



Development of the Theoretical Foundations of Sports Activity (Sports Business) in Post-Industrial Conditions

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ABSTRACT

The subject of the article is the development of the theoretical foundations of sports activity (sports business); the object of the article is sports activity; the purpose of the work is to increase the socio-economic efficiency of sports business; the provisions of the general theory of sports (sportology) are formed in the work; the theory of sports is considered as the theory of service (servicology) in the field of sports as a scientific basis for designing sports and business processes, assessing the quality of services in the field of sports, the methodology of the development of the field of sports, the theoretical foundations of the development of economics and management in the field of sports in the conditions of globalization of the market of such services, the development of service and information technologies and the functional and decomposition representation of sports complexes (stadiums, training bases, etc.) is investigated, four-level models of sports services are proposed, which can be useful in designing, positioning and analyzing the competitiveness of such types of sports services.

ARTICLE INFO

Article History:

Submitted/Received 09 Dec 2022

First Revised 15 Jan 2023

Accepted 04 Mar 2023

First Available online 06 Mar 2023

Publication Date 01 Dec 2023

Keyword:

Business,
Complex,
Decomposition,
Economy,
Efficiency,
Functions,
Management,
Production automation,
Properties,
Representation,
Service,
Sport,
Theory.

1. INTRODUCTION

The relevance of the article is connected with the solution to the problem of increasing the effectiveness of sports activities in the process of increasing the quality of life of society in a consumer society.

Sport is closely connected with the history of mankind. It is known that the Olympic Games were held in Ancient Greece. However, the role of the sport increased dramatically in the 1970s. This is due to the invention of computers and the development of flexible production based on information technology. The creation of flexible automated production facilities has led to a reduction in the physical load on employees of firms. The creation and use of computers have changed the lifestyle of a significant part of society: there was such a dangerous factor for human health as inactivity.

Sport in the 21st century appears to be an important part of modern society, business, and the global and national economy. Sports in a consumer society affect the quality of life and health of the population. At the same time, sports can significantly influence the pace of development of other sectors of the economy. The impact of sports on society and the economy is determined by the following factors: the creation of demand for certain sports services and goods; the demand for sports services; the ability of sports to influence the quality of labor resources; the ability of sports to influence the moral and psychological state of society; the ability of sports to influence the geopolitical status of the state. At the same time, sport acts as:

- (i) a socially significant type of business;
- (ii) a factor in the formation of the country's international image in the world;
- (iii) a factor in the attractiveness of the country for its population;
- (iv) a factor in assessing the health of society.

The role of the sport increases with the transition to a new technological order, due to changes in social relations, and people's lifestyles. Sport is becoming one of the technological tools for maintaining the health of both an individual and the entire nation as a whole. At the same time, sports can be a tool for ensuring high-quality labor in the economy.

This article hypothesizes that for the harmonious and sustainable development of the sphere of sports, as part of the post-industrial sphere of business (service) and the national economy, the formation of the methodological foundations of the scientific theory of sports (sportology) is of great epistemological and practical importance.

The purpose of this article is to develop the scientific theory of sports as a methodological basis for the development and improvement of the quality of services in the field of sports, which is part of the modern economy and social life. To achieve this goal, the tasks are solved:

- (i) the content and specifics of the sphere of sports, the impact of scientific, technical, and socio-economic progress on it are investigated;
- (ii) the conceptual apparatus and the development of scientific and methodological support of the sports service sphere are substantiated and investigated;
- (iii) methodological provisions of serviology in the field of sports (sportology) are being developed—sciences about the field of sports service and its development;
- (iv) a four-level model of sports services is being formed for high-achievement sports, mass sports, and restorative (recreational) sports;
- (v) the methodology of designing sports complexes based on the use of functional decomposition representation of complex systems is being developed;

(vi) possible approaches to increasing the efficiency of management and improving the quality of services in sports in the conditions of scientific and technological progress and intensive development of information technologies are investigated.

The object of the article is the sphere of sports service as part of the structure of the global and national economy and social life in the 21st century.

The subject of the article is the theoretical foundations of the theory of sports (sports servicology), as an industry part of servicology - the science of the development of economics and management in the field of post-industrial service.

A study of scientific publications on the topic of this article showed the following. The increase in the social and economic importance of sports has led to the development of a general theory of sports (Vrooman, 1995). Scientists develop a systematic approach to the theory of sports (Peredelsky, 2016). Researchers perform a comparative analysis of various theories of sports (Elsheikha & Kendall, 2009). Much attention is paid to the legislative regulation of sports in the countries of the European Union (Zaitseva, 2019). Experts believe that the philosophy of humanism should influence the formation of the scientific theory of sports (Cynarski, 2017). The researchers note that errors in the theory of sports can affect the effectiveness of sports activity (Pavlov & Pavlova, 2019). Analysts note that sports theories have not only cognitive but also important practical significance (Funk *et al.*, 2000). Scientists consider pedagogy to be an important direction in the theory of sports (Kalynychnenko *et al.*, 2022). Some scientists consider sports as an industry. Important elements of the sports industry are considered sports entrepreneurship and management in sports (Lednev, 2017; Retar *et al.*, 2016). Therefore, scientists study the specifics of management in the sports industry (Prystupa *et al.*, 2020). Analysts consider advertising and PR to be important components of modern sports (Shannon, 1999). Experts believe that conflicts of interest are possible in the sports industry (Sherry *et al.*, 2007). Scientists consider it important to apply management to form a system of public-private partnerships in the sports industry (Maksanova *et al.*, 2020).

Researchers are engaged in the development of the theoretical foundations of the functioning of the post-industrial service sector (Glushchenko & Glushchenko, 2017). In the process of developing post-industrial sports, marketing methods can be useful (Wyckham *et al.*, 1975). When developing sports, it is important to take into account the process of development of the service sector (Kuleshov & Seliverstov, 2016). The theory of sports should be considered part of the scientific and innovative activities of society (Glushchenko, 2021a). When investing in the development of sports, it is important to take into account the risks in this area. At the same time, it is important to correctly assess the effectiveness of such investments. Analysts suggest considering sports as part of the service sector (Glushchenko *et al.*, 2018).

The analysis of scientific publications on the topic of this article showed that the topic of this article is relevant.

2. METHODS

This study is a literature study. Data were obtained from internet sources, specifically from articles published in international journals.

3. RESULTS AND DISCUSSION

In the 21st century, in the conditions of post-industrial development, the sphere of sports is intensively developing:

- (i) new sports have appeared;
- (ii) new technologies in the field of sports are developing;
- (iii) sports events are turning into shows and more.

At the same time, the globalization of the sphere of sports sharply raises the question of the competitiveness of certain types and segments of activity in sports. As a branch of the economy, sports should increasingly focus on the needs and interests of its consumers, the economy, and society. The recognition of the great importance of sports in the modern world, the importance of this sector of the national and global economy was the emergence of such a field of study as "Management in the sports industry" at universities.

At the same time, as is known, in economic theory, the following are distinguished as independent spheres of human activity: industrial production; agriculture; the service sector. The analysis shows that in the new technological order, for the first time, the service sector will develop faster than industrial production and agriculture (Glushchenko, 2021b). Many factors, such as the immaterial nature of the results, and participation in the sports process of the buyer, make it possible to attribute sports activities to the service sector (Glushchenko et al., 2018). At the same time, there are attempts to attribute sports to the sphere of material production (Lednev, 2017; Retar et al., 2016; Prystupa et al., 2016). Can this attribution of sports to the sphere of industry be recognized as a mistake? This kind of mistake can have important not only theoretical but also practical significance.

Sports researchers note that sports at the beginning of the 21st century have turned into a powerful, attractive industry from an investment point of view. At the same time, key international sports organizations, sports leagues, and professional clubs' function as full-fledged commercial enterprises and have a good level of income. An analysis of the main trends in the development of the global sports industry is carried out. The point of view is expressed that the development of methodology is extremely important for the correct determination of priorities in the training of managers and entrepreneurs for Russian sports organizations (Peredel'sky, 2016).

This expert opinion further confirms the relevance of this article and the further development of the methodology of the field of sports. Sports management is considered a factor in the development of the sports industry (Retar et al., 2016).

At the same time, the features of management in the sports industry in modern conditions are investigated. Sports management is studied as the theory and practice of effective management of sports industry organizations in market conditions. It is believed that sports management as a special kind of professional activity of managers arose in the process and as a result of the division, specialization, and cooperation of their work. An analysis of the causes of the emergence and intensive development of sports management in developed countries (European and the USA) is carried out. The evolution of management in sports as a type of professional activity is investigated. It is reflected that sports management in the sports industry at the beginning of the 21st century attaches special importance to the formulation of the goals of a sports organization. At the same time, strategic planning and management are put forward in the first place. Attention is drawn to the fact that the ultimate goal of the management of a sports and sports commercial organization is to ensure the profitability of its work through the scientific organization of labor. At the same time, a non-profit sports organization is characterized by a constant desire to satisfy the needs and sports

interests of various groups of the population in physical culture and sports services. The researchers described the main and specific functions of sports management. As the main functions of sports management are studied: organization, motivation, control, and coordination. The specific functions of sports management are defined as: physical education of students, organization of physical culture and sports work with the population (development of sports for all), training of highly qualified athletes in sports, development of professional sports, preparation of sports reserves, conducting sports competitions and sports and entertainment events, scientific and software and methodological support of physical education and development of sports, organization of production of sporting goods, planning and implementation of international sports relations, etc. The opinion is expressed that the professional level of a manager in sports is reflected in the knowledge of the management technology of the organization and the laws of the market, in the ability to coordinate the coordinated work of the team, and predict the development of the organization. The increasing role of sports managers in market conditions is emphasized (Prystupa et al., 2016).

- (i) the proposed version of the general theory of sports is more based on practical (every day) knowledge of the technology and structure of sports, rather than on the philosophy and methodology of science.
- (ii) sometimes the concept of "phenomenon of sport" is used, which can mean, following the linguistic interpretation of the concept of "phenomenon", the fundamental unknowability of the socio-economic nature and essence of sport, thus a contradiction is likely: on the one hand, the scientific nature of the theory is emphasized, and on the other hand, there is a linguistic indication in terms of the unknowability of the nature of sport (what is it: an annoying typo or a Freudian slip of the tongue?);
- (iii) often sports researchers contradict themselves by simultaneously talking about the sports industry and the organization of sports services.

However, we should not forget about the existence in formal logic of the Law of the excluded third, which states: A or (it is not true that A).

These contradictions should not be overlooked because it is known from the philosophy that if a theory contains internal contradictions, then it cannot be true, or practically effective. On the contrary, such an erroneous theory can generate risks (in particular, risks of knowledge and actions) in sports management.

Consequently, this existing duality in assessing the object of management in sports can be a source of risk in the development of a global, national sports system and individual sports organizations. Let's agree to call the national sports system a set of organizations involved in the development of sports in the country.

Methodological support for the development of the global sports system requires the formation and development of a general theory of sports (sportology), which can also be called sports servicology. The rationale for the use of the term "sportology" maybe that modern sports is a large-scale and diverse object of research and can be classified as complex large systems that require the development of their research methodology. With the development of this methodology, a system-management approach can be recommended. With this approach, sport should be considered in its systemic connection with various aspects of the activities of the state, business, and society. At the same time, the very process of obtaining, fixing, structuring, and using scientific knowledge should be aimed at maximizing the use of scientific information in the interests of sports management to maximize the socio-economic efficiency of sports.

We will justify in this article the possibility of calling the general theory of sports (sportology), at the same time sports servicology. To do this, let us recall that the structure of the post-industrial economy at the beginning of the 21st century includes three parts: production; service sector; agriculture. As is known, in the conditions of post-industrial globalization in developed countries, the most significant of these three elements (production; service sector; agriculture) is the post-industrial service sector, which accounts for 60 to 80% of the economy of developed countries.

We exclude agriculture from consideration because as a result of sporting events, agricultural products are not produced. There are two options left: to attribute sports to production or the service sector. Take into account that, as you know, all benefits in a market economy have the form of tangible goods and intangible services.

Production (industry) involves the creation of tangible goods intended for circulation on the market and meeting the needs of buyers.

Since sports activity is not directly aimed at the production of material goods, it cannot be classified as an industry (production).

Therefore, logically, by the method of exclusion in this article, it is proved that sport (sports activity) belongs to the service sector.

Therefore, it is proved that in 2023 there are no grounds to talk about sports activities as a sports industry. In this situation, the further use of the term "sports industry" is not justified in any way and may lead to an increase in the risks of sports activities, mislead.

At the same time, the research carried out in this article and its result opens up the possibility of forming a general theory of sports based on the general theory of service (servicology) (Glushchenko & Glushchenko, 2017). At the same time, it is also possible and practically interesting to focus on the formation of a general theory of service using a system-management approach, which involves considering sports in systemic unity with economic and social processes in society with priority in the formation of effective management methods in sports.

With this approach, it should be borne in mind that the service sector is considered an activity for the provision of various types of services. At the same time, the service sector itself can be divided into such structural elements: technical services; construction services; social services. It is logical to attribute sports to the category of social services, and humanitarian (human-oriented) services.

At the same time, the entire service sector as a whole can be studied as an activity to ensure the safety, efficiency, adaptation, and development of the economy, the technogenic sphere, and the social sphere. It should be noted that, as is known, the technogenic sphere is called a part, a region of the biosphere in the past, transformed by people into technical and technogenic objects that make up the environment of populated places.

Stadiums, training bases, and others can be classified as objects of the technogenic sphere (technosphere) because they were created by people for the training and competitions of athletes.

We will agree to call the sphere of social services the activity of providing services aimed at maintaining and prolonging life, creating more comfortable and safe living conditions for the population, and meeting the cultural, social, and household needs of the population.

It is customary to call a service any event, activity, or benefit that one of the parties can offer to the other party and which is mostly intangible and does not lead to mastering anything (Wyckham et al., 1975).

Proceeding from this, the development of the conceptual apparatus and the science of this structural element of social humanitarian service is required. We will take into account that

the concept of "servicology" is formed by combining the words "service" and "logos (science)", and the definition of "sports" emphasizes the industry affiliation and specifics of the scientific discipline being developed in this article. In addition, we draw attention to the fact that the concept of "sportology" is formed by combining the words "sport" and "logos (science)" and also indicates the scientific nature, industry orientation, and social orientation of the scientific discipline being formed in this article. Thus, at the conceptual level, it is emphasized that the sports business simultaneously acts as a part of servicology and the science of sports, the functioning and socio-economic essence of sports.

With this approach, we will develop theoretical aspects of the sphere of sports services, starting with its scientific foundations in the form of determining the essence and specifics of the type of services studied in this work ([Glushchenko et al., 2018](#)).

We agree to proceed from the fact that the service sector is a part of the economy that combines the synthesis and provision of all types of commercial and non-commercial services. In the modern economy and society, the service sector is becoming an increasingly important element of both the economy and public, social life. This sphere is accelerating its growth and is becoming a key sector for the development of the economy and the non-profit sector. Therefore, as already noted, it is the service sector that makes up, in economically developed countries, the bulk (60-80%) of the economy.

Sports services act as part of the system of economic and social relations, which is of great economic and social importance in the post-industrial world due to the changing nature of work. The specifics of post-industrial labor are characterized by the emergence and growth of risks of inactivity, early development of diseases, and a decrease in the quality of labor resources and the quality of life of the population for this reason.

With different approaches, the sphere of sports services can be defined as a part of the economy, which includes all types of commercial and non-commercial services to ensure the maintenance of health, and athletic fitness of people in various life and work processes and as an integrative generalizing category, including the reproduction of various types of sports services.

The sports services sector can be structured into three sectors:

- (i) high-performance sports as a sphere of professional activity of athletes, a segment of the sphere of sports services to society as a whole, within the framework of which a practical scientific study of the physiological capabilities of a modern person is carried out, and personal, group and national statuses of participants of competitions and groups of fans identifying themselves with athletes, national federations of various sports, etc. are established during sports competitions.
- (ii) mass sports as a segment of the sphere of sports services to the population in a wide age range, to specific individuals, social groups, and society as a whole, which is aimed at maintaining the physical health and working capacity of the population through regular sports training and amateur competitions.
- (iii) recreational sports, as a segment of sports services aimed at restoring the health and physical fitness of people who have been injured, or suffered serious illnesses and for this reason, need special physical exercises to restore their ability to work and the maximum possible usefulness of social life (quality of life) and more.

In the 21st century, the sphere of sports and, in particular, sports services can be attributed to the post-industrial economic order because of its active participation in maintaining the working capacity of the population, the development of modern infrastructure, ensuring a balance of interests, work, and recreation in the life of a modern person. At the same time, it

is the service sector that makes up, as already noted, in economically developed countries, the bulk of the economy in terms of the number of employed (more than 60%) and is developing especially intensively.

Sports service can be considered a structural part of the generic concept of service. In this case, the sports service can be defined: as the use value of labor (not as a product – the result of previous activity), the activity itself; an intangible action that does not lead to the possession of anything; actions that provide a new quality (athletic fitness, good physical fitness of athletes) to known objects.

The provision of sports services is related to material products, goods (stadiums, training bases, gyms, playgrounds, sports equipment, inventory, etc.), and/or consumer service technologies.

Sports services as a way and tool to meet the economic, social, or technical needs of the economy, society and people can be described, characterized, and classified based on their features, advantages, and disadvantages.

One of the distinctive characteristics and features of a sports (training) service is its immateriality (intangible).

The continuity of production and consumption of sports services is determined by the fact that a significant part of services is such that they combine in time and space the process of production, distribution, and consumption of services.

In the conditions of new information technologies, many types of sports services make it unnecessary to have direct contact in the process of providing a service (training) between the manufacturer (coach) of the service and its consumer (athlete).

The inconstancy of the quality of sports services is determined by the fact that a significant proportion of services are provided to the consumer directly by an employee of an organization or institution in the field of sports services. At the same time, the quality of the services provided depends crucially not only on stable factors but also on many changes, including random factors (the physical form and mood of the athlete, the mood of the coach, etc.). In addition, the quality of sports services is significantly influenced by a lot of related factors (the condition of sports equipment and venues for training and competitions, the time interval for providing sports services, the complex nature of sports services and its complementarity with other types of services, for example, sports nutrition, etc.). These features and circumstances of the production and consumption of sports services make it the difficult quality of assessment and definition of quality standards of sports service (services). At the same time, it is in this area that the main efforts are being made to achieve consistency in the quality of services. The inconstancy of the quality of sports services can also be associated with the individual nature of individual elements of sports services (including the maintenance of the gym, the qualifications of the coach, the design of the venue, and the process of competition or training, etc.), the dependence of the required quality of sports services on the individual requests of a particular client and his mood.

The non-preservation of a sports service, as its fundamental property and characteristic, is to a certain extent connected with the continuity of its production, distribution, and consumption over time. The non-preservation of sports services is also influenced by the need for periodic training to maintain the physical fitness of clients, and personal contact between the service provider (coach) and the client. The non-preservation of sports services significantly affects the process of their distribution and the quality of sports services. The non-preservation of sports services limits the possibility of using seasonal and other fluctuations in demand for these services over time leading to a situational shortage or oversupply of the capacity of organizations in the field of sports services in certain periods.

This increases the relevance of the integration of sports business with tourism, the sphere of hotel services, and the production of agricultural products for sports nutrition based on the methods of servicology (general theory of service).

Taking into account the features of the sports service already defined above in this article, the following characteristics of its provision can be distinguished:

- (i) requirements for the goals, process, and quality of sports services should be clearly defined as characteristics that can be observed and evaluated by the client (consumer).
- (ii) in most cases, the management of the process of providing sports services and certain characteristics of the result of the provision of services can be achieved only by managing the process of providing services.

The characteristic of a sports service and/or the process of its provision (rendering) can be qualitative (consists of a comparison of quality) and quantitative measurement, depending on for what purposes, how, and by whom such an assessment of the quality of the service is carried out (service organization, consumer, etc.).

The research analyzes the economic and social nature of sports services, clarifies the economic interpretation of this category, and identifies promising areas of the entire sphere of sports services within the framework of the post-industrial market transformation of society in the context of the ongoing global crisis.

Taking into account the diversity, complexity, and relative conditionality of the interpretation of such a multifaceted concept, which undoubtedly acts as a sports service, we can offer such an economic definition of a sports service: a sports service is an economic, training, competitive activity aimed at meeting the needs of customers (individuals and/or legal entities) through the organization and conduct of training and competitions of athletes with taking into account the possibility of providing additional social, material, spiritual benefits or creating conditions for spectators in the process of consuming sports entertainment services.

A sports service can also be considered as a specific product, the result of actions that have an immaterial nature, produced at the request of the consumer (customer), which is expressed in providing safe and comfortable conditions for improving the physical fitness of an athlete, meeting the entertainment needs of fans to consume sports services (sports entertainment services) or in changing the health status of the consumer himself in as a result of training.

Socio-economic functions of sports in the 21st century can be called such functions:

- (i) the scientific and research function of sports, which consists in motivating the synthesis of an adequate general theory of sports, the formation of methods, and the creation of conditions for experimental research and theoretical generalizations of data on the physical capabilities of a modern person, the dependence of human physical health on sports, the development of methods of sports training and other.
- (ii) the function of sport as an active tool for ensuring the quality of the economy's labor resources, the quality and life expectancy of the population, and ensuring sustainable development by maintaining the non-diminution of human development resources.
- (iii) the function of maintaining public and personal health by preventing diseases based on sports as a structural element of a healthy lifestyle of the individual and society.
- (iv) the recreational function of restoring the health of victims of infrequent cases or serious illnesses, and life situations, aimed at the subsequent restoration of the ability to work and the quality of life of people, maintaining the population.

- (v) intensification of personal, intergroup, and interethnic contacts and communications in the process of sports exchanges, public events, demonstrations, and competitions.
- (vi) the function of the development of physical culture of the population, national sports, as part of the national culture and lifestyle, as an element of the "cultural code" of the nation, a factor of cultural and geopolitical self-identification of the population.
- (vii) the function of humanizing international and public relations, for example, it is known that in ancient times during the Olympic Games, wars stopped.
- (viii) the function of humanizing international and public relations, for example, it is known that in ancient times during the Olympic Games, wars stopped.
- (ix) the international and internal image-forming function of sport, which consists in the fact that sport and the degree of its development in the state form the image of the state in the international arena and within the state for its population, which affects the geopolitical and political stability of the state and other.
- (x) the function of satisfying the needs of individuals, individual social groups, and society as a whole in public entertainment events of competitive and demonstration type with the creation of the effect of participation in what is happening among the audience (fans).
- (xi) the function of developing a specific direction of entrepreneurial activity in the field of the real economy (construction, operation of sports facilities, production of sports equipment, sports symbols), in the field of finance (investment, insurance, etc.), organization of gaming (betting) business and sports lotteries, etc.
- (xii) the development of a specialized direction in the theory and practice of modern management – sports management, aimed at developing techniques and tools for influencing the sports process and its subjects in the interests of improving the effectiveness of sports, the growth of sports achievements, the commercial attractiveness of sports, etc.

The roles of sport (sports service) can be called those useful results that sport brings to the state, economy and business, society, and its members (individuals).

The roles of sports at the individual level can be called: maintaining physical characteristics and health status as structural elements of personal safety, quality of life, ability to work, and more.

The roles of sports at the level of economics and business should be considered: improving the quality of labor resources in terms of creating conditions for increasing the endurance of personnel and labor intensification; reducing labor losses due to their excessive overstrain in the production process; the possibility of forming a favorable image of organizations through sponsorship, the development of a physical culture of personnel, and more.

The role of sport at the state level can be defined as follows: maintaining a certain sports geopolitical status of the state based on the results of international sports competitions; forming a favorable image of the state in the international arena; maintaining the image of the state within society; increasing the stability of the state by creating a favorable domestic political situation by preserving and restoring the number, efficiency, defense capability of the population of this state, and more.

At the same time, as the conducted research has shown, there are sufficient grounds to conclude that the developed scientific theory of sports -sports service (sports servicology) has not yet been formed, is insufficiently developed, is not presented to the scientific community and numerous subjects (actors) of the economy and society working on the provision of sports services and /or using services of this sphere.

For this reason, many topical theoretical and practical problems of the development of sports services cannot be solved, which cannot be solved without a theoretical understanding

of the essence of sports services and the development of the scientific theory of sports services (sports servicology - sportsology).

The epistemological (cognitive) significance of the general theory of sports (sport servicology-sportology) will consist in the systematization and classification of accumulated theoretical knowledge and practical results obtained on their basis, coordination of research in the field of sports, increasing the effectiveness of further scientific research. The general theory of sports is intended to become a catalyst for further research in this field of science, will be of great importance for coordinating the work of scientists in this field (sports science), will increase the efficiency of using existing knowledge and knowledge that can be obtained about sports in the future.

At the same time, such studies aimed at the formation of a general theory of sports, the theoretical foundations of the field of sports services will have not only theoretical but to a large extent also applied (practical) significance, since more accurate knowledge of the object of management (sports), the specifics of sports services technology, the resource component and the target setting directly determine the effectiveness of the management system and marketing in the field of sports services development.

The technological features of the production of various types of sports services are directly interrelated with the problems of developing and using standardization systems. The issues of security, unification, standardization, and certification concerning the field of sports services should be attributed as the most difficult to develop.

In modern publications devoted to sports services, attention should also be paid to quality management, models should be formed for designing and evaluating the quality of services, and the stages of quality measurement using various techniques are described. At the same time, in 2023, the question of what is the quality of services and sports services, in particular, remains relevant. The development of this scientific and practical problem should and can be based on both the general theory of sports services (sports servicology) and models of sports services formed for these purposes.

A mandatory element of the general theory of sports services should be recognized as the study of the economic foundations and features of the provision of sports services, and the provision and consumption of these services within the framework of a post-industrial market economy.

The presence of manufacturers of sports services - commercial and non-profit organizations (enterprises) of different forms of ownership, organizational and legal forms related to this sector of the economy can generate differentiated approaches to the scientific setting of goals and determining the strategy of their activities, the formation of sources of resource support for activities, the construction of criteria for the effectiveness of functioning, ensuring adequate personnel policy and the creation of a system of relations with external participants and staff of the process of providing sports services.

An important component of sports servicology as a general theory of services in sports should also be recognized as such an important element of ensuring the functioning of this sphere as financial management and the mechanism of resource provision of sports services.

At the same time, it should be borne in mind that in the works on the theory of service, the service sector is studied as a modern branch of the economy based on the development of scientific and technological progress, and sports innovations. The service sector is studied: firstly, as a separate sector of the economy, capable of independently forming a general economic effect (macroeconomic aspect); secondly, from the point of view of a narrowly sectoral approach to the production of certain types of services that create segments of the

industry market (including the sports services market). It is noted that the latter approach does not adequately reflect the completeness of the industry's contribution to the socio-economic result of the city, the region, and the country as a whole.

At the same time, the role of entrepreneurship in the development of the service sector has been poorly studied. In addition, the economic limits of the possibilities of expanding the service sector are not yet completely clear. In general, the contribution of the sports services sector to ensuring the safety, quality, and comfort of modern human life has not been fully investigated. Meanwhile, the globalization of the economy and social life, the intensification of labor, and the realities of employment of the economically active population require new approaches to the development of the service sector (including the spread), its volume, and specific expansion, ensuring price and territorial accessibility of services. The opinion is expressed that importance should be given to strategic management in the service sector 17.

The conducted research shows that currently there are no detailed analogs of this work aimed at creating a single complex of philosophical and methodological support for the development of the sports service sphere as a single economic complex (subsystems of the national and global economy). For this reason, the arguments of the researchers about the absence of a detailed theory of service and sports service at the beginning of the 21st century, in particular, can be considered as the basis for the formation of the hypothesis of this study. This hypothesis suggests that for the harmonious and sustainable development of the sphere of sports services (service), as part of the post-industrial economy and society, a structural element of the service sector, the formation of the methodological foundations of the general scientific theory of the sphere of sports services (sports servicology - sportology) is of great importance.

As already noted, the development of a holistic general theory of the sphere of sports services will contribute to solving not only theoretical and methodological problems that occur in this area but also many practical issues that are caused by the peculiarities of the service as a structural element of the functioning of post-industrial economies and societies.

At the same time, as already noted, the integration of the methodology of sports with the processes of production of entertainment programs and products, the methodology of physiotherapy in medicine is relevant, which is possible based on the general theory of service (servicology) (Glushchenko & Glushchenko, 2017) and the general theory of science (Scientology) (Glushchenko, 2021a).

Based on the results of the work (Glushchenko & Glushchenko, 2017; Glushchenko, 2021a) it becomes possible to develop a scientific theory of sports service (sports servicology) - sportology.

The philosophy and methodology of science explained that the essence of a scientific theory is determined by describing its object of research, scientific method, functions, and roles of scientific theory, and by developing its laws. It is these scientific provisions of sports servicology (sportology) that will become the subsequent content of this article.

When developing a general theory of sports services (sports servicology), we agree to take into account the specifics of the field of activity under study, which is determined by the technological process of ensuring the safety of sports services for personnel and athletes and a certain level of enjoyment, the comfort of the process of sports, the goals of sports activities, resources and sources of financing, personnel policy, segments of consumers of sports services, the size of sports business, management techniques and marketing concepts, promotion and communication features, and often the form of ownership and architecture (network, non-network) of sports business.

The study of sports services as legal entities is also an important element in research. It should be noted that sports services as an object of civil rights should be given sufficient attention in the form of regulations and publications. It should be noted that until 2018, there is no consensus among scientists on how work differs from services and what is the peculiarity of each of them as objects of civil rights. This problem has not only theoretical but also practical significance, its resolution can significantly affect the safety and quality of sports services, as well as business practices in the field of sports services.

The list of the main conceptual areas that could be included in sports servicology as a general theory of sports services can include areas related to economics and management in the provision of these types of services. At the same time, the object of the general theory of the sphere of sports service should be the sphere of such services and the service itself, considered as a specific product and object of economic activity with a specific purpose and special social and cultural properties.

Sports services in integration with other types of services, such as tourism, hotel services, and restaurant services, for example, athletes and sports fans can improve the quality and attractiveness of such services by creating a synergistic effect from meeting sports, cognitive, cultural needs, comfortable rest of competitors and fans.

The subject of sports servicology (sportology) can be called a system of economic, managerial, organizational, financial, and social relations that arise in the process of promotion, production, and consumption of sports services.

The subjects (actors) of the sphere of sports services are producers (managers, coaches, athletes), consumers (spectators, fans), customers (government, sponsors), intermediaries (sports agents, promoters, and other individuals and legal entities) involved in the process of socio-economic relations in the field of production and consumption of sports services.

Let's agree to call sports servicology the science of creating scientific knowledge, practical competencies, and technologies, which covers a complex of scientific problems, philosophy, ideology, politics, motives, methods, methods, tools, and technologies of traditional and/or innovative creation of sports services, technologies, their circulation, and provision, as well as methods of evaluating the financial results of this activities and the impact of the sphere of sports services on the development of the state, economy, society and international relations.

From an epistemological point of view, sports servicology is a methodology for research, analysis, and management of methods for solving scientific and practical problems facing modern economics and society in the field of sports development as well as sports business and service.

Let's define the scientific method, object, subject, functions, and roles of the general theory of sports service – sports servicology (sportology).

The scientific method in sports servicology is considered to be a system of principles and techniques, with the use of which objective knowledge of scientific processes and socio-economic results of designing, creating, handling, rendering, and modernization of services and technologies of their production in sports service is provided.

The functions (from the Italian word "I perform") of sports servicology cover what, within the framework of sportology (sports servicology), can be performed in the geopolitical, political, social, economic, technological, and environmental subsystems of the state, global economy and society.

Economic and social role (significance) sports servicology is produced by the effectiveness of performing its functions, which this servicology implements concerning meeting the needs of the economy, society, and a particular person in sports services.

We agree to call the basic functions of sports servicology: methodological, cognitive, instrumental, legislative, optimization, prognostic, preventive, psychological functions, the function of socialization of knowledge, minimization of technogenic, environmental, and social risks, the system-forming function of sports servicology.

The methodological function of sports servicology covers the development of the conceptual apparatus, the development of the theoretical foundations of scientific research and methodology for the study of sports services, individual services, phenomena, and processes, the formulation of laws and categories of sports servicology, the development of management tools for scientific research, an innovative project (in various fields of activity) to create sports services, the life cycle of sports services in the interests of increasing the efficiency of their production and application in the economy and society, minimization of damage from technogenic risks and ensuring the effectiveness of policies (systems of measures) in the field of science, innovation, technology in the field of sports services.

The cognitive function of sports servicology includes the processes of accumulation, description, the study of facts of reality in the field of sports service, its scientific research, innovations, and technologies in the field of such service at various levels (global, national, sectoral, regional, etc.), analysis of specific phenomena and processes in the field of sports service, scientific research, implementation of innovative projects in the field of sports services, the life cycle of sports services, identifying the most important problems and sources of development of sports services, substantiation of individual measures and programs for the development of sports services.

The instrumental (regulatory) function of sports servicology is practical and consists of: the synthesis of methods and tools for managing scientific research in all parts of the field of sports services, management of innovative projects in the field of sports service development, life cycle management of sports technologies and services; development of practical recommendations for government agencies, research organizations, organizations in the field of rendering sports services; preliminary assessment of the effectiveness of sports services and the need for their modernization.

The legislative function of sports servicology is to substantiate the need for the formation of legal norms that contribute to the development of sports services, innovations in the field of sports services, forms of liability in the event of damage to third parties, personnel, and society as a whole in the provision of sports services that do not meet safety requirements, etc. The optimization function of sports servicology consists in the synthesis or selection of the best (from a certain point of view, for example, minimum costs), the achievement of safe and environmental conditions, and the consequences of the functioning of the sphere of sports services, technologies, methods and techniques for the implementation of sports services in the economy and social environment.

The prognostic function of sports servicology covers the assessment of the future state of the sphere of sports services as part of the economy and society in the future from the point of view of the possibility of developing certain areas and parts of the sphere of sports (sports services), their changes under the influence of scientific and technological progress in the fields of science, technology, technology in the field of sports.

The preventive function of sports servicology covers the implementation of preventive and preventive measures based on the results of the forecast of the development of science and technology, taking into account the possibility of the development of technical and economic

crises in the field of sports services, man-made disasters, technological crises and other types of negative phenomena resulting from the development of negative phenomena in the field of sports services.

The psychological function of sports servicology is to explain to the population of the state the need for financial and other costs for the continuous development of scientific and innovative activities in the field of sports services, the acceleration of scientific and technological progress in the provision of sports services, the orientation of society towards sustainability and effective management of scientific and technological progress of the economy and society in the field of sports services.

The function of knowledge socialization in sports servicology is to disseminate knowledge about the role and importance of modern science, technology, technology for the modern field of sports service and its impact on the development of the state and society, the need for effective measures to develop scientific support for the development of sports service (services) among the general population. Performing the function of socialization in sports servicology can be of great importance for ensuring the sustainability of development and progressive legal support for the development of science and technology and STP in general in the field of sports service.

The system-forming function of sports servicology includes the formation and accumulation of knowledge aimed at comprehensive customer service, ensuring the creation of adequate management systems for scientific and innovative processes in the field of sports services, including planning, organization, motivation, and control of the results of scientific and innovative processes in this part of the service sector.

The roles of sports servicology (sportology) can be considered:

firstly, increasing the degree of optimality of the processes of development of scientific support in the field of sports services and its innovative development;

secondly, risk reduction – the possibility of negative deviations from the planned results during the development of sports services, during research and implementation of innovative projects in this area;

thirdly, an increase in financial results in the field of sports services, and the effectiveness of scientific and innovative activities in the field of sports services.

The laws of sports servicology (sportology) will be considered stable cause-and-effect relationships between the methods of scientific research and the implementation of innovative projects in the field of sports services (services) and the observed financial results from the work of the field of sports services, stable logical connections in the interaction of elements and institutional relationships that take place during the development of sports servicology and the field of this kind of services.

People can describe the laws of sports servicology in this way:

- (i) sports service is a branch of the economy and part of social (public) life at the same time, it is based on meeting individual and public needs for safe and regular sports training and competitions of individuals, families, collectives, the society within the framework of various sports disciplines.
- (ii) the source of intensive development of the sphere of sports service is specialization and changes in the sphere of labor in post-industrial development, accompanied by differentiation and automation of types of production activities, income, and needs and generating the need to meet the needs of individuals in regular physical activity in a situation of stress, a complication of work regimes, technogenic part of the sphere of everyday life and social life at the same time.

- (iii) an increase in the number of sports, the emergence of a network method of organizing sports services, individual training, differentiation, and specialization of sports services are associated with an increase in the degree of differentiation and complexity of the needs of consumers (clients, athletes) of economic and social life in post-industrial conditions.
- (iv) the reasons for the formation of new types of sports services are specific and new living conditions, differences in preferences for meeting the need for safe and timely physical activity, taking into account the need to maintain the working capacity of the workforce, the desire to adapt to changes in working conditions and the development of the technogenic and social sphere.
- (v) the effectiveness of a sports service can have simultaneously geopolitical, domestic political, economic, social, medical, temporal, and emotional dimensions.
- (vi) in connection with the continuation of the trend (trend) of further increasing the degree of automation and complexity of the work and personal life of the population, differentiation of financial, economic, and social activities, the importance of the development of sports services for individuals and society as a whole is likely to only increase in the future.
- (vii) increasing the level of complexity of financial, economic, and social activities will lead to an increase in the complexity and complexity of sports services provided.
- (viii) the increase in the level of complexity of technologies and conditions of sports training, and further complications of financial and economic activities in the field of sports services will increase the role of the financial and general management of this service sector and others.

By the effectiveness of sports services, we will understand their ability to achieve the sports, financial and other goals set for them by the customer (and/or manufacturer) for a specified period while spending a fixed amount of resources by the subjects of this process.

Under the technology of providing sports services (sports training, competitions, etc.), we will understand the systematic combination of training and competition methods used in the provision of sports services, technical means, and qualification skills of management and personnel of sports service organizations. At the same time, it should be borne in mind that the provision of sports services is always associated with goods (stadiums, gyms, sports equipment, etc.) in their material form.

The importance of the sports service sector in ensuring the sustainable development of society, the economy, and the technosphere is great and will continue to increase. This is because sustainable development is interpreted as a process of economic and social change, in which the exploitation of natural resources, the direction of investment, the orientation of scientific and technological development, personal development, and institutional changes are coordinated with each other and strengthen the current and future potential to meet human needs and aspirations. Within the framework of the concept of sustainable development, we are largely talking about ensuring an increase in the safety and quality of life of people, and consequently the quality and regularity of sports activities in the interests of maintaining the working capacity, the state of the physical and spiritual health of the aging population of nations.

As you know, the aging of nations is observed in all developed countries. At the same time, there is a well-known thesis that the decrease in the birth rate in developed countries and Russia is associated exclusively with post-industrial cultural attitudes. At the same time, the hypothesis needs to be tested that, probably, the trend of declining fertility is associated with the action of the "exponential law of quality improvement", which in this case may sound like

this: "the increment of each subsequent unit of quality of living standards and qualifications of the workforce requires more costs than the previous unit of quality." Modern complex, high-tech social production in the conditions of the scientific and technological revolution (NTR) is characterized by the requirement to improve the quality of the workforce. At the same time, such an increment in the quality of the workforce requires more and more expenses for the training of a highly qualified workforce of children. At the same time, the salaries of potential parents are likely to increase more slowly than the level of spending on improving the quality of the labor force of children who can maintain the social status of parents. It is known from the media that in modern Russia, for 90% of families, the birth of a second child puts the family in the category of low-income families. Such a situation may give rise to the process of limiting the number of children in a family that seeks to maintain its social status and professional qualifications. At the same time, more attention is paid to the increase in life expectancy, not only for humanistic reasons but also for economic reasons, namely, because investments in advanced training of labor resources (labor force) should pay for themselves and generate income, which requires a longer (than it was before) time. This can give rise to the process of aging and shrinking of the nation.

It is characteristic that a decrease in the quality of sports services can reduce the increase in life expectancy by meeting the need for high-quality sports services.

Therefore, further studies of the processes of sustainable growth and increase in the range of sports services (sports, conditions and training programs, etc.), technological features of the provision of sports services (service), the relationship of such services and embodied sporting goods and equipment, the change in the ratio in the technological processes of sports training and competitions of material and non-material products, industry features of the share in the final product of the actual sports services or embodied goods (stadiums, inventory, etc.) presumably will be relevant further in the 21st century.

For this reason, well-known and currently existing classifications in the field of sports services (services) may require further clarification and systematization within the framework of sports servicology. This increases the importance of determining the main and secondary criteria for the classification of sports services.

Sports service business services can be divided into:

- (i) primary (conducting sports training and competitions) and secondary (technical service of stadiums, sports equipment);
- (ii) basic (ensuring the activities of a sports organization) and auxiliary (locker rooms, swimming pool, shower, music, ensuring the safety of spectators and order in the stands, etc.).

Technical services in the technogenic sphere of sports services are being developed in order to:

- (i) to ensure the reliability of the functioning of sports organizations, clubs as man-made facilities.
- (ii) to increase the safety and efficiency of the functioning of sports facilities as man-made facilities.
- (iii) change individual, for example, resource-saving characteristics of sports facilities as functioning man-made facilities.
- (iv) to improve the design and ergonomic characteristics of sports facilities as man-made objects (convenience for visitors, aesthetics of decoration), and more.

Sports servicology should take into account that modern sports complexes are essentially complex multifunctional organizational and technogenic systems. To provide solutions to the

problems of designing and analyzing the processes of functioning of such a class of complex systems, their functional decomposition representation has been developed and applied (Glushchenko, 2021c). The main element of the functional – decomposition representation of sports bases (structures) can be called the table of functional portraits (more commonly known on the Internet as the table of functions and elements). The named table includes: horizontally (rows) a list of implemented functions (sports, cultural and entertainment events, etc.); vertically (columns of this table) this table includes elements that participate in the implementation of these functions (venues for individual sports competitions, locker rooms, restaurant hall, etc.). A logical "+" sign is placed at the intersection of a row and a column if this element of a man-made sports complex participates in the implementation of a function defined in a certain row. In addition to the "+" sign (or instead of it), the table of functional portraits may reflect the level of loading of an element of the complex when performing this or other functions, etc. This creates the possibility of using this type of representation of the design object for the application of lean manufacturing technologies, rationing of personnel labor costs, assessing the level of personnel load and/or loading of a certain technological element (for example, a football field, locker rooms, etc.) of the technogenic structure of providing a complex of sports services based on this technical system of a sports complex when performing all or part of its functions and other things. The use of functional-decomposition representation in the design of sports facilities can be considered a reflection and manifestation of the system-management approach in sports science.

One of the main directions of the development of sports servicology (sportology) should be recognized as the formation of models for the description and analysis of the competitiveness of sports services. It should be noted that many models are currently used in sports (training methods, training programs for competitions; regulations for sports competitions, balance sheets, etc.).

To design and evaluate the quality of sports services, a descriptive three-level product model known in marketing can be used with the addition of an additional fourth strategic and environmental level. This service model can also be used to assess the competitiveness, efficiency, and quality of such services (Glushchenko, 2021c).

- (i) The first level of a sports service reflects the main benefit or the technical, economic, and social needs in the economy or social environment satisfied by the service.
- (ii) The second level of a sports service includes service in real execution: properties (persistence, reliability of provision, the safety of the process and result, price, etc.), quality, the external design of the service provision process, and the brand name of the service.
- (iii) The third level of service (service with reinforcement) covers: availability (delivery), crediting of services, a guarantee of results, and after-sales service.
- (iv) The fourth level of the service should describe and characterize the impact of the service on the socio-economic and environmental systems (costs of materials and raw materials, environmental damage during the provision of services, etc.) and strategic (long-term impact on the market and socio-economic environment).

Example No. 1. A four-level model for assessing the quality of high-achievement sports services.

- (i) The first level of such a sports service (the main benefit) covers the degree of accuracy and reliability of determining the physical capabilities of a modern person in this sport.
- (ii) The second level of a sports service (a service in real performance) may include the following characteristics: specific sports indicators in a given sport; the time interval for conducting research in sports training; the methodology and quality of training athletes

by a coach in the training process; the quality of sports equipment used; the average duration of sports training; the average cost of preparing an athlete for a certain level of competition (for example, national or international scale and more.

- (iii) The third level of service (service with reinforcement) of high-performance sports can cover the availability of appropriate sports facilities, showers, and restrooms; aesthetic design of the gym; the amount of budget financing of the training process; the amount of sponsorship of this sport; the possibility of crediting the sports process; the availability of additional pension provision for athletes and coaches; the availability of insurance for athletes in case of injury (accident) and more.
- (iv) The fourth level of sports services (strategic, environmental, and socio-economic level): promotion of the name of the state as a sports brand; positioning of the state in the international arena as a state with a high level of sports development (can be confirmed by statistics of the results of international and national championships, etc.); improving the image of the state due to the achievements of athletes in the international arena; additional image and social advertising in the international arena of the state whose athletes perform at international competitions; improving the mood of fans with the victories of the national team (can be confirmed by measuring the happiness index of this social group) and more.

Example #2. A four-level model for designing and evaluating the quality of sports services provided by fitness centers.

- (i) The first level of such a sports service (the main benefit) reflects the degree of satisfaction of the physical need for active sports movement, and competitions to maintain the working capacity and well-being of clients (athletes) in the current period.
- (ii) The second level of a sports service (a service in real performance) may include the following characteristics: a variety of types of sports training; the time interval of the opportunity to participate in sports training; the quality of service, consulting by a coach in the training process; the quality of sports equipment used; the average duration of sports training; the average cost of using this sports service, and more.
- (iii) The third level of sports services (a service with reinforcement) can cover the availability of shower cabins; restrooms, cafes; the aesthetic design of the gym; the availability of additional entertainment programs and shows; the possibility of receiving services on credit; the possibility of receiving individual training services; the availability of discounts from the price for regular customers; the use of discounts for certain social groups; availability of insurance for the client in case of injury (accident) and more.
- (iv) The fourth level of sports services (strategic, environmental and socio-economic level): maintaining the health and working capacity of clients in the interests of ensuring their longevity and economic efficiency of activity (can be confirmed by statistics of active labor longevity); getting pleasure (internal satisfaction) and ensuring good mood of clients by enjoying high-quality sports training in an attractive interior of sports facilities, swimming pool (can be confirmed by measuring the happiness index) and more. The four-level model of sports services proposed above can be adapted and refined at the structural and parametric level for various categories of sports services (sports).

This model can be useful in the design and positioning, comparative assessment of the competitiveness and economic efficiency of sports services.

In addition, the proposed four-level model of sports services allows us to describe this service as an object of management within the framework of a system-management

approach in sports science, which can improve the efficiency of general and financial management in sports business (business).

When assessing the quality and designing sports services using a four-level service model, it is possible to divide it into design stages and propose the following algorithm for the sequential process of designing (upgrading) sports services:

- (i) a four-level subject (descriptive) model of the appearance (structure and main characteristics) of a sports service is being developed.
- (ii) for each level of sports services and each of its parameters (indicator), an evaluation scale is created that allows evaluating the quality of services according to this indicator (for example, on a ten-point scale, system).
- (iii) by an expert method, for example, utilizing questionnaires, and interviews of athletes, coaches, and clients, an assessment of the quality of each of the indicators of sports services are carried out.
- (iv) based on the analysis of expert assessments of athletes and other specialists, a comparative analysis of real and forecast (project) indicators, it is those parameters (indicators) of sports services that should be improved that are identified.
- (v) options are offered for improving the quality of sports services to the level of project indicators and/or above them.
- (vi) through further analysis, determine the implemented and/or the most appropriate or optimal options for improving the performance of a particular sports service.
- (vii) implement in practice the optimal options for improving the performance of a certain sports service.
- (viii) evaluate the quality of the upgraded sports service using the methodology (see paragraph 3) and decide on the sufficient or insufficient depth of modernization of sports services, etc.

For the design of sports complexes, a methodology can be proposed, reflected in the work (Glushchenko, 2021c; Glushchenko, 1990).

4. CONCLUSION

The article develops methodological foundations for the formation of a general theory of sports based on the methods of serviology and a system-management approach. The paper describes the socioeconomic functions of sports, formulated the functions of sports serviology (sportology), and considered trends and features of the development of sports services in post-industrial globalization. The article proposes a methodology for designing a complex of sports services based on a functional decomposition representation, four-level models of sports services have been developed that can be used in the design and positioning, evaluation and comparison of competitiveness and economic efficiency of sports services.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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