the economy of social organizations is the ability of organizations providing social services and caring for the social well-being of the population to successfully operate and develop in the long term, while maintaining a balance between economic, social and environmental aspects of their activities. The sustainability of social organizations from the standpoint of economic security means that these organizations are able to successfully operate and develop in the long term, without being exposed to serious threats or risks associated with economic instability or crisis. The sustainability of the development of social





organizations, such as commercial clinics, is structurally divided into three areas (Table 2) - the economic itself, as well as social and environmental.

Table 2. Areas of sustainable development of social organizations on the example of commercial clinics

Criteria	Characteristics
Economic stability in the long term	Ability to use resources efficiently, ensure financial stability and budget sustainability, and achieve financial independence, including managing financial risks, securing a sustainable and stable source of funding, and developing strategies to attract additional resources
Social sustainability	The ability to meet the social needs of the population and provide quality social services, which means the development and implementation of effective programs and projects that respond to the real needs of society, as well as ensuring the availability and accessibility of social services for different groups of the population
Environmental Sustainability	Includes concern for environmental safety and sustainable use of resources. Organizations must take steps to reduce their negative environmental impact, implement energy efficient technologies, use renewable energy sources and reduce pollutant emissions

Source: Developed by the authors

Commercial clinics are part of social service organizations that provide medical services for a fee. They operate within the framework of a market economy, where the main goal is to make a profit.

The specifics of the economy of commercial clinics include the following features:

- Functioning in conditions of fierce competition (between commercial clinics, as well as paid and free services of public health institutions). Commercial clinics strive to offer quality medical services, attractive prices and convenient conditions in order to attract more patients and retain them with an eye on further social partnership.
- Limited opportunities to ensure financial stability. Unlike many commercial organizations, private (commercial) clinics, balancing between typical social activities for the protection of public health and the need to extract entrepreneurial profit by serving enough patients at competitive prices, the use of which, against the backdrop of competent financial risk management, is designed to ensure the sustainability of the presence of commercial clinics on the market.
- The need to maintain a steady high-quality medical and related services to the population. Commercial clinics are designed to provide high quality medical care and meet the needs of their patients, including the availability of services, professional medical care, comfortable conditions, and an individual approach to each patient.
- The importance of the efficient use of resources. To survive and be sustainable, commercial clinics must ensure the sustainable use of resources, including medical equipment, personnel, and financial resources. They should strive for process





optimization and efficiency improvements to ensure cost effectiveness and sustainability.

- Functioning under conditions of strict regulation and supervision. Unlike many other organizations, commercial clinics are subject to strict government regulation, control and oversight. Regulatory pressure has a significant impact on the economics of commercial clinics. They must comply with quality, safety, and ethical standards to ensure reliability and trust from customers.

In view of the foregoing, it can be stated that the economics of commercial clinics in the healthcare requires a balance between commercial interests and obligations to provide quality and affordable medical services.

Figure 1 shows the average values of the integral indicators of development sustainability and digital maturity of commercial clinics by regions of Russia.

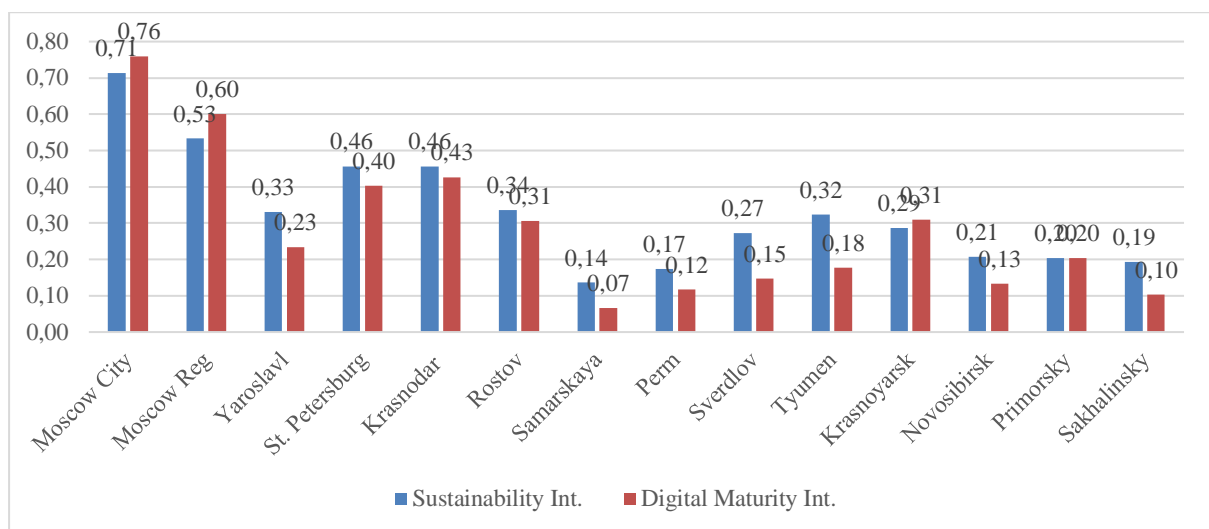


Figure 1. Average values of integrated indicators of development sustainability and digital maturity of commercial clinics by regions of Russia, points
Source: Calculated by the authors

Only in two regions (Moscow and the Moscow region) did the integral indicator of economic stability of commercial clinics turn out to be higher than 0.5, which corresponds to good stability (0.71 points for clinics from Moscow and 0.53 for clinics from the Moscow region). In two more regions, the average values of the resistance index are close to good: 0.46 points each for clinics from St. Petersburg and the Krasnodar Territory. Among the regions-outsiders in terms of the indicator are the Samara Region (0.14), the Perm Territory (0.17) and the Sakhalin Region (0.19). The assessment of the sustainability of clinics in these regions is unsatisfactory. The average value of the integral index of stability for the analyzed commercial clinics is





0.33±0.034 points, which corresponds to satisfactory stability and actualizes the need to improve it.

The integral indicator of digital maturity of commercial clinics on average for the sample is lower than the integral indicator of sustainability and is 0.28±0.058 points. The leaders are clinics from Moscow and the Moscow region (average values of 0.76 and 0.6 points, respectively), and only for clinics from these two regions, the average values of the integral indicator of digital maturity turned out to be higher than the average values of the integral indicator of economic sustainability: digitalization is becoming a driver that allows ensure rapid development. In addition, relatively high values of the integral indicator of digital maturity were found in clinics from the Krasnodar Territory (0.43) and St. Petersburg (0.4), which were also leaders in terms of economic sustainability. Outsiders are clinics from the Samara region (0.07), Sakhalin region (0.10), Perm region (0.12), Novosibirsk region (0.13) and Sverdlovsk region (0.15), whose digitalization is mainly at the initial stage. stages or almost absent.

Comparison of the results of evaluating clinics for two indices (Figure 2) allows us to state the presence of a significant differentiation in indicators of economic sustainability with a corresponding level of application of its digital support. The upper right quadrant of sustainability and digital maturity leaders included nine commercial clinics, of which seven represent four previously identified regions - leaders: Moscow (three clinics), the Moscow Region (two), St. Petersburg and the Krasnodar Territory (one each). Two more clinics in the leader zone represent the Rostov Region and the Krasnoyarsk Territory. At the same time, all other commercial clinics were in the outsider zone in terms of both indicators (both sustainability and digital maturity).



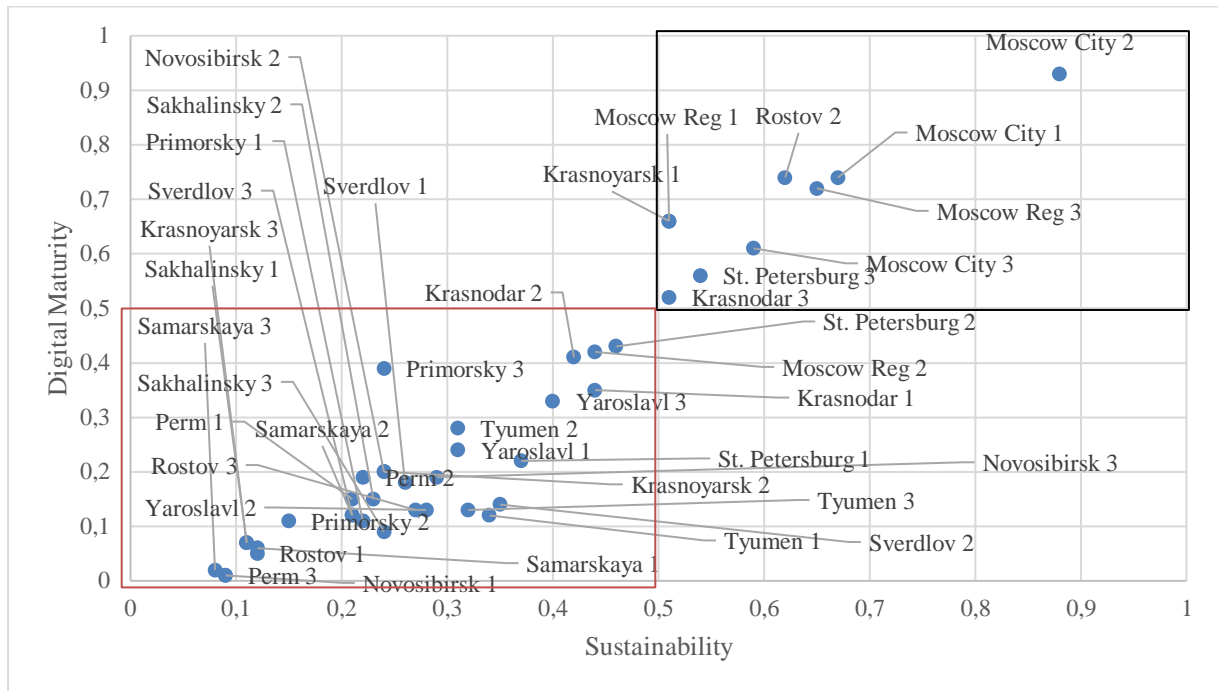


Figure 2. Comparative analysis of the values of integral indicators of sustainable development and digital maturity of commercial clinics by regions of Russia, points
Source: Calculated by the authors

A comparative analysis of the values of two integral coefficients revealed the presence of close correlations between the integral indicator of sustainability and the integral indicator of the digital maturity of commercial clinics. The Pearson correlation coefficient was 0.95 with a p-value of 0.002. Therefore, indeed, digital tools can have a statistically significant direct (positive) impact on ensuring the sustainability of the economy of social organizations, such as commercial clinics.

Based on the results of interviews with experts, key problems were also identified that hinder the development of digitalization of commercial clinics in the regions of Russia, which include a lack of funding, a shortage of qualified personnel, the difficulty of solving data security problems, the lack of industry standards for digitalization, and insufficient understanding of the principles of state regulation of the digital economy to the basics of regulation of commercial licensed activities in the field of public health protection. Finally, there remains the problem of insufficient awareness of the owners and managers of commercial clinics (often coinciding in one person) about the potential of digitalization and the real availability of digital technologies, which in practice can turn out to be much higher than it might seem.

As a result, the lack of digital technologies and high inertia in digital transformations in no way contribute to solving the problem of increasing their economic sustainability. In general, solving the problems of digitalization of commercial clinics requires an

integrated approach, including funding, education, data security and the development of regulatory documents. It is also important to consider the characteristics of each region and create individual strategies for the development of digitalization in the medical field.

4 DISCUSSION

The contribution of commercial medicine to the sustainable socio-economic development of the regions seems undeniable. By helping to improve the quality of life of the population through expanding access to a wide range of medical services, including unique ones, along with increasing the availability of quality medicine and providing an alternative to health insurance, commercial clinics also make a significant contribution directly to the regional economy. In particular, we are talking about creating new jobs, developing medical science and innovation, and facilitating the influx of tourists and patients from other regions resulting in the rise of tax potential and fiscal incomes. The presence of variability in the provided medical services and medical care, as shown in (Shelomentseva et al., 2021), has a positive impact on the investment attractiveness of the territories.

The study confirmed the hypothesis put forward that digital tools have a direct and significant impact on the sustainability of social organizations such as commercial clinics. At the same time, the presence of regional differentiation in indicators of the sustainability of the development of commercial clinics, which correlates with differences in the level of their digital maturity, is shown. Clinics in Moscow, St. Petersburg and the Krasnodar Territory have great organizational and financial capabilities, including knowledge and competencies in the digital economy. This is due to the high level of industrialization and digitalization in these regions, the presence of centers for the development of knowledge and innovation, and a generally higher digital culture of the population and entrepreneurs. In these regions, there is very wide access to qualified specialists who can implement and train in the use of digital technologies.

The corresponding prerequisites for a more active (compared to commercial clinics from other regions) implementation of digital tools to ensure the sustainability of the economy of commercial clinics are complemented by favorable economic conditions for organizing a medical business, including a relatively high effective demand for



medical services and services. In these regions, there is also a high level of networking of commercial medicine. Scale effects help free up additional resources for costly digital transformations, the results of which, once implemented, are shared by all commercial clinics in the network. At the same time, in connection with the observed trends, it is equally important to provide digital assistance to the sustainable development of commercial clinics in other regions of Russia, which will help even out interregional differences in the sustainability of socio-economic development.

In general, in order to ensure the sustainability of the economy of Russian commercial clinics in the field of medical services, it seems appropriate to recommend the following tools for use:

1. Marketing research. Conducting in-depth market research by commercial clinics to understand the needs and preferences of the target population, allowing them to tailor their services and develop effective customer acquisition strategies.

2. Continuous improvement of the quality of medical care. One of the key factors in the sustainability of commercial clinics is the provision of high-quality medical services, achieved primarily through the provision of highly qualified medical personnel, the use of modern equipment and adherence to modern standards and protocols.

3. Diversification of services. To strengthen economic sustainability, commercial clinics, based on the involvement of qualified medical personnel and technologies, can diversify their activities, not only offering basic medical services, but also licensing additional services, such as preventive, cosmetic or physical therapy services, which will increase the number of patients and increase their profitability.

4. Risk management. In the face of aggressive turbulence in the external environment and specific activities in the field of health care services, it is important for commercial clinics to develop effective risk management strategies in order to minimize potential threats and maintain financial stability. Elements of such strategies may include professional liability insurance, setting aside funds for unexpected expenses, and controlling financial transactions.

5. Investment in development. To increase economic sustainability, commercial clinics must invest in development, including equipment upgrades, staff development and expansion of services, which will allow them to be competitive and attract more patients.

6. Cooperation and partnership. It is important to develop cooperation, the results of which will make it possible to compensate for the deficit in ensuring the sustainability





of the development of the analyzed organizations in the social sphere. Commercial clinics can address a range of sustainability issues by entering long-term partnerships (both formal and informal) with other organizations such as insurance companies or medical device manufacturers to scale up their operations and obtain additional resources.

7. Development of digitalization. The study showed that digitalization is designed to play an important role in ensuring the sustainable and efficient functioning of commercial clinics in the regions of Russia.

The following are just a few of the ways in which digitalization can (and does, when done well and systematically) contribute to the sustainability of the for-profit clinic economy:

- Improving work efficiency (in particular, the introduction of digital technologies allows automating many processes in commercial clinics, helping to reduce the time spent on solving administrative tasks and helping to increase the efficiency of medical and nursing staff).

- Expanding the availability of medical services and increasing the patient base of a commercial clinic (introducing and developing online platforms on which patients can make an appointment, receive medical advice remotely and receive examination results via the Internet, improves the availability of medical services for the population of the region, especially for those citizens who live in remote areas or have limited mobility).

- Improving the quality of medical services, organizing, and planning their provision (digital technologies allow doctors to access electronic medical records of patients, analyze data and make informed decisions about diagnosis and treatment, helping to improve the quality of medical care and improve treatment outcomes).

- Improving and developing interaction with patients (digital platforms allow commercial clinics to maintain a closer connection with patients, providing them with information on health status and disease prevention, sending reminders for appointments with a doctor and allowing clinic representatives to conduct patient surveys, which contributes to improved communication and increase the level of patient satisfaction).

- Development of telemedicine (the provision of medical consultations and services remotely using video communication or mobile applications. The development of telemedicine is especially important for regions with an insufficient number of





specialists, where patients can access highly qualified doctors without the need for long trips, while commercial clinics that have the necessary resources and competencies, may be, in comparison with state entities, more efficient and effective in implementing telemedicine practices in regions with a high demand for it.

- Optimization of analysis and forecasting (digital technologies allow analyzing large amounts of data on patients, treatment and examination results, which helps to identify trends, predict diseases and develop more effective prevention and treatment strategies. Such data analysis can help commercial clinics make more informed decisions and improve quality of medical care.

In Table 3, based on the use of a brainstorming method involving experts from the described pool, the authors of this publication have developed the characteristics of an ideal business model for a private commercial clinic with a high level of digital maturity.

Table 3. Key characteristics of the business model of a private commercial clinic with a high level of digital maturity

Criteria	Characteristics
Infrastructure and technology	The clinic has a modern digital infrastructure, including high-speed Internet, cloud computing, network equipment and other necessary technologies.
Digital processes	The clinic has fully optimized digital processes, including electronic medical records, automated patient history management systems, electronic appointment booking and other digital tools.
Digital skills and education	All clinic staff have the necessary digital skills and have received the necessary training in the use of digital tools and technologies
Digital Security	The clinic has formed a high level of protection of digital data and information, taking all necessary measures to prevent cyber-attacks and information leaks
Innovation and adaptation	The clinic is actively implementing innovative digital technologies such as telemedicine, artificial intelligence, blockchain and others, and is ready to adapt to new digital solutions
Results and indicators	The introduction of digital technologies has led to an improvement in the quality of patient care, a reduction in waiting times, an increase in the efficiency of the clinic, and other positive results.
Strategic planning and management	The clinic has a clear development strategy in the field of digitalization and effectively manages projects for the implementation of digital technologies
Partnership and cooperation	The clinic has established and actively maintains long-term partnerships with digital technology providers and service providers, and actively cooperates with other clinics or other organizations to share experience and transfer knowledge in the field of digitalization

Source: Developed by the authors

The developed business model of the clinic with a high level of digital maturity will allow it to be competitive, efficient, and economically sustainable in the context of digitalization.

The above aspects can be used to facilitate practical solutions for promising digital transformations of tools to ensure the sustainability of the economy of commercial clinics, including the development of strategies, programs, plans and roadmaps in the



subject area.

The introduction of the proposed solutions into the practice of commercial clinics from the regions of Russia can help increase the sustainability of the economy of these regions through the use of the following mechanism:

1. Attracting additional investment through government programs or partnerships with private investors will help improve the financial viability of commercial clinics, which will allow them to adopt digital technologies and increase their efficiency, and in turn can lead to an increase in the volume of services provided and improve the economic development of the region.

2. Organization of specialized educational programs and advanced training of existing personnel will help to solve the problem of lack of qualified personnel. Trained professionals will be better equipped with the knowledge and skills to successfully implement digital technologies, which will improve the quality of medical services and attract more patients, contributing to the economic growth of the region.

3. Implementing appropriate data security measures, such as data encryption and the use of secure networks, will help reduce the risk of leakage or unauthorized access to patient data. This will create trust among patients and promote the development of e-medicine, which can lead to an increase in the volume of services provided and attract investment to the region.

4. Conducting information campaigns and educating patients on the basics of digital technologies in medicine will help overcome patient resistance to the use of digital solutions. If the majority of patients are willing to use online platforms and trust the privacy of their data, this will increase the demand for digital health services and stimulate the development of commercial clinics in the region.

5. The development and implementation of relevant regulations and standards will help establish uniform rules and requirements for the digitalization of commercial clinics, reduce differences in the quality of services and data protection between different clinics, and increase patient confidence in digital health services in the region, which will lead to their wider use and development of the region's economy.

In general, the implementation of the proposed solutions will help improve the financial viability of commercial clinics, improve the quality of medical services, increase the demand for digital medical services and create uniform standards and requirements for digitalization. This, in turn, will contribute to increasing the stability of the economy of these regions of Russia.

5 CONCLUSION

The study made it possible to confirm that among the tools for ensuring the sustainability of the economy of social organizations such as commercial clinics, digital ones come to the fore. Digitalization is designed to play an important role in the development of healthcare in the regions of Russia, helping to improve the efficiency, accessibility, and quality of medical care. Digital transformations also contribute to the development of innovations in the medical industry and attract additional investment.

The implementation of the proposed solutions for the digitalization of commercial clinics in the regions of Russia can help improve their financial viability, improve the quality of medical services, attract investment and create uniform standards, which in turn will contribute to the sustainable socio-economic development of these regions.

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