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Table of contents

Kinczel, A. – Tóth, A. R. – Pálinkás, R. – Molnár, A. – Dobay, B. – Müller, B.: RESEARCH ON THE CONSUMER HABITS OF STREET WORKOUT LEISURE SPORTS 4

Csinger, B.: SIGNIFICANCE OF FOREIGN WORKING CAPITAL INVESTMENTS 13

Vácz, P. T. - Dobay, B. - Pálinkás, R.: IMPACT OF COVID-19 ON THE NORTH AMERICAN PROFESSIONAL BASKETBALL CHAMPIONSHIP AND EUROPEAN FOOTBALL LEAGUES 21

Mura, L.: BOOK REVIEW 31

Faragó, B. – Gósi, Zs.: FUNCTIONS OF CRYPTOCURRENCIES IN SPORTS 35

Faragó, B. – Kézai, P. K. – Csiszár, Sz.:SPORTS STARTUPS AS SPORTS INNOVATIONS 45

RESEARCH ON THE CONSUMER HABITS OF STREET WORKOUT LEISURE SPORTS

Antonia Kinczel - Axel Ruben Tóth - Réka Pálincás - Anikó Molnár - Dobay Beáta -
Anetta Müller

Abstract

Nowadays, in leisure sports, new types of training methods and tools are appearing for the preservation of health and the development of abilities, which are adapted to the habits and expectations of consumers. Leisure sports consumers use the street workout sport to shape their body and shape, develop their strength and endurance, thus supporting their health by doing their own body weight training. In the spring of 2022, in our online questionnaire research (N=136), we searched for the answer to how popular the services of street workouts and fitness centers are among those who practice leisure sports. The research aims to examine trends in leisure. Our results proved that these new types of training methods are popular, which are mainly performed with the motivation of improving their fitness and maintaining health.

Key words

street work, gym training, sports motivation, fitness

JEL Classification: Z2

Introduction

Sport has a multidimensional effect, as it not only plays a significant role in the economy, but also has biological, physiological, mental and social effects. An example is the typical but still developing leisure sport, Street Workout, which can be said to be a direct competitor of the fitness industry. While the indoor facilities of fitness centers provide opportunities for exercise all year round, outdoor fitness parks are dependent on the weather, so they are mostly used from spring to autumn. There are also outdoor conditioning parks that have a roof, so they protect against rain and improve the seasonality of their use by extending usability. Today, various consumer trends are emerging in leisure sports. In some of these trends, we can observe the kind of consumer expectation to provide a new type of training or exercise program (Hőnyi et al., 2021; Kinczel et al., 2020, 2021; Müller et al., 2020). Among the leisure and fitness trends, those that prioritize health and skill development or shaping are dominant (Müller et al., 2013, 2017, 2019; Pucsok et al., 2020).

Street Workout, which is a typical recreational sport, also has many positive effects on those who practice this sport. It is a form of movement that consists of static and dynamic exercises, acrobatics, and a combination of these. The base of the sport is based on calisthenics, gymnastics and gymnastics, but today it has adopted several exercises from parkour and breakdance as well. Gymnastics itself comes from the ancient Greeks, but it has accompanied humanity throughout history. The name comes from the ancient gymnos word for "naked". Based on the surviving memories, the Greeks believed that clothes disfigured people and hindered their movement, so they exercised naked (Metzing, 2010). Today, gymnastics is an integral part of school physical education classes, as its role is essential due to its versatile effect on the body. Calisthenics also comes from the ancient Greeks. Its name comes from the words kalos, meaning "beauty", and stenos, meaning "strength". The trend of street workout calisthenics is explicitly based on strength exercises with your own body weight. Another branch of gymnastics is artistic gymnastics. The street workout mainly draws from this in terms

of equipment and exercises (Gödrösi, 2016). In practice, American bodybuilding also contributed to the development of the sport. In the 1920s and 1930s, bodybuilding gyms began to develop. The center of bodybuilding became Muscle Beach in Santa Monica, California. Here, on the open-air beaches, bodybuilders trained in addition to weight training on the exercise equipment used in gymnastics, such as the stretcher or parallel bars. Those who liked this form of exercise realized that they could do the exercises in a similar way in playgrounds (Play Ground Centre, 2021). The sport clearly originated in the United States. Initially, it was colloquially referred to as the "ghetto workout" (Wade, 2011). This can be traced back to the fact that in the 1970s, in America, crime took on huge proportions in the streets. Drug dealers ruled the cities. The only outlet for young people was sport. One form of sport was bodyweight training. It didn't cost any money, it was free, it didn't require equipment, and it could be done anywhere. Later, the young people used playgrounds, outdoor benches, pipes, poles, and stands. Communities were formed and movement began to resemble the image of a new sport. By the 1990s and 2000s, outdoor training parks were built in America specifically for street workout sports. The form of movement became so popular that it quickly spread around the world. In Hungary, the first street workout-related community was founded by Márk Hordós in 2008 under the name HunBars. In the same year, Hungary's first fitness park was built on its own at the border of Venice/Sukoró, where all the equipment that still forms the basis of professional fitness parks can be found (street-workout.hu, 2021). However, the spread of the sport also required the publication of Wade's (2011) book series Prisoner Training. As a result of the books, the number of people doing their own bodyweight training in Hungary began to increase rapidly (Gödrösi, 2017). In Hungary, sports spread quickly and several domestic companies saw opportunities in sports. Currently, several companies deal with the installation of fitness parks in the country, but two are the best, Bestrong based in Debrecen and Hard Body Hang in Budapest. The first cash prize street workout competition was held in 2015. Since then, not only individual but also team competitions have been organized in the country. Since 2014, the national championship has been held every year, the female and male winners of which can qualify for the annual world championship. Ákos Szarka also holds quarterly training competitions and meetings for the community in the Thor gym in Budapest. These competitions do not have any stakes, simply the supply can test themselves. Based on Deloitte's European report for the year 2019, if we put it briefly, it can be concluded that continuous growth can be observed in the fitness sector. According to the research, 64.8 million people were counted in the world of fitness in 2019 in Europe, which represents a 3.8 percent increase compared to 2018. The sector's total revenue was 28.2 billion euros. The average monthly fees were around 38.4 euros this year. Europe represents the second largest fitness market in the world, only slightly behind the market leader the United States, which had a revenue of 28.6 billion euros according to the IHRSA (International Health, Racquet & Sportsclub Association) report (deloitte.com, 2020).

According to the research of Szakál – Varga, (2021), fitness parks do not have such a role in health tourism yet that people travel for that reason only. At the same time, the existence of such facilities and their availability for tourists also appear as a factor when judging the destination or the city. This is also shown by the Italian and Hungarian examples, in the case of the latter, there is such a facility in the frequented touristic places of Debrecen and Nyíregyháza, which is no longer only at the service of the local people, but also for the tourists.

Material and method

In order to answer our questions about fitness centers and gyms, we conducted a questionnaire survey (N=136), in which we addressed whether and if so, how regularly the surveyed persons go to fitness centers and gyms, how much they are willing to spend on sports

equipment, what are their motivational factors, and that they prefer training in the gym-park or in the gym. Among those in the sample, 39.0% were men (53 people) and 61.0% were women (83 people). Regarding their age, it can be said that 4.4% (6 people) are under 18 years old, 47.0% (64 people) are between 19-25 years old, 23.5% (32 people) are between 26-40 years old, 24.3% (33 persons) between 41-65 years of age and 0.7% (1 person) over 65 years of age. 71.3% (97 people) of the examined persons have already used a gym. Breaking this data down by gender, it can be said that 86.8% of men (46 people) have used it, while 13.2% (7 people) have never used a gym. In contrast, 53.0% of women (44 people) have already used it, while 47.0% (39 people) have not. In terms of age, the age group between 19 and 25 represented the highest number (38.2%), while only 0.7% (1 person) of the age group over 65 filled in, so the examination of those over 65 is not relevant. During the correlation analysis, we found significant values, that is, a correlation can be established between age and fitness park use ($\chi^2=13.033$; $df=4$, $p=0.011$). When examining Cramér's V coefficient, our result is statistically significant, the value of the relationship between the fields can be said to be moderate, so they are moderately connected to each other (Cramér's $V=0.27$). The conditioning park is therefore primarily an attractive training opportunity for the younger age group and is preferred by men in a significantly higher proportion than women.

Table 1. The use of the gym park in the examined sample

Have you ever used a gym-park? Person/%				
Age		Yes	No	Total
	below 18 years	6 4.4%	0 0.0%	6 4.4%
	19-25 years	52 38.2%	12 8.8%	64 47.1%
	26-40 years	21 15.4%	11 8.0%	32 23.5%
	41-65 years	18 13.2%	15 11.0%	33 24.3%
	above 65 years	0 0%	1 0.7%	1 0.7%
Total		97 71.3%	39 28.7%	136 100%

Source: Own editing, 2022 (N=136; $\chi^2=13.033$; $df=4$, $p=0.011$)

In our survey, we also examined the regularity of fitness park use. Of those who filled in, 47.8% (65 people) not at all, 26.5% (36 people) at varying intervals, 14.0% (19 people) several times a week, 6.6% (9 people) once a week, 2.9% (4 people) every month, while 2.2% (3 people) say that they go to the gym every day to exercise. Exactly half of the respondents, i.e. 50% (68 people), find fitness parks very useful, while 0.7% (1 person) say that they are not useful at all and do not use them. What can be said to be an interesting result is that 16.2% (22 people) consider it quite useful, but they do not go to gym parks at all. This can be assumed that they

are aware of the physiological effects of exercise, but they do not make time for this sport in their free time.

Table 2. Examining the regularity of going to the gym park

How useful do you think fitness parks are?	How often do you go to the fitness park, if you do? Person/%							Total
	Monthly	Once in a week	Several times a week	Daily	Do not go	Variable		
1, i do not	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 0.7%	0 0.0%	1 0.7%	
2, less useful	0 0.0%	0 0.0%	0 0.0%	0 0.0%	7 5.2%	0 0.0%	7 5.2%	
3, find it useful	1 0.7%	0 0.0%	0 0.0%	0 0.0%	17 12.5%	6 4.4%	24 17.6%	
4, quite useful	1 0.7%	1 0.7%	1 0.7%	0 0.0%	22 16.2%	11 8.1%	36 26.4%	
5, very useful	2 1.5%	8 5.9%	18 13.3%	3 2.2%	18 13.2%	19 14.0%	68 50.1%	
Total	4 2.9%	9 6.6%	19 14.0%	3 2.2%	65 47.8%	36 26.5%	136 100%	

Source: Own editing, 2022 (N=136; $\text{Khi}^2=41.76$; $\text{df}=20$; $p=0.003$; $V=0.27$)

We conducted a correlation test between the two questions mentioned above, which shows a statistically significant result, therefore it can be concluded that there is a verifiable correlation between the use of the fitness park and how useful the participants consider the training parks to be ($p=0.003$). During the examination of the strength of the significant relationship between the fields with Cramér's coefficient V, we obtained a value of 0.27, which means that the relationship can be said to be medium, that is, moderate. Among the fitness park's motivational factors, the most important factors are increasing fitness and strength (average=4.22), and health as well (average=4.1). Acknowledgment from others (average=2.27) or competition with others (average=2.36) is not an influencing factor for those who exercise in the fitness park. It can be mentioned as a negative factor that since the fitness park training takes place outdoors, there are a lot of external influences on the trainers here, e.g. cold, warm, rain, snow, etc. and for this reason, in unfavorable weather conditions, the surveyed people do not do much outdoor exercise in fitness parks (2,32). We asked those who completed the questionnaire whether they would buy a gym for themselves if they had opportunity. 46% (62 people) of the respondents would buy it, while 54% (72 people) would not buy their own gym. 62% (33 people) of the men in the sample would buy, 38% (20 people) would not. It can be observed that the proportion of women is reversed, only 35% would take it (29 people) and 65% (83 people) say no. In terms of the ratio of genders, it can be said that the result of willingness to buy took on a significant value ($p=0.002$), so it can be statistically proven that there is a correlation between gender and fitness park purchases. Using an open-ended question, we assessed what additional training equipment the athletes use, which cannot be found in an outdoor fitness park. 50.7% of the examined sample (69 people) answered this question and wrote the following: rubber bands, bandage, wrist clamp, magnesia, weight vest, gloves/palm guard, weight belt/plus weights, kettlebell, gymnastics ring, TRX. Based on this, it can be concluded that outdoor sports facilities not only have an indirect effect on the economy, but

also a direct one, since they also affect the trade in sports goods, since 49.3% of the examined sample (67 people) spend between 10,001 and 20,000 annually, 14.7% (20 people) are willing to spend an amount between HUF 20,001-50,000 and 5.1% (7 people) more than HUF 50,000 annually on exercise equipment. Lentené et. al's 2021 study, which examined the demand and supply trends of fitness centers in the Northern Great Plains region, also confirmed the popularity of the TRX band and training method.

Gyms

In our research, we examined not only questions related to fitness parks, but also questions related to the gym sector, on the basis of which two can be compared. We asked the examined persons whether they had ever been to a fitness room. Nearly 90% of them (86.8%, 118 people) answered yes, while only 13.2% (18 people) said no.

Table 3. Use of the gym in the examined sample

Have you ever used a gym? Person/%				
Age		Yes	No	Total
	below 18 years	5 3.7%	1 0.7%	6 4.4%
	19-25 years	59 43.4%	5 3.7%	64 47.1%
	26-40 years	29 21.3%	3 2.2%	32 23.5%
	41-65 years	24 17.6%	9 6.6%	33 24.3%
	above 65 years	1 0.7%	0 0.0%	1 0.7%
Total		118 86.8%	18 13.2%	136 100%

Source: Own editing, 2022 (N=136; $\chi^2=8.599$; df=4; p=0.07)

In the same way as we examined the regularity of going to the fitness park, we also looked at the regularity of going to the fitness centers. 30% of the respondents (41 people) do not go to fitness centers at all, or use them only very rarely, while 27.2% (37 people) go to exercise in such a place several times a week. Of the 30.1% (41 people) who do not go to the gym at all, 36.6% consider these sports facilities very useful. None of the respondents say that fitness centers are useless, and 2.2% (3 people) consider them less useful. 56.6% of the entire sample (77 people) consider it very useful and 32.4% quite useful. In terms of the sample, we got similar results as in the case of fitness parks, so it can be concluded that a significant majority of respondents believe that fitness centers and fitness parks are useful, regardless of how regularly or whether they use them at all.

Table 4. Examining the regularity of going to the gym

How often do you go to the gym, if you do? Person/%								Total
How useful do you think fitness centers are?		Monthly	Once in a week	Several times a week	Daily	Do not go	Variable	
1, i do not		0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
2, less useful		0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 2.2%	0 0.0%	3 2.2%
3, find it useful		0 0.0%	1 0.7%	1 0.7%	0 0.0%	7 5.2%	3 2.2%	12 8.8%
4, quite useful		2 1.5%	7 5.2%	9 6.6%	1 0.7%	16 11.7%	9 6.6%	44 32.4%
5, very useful		1 0.7%	5 3.8%	27 19.8%	11 8.1%	15 11.0%	18 13.2%	77 56.6%
Total		3 2.2%	13 9.7%	37 27.2%	12 8.8%	41 30.1%	30 22.0%	136 100%

Source: Own editing, 2022 ($\text{Khi}^2=27.9$; $\text{df}=15$; $p=0.02$; $V=0.26$)

Based on the correlation between the two questions, the khi^2 test gave a significant result, so there is a correlation between the use of fitness rooms and the opinion of the respondents ($p=0.02$). When examining Cramér's V coefficient, the value of V shows a moderate relationship between the fields, so the relationship is medium strength ($V=0.26$). We asked the respondents to evaluate on a scale of 1-5 (1- not typical, 5- very typical) how much they are influenced by the given factor, which allowed us to assess which factors are in the motivating factors for going to the gym. The results of the motivational factors of going to the fitness center match the research results of other authors are almost the same. In the research results of Bartha (2018), Kilpatrick (2010), the main motivation of fitness consumers is related to health and appearance. In our study, health (4.32), increasing fitness and strength (4.1), and relaxation (4) as motivational factors also achieved an average above 4. Indoor training is also an important factor (3.91). The least motivating factors include competing with others (1.97) and training with friends (1.91). It can also be stated that group training is less motivating (2.28) than individual exercise (3.63). We were curious to how much the examined sample is willing to spend on gym training each month. 6.6% of the entire sample (9 people) are not willing to spend on gym training, 18.4% (25 people) spend less than HUF 5,000, 46.3% (63 people) between HUF 5,000-10,000, 28 and 7% are willing to spend more than HUF 10,001.

Street workout Vs Fitness centers

We asked the examined persons the question; Which training method do you prefer? 47.0% of the sample (64 people) prefer only training in the fitness center, while 27.2% (37 people) prefer training in the fitness park. 15.4% of the respondents (21 people) enjoy exercising in both places, while 10.4% prefer other locations for doing sports. Domestic and international research proves that the outbreak of the COVID epidemic strengthened the demand for outdoor sports (Kinczel – Müller, 2022; Robinson et al., 2021; Ladwig et al., 2021), which also has a positive effect on the increase in the proportion of outdoor fitness park users.

Conclusions and recommendations

The results of our research pointed out that although fitness parks and gyms can be found in many places, there is still a target group that has not exercised in fitness parks or gyms yet. 74.3% of the examined sample does not exercise at all, or only occasionally, in a fitness park, while 52.1% in a gym. Although it can be said that 76.5% find fitness parks are very or quite useful and 89.0% find fitness centers, it can be said that many people do not choose these opportunities for sports, therefore it would be important to promote both sports opportunities, highlighting their various positive effects on the physical and mental health. At the same time, among the motivational factors of training in the gym and in the fitness center is the improvement of health and fitness (Bartha et al., 2018), but in both cases competition with others is less motivating. Finally, it can be said that although there are many fitness parks in our country, exercise in fitness parks can still be considered a developing leisure sport.

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SIGNIFICANCE OF FOREIGN WORKING CAPITAL INVESTMENTS

Bence Csinger

Abstract

The main goal of the study is to provide a comprehensive picture of the importance of foreign working capital investments in order to achieve more efficient and faster economic development and catching up in market competition. In addition, great emphasis is placed on the measured effects of foreign working capital investments on the economy, their advantages and disadvantages, the motivational factors influencing investors, the incentive tools offered by the state and the individual types of investments and investing companies according to the divisions based on different aspects, based on which the work is divided into five parts. In the first part, the reader gets a comprehensive picture of the theoretical background of the study's topic. After that, how and in what way the foreign investor can disburse capital to his subsidiary in the other country comes to the fore. In the third chapter of the study, the author deals with the positive and negative effects of foreign working capital investments, as well as to what extent they influence and affect the foreign trade balance and the country's economic development. In the fourth part, the reason for the sudden popularity of foreign working capital investments comes into focus, and in the last, fifth chapter, the author maps the situation of Slovakia regarding foreign working capital investments.

Key words

Working capital investment. Slovakia. Economic development. Foreign trade.

JEL Classification: O10, O16, A10

Introduction

Since the topic of the study is foreign working capital investments in Slovakia and what is behind it from 2015 to the present day, I therefore deal with foreign working capital investments in a general sense in the main part of the work, and then specifically by examining the situation in Slovakia. The main goal of the work is to present the importance of foreign working capital investments in order to achieve more efficient and faster economic development and catching up in the market competition. In addition, the measured effects of foreign working capital investments on the economy, their advantages and disadvantages, the motivational factors influencing investors, the incentive tools offered by the state and the various types of investments and investing companies according to the divisions based on different aspects are discussed. Based on these, the content of the work can be divided into five major subsections. In the first part, the reader can familiarize himself with the topic of the work, based on secondary data collection. As a first step, the author considers it important to clarify and define the basic concepts and relationships related to foreign working capital investments. FDI is specified based on several definitions. Furthermore, in this section we can find out what role foreign capital, and specifically foreign working capital investments, play in the countries' economies. In addition, it also sheds light on the other types of foreign capital besides FDI, who can be investors, how the investment takes place, what are its parts, what are its most important characteristics and what indicators FDI can be measured on the basis of which components. In the second part of the work, the author first examines how and in what way a foreign investor can disburse capital to his subsidiary in another country. This can be done in three ways. All three options are specified in more detail. Then we can get acquainted with the five basic forms of foreign working capital investments, and then with both groups of

companies established through FDI, their characteristics and the criteria on which they decide where to make the planned investment. Finally, it will be examined what important factors influence investors when planning and creating an investment, and what four types of investments are distinguished based on the investors' motivation. In the third part, the positive and negative effects of foreign working capital investments are presented, as well as to what extent they influence and affect the foreign trade balance and the economic development of the country. The author then examines in detail what two types of growth can be created in the regions as a result of capital investments. In addition, in this section, the reader can also find out how, in what form, and with what means the individual states encourage and support investors to establish their company in that country. The fourth part discusses the rapid growth of foreign working capital investments since the end of the 80s, the reasons for their sudden popularity, their role in the world economy, and globalization as the driving force of the process and its effects today. In the last, fifth part, Slovakia's situation with regard to foreign direct capital investments is presented, looking for the answer to how foreign direct capital investments have developed in Slovakia in the past, how the inflow of foreign direct capital affects the Slovak economy today, whether it is beneficial at all, who the biggest investors in Slovakia, where most investments come from, in which sectors this is most evident and how investments are distributed within individual regions of the country.

Foreign direct investment (FDI) in Slovakia and what's behind it from 2015 to the present

The world is at the threshold of the fourth industrial revolution (Alassaf-Zaien-Oláh, 2020). In the field of economic policy, every state strives to increase the country's competitiveness and support economic development. In the 21st century, businesses face many challenges (Mészáros-Mura, 2022). The business environment is exposed to a wide range of phenomena related to globalization (Gombár-Svetozarovová-Tomčíková, 2021). One of the most common limiting conditions for the rapid development of the economy is the lack of capital resources. A characteristic feature of the modern world economy is the dynamic development of capital flows in the form of foreign direct investments (FDI) (Wyrwa, 2018). For this reason, the inflow of foreign capital plays a very important role in the economy of some countries. Foreign investments are one form of long-term international capital movement. We speak of capital inflow when a foreign economic actor (natural person, legal entity, company, government) acquires domestic property and therefore pays with a non-domestic currency. We distinguish 3 basic types of foreign investments: foreign direct investment (FDI), portfolio investments, other capital movements (loans, deposits) (Halmos, 2003). UNCTAD defines FDI as a long-term, international investment by which an economic investor from a given country acquires a permanent stake and control in a company operating in another country. According to the US Department of Commerce, in this case, the foreign investor must acquire not only a permanent but also a significant ownership stake of at least 10% in the given company, which is combined with partial or full control over the foreign company. FDI can be implemented by both businesses and natural persons. The investing company is called the parent company, and the receiving company is called the subsidiary (Katona, 2006). FDI is actually a package that includes capital, technology, management and organizational skills and market access. Traditionally, the expansion of a company's production/activity outside national borders is achieved through foreign direct investment. The most important characteristic is that the investor wants to use his ownership rights, his goal is to achieve his business goals, on the one hand, by making a profitable investment, and on the other hand, by acquiring partial or complete control over foreign companies. (Éltető, 1999). The international measure of foreign working capital flows is FDI, which has both stock (FDI Inward and FDI Outward Stock) and flow (FDI Inflow and FDI Outflow) indicators. Flow data means the volume of the annual flow

of working capital. The stock data are created by cumulating the previous flow data (Katona, 2006). The indicator is made up of three components: investments in share capital, reinvested profit and loans within the company. The foreign investor can disburse capital to his subsidiary in the other country in three ways: registered capital, reinvested capital, or through an owner's loan. The investment of registered capital can be realized in several ways: if the investor of working capital acquires a share in an already existing company abroad, if he establishes a new company abroad, or if he raises share capital in an already existing foreign company. In the case of reinvestment, the parent company does not take the profit generated by the subsidiary from the company as a dividend, but makes new investments from it. Ownership credit includes both short-term and long-term loans that the parent company provides to its own subsidiary (Katona, 2006). We distinguish 5 basic forms of foreign working capital investments: green field investments - establishment of completely new companies, brown field investments - new companies based on ready-made infrastructure located in an industrial park, acquisition - partial or complete acquisition of existing companies, fusion - merger of companies, creation of joint ventures (Katona, 2006). FDI companies setting up through can be divided into 2 groups. There are knowledge-based companies that engage in highly export-oriented production with a highly qualified workforce, using advanced technology, and prefer urban agglomerations when choosing their location. On the other hand, there are labor-intensive companies that base their activities on cheap resources and unskilled cheap labor in the host country, produce little added value, operate with a high proportion of imports and do not necessarily use world-class top technology, they are primarily driven by the lowest possible cost when choosing a site (Halmos, 2003). Dunning distinguishes 4 types of foreign working capital investments based on the investors' motivation: efficiency-enhancing investments, market-oriented investments, resource-exploiting investments, and strategic advantage investments. The goal of efficiency-enhancing investments is to take advantage of the different factor endowment, institutional structure, economic policy, and market structure of the investment target countries and to supply the most important markets by concentrating production on a few sites. In this case, the investors are mainly large multinational companies. Efficiency-enhancing investments are often greenfield investments. They primarily invest in labor-intensive and skill-intensive sectors (e.g. machinery industry), in which labor-intensive production phases can be outsourced. In the case of this type of investment, the export activity of companies is significant. (Éltető, 1999). Market-oriented investors include companies that invest in a certain country to supply local markets with their goods. In many cases, the investor has previously exported to the given market. Market growth or economic policy changes in the host country can also encourage foreign investors. The purpose of the investment is to maintain or protect the existing market share or to conquer new markets. The products produced by the subsidiaries are mostly sold on local markets and exported to nearby markets. One of the popular targets of such investments is the food industry (Éltető, 1999). Foreign investments exploiting local resources aim to take advantage of existing international differences in the costs of production factors. The investor's motive is to increase the profitability and competitiveness of the activity. The output of outsourced production is exported, mostly to developed industrial countries. The targeted resources can be natural resources, manpower, technology, business knowledge, organizational experience, etc (Halmos, 2003). In the framework of investments that gain a strategic advantage, investors buy the values of foreign companies to achieve their own long-term strategic goals, their international competitiveness for its maintenance and growth. Such investments are carried out by large companies following an integrated global strategy, but also by smaller companies that, as the first step of international activity, resort to the acquisition of companies that ensure competitiveness in an unknown market, thereby acquiring market knowledge in addition to the company's other assets (Halmos, 2003). The types of investments

have different effects on the foreign trade balance of the given country. Efficiency-enhancing investments have a positive effect on the foreign trade balance, even if they primarily use imported inputs in the initial stages of their operation. Market-oriented investments as a whole can have a negative effect on the foreign trade balance if their exports are negligible and many imported products are used (Éltető, 1999). As a result of foreign capital investments, two types of growth can occur in the regions. A typical example of extensive growth is when a foreign investor acquires a local finished goods company. It switches from the production of the finished product to the production of the new, more modern technology component, and then assembles the finished product in another country. This contributes to the modernization of the given industry. New competitive activities can be established, attracting even foreign investors from other industries. Foreign investors often invite other investors, thereby making the utilization of industrial properties more efficient. Another type of growth is intensive growth. Intensive growth takes place in regions where certain industries dominate. The foreign investors keep the original activities of the acquired companies, they only introduce efficiency-improving and cost-cutting programs, modernizing technologies, and try to increase the supply. According to experience, intensive growth is not as effective as extensive growth (Kalocsai, 2003). Foreign direct capital investments have many positive effects on the economy and contribute to economic growth, which is the most effective tool for alleviating poverty in developing countries. FDI is increasingly seen as a source of economic development, modernization, income growth and employment. The investments have a stimulating effect on the economy, reducing unemployment, transforming the structure, strengthening market competition, and modernizing. They promote the development of human capital, contribute to integration into international trade, help create a more competitive environment, bring about the modernization of technology and enhance the development of businesses (OECD, 2003). In the countries most preferred by foreign working capital investors, the phenomenon has become noticeable that states have started to use working capital incentive tax incentives, financial subsidies and other supports in order to make investment opportunities as attractive as possible. These incentives were not introduced in general, but they tried to prioritize the sectors and regions that were important to them. Due to the maximization of benefits, mainly investors in industries with higher added value were able to receive larger discounts. Among the incentives, tax incentives are the most common, including the profit tax, which occurs most often. Remission of taxes and import duties, customs refunds, the possibility of accelerated depreciation of assets, support for the reinvestment of profits, and reduction of social security contributions are also common. On the other hand, the state provides direct non-refundable financial support to the investor, which will enable him to realize a higher quality investment (Halmos, 2003). With the progress of globalization, the role of foreign working capital investments has grown rapidly in the world economy and in individual national economies as well. Foreign working capital has gained a significant role in many European countries, including Slovakia. The XX. The last decade of the 20th century focused attention on the importance of foreign working capital flows. Since 1990, the flow of working capital has reached unprecedented proportions, which deserves unconditional attention. The annual size of working capital investments increased sixfold in a decade, as a result of which the stock of foreign working capital tripled by the end of the decade.³ The inflow of foreign working capital played a significant role in the transformation process of the post-communist countries of Central Europe. Since the beginning of the process, the inflow of investments has gradually increased. Its significant decrease only occurred in 2003, which may be the consequence of the decline in global investment activity (Eurokenóm, 2022). From the end of the eighties, the deregulation and liberalization already taking place in the world economy also began in Slovakia, as a result of which the flow of goods and capital gradually became free. While

previously the spatial structure of the economy was shaped by internal economic power relations, from 1990 the external influence grew rapidly, globalization, foreign capital investments, and the strategy of transnational companies became spatially shaping factors in Slovakia as well. In the structural transformation of the Slovak economy, the foreign working capital investments. Foreign working capital has contributed to Slovakia's technical catch-up and to increasing its international competitiveness, which is essential for the expansion of the country's export capacities. The investment activity of foreign working capital significantly promoted the economic structural transformation in line with domestic and international market needs, as well as the creation of significant jobs, thus increasing the domestic employment level, the expansion of the domestic market and the increase of domestic purchasing power. Foreign working capital investments also contribute to improving the balance of the domestic balance of payments (Zbida-Guth-Zarnóczai, 2011). Over the past 20 years, the structure of foreign direct capital investments flowing into Europe has changed radically. More and more investments are coming from developing countries, for example, the amount of Chinese investments has increased sixfold, Brazil's has increased tenfold, and Russian has doubled. Foreign capital primarily targets high-tech sectors and often through state-owned or state-influenced companies. (Europarl, 2019). In recent years, the majority of FDI flows have been created through mergers and acquisitions. This reflects the rapid acquisition of overseas companies on the one hand, and the large-scale privatization programs implemented in the 1990s on the other. In developing countries, however, the entry method for investors was predominantly greenfield investments, followed by the participation of foreign companies in privatization (Eurokenóm, 2022). The majority of foreign working capital investments come from developed countries, and the main source of this is the European Union. The three biggest investors in Slovakia are Germany, the Netherlands and Austria. Together, these three countries account for more than half of Slovakia's working capital investments. Foreign working capital investments were directed to different sectors, which also depended on how open they were to foreign capital. From this point of view, the most important sector in Slovakia is industry, in which approximately 40% of foreign direct investments were directed. The second most important sector is the banking and insurance sector, where approximately every fifth dollar invested went. From the beginning, the inflow of foreign direct capital investments in Slovakia was characterized by regional inequality. Roughly 60% of the investments are concentrated in Bratislava and its surroundings, and in larger cities such as Kassa, Besztercebánya, Nagyszombat. It is still valid that the further we are from the industrial centers, the less foreign investment (Eurokenóm, 2022).

Table 1. Foreign direct investments in Slovakia (2010 – 2019)

(million USD)

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Slovakia	1770	3491	2982	-604	-513	106	806	4017	1184	2449

Source: KSH, 2019



Figure 1. Foreign direct capital flows to V4 countries as a proportion of GDP

Source: Tőkés, 2021

Table 2. The economic role of foreign companies operating in V4 countries

Country	Year	Ratio of companies	Percentage of employed people	Rate of added value	Investment ratio
Hungary	2008	3.3	23.8	47.0	49.6
	2016	2.9	25.7	51.4	48.3
Czech Republic	2008	1.9	27.4	40.6	45.2
	2016	1.2	27.6	43.3	37.7
Poland	2008	8.5	22.4	32.1	32.4
	2016	9.8	29.3	36.8	36.1
Slovakia	2008	5.8	32.7	41.7	40.7
	2016	0.8	28.5	48.1	47.7

Source: Eurokenóm.sk, 2022

Conclusion

In the field of economic policy, every state strives to increase the country's competitiveness and support the development of the economy. One of the most common limiting conditions for the rapid development of the economy is the lack of capital resources. For this reason, the inflow of foreign capital plays a very important role in the economy of some countries. The most common and most advantageous form of foreign investment is foreign direct investment (FDI - Foreign Direct Investment). Foreign working capital investments are an integral part of an open and efficient international economic system and are great catalysts for economic development. According to the definition, foreign working capital investment is any long-term, international investment through which an economic investor from a given country acquires a permanent share and control in a company operating in another country. to obtain in the given company. FDI is actually a package that includes capital, technology, management and organizational skills, and market access. The most important feature is that the investor wants to use his ownership rights, his goal is to achieve his business goals by making a profitable investment on the one hand, and gaining partial or complete control over foreign companies on the other. The flow of foreign working capital is a two-way process. If the exploitation of the relative competitive advantages existing in a national economy can be attractive for the foreign investor, then he will make investments in

the current country, and if these relative advantages are lost, he will withdraw from the country and move the production, outsource the service, or, if the product or service has reached the end of its life cycle, then it ends its production. Foreign direct capital investments have many positive effects on the economy and contribute to economic growth, which is the most effective tool for alleviating poverty in developing countries. FDI is increasingly seen as a source of economic development, modernization, income growth and employment. The investments have a stimulating effect on the economy, reducing unemployment, transforming the structure, strengthening market competition, and modernizing. They promote the development of human capital, contribute to integration into international trade, help create a more competitive environment, bring about the modernization of technology and enhance the development of enterprises. With the progress of globalization, the role of foreign working capital investments has grown rapidly in the world economy and in individual national economies as well. Foreign working capital has gained a significant role in many European countries, including Slovakia. The XX. The last decade of the 20th century focused attention on the importance of foreign working capital flows. Since 1990, the flow of working capital has reached unprecedented proportions, which deserves unconditional attention. The annual size of working capital investments increased sixfold in a decade, as a result of which the stock of foreign working capital tripled by the end of the decade. The inflow of foreign working capital played a significant role in the transformation process of the post-communist countries of Central Europe. Based on the given definitions, characteristics, forecasts and statistics, we can draw the conclusion that in those areas where the inflow of foreign working capital is a recent phenomenon, it clearly has a positive effect on the country's economy, and at the same time, it also brings with it the transformation of the economy. The positive effects of foreign working capital investments on the development of the economy can perhaps be monitored best in Central and Eastern Europe. It can generally be said about these countries that foreign resources, including foreign working capital, play a key role in catching up with Western European countries.

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IMPACT OF COVID-19 ON THE NORTH AMERICAN PROFESSIONAL BASKETBALL CHAMPIONSHIP AND EUROPEAN FOOTBALL LEAGUES

Peter Tamás Váczi - Beáta Dobay - Réka Pálinkás

Abstract

The coronavirus epidemic has had a big impact on all areas of our lives, even on elite sports. In the situation caused by the epidemic, sports clubs, sports associations, but even entire sports were in an extremely difficult situation. Sport has become a business in the last 20-30 years, and top athletes have become products. The highest levels of business-based sports businesses are found in the United States and the European football market. In this dissertation, I will examine the impact of the coronavirus on National Basketball Association and the European football leagues. I will present not only the effects caused by the virus, but also the possible solutions, and then I will try to draw conclusions and suggestions from the revealed information.

Keywords: Coronavirus. Franchise system. Basketball. Solution systems. Economy of sport

JEL classification: L83, Z20, Z23

Introduction and theoretical background

The coronavirus (Covid-19), which originated in Wuhan in November 2019, spread quickly around the world. Because we are / were dealing with a new virus, there was no specific vaccine against it, so it caused a large number of infections around the world. The effects of the rapidly spreading virus have also come into the sports world. Unfortunately, there were suspended tournaments worldwide, the Summer Olympic Games were postponed and the European Football Championship has also become the result of problems caused by the virus. Several sporting events may have continued later, but without spectators, fans. As a result, sports organizations have lost ticket revenue, merchandising, hospitality, advertising, sponsorship and broadcasting fees from their main sources of revenue. The pandemic period has had a major impact on sports around the world, but a distinction must be made between franchised sports leagues operating in the United States and the rest of the world. Now, I would like to study primarily at the impact of the coronavirus on the North American Professional Basketball League (NBA) and European football leagues.

Franchising consists of a contractual arrangement between two firms: the franchisor and the franchisee. In this arrangement, the franchisee buys the right to market goods or services under the franchisor's brand name (Blair and Lafontaine 2005; Combs et al. 2004)

In the United States, the major leagues (NFL, NBA, MLB, NHL, MLS) use a franchise system that is completely different from the league systems used in Europe, where the relegation, promotion system is preferred (Pijetlovic, 2015).

The franchise formula offers significant advantages both to the franchisor and the franchisee. The main advantages to the franchisor refer to two points:

- (1) the franchise system makes it possible to expand the business, and even provides access to new markets, by creating a distribution network at low cost; and
- (2) it ensures the development of brand image since the franchisor retains control of the distribution channel.

Meanwhile, the advantages of this business model to the franchisee are:

- (1) access to a proven business concept and to a prestigious brand;
- (2) a guaranteed clientele from the outset;
- (3) constant support and training from the franchisor; and
- (4) the profits earned as an independent businessperson. However, the need for a trusting relationship between the two parties should be stressed, since a model of interorganizational cooperation requires each party to fulfil their respective duties. (Monroy, Alzola, 2005)

The franchise system first appeared in the baseball sport in 1876. The system guaranteed privileges to the franchised teams in a proper geographically defined space (meaning a member state that fit into the structure of the United States). This model also contributed to the launch of the first organized tournament in the United States in the baseball sport. It has become the most profitable sport by the organization. That is why other sports later began to follow a well-functioning “business model” in baseball. With the rapid development of sports leagues, more and more city teams have joined the franchise system. The growing number of teams required a fully business-based model and full adherence to fixed rules. It is no coincidence that in a European pyramid-like sports structure, amateur and professional sports are not sharply separated, whereas in the United States there is a clear-cut between amateur and professional sports.

The American sports model, opposite to the European model, can be considered completely closed: in the major sports leagues, there are typically 30-32 teams, and there is no possibility of promotion or relegation. Within the framework provided by the legislator and the organizational regulations of the given league, the owners of the leagues can decide how many teams and in which organizations can participate in the given league. However, there is much more to be gained from this approach. In the American market, the real revenue is not the individual teams, but the leagues themselves, so on the one hand the distribution of revenue is much more balanced than in the European sports model. On the other hand, the leagues themselves are interested in ensuring that no team dominates for an extended period of time because it results in a decrease in interest in the events of that sport (and thus a decrease in league-level revenue). As a result, while in the American sports model, the companies operating the teams are horizontally integrated (at the league level), in the European sports model there is vertical integration. While in the United States teams work together in terms of market and revenue and only struggle against each other on the field, in Europe the club teams are rivals to each other in virtually every aspect (Szemesi, 2015). In the economic market, these franchises operate together so this joint action provides a commercial revenue opportunity for the franchisees. The league operates under a so-called Joint Venture system, which could be translated as a joint venture system. The NBA’s organizational rule also states that it is an organization in which people work together to achieve a common goal (Grossman, et al., 2014).

Materials and methods

This section will propose our research methods and methodology that will lead this study to meet its objective.

The sources of our research were the publicly available data on the effects of the Covid 19 epidemic, primarily in connection with North American basketball and European football leagues. Taking into account the value of the teams in the examined sports, the amount of television royalties, and the data of social media interfaces.

Our research is grouped around the following four indicators:

- Sustainable management
- Application of new sponsorship procedures in sport
- New problem-solving procedures

- Examination of systems with different structures

Results and discussion

The coronavirus has changed the demand for leisure and competitive sports around the world, which is confirmed by several studies. (Kinczel-Müller 2022, McGuine et. al. 2022, Faraji et. al. 2022, Şenışık, et al. 2022, Kim et. al. 2020, Fitzgerald et. al. 2022)

As a result of the economic impact of the COVID-19 pandemic on world sports organizations, \$ 13 billion was lost in U.S. sports leagues, and 1.5 million jobs were threatened or lost only in the United States. And the losses of Europe's largest football clubs have exceeded € 1 billion. At the same time, as the crisis hit mainstream sports, alternative sports content and activities proliferated, leading to a huge surge in the market for home fitness equipment, online training studios, and sports. Meanwhile, the lucky ones who were able to keep their jobs in sports largely worked from home, proliferating telecommuting activities. Covid has crystallized during the epidemic to what extent the most popular sports are in need of their spectators to participate, selling merchandising products. The forced closure of local venues and facilities by COVID and severe social distancing provisions have forced most sports to seek alternative online avenues to reach their own consumers. The biggest losses have been felt in the television royalties market, and the economic difficulties caused by the lack of spectators seem to be small. As the big leagues in the United States operate in a franchise system, the owners had to solve the unprecedented situation and difficulties on their own without state help. In contrast, the UK government has voted £ 300 million in emergency aid for financially disadvantaged sports (rugby, horse racing). However, football, which operates entirely on a commercial basis, did not receive state aid there either. As a counterbalance to the exclusion of supporters on the spot, several sports and sporting events have turned to social media. For example, x-games, which deals with extreme sports, has invested huge sum of money in the development of its live broadcasts, making use of the potential of social media. It took a big risk with this, as 40-50 thousand spectators saw one of their events live before the pandemic. They had to cater to this crowd with online opportunities for sports where live viewing meant the essence of entertainment. Thanks to a well-structured marketing campaign, the events in the online space have been a huge success. Viewers' attention has turned to a record number of social media and digital platforms. Even double-digit TV viewing growth was outpaced by three-digit growth on social and digital media platforms, with 105 million video views on TikTok, Instagram, YouTube, Facebook, Twitter and Snapchat (+ 483% year-on-year). Another winner in the pandemic transformation was e-sports, its viewers grew worldwide. Like event owners, sports-based media and broadcasters have been challenged by the pandemic, especially with their major, long-term and fixed rights contracts with major leagues, as sport has become a major platform for investment over the past decade. (Hutchins et al., 2019).

1.Table: Television royalties in the major North American sports leagues

League	Average total income (billion dollars)	Annual income (billion dollars)	Partners	Term
NFL	27.0	3.0	Fox, NBC, CBS	2014-22
NFL	15.febr	09.jan	ESPN	2014-21
NFL	12.0	05.jan	DirecTV	2014-21
MLB	04.dec	06.jan	Fox, TBS, ESPN	2014-21
NBA	23.ápr	06.febr	ESPN, TNT	2016-24
NHL	2.0	0.2	NBC/Comcast	2012-22

Source: Forbes.com

Traditional large sponsors have suffered large losses during the pandemic, especially those who rely on a combination of player support and retail sales to sponsor events (Dašić et al., 2020). Adidas, for example, closed 70% of its retail stores due to losses from the postponed Olympic Games, the European Football Championship. The way out at Adidas was also to boost and develop online sales. As a result, the company has delivered its products to 160 markets around the world, achieving more than 90% growth in e-commerce sales. Sports organizations were desperately looking for new revenue opportunities to compensate for the loss of content that fans and others pay for, and sports owners have turned to new engagement strategies, often through partnerships that emphasize new forms of monetizing content and commercial exploitation of sports brands. For example Southampton in the English Premier League, followed a trend set up by a number of other European football clubs, including AC Milan, Swansea City, FC Barcelona, Real Madrid and Paris Saint-Germain, when contracted with a crypto currency company.

Such agreements go beyond the traditional composition of sponsorship and include deals on match-day rights to engage fans with the opportunities offered by cryptocurrency. The creation of the new Football Super League would have been such an escape gate. However, due to the resistance of the international and European alliance, and especially the support of the supporters, it did not materialize in the end. In the United States, the National Hockey League (NHL) has signed a contract with Amazon Web Services to improve the fan experience. As with the National Basketball Association (Microsoft), the NFL (Cisco) and Major League Baseball (Google), the NHL has used the pandemic to deliver more data for fans in real time, thanks to the colossal analytical power of a technology giant. Player tracking, customized insights, super connectivity, mobile development, platform interaction, social media, home experiences, artificial intelligence and learning algorithms, and immersive technology have become key words for the sports world and service delivery during the pandemic. In these hard times, sports organizations have been looking for new mechanisms to connect with their fans. Of course, social media has proven to be ideal for the task, with TikTok and Twitter became the most significant factors. A new generation of athletes has also emerged, those who were able to use the opportunities of social media to build their own brand in a planned and good way during the pandemic. Of course, online branding could have been the “weapon” for athletes who were already popular and had a serious following groups, fans. Thus, the effects of the pandemic hit the unfamous athletes the most. During the pandemic, recreational athletes also found themselves in a difficult situation as they were unable to use their usual sports facilities. One of the consequences of this was the spread and development of home training technologies, equipment and virtual experiences. Unsurprisingly, sales of sports programs that can be played on various consoles have also increased. The analysis of the effects of the pandemic on sport highlighted three emerging issues. The first thing to do was; for governments to review their investments in sport and develop new strategies by an area. Secondly, the crisis has significantly increased the use of teleworking and online work and business, including in the sports sector, and new procedures have had to be developed as well.

Thirdly, during the pandemic, in addition to the increase in exports, it was also necessary to be able to continue to “sell” traditional sports. In the decision-making of the world’s major leagues, an attempt had to be made to balance the health risks posed by the epidemic with the business survival of the leagues. This is why American sports organizations with a horizontal franchise system were in an easier position, as the teams were only opponents on the field, they worked together in one direction for business. In contrast, for example in European football, associations, clubs were both off-court and commercially opposed, making it very difficult to mitigate the business impact of the pandemic. The effects of the pandemic have forced teams

to reintroduce dynamic pricing strategies that re-appear in stadiums after the stadiums are reopened.

There are five ways in which spectators can return to stadiums:

1. Lower ticket prices and more free related services. (food and drink coupons)
2. Greater flexibility when exchanging purchased tickets. (For those who bought a ticket but could not take part in any of the matches, several teams gave “magic money” redeemable for food and drink souvenirs)
3. Cash payment and paper-based tickets were eliminated (Almost all teams use QR-based tickets)
4. There have done cruel actions against companies selling tickets online that have not complied with any legal requirements.
5. The large reseller ticketing networks froze their prices due to the pandemic and did not plan to increase their ticket prices, even if they were able to sell fewer tickets, due to the initially limited number of spectators in the stadiums for health reasons.

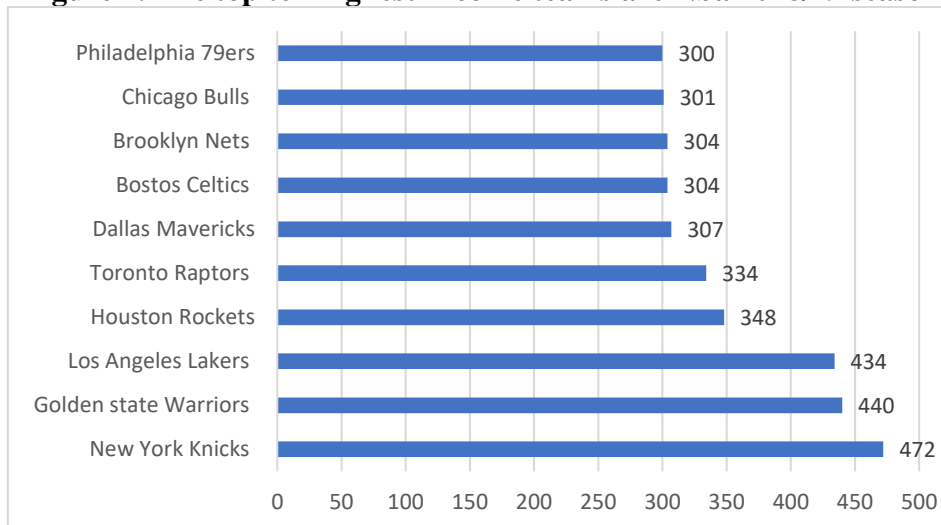
For smaller sports clubs, the online space also offered a brilliant opportunity to keep in touch with their fans. This was a particularly important mechanism of action, as not only do the biggest clubs have to survive the pandemic crisis, they also need to save the smaller teams! Sport must survive uniformly. Although COVID-19 has had a catastrophic impact on world sports, the sport has never been so highly valued (Evans et al., 2020). Sports events, even when viewed online, have been able to pull people out of the shock of a pandemic, at least for the time being.

The effects of the coronavirus was the Nba the followings:

Losses:

- The loss of ticket revenue was around \$ 450 million, the loss of non-ticket revenue was \$ 200 million,
- Due to the league's suspension in March, 259 regular season matches were cancelled. The tournament was later completed in an isolated location,
- The 259 spectators missed the regular season with a \$ 300 million deficit,
- The Los Angeles Lakers (later champion) reported a \$ 82.1 million deficit in cancelled matches.

In the previous section, we have already talked about the bubble solution, the closure of a part of the city that includes sports halls and hotels, where only athletes and people belonging to teams can be present and constantly test them. We would like to describe this solution in detail, as many national and international federations have adopted this solution in various sports, following the example of the NBA and the NHL. The solution that the European championships brought about the Covid epidemic as a solution to not finishing their own championship could not have arisen here either, as there is money in the tournament that has made it necessary to find a solution. The size of the amounts is well illustrated in the following chart, where the data for the top 10 revenue teams for the 2018/19 season can be seen in millions of dollars.

Figure 1. The top ten highest-income teams are Nba 2018/19 season

Source: <https://www.statista.com/statistics/193704/revenue-of-national-basketball-association-teams-in-2010/>

In March 2020, the first player produced a positive Covid test, after that the tournament was suspended. However, there is so much money at stake, whether in terms of ownership, the league's own revenues, or the players' benefits, that some sort of solution had to be found to end the season, of course with maximum consideration for health considerations. The bubble was implemented in Disney World, Florida. The NBA management agreed with club owners and players to quarantine 22 teams from July 7, 2020 to October 10, 2020, who had to play eight regular season matches per team and the full traditional format playoffs (there was even an extra play-in match for the playoffs). (<https://concordeblog.hu/2020/10/13/volt-egyszer-egy-nba-buborek/>)

These were the right decisions, as they went down inside the bubble without a positive test and although the league dropped the price of tickets and the cost of the bubble itself was \$ 180 million, the most important aspect was the end of the tournament. The league has done a fantastic job in preventing the spread of the virus inside the bubble. To illustrate the dimensions, the bubble has twice the size of Manhattan making it approximately 110 km² in size.

Figure 2: Practice courts in the Nba bubble

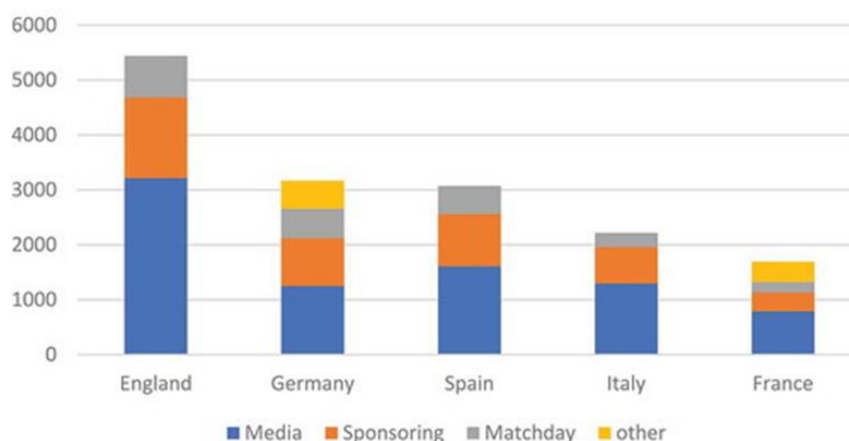
Source: <https://www.nbcsports.com/chicago/bulls/photos-first-look-nba-orlando-bubble-facilities-courts>

The NBA have confirmed that there are 3 courts available for the seeding games and the playoffs. For practice, the teams have 7 courts available to them. The practice courts for the players have been laid out by the respective hotel venues. The players and staff for all the 22 teams are staying in three hotels in the bubble. Despite the high set-up costs, the season went well, and the team owners were able to reassure themselves and the sponsors were satisfied with the solution.

Now let's examine the impact of the pandemic on the European football leagues.

The pandemic also had a major impact on major European football leagues. Because of the gigantic stadiums, the bubble system could not have been introduced or only at the cost of huge financial sacrifices. Thus, in order to save the 2019/20 season, teams decided to suspend or end matches or tournaments without spectators. In the first wave of the pandemic, most associations decided to exclude viewers. It is clear that playing in empty arenas instead of the otherwise crowded stadiums has faced a new challenge to both the teams and the professional staff. Television demand for matches, played in front of empty stands, also declined, so there was also a decline in the value of royalties. That is why clubs were looking for solutions to play their matches in front of spectators as soon as possible.

Figure 3. Income items for major European football
Revenues in top European Soccer Leagues



Source: Deutsche Ausgabe (2019)

It can also be seen from the table above that the abolition of full leagues due to a pandemic could not be an option, as clubs have so much media revenue that losing them would have had tragic consequences. Thus, the most commonly used solution during the 2019/20 season was to suspend the tournaments and then resume them in time. For most teams, finishing the championships was a lifeline, so for example in the German Championship (Bundesliga), a fund was set up where the richer clubs paid support to allow all first and second class clubs, even the less affluent clubs to finish the tournaments. The biggest lesson of the difficulties caused by the crisis was that professional football teams had to learn to have the widest possible business base and to have adequate reserves, because here, unlike in Hungary, we can find real businesses that could only hope for indirect state help. To overcome the difficulties, they even had to look for innovative financial techniques on their own.

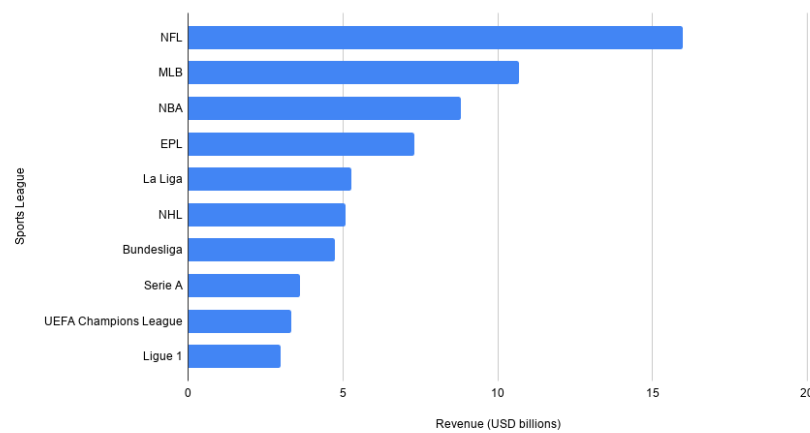
By the spring of 2022, the effects of the pandemic had subsided, and better data had come from various health care providers, making it possible to abolish the current Covid rules. By the end of March 2022, all U.S. states had lifted the restrictions caused by Covid 19. For example, players who do not have a vaccine can play in New York. In addition, the presence

of a full audience is already allowed in most arenas. If a team player notices symptoms, that player will be segregated, but the team's current match will no longer be cancelled. This year, it looks clear that the tournament will go in a normal way, so do not need special tools like bubble.

Conclusion:

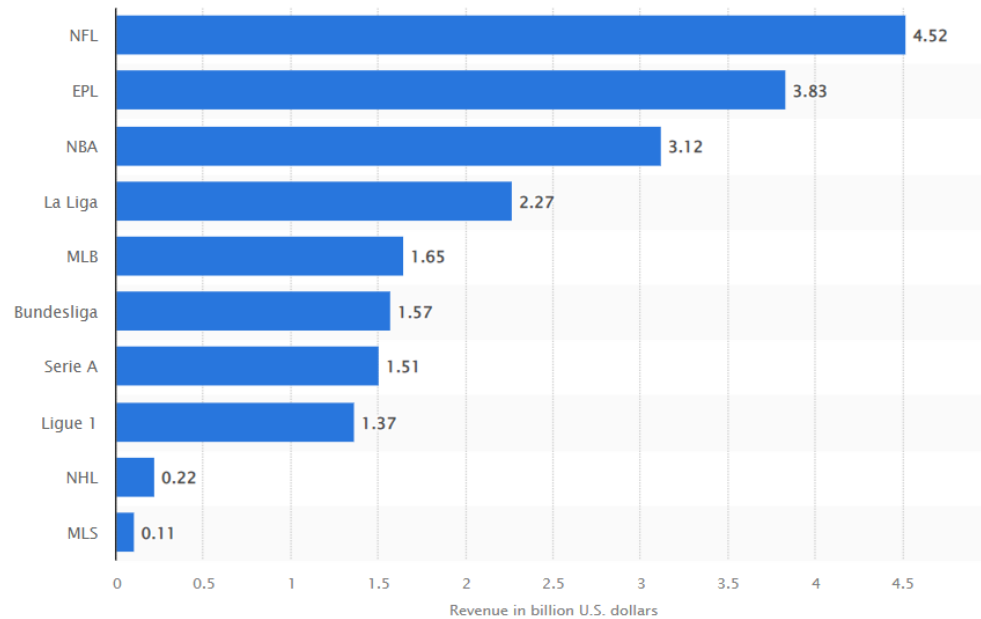
Of the top 10 most valuable sport championships in the world, the top three are North American sports leagues (American football, baseball, basketball), but the hockey championship is on the sixth place in the world so these leagues could not just finish their championships and do not announce a winner.

Figure 4. The top 10 sports leagues' income in billions of
Largest Sports League by Revenue



Source: <https://www.bizvibe.com/blog/largest-sports-leagues-by-revenue>

Basketball and hockey were in the most difficult situation, as the spring culmination of the viral situation brought the situation to be resolved just in the middle of the league competition system. It's no coincidence that these two leagues "invented" the bubble system. Baseball was perhaps a little easier, as it was an outdoor sport where they could play an abbreviated season with a shorter regular season, excluding spectators, and strict health rules. There was a break in American football, where the virus was actually interfering the preparation of the teams. Now the tournament works with limited spectator participation, very strict health rules, minor bumps but it runs. Because of the structure of the franchise system (there are no relegated teams here), because of the wealthy owners of these teams who invest their own money, because of the extremely high television royalties, the revenue from merchandising, and the amount of sponsorship money simply, these tournaments had to have a beginning and an end.

Figure 5. Broadcasting rights revenue in the top 10 sports leagues in the world (2019)

Source: <https://www.statista.com/statistics/1120170/broadcasting-rights-sports-by-league/>

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UNIVERSITY TEXTBOOK REVIEW

Ladislav Mura

Zuzana Hajduová, Peter Markovič, Marián Smorada, Ľudovít Šrenkel. 2021. *Financial management. A collection of examples*. Bratislava: Wolters Kluwer, 232 s. ISBN 978-80-571-0399-8

The business environment dynamically affects the operation and management of business entities. Over the past nearly 15 years, we have witnessed repeated crisis situations, which have often been triggered by financial instability. Massive lending, which turned into an inability to repay these loans and manifested persistent insolvency, caused a secondary, financial crisis. After recovery, national economies and, consequently, the entire world economy were affected by a pandemic crisis, one of the secondary manifestations of which is the emergence of the next phase of the economic crisis. All these massive changes and market turbulence put huge pressure on business executives to manage the entrusted entity as efficiently as possible. It is during this period that the need and importance of financial education, increasing financial literacy and stronger representation of subjects oriented to financial management of the enterprise in the field of education of future economists and managers are growing. It is extremely difficult to find the starting points that would help maintain the success of a business.

However, business management must constantly work on business sustainability options in order to survive in the market. That is why it is very important today to devote adequate space, time and resources to financial education in the training of highly educated professionals. In Autumn 2021, a collective of four authors representing mainly the Department of Corporate Finance of the Faculty of Business Management of the University of Economics in Bratislava prepared an innovative concept of education in the field of financial management with an overlap to the practical level.

Author's collective composed of doc. RNDr. Zuzana Hajduová, PhD., MSc., prof. Ing. Peter Markovič, PhD., Ing. Marián Smorada, PhD., Ing. Ľudovít Šrenkel, PhD., as an external collaborator from the Institute of Forensic Engineering of the University of Žilina, took on a very mirthful and difficult task: to prepare a university textbook with a practical character (in a form containing also a collection of examples) responding to current needs and trends in financial education and financial management of business entities. Naturally, many aspects (in particular, financial relations and ties) that are present in business entities can also be found in entities representing the non-commercial sphere. The teaching aids can therefore also be used for education in financial management of non-commercial subjects.

Over the past period, professional publications in the field of finance were more or less regularly available on the book market, but without reacting or taking into account new market conditions, to new facts that were fully reflected during crisis situations in companies and organisations. Therefore, it is maximally welcome that a team of experts dealing with financial management, corporate finance, applied, financial mathematics prepared for the students in particular by the Faculty of Business Management of the University of Economics in Bratislava, but also for all other people interested in this issues, university textbook having a practical character. This means that in addition to mastering general theoretical patterns, percipients have space and an opportunity to confront practical examples from ordinary business practice.

They verify the depth and breadth of fixation of the teaching substance and their ability to apply analytical tools in everyday life. The prepared teaching aid was conceived by the leader of the author's team in close cooperation with other authors as a university textbook, which fulfilled demanding criteria in terms of professional and didactic terms and was agreed to publish in a recognized publishing house of professional literature World format — Wolters Kluwer.

The university textbook is the result of many years of pedagogical activity of the author's collective. These experiences, pragmatic approaches and applied perspectives helped to create an interesting and comprehensive professional work, whose priority goal is to help all students and other interested people to learn the theory of financial management as well as modern views, approaches and perception of specific situations from business practice. The textbook contains many solved examples that show the internal logic of assessing the problem raised and at the same time introduce the reader to the issue.

The solved issue should be understood in the context of financial theory and practice. On the contrary, unresolved examples are intended to contribute to a positive motivation of the reader to own creative activity, especially in situations of dynamically changing conditions of the business environment. The textbook prepared by the authors provides a summary of important practices that are applicable in various cases and phases of the life cycle of enterprises. The practical textbook thus has additional potential to attract not only students, but also the general professional public, entrepreneurs, business managers and other economic entities. The peer-reviewed university textbook reflects significantly on the circumstances that have determined financial management of economic operators in the past crisis period. Future business managers, financiers, economists and entrepreneurs must be as prepared as much as possible for the ongoing changes.

From the point of view of structurality it is a 232 page publication, in terms of content, the university textbook under consideration has a total of seven supporting parts. In these sublots, the author's collective tried to build financial management into current market ratios. The efforts of the author's collective can be appreciated because reflection on the changed conditions is an important attribute in education. We express our belief that the partial parts of the university textbook will be a suitable assistant for all students not only of a particular university institution, but also for students of other universities, universities or study programs focused on financial management. A higher educated person must master the principles and tools of financial management.

Seven main chapters of the peer-reviewed teaching aids step by step and in logical sequence distribute specific areas of financial management into smaller subchapters. Such an arrangement is logical, conceptually follow-up to each other and appropriately offering readers the mastery of the theorem. The first part of the textbook focuses on the basic aspects and basics of financial management. In the second chapter of the teaching aids, the reader learns about two major components of financial management, namely financial analysis and financial planning.

Many managers of business entities or business components underestimate the importance of financial analysis, believing that the latter is appropriate and justified only for larger economic operators. We believe that the opposite is true. Micro-, small and medium-sized business units are significantly more sensitive to various changes in the internal and external environment of the enterprise, and environmental factors may have irreversible consequences for their functioning or existence. Therefore, regular financial analysis can reveal many facts that can still be corrected by appropriate management and thus ensure financial stability and business success.

Similarly, the area of planning is often underestimated in a market economy. In doing so, it is the first managerial function and is closely connected with control. Planning is important for the entrepreneur himself, for the smooth operation and development of the enterprise. It offers a space for creating an auxiliary document that provides the owner or manager of the company with a summary of the objectives that the company is interested in achieving. Therefore, even applied planning in the field of finance today plays a significant role. In times of repeated crises, financial planning is doubly important. The financial and capital structure of the enterprise is a thematic unit very closely linked to the financial accounting of the enterprise. Evaluation of financial equipment and capital resources constitutes a prerequisite for the development activities of enterprises. Investment decision-making and investment projects are currently full of challenges and opportunities to participate in financial support schemes as well as the wide possibility of appreciation of free capital. Many managers and entrepreneurs have problems with this area and in Slovakia they only use the possibility of financial advice to a lesser extent, because they protect their internal information about the company.

The peer-reviewed university textbook offers readers the opportunity to study this thematic area as well. The fifth chapter of the textbook deals with the management of short-term assets and short-term liabilities. Stressing the fact that short-term assets are to be financed from short-term sources for efficient use of resources is constantly up-to-date. Many entrepreneurs and entrepreneurs still do not control the golden rule in financing short-term assets. The sixth chapter of the peer-reviewed textbook deals with financial investment and its strategies. This is a topic already for the advanced, that is, those who master the basic laws in the world of finance.

In particular, it is necessary to highlight methods and tools in the field of forecasting financial instruments using quantitative methods. Control of analytical mathematical tools in financial management provides a prerequisite for an adequate assessment of the risks associated with investing. The last chapter deals with financial risk and financial derivatives. Assessment of the relevant level of risk is one of the important managerial analyses that need to be carried out for correct decision-making.

From the didactic point of view, in addition to theoretical background, the textbook is supplemented with numerous examples from ordinary economic and entrepreneurial practice. This is particularly welcome in the context of the nature of the textbook — the collection of examples. Illustrative demonstrations, solved examples help students to fix the teaching substance, develop their analytical ability. Unresolved examples give them the opportunity to verify their ability to apply knowledge on specific examples of business practice. In this spirit, the peer-reviewed textbook can be evaluated as a value-added publication for the percipient.

The university textbook with the character of the collection of examples is also the output of the VEGA research project 1/0240/20 “Financial Aspects of Sustainable Entrepreneurship — Solving Corporate Succession in Small and Medium Enterprises”. Joining science and pedagogical practice provides transfer of the latest knowledge, which is commendable. Therefore, in conclusion it is necessary to appreciate the work of the author's collective in the preparation of innovative conceived teaching aids. We express our belief that the prepared teaching aids will serve its recipients well and contribute to raising financial awareness.

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FUNCTIONS OF CRYPTOCURRENCIES IN SPORTS

Beatrix Faragó, Zsuzsanna Gósi

Abstract

In the context of sports and cryptocurrencies, we need to examine innovative industries and their relationship with each other. With the rise of digital technology and the global appearance of the sports economy, the cooperation between the two industries could be predestined. On the other hand, several questions arise in the way of areas of use. The cryptocurrency conquered the financial market most powerfully, which was most evident in its spread as a means of payment with profit-increasing functions in the sports economy. Sports offered many common points to the industry based on blockchain technology, which also gained space in sports marketing tools. Fan tokens have generated a new consumer market for sports services and sports products and addressed the solvent demand of sports fans. Cryptocurrencies and the sports sector are increasingly connected, increasing the economic performance of sports.

Keywords: cryptocurrency, sports, sports economy, finance, virtual currency

JEL Classification: P42, G24, L83

Introduction

The spread of cryptocurrencies started after the economic crisis of 2008, when few people had heard of this possibility. The general public started trading this currency in the last five years. Many questions arise regarding the management of cryptocurrencies, for which precise legislation has not been applied to date. The classification, product, service and entitlement of cryptocurrencies needs clarification. Likewise, the issue of VAT, which includes the taxation of cryptocurrency trading. There are countries where cryptocurrencies are legal means of payment (Salvador, Tonga, Central African Republic), but the number of these countries is minimal and they belong to developing countries. There are frequent questions about the regulation of cryptocurrencies, but this in no way limits their spread, circulation and trading. Cryptocurrencies develop at a dynamic pace and the appearance of individual cryptocurrencies, such as Bitcoin (Prypto, 2016, Gyórfi et al., 2019), tokens, and new types of currency can be found almost every day. Bitcoin was the first currency with blockchain technology, which was created to replace banking transactions. Its security is characterized by the fact that the computers are not connected, the essence of their network system is that they can establish a continuous connection even if one of the machines fails. Cryptocurrency as a dynamic economic segment penetrates industrial areas and appears in many other sectors besides the banking sector. One of its manifestations is in sports. The value of the cryptocurrencies present in sports varies, and its main area is in the construction of the fan community. With the help of digital technology, the sports industry has built many innovative economic activities, such as the appearance of sports startups or the introduction of cryptocurrencies. One of the major directions of the new sports economic elements is the use of cryptocurrencies in sports.

Our study presents the functions of cryptocurrencies in sports based on literature research. The currencies used in sports have different functions than bank transactions, but they are completely identical in nature. The study looks for the answer to what similarities and differences can be discovered between sports cryptocurrencies and bank transaction cryptocurrencies, as well as how valuable their usability is, as well as in which areas of sport it is present and what changes it results in compared to traditional forms. The literature base of

the study presents the relationship between cryptocurrencies and sports, and examines the changes in the new directions of the innovative sports economy.

Regarding the topic of the study, there is little literature, as the use of cryptocurrencies in sports is very new. The methodology of the study is therefore based on the secondary analysis of professional forums, sports club websites, case studies, and financial websites.

The global spread of cryptocurrencies

The spread of cryptocurrencies can be measured not only geographically, but also in the large-scale appearance of crypto-assets. In 2018, 1542 and in 2019, 2500 different crypto-assets were listed on the CoinMarketCap internet portal, which is a recognized professional portal for the crypto-assets market. The majority of crypto-assets fulfill a currency function, but in their areas of use, crypto-assets that provide infrastructure appear, which are present in applications operating on other blockchains, and are called "utility" crypto-assets. Crypto tools that provide services can also be found, which are application-based (e.g. Augur, ox, Steem). Crypto tools are different, but their basis is the same, the technology that works on decentralized applications. The purpose of crypto-assets is primarily known as a currency function, however, crypto-assets have different functions. In asset groups, we can distinguish a number of activities in terms of crypto-assets. The key is the decentralized application, with the help of which intermediary parties can be eliminated, the service can be used regardless of everything. Cryptocurrencies face many interpretation problems from the point of view of taxation, in terms of commodity groups. In America, for example, bitcoin is treated as a commodity on the commodity exchange, but the tax authorities register it as an instrument embodying ownership rights. The security appears as a security in supervision, and the banks treat it as a virtual currency.

Within the traditional asset groups, Greer (1997) defined three main asset classes. 1. capital goods, 2. goods that can be consumed and transformed, 3. means of wealth accumulation. Burniske–White (2017) based on Greer's findings, defined four main characteristics for separating traditional asset groups from each other: 1) Investability 2) Political-economic characteristics 3) Price independence: uncorrelated returns 4) Risk-return profile. Compared to the bitcoin market of traditional asset groups, bitcoin generates a significantly higher turnover on the market. Despite the high volume of traffic, the exchange rate remains stable. Bitcoin's regulatory system follows a unique path. The rule system and its changes work with the consensus and agreement of the Bitcoin community. Bitcoin is the most profitable investment opportunity today. This is thanks to its ability to generate absolute returns, in terms of the risk-return profile, in which it has unique characteristics. (Gábor, Kiss, 2018)

In the literature, two main groups can be distinguished in the types of cryptocurrencies. On the one hand, digital money (digital coin) with its own blockchain (blockchain). There are also two subgroups, one of which is bitcoin, and alternative cryptocurrencies, altcoins, and are based on a completely new blockchain algorithm. The other group consists of tokens. These do not have a blockchain, but create secondary, digital "crypto-currency replacement" devices on their platforms with applications (DApps) based on their own blockchain architecture. Tokens can represent services, which can be understood as a new form of crowdfunding, and also function as an investment tool. (Bugár, Somogyvári, 2020) The value of cryptocurrencies is very different, the list is led by bitcoin, then Ethereum, then XRP, which have the three largest capitalizations. (Figure 1)

Name of cryptocurrencies	Market Cap (million USD)	Exchange rate (USD)	Daily trading volume (million USD)	Amount in circulation
Bitcoin	166,5	9149	29,9	18 199 250
Ethereum	20,4	186	11,8	109 559 446
XRP	11	0,3	2,2	43 698 224 662
Bitcoin Cash	6,9	380	3,2	18 260 075
Bitcoin SV	4,9	271	1,9	18 257 377

Figure 1. Market capitalization of cryptocurrencies in order of magnitude

Source: coinmarketcap.com (2020)

Market capitalization for coins and tokens is the number of cryptocurrencies in circulation multiplied by the market price, a calculation similar to securities. Regarding the actors of the system, nodes are primary, which can be miners or users. In 2019, the number of users was 36 million. (Tassev, 2019) Cryptocurrency has turned into an industry, as it is present as a national means of payment in many countries, mainly in the North American regions where 27% of the market players are concentrated, 18% of the transactions, wallets 39% can be found here. Europe is the second strongest player, Asia is also important, especially Japan. (fortunebusinessinsights.com) Bitcoin has not become a global means of payment in everyday life, the main reason for which is the exchange rate fluctuation. Another limitation of the expansion is that it is surrounded by many uncertainties.

The change in the exchange rate shows supporting data for the use of bitcoin as an investment. The price of bitcoin is increasing strongly, but due to its high risk, it is less considered by experts as an investment strategy tool that ensures a balanced return, although it can increase the efficiency of other financial instruments. (Chen, Pandey, 2014, Eisl et al., 2015) The fact that some countries have banned the use of cryptocurrency, such as in China and India, also appears in its diffusion limits. Some countries, on the other hand, support the launch of licensed crypto exchanges, such as Japan, South Korea, Luxembourg, and Switzerland. In Switzerland, they also provide tax relief to startups working with cryptocurrency and blockchain. (CVVC, 2018) The acceptance of cryptocurrencies is also spreading at the corporate level, for example, Wikipedia, Microsoft, AT & T, Burger King, KFC Canada, Amazon, Benfica sports club also operate as acceptance sites. (Gajzágó, 2020)

Some businesses already pay their employees in bitcoin (Brook, 2019). In 2020, there are 6,733 cryptocurrency ATMs in the world (coinatmradar.com), which are also available in Hungary in Győr. Experts have set the global adoption of cryptocurrencies at 10% by 2030. (cointelegraph.com) The globality of the crypto-economy appears in the fact that they create an opportunity accessible to everyone (globality) and especially quickly, to create economic value creation and value mediation online without the presence of a third party as an intermediary or authenticator. (Gajzágó, 2020)

Economic directions and financial trends of the sports industry

In our study, the description of the economic and financial aspects of sports is necessary in order to understand the subsequent connections in the delimitation of the specialist areas, therefore the presentation of the economic and financial system of sports follows in this chapter. With the globalization of sports, the sports industry as a factor in the sports economy is gaining more and more space. In addition to amateur sports, with the increasingly dominant

growth of professional sports and the appearance of the media, sports are now largely business-oriented. (Faragó et al. 2017) In this process, the athlete is a tool, a commodity, a product that sells his right to play, his athletic activities, and his sports environment. Due to the global nature of sports, the sports market is available in all parts of the world, whether you participate in the industry environment as a fan, amateur or professional athlete, or as a sports tourist. The athlete's identity appears, which creates a bond between the sport and the person, which manifests itself in the love and admiration for the sport, the fandom for the athlete, and the attendance of sports events. (Faragó, Konczosné Szombathelyi, 2020)

This is not necessarily tied to one area, but is available in all segments of the world. The sports industry and innovation are closely related, since in competitive sports continuous improvements and innovations are necessary, either in the training method, in clothing or in technology, to increase performance. This constantly changing environment is also reflected in economic competitiveness. Therefore, the development of the sports industry and the sports economy took place through a rapid process and its territorial spread also increased dynamically. Innovative technologies are transforming sports and competition rules, as they enable faster decisions and more spectacular sports events. The competition system of several sports has changed as a result of new technical possibilities, in which new sports have been created, such as e-sports. The new players in the sports industry are fans, clubs, players, sponsors, investors, innovators, the leisure market, and tourism. Sports technology innovations include data analysis methods, computer visualization, and interactive platforms.

The economic importance and demand of sport can be seen in specific figures in the expansion of the sports economy. The economic growth of the sports industry has experienced rapid growth in the last three decades. The areas of the sports economy are shown in the participation in sports, the trade in sports goods, the demand for live sports events, and the demand for sports broadcasts. In North America since the 1970s, in Western Europe since the 1980s, and in the rest of the world since the 1990s, large-scale development has been experienced. The global market for winter sports equipment exceeds 1.6 billion euros, the global market for sports shoes is larger than 20 billion euros, and the global market for all sports equipment is around 150 billion euros. (Andreff, Szymanski, 2006)

We distinguish between profit-oriented, non-profit or governmental organizations among the companies which appearing in the sports sector. Sports enterprises are similar to other profit-oriented enterprises, in which the financial management of a sports organization is similar to the financial management of another sector, which means value creation, an increase in company value, and an increase in income. The differences appear in the goals. Sports organizations and ownership interests may also differ. Sports organizations compete to maximize their wealth, until then the ownership group may be more interested in winning a championship, buying a well-known player, and putting public interests first. This double interest can create an imbalance in the competition. In the operation of the Leagues, salary cuts are used and revenue sharing mechanisms are used to create competition between franchise organizations in financial management on and off the field.

We can distinguish five ways of financing the operation of sports organizations. Three methods typically apply to profit-oriented companies, which are credit, equity and reinvestment of accumulated profits. The other two financing methods are state financing and donations. (Figure 2)

Method	Example
Debit	Construction of Yankee Stadium
Equity	Green Bay Packers' renovation of Lambeau Field
Retained earnings	Packers Franchise Preservation Fund
Government	Tax-backed bonds issued by the City of Arlington, TX to support AT&T Stadium
Gift	Donations totaling \$85.4 million to Texas A&M with most money going toward Kyle Field

Figure 2. Financial methods used by sports organizations

Source: Brown et al. (2017)

1. In the case of a debt, the organization borrows money and repays it with interest within a certain period of time, in which case they use debt financing. In sports, teams can issue bonds and borrow from credit institutions to finance their activities. The method of financing can be short-term (less than one year) or long-term (repayment over one year). An essential element of loan financing operations is that the creditor does not acquire an ownership stake in the organization. The obligation of sports organizations extends to the repayment of the debt.

2. In the case of equity, the owners exchange their share or a part of it for money. The organization can get a source of income without taking out a loan to take on debt. The disadvantage is that the ownership layer is diluted and the original owners may lose control. In this case, the sports organization issues shares to increase its equity capital. It can also be a problem here that the profitability demands of the shareholders may differ from the goal of winning on the field.

3. Retained earnings financing is considered a type of equity financing. This method of financing is often used by listed companies when profits are not paid out to shareholders as dividends. A large part of the industry's organizations are privately owned, so financing through the reinvestment of accumulated profits and equity financing must be examined separately. In sports, this is often used by teams to buy players or to optimize operations.

4. In the case of government funding, private organizations and professional sports teams use the state support. School sports teams also use state funding. State resources can be government, municipal or federal resources. In terms of usability, infrastructure development and operational support are typical. The benefit of state financing is that it is tax-exempt.

5. In the case of gift, charitable donations received in cash or in kind are displayed. It is a significant form of financing in student sports and amateur sports competitions, which helps with operational and organizational conditions.

Financial and economic factors affecting sports are as follows.

1. the effect of the current economic cycle on sport,
2. the effects of television revenues,
3. the development of sports infrastructure,
4. ensuring the sustainability of sport,
5. the effect of politics on sport.

The financial management of the sports industry is influenced by many factors, in which efficient operation can be achieved with resilient behavior and the introduction of innovative ways. (Brown et al., 2017)

Functions of cryptocurrencies in sports

In the previous chapter, were presented the global spread of cryptocurrencies and the economic and financial system of sports. In this chapter, the two previous topics are combined, in which the general cryptocurrency analyzes and the economic and financial specificities of sports are presented together.

The relationship between sports and cryptocurrencies in sports can be divided into seven industry segments:

1. sports betting,
2. club and league management,
3. fantasy sports,
4. healthcare,
5. ecosystem development,
6. merchandising, and
7. talent investment. (Carlsson-Wall, Newland, 2020)

The field of club and league management is the largest division of cryptocurrencies, which aims to build a fan community and provide appropriate services and products that increase fan engagement. One of the biggest platforms in this area is socios.com, where you can buy virtual tokens or chips through the Chilliz cryptocurrency. Chilliz is an alternative payment tool for many sports, such as FC Barcelona (soccer), UFC (martial arts), Aston Martin Cognizant (motorsport), Boston Celtics (basketball), Davis Cup (tennis). There are many fan tokens and their number is growing every day. In the figure below, some fan tokens are presented by the issuing sports organization. (Figure 3)

Symbol	Fan token	Symbol	Fan token
ACM	AC Milan Fan Token	LEG	Legia Warsaw Fan Token
ALA	Alanyaspor Fan Token	LEV	Levante U.D. Fan Token
ALL	Alliance Fan Token	NAVI	Natus Vincere Fan Token
AM	Aston Martin Cognizant Fan Token	NOV	Novara Calcio Fan Token
APL	Apollon Limassol Fan Token	OG	OG Fan Token
ARG	Argentine Football Association Fan Token	PFL	Professional Fighters League Fan Token
ASR	AS Roma Fan Token	POR	Portugal National Team Fan Token
ATM	Athletico Madrid Fan Token	PSG	Paris Saint-Germain Fan Token
BAR	FC Barcelona Fan Token	ROUSH	Roush Fenway Racing Fan Token
CAI	Club Atletico Independiente Fan Token	SAUBER	Sint-Truidense Voetbalvereniging Fan Token
CITY	Manchester City Fan Token	SCCP	S.C. Corinthians Fan Token
DZG	Dinamo Zagreb Fan Token	STV	Göztepe S.K. Fan Token
FB	Fenerbahçe Token	TH	Team Heretics Fan Token
FOR	Fortuna Sittard Fan Token	TRA	Trabzonspor Fan Token
GAL	Galatasaray Fan Token	UCH	Universidad de Chile Fan Token
GALO	Clube Atlético Mineiro Fan Token	UFC	UFC Fan Token
GOZ	Alfa Romeo Racing ORLEN	VCF	Valencia CF Fan Token
IBFK	İstanbul Başakşehir Fan Token	VIT	Team Vitality Fan Token
INTER	Inter Milan Fan Token	YBO	Young Boys Fan Token
JUV	Juventus Fan Token		

Figure 3. Fan token issuing sports organizations

Source: Vidal-Tomás (2022)

In order to secure the future of the sports industry, it is necessary to satisfy the consumer market, in which digital technology is advancing. All of the passionate fans are citizens of digital technology, and their sports consumption is tied to these platforms. Teams and sports organizations must create new services and products in these innovative directions. Due to the restrictions of the Covid period, it was necessary for sports clubs to open up to digital technology, in which cryptocurrencies and the development of the fan community formed a successful couple. The sports industry has recognized that blockchain technology can revolutionize new sources of revenue, and the involvement of fans and sponsors in a social

experience through fan tokens has revitalized the sports sector. Cryptocurrencies serve as official means of payment in many sports organizations. Fans can buy tickets and products for it, clubs finance player salaries and transfer fees from cryptocurrencies. In 2018, Turkish football club Harunustaspor became the first in the world to buy players for Bitcoin. In 2018, cryptocurrency sponsorships, crowdfunding, CashBet Coin started in the organization of Arsenal Football Club. Litecoin also became the UFC's official cryptocurrency partner in 2018. Aston Martin Cognizant Formula 1 has become the first Formula 1 team to trade in cryptocurrency. (sports.legal.com)

Cryptocurrencies appearing in sports are fan tokens, which give fans great influence in the life of their favorite sports club. Tokens represent the value of services and appear as a new form of crowdfunding. Fan tokens used in sports give their holders rights based on the amount of cryptocurrency belonging to the sports club. Fans are the buyers of fan tokens sold by sports clubs.

Cryptocurrencies have been validated in sports and are accepted as a means of payment by many large teams. Their use covers the payment of players, the purchase of tickets for fans, the payment of transfer fees, and the provision of player payments. The other side of cryptocurrencies is the broadening of marketing tools for their appearance in sports, which is meant to increase fan engagement, and at the same time, they also have an impact on the economic profits of sports clubs. Fan tokens give fans rights in the decisions of their favorite sports team. Fans are given the right to vote, which can be used, for example, for the naming of training grounds, the selection of charity initiatives, and the selection of opponents for friendly matches. It can also be called a VIP membership card, which is also used as a means of payment. It is an essential element that these rights do not extend to institutional or corporate management decisions, they are not property rights, but they provide fans with greater influence, which can be used to increase engagement. (socio.com)

The spin-off direction of crypto and sports is NFT. NFTs include a wide range of immaterial objects stored in digital wallets. This group includes collectible sports cards, virtual real estate, and digital sneakers. Each NFT represents a unique digital element, they contain non-interchangeable, distinguishable information. NFTs include NBA Top Shot, which makes available a collection of NBA-licensed digital items, grossing \$230 million. It provides a service where fans can buy and sell video clips of their favorite athlete's best moments. FC Bayern München is connected to the Ethereum blockchain, trading with Sorare, in which digital football cards can be bought and sold, collectors can search for player cards and build teams. The allocation of payments in encrypted digital currency for athletes appears as an additional possibility of use. Usually, a traditional salary model is used in sports teams, which means monthly, quarterly or year-end salary. This is a traditional industry model, which is difficult to apply to an innovative sports sector. The sports sector is mainly characterized by atypical employment (Gösi, 2017), which places accounting in a different dimension. The sports industry is not an industry with a fixed income, personal incomes show a fluctuating seasonal trend, which depends on the season and competition cycles. Therefore, the traditional salary system is less flexible and difficult to follow the players' individual salary mechanisms. Athletes' pay depends on competition and training attendance, which can also be problematic in a fixed payment system. The daily payment system can also be operated in the technology of the new encrypted digital currencies. Manages the performance system flexibly and calculates the salary based on it. Currency management beyond countries is not a problem either, as payments are made in the same digital currency. Therefore, there is no change when the athlete changes country. Training visits, vacation requests, participation in competitions, and injury periods are included in the system. The player's individual payroll is calculated through the system in daily units, based on an individual payment system. (Figure 4)

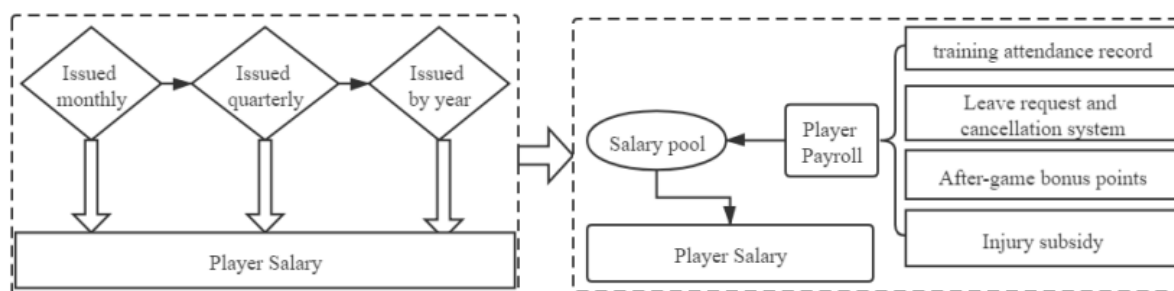


Figure 4. Blockchain and sports team's new payroll method

Source: Xiaohuan et al. (2021)

The intelligent anti-counterfeiting system also shows a new way of consuming sports products. The intelligent anti-counterfeiting system of blockchain technology provides security in the consumer market of sports products, which reduces risk factors. In the sports sector, the most common consumer product is ticket sales for major events, the market for merchandising products. The sale of unofficial tickets and souvenirs violates the needs of consumers and also attracts the image of the organizers and the club in a negative direction. The application of the blockchain's intelligent anti-counterfeiting system in the sports industry enables the efficient and secure sale of industrial consumer goods. This technology ensures protection against forgery, the security of consumer information and data owners. (Figure 5)

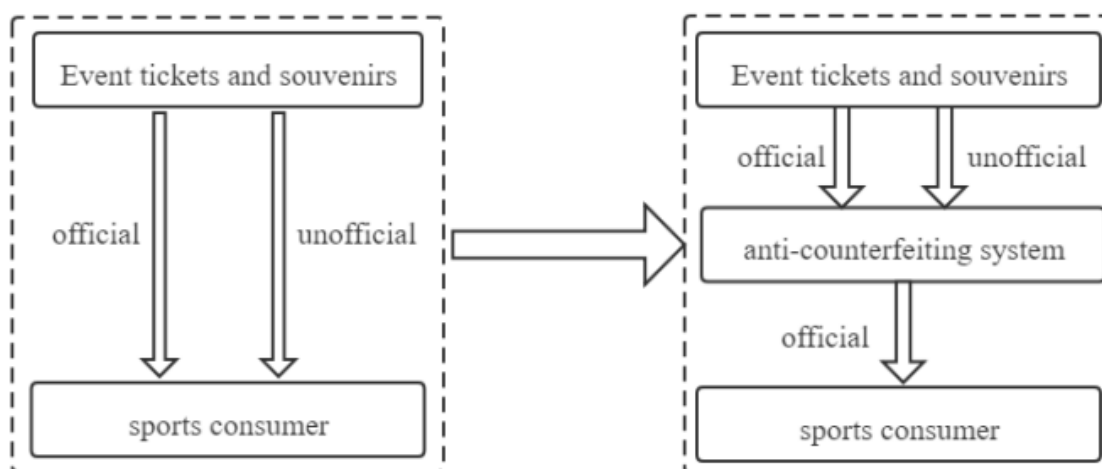


Figure 5. Blockchain and changing product consumption patterns in the sports industry

Source: Xiaohuan et al. (2021)

Summary

The spread of digital currencies comes with many risks. The value of cryptoassets is volatile, the legal environment and legal regulations are not guaranteed. Crypto assets have opened up new territory in the world of sports, but sports businesses need to be prepared for possible risk coverage due to the constant uncertain environment. The sports industry is being redefined, in which blockchain technology and digitization are inevitable. The innovative directions integrate the industries, in which the sports industry and sports economy are part of the new technological revolution. The development of the technology is still immature and has

many risk factors, as we are in the experimental phase. It is undeniable that blockchain technology brings new industrial changes in the sports industry, which the sports economy needs. In the application of traditional models and blockchain technology, the use of ratios is essential.

Traditional models cannot be left out, because they provide safety for both the sport and its participants. On the other hand, for economic growth, it is essential to open up to innovative methods, to gain popularity and involve new consumer markets. The study presented the globality of cryptocurrencies, the sports industry and the sports economy, and the common points by which a new sector was created by connecting the two industries in innovative areas and, helping each other, resulted in economic growth in the markets of finance, services, and products. Cryptocurrencies in sports have also reorganized the financial sector, and opened up new directions in the settlement system of atypical employment. He also strengthened financial security in the field of managing sports organizations through an efficient sales system.

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SPORTS STARTUPS AS SPORTS INNOVATIONS

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Abstract

The globalisation of sport has brought with it new economic direction. Sport is no longer just about the athletes, but more about the environment and the business opportunities in which the tools of sport are used. Spatial development is increasingly geared towards smart cities, where innovation and startups are becoming more dynamic. Sport, with its multiple functions, fits into the urban development agenda. In this paper, we describe the relationship between startups and sport, the background to their emergence and the directions in which they are developing. We also describe the good practices that drive this development mechanism. The economic dimension of sport is a development pathway, either in the economic development of a territory or in the development of the sports industry, which can take technical, health and social directions.

Key words

Sstartup, sport, sport startup, sporteconomy, innovation

JEL Classification: L26, L83, Z2

Introduction

Startups represent a new entrepreneurial direction in a changing economic environment. The global environment requires rapid change, a digital environment in which startups are driving the right dynamic change. Startups are venture capital investments in which entrepreneurship may be short-lived but do not present a greater risk than, for example, starting a business. It is oriented towards testing the market availability of an existing idea and visualising which ideas are viable in a given market. This is the trigger for the dynamic development of startups, putting innovative ideas into practice, but with a small investment, flexible and able to change quickly as the market dictates. A business is less flexible, harder to make big turns in terms of market segment, market, supply and demand. The life curve of startups is very variable. The development of the economy is predestined by the introduction of new products, services, new business operations, and even changes in organisational form to conquer new markets (Shumpeter, 1934). The expected characteristics of a startup are young entrepreneurship, innovation, technological development, and high risk (Csákné Filep, Radácsi, 2019). The literature lists many characteristics but gives less specific definitions. What is common to these definitions is that there is economic growth and technological innovation. In terms of characteristics, one definition of startups is: "Startups are typically micro or small enterprises in size, with high growth potential, based on product, organisational, business model or service innovation that can be understood in the global marketplace, and that require external investment" (Digital Prosperity Programme, 2016).

Startups have a high-risk factor for business success, significantly higher than non-startups. This is due to the uncertainty of launching innovative products and services, accessing a new market and its stability (Samuelsson, Davidson, 2009). Entrepreneurs are positively affected by a heterogeneous environment, even in terms of ownership (Visitin, Pittino, 2014). One of the determining factors for startups is the composition of the founders' human capital. Education has a strong influence on success. Founders with a business and management education are the most successful in this area, followed by those with technical education (Colombo, Grilli, 2005). In addition to human capital, financial capital is also an important aspect for startup firms. They have the advantage of being able to sustain the business with

internal, operational funding without recourse to external financing (Brinckmann et al., 2009). Experts argue that the diversity of founders plays a role in survival rather than growth (Visintin, Pittino, 2014). Analyses of Hungarian and international startup firms differ significantly. This may be due to the Western economic environment and the greater experience and market potential of Hungarian firms (Csákné Filep et al., 2020). It should be highlighted that startups are basically profit-oriented, but social startups addressing social needs have also emerged. This does not mean that we are talking about non-profit firms, but that they also meet social needs in addition to for-profit activities (Kézai, 2021). Startups are involved in several segments of the economy, exploiting their business potential. The sports industry is one of the priority areas that is gaining momentum. With the economic explosion of sport, the sportsman himself has taken a back seat, with the emergence of fan markets and recreational sports markets, whose growth is dynamic. The aim of our study is to present the sports industry and startups, which describe the function of sport from a new economic direction. The methodology of the study draws on secondary research, which also includes a comparison of international and Hungarian literature. In the economic competition, innovative directions appear as a growth factor, in which the sports sector provides an outstanding basis, as several untapped areas lie dormant in the industry environment.

The literature review represents the relationship between sports, sports enterprises and sports startups is presented alongside the characteristics of international and Hungarian sports startups, which highlights the position of the sports economy competitiveness in Western Europe and Central and Eastern Europe.

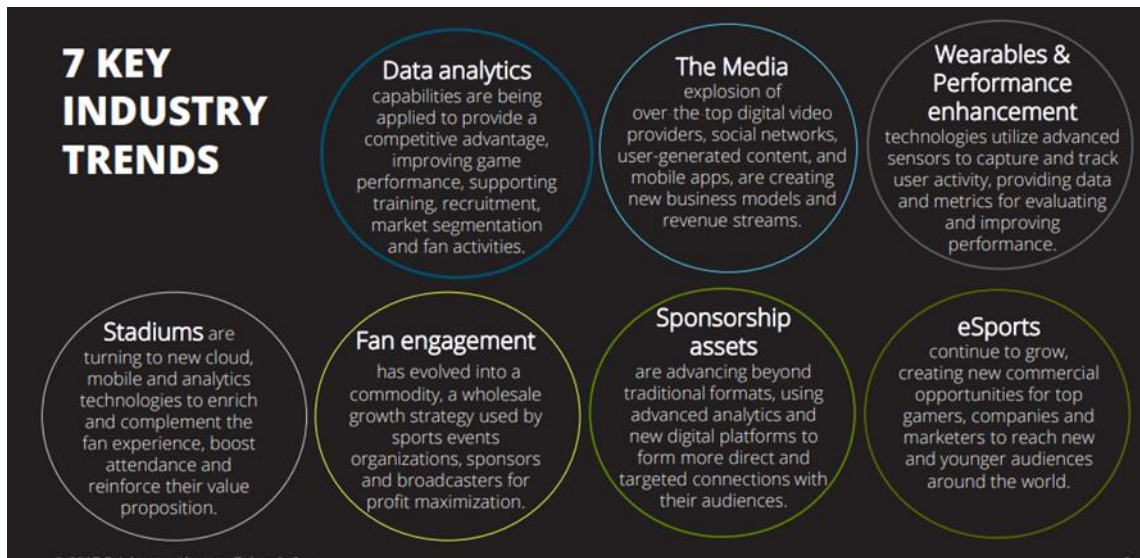
The selection of scientific sources for literature analysis was selected on the basis of specialized articles dealing with international and domestic sports startups. Due to the novelty of the topic, the sports startup does not have a wide literature, nevertheless, the related disciplines appear in the topic delimitation: the sports market, sports innovation, international startups, Hungarian startups, regional development, what is the smart city and sports innovation through the sport startup.

The global nature of the sports market

The development of sport cannot be defined only in terms of athlete performance. With the globalisation of sports, the sports industry is gaining significance as a factor in the sports economy. Recently professional sports had become more business-oriented due to the increasing dominance of the media. In this process, an athlete is a tool, a commodity, a product, which is sold as a right to play, as a sporting activity, as a sporting environment. Through the global nature of the sport, the sports market is accessible to all parts of the world, whether as a fan, amateur or professional sportsperson or sports tourist participating in the industry environment. A sporting identity is emerging, creating a bond between sport and the person, the persons, which manifests itself in love for the sport, enthusiasm for the athlete, and attendance at sporting events, and this is not necessarily linked to a territory but is available in all segments of the world. The sports industry and innovation are closely linked, as in competitive sports, to improve performance, continuous improvements and innovations are needed, whether in training methods, clothing or technology.

The global sports market has a business value of USD 700 trillion. Between 2014 and 2016, USD 5 trillion was invested in sports technology. We distinguish seven new industry trends (Figure 1) 1. Data analytics (to ensure competitive advantage, improve performance, segment the market, and support fan engagement), 2. Media (social networking, content production, mobile apps, creating new business models, revenue streams), 3. Mobile devices and performance-enhancing tools (technological innovation, user activity that can be tracked, recorded, provide data and indicators to evaluate and improve performance), 4. Stadiums (no

longer just a playing field, but with mobile and analytics technologies to complement the fan experience, and enhance the game), 5. Fan engagement (wholesale activity of merchandise, sport event organisations, sponsors, broadcasters employed to maximise profits), 6. Sponsored assets (community building, use of digital platforms), 7. eSports (characterised by continuous growth, new commercial opportunities, young community targeted).



1. Figure 7 key industry trends in sport

Source: deloitte.com

The sports market is a lucrative industry, adapting to a constantly changing environment to meet market needs. The sports industry accounts for 1% of GDP, generating around USD 700 billion in revenues from sports equipment, sports apparel, broadcasting rights markets, and merchandising products. The largest sports revenue comes from football, which has not yet been surpassed by any other sport. The sporting events market is a large area within the industry, with ticket sales, media rights and sponsorship accounting for the majority of revenues. The growing revenues in football and sports events are shown in Figures 2 and 3.

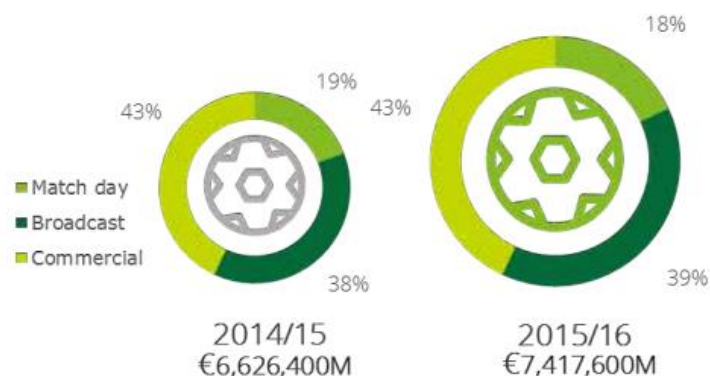


Figure 2. 2014/15 and 2015/16 top 20 football club’s revenue breakdown

Source: deloitte.com

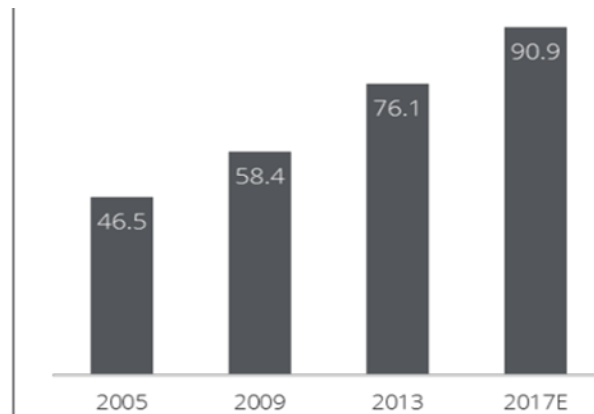


Figure 3. Size of the sports events market (billion USD)

Source: deloitte.com

The stakeholders of the global sports industry can be grouped into five main categories (Figure 4). A significant part is the fan group, which is targeted by many services and sport market products. The team, the league, appears as a service provider. Sponsors are one of the largest competitive markets in the sports industry, using sport as a valued intermediary. The athlete and the team also appear as service providers as a sports market product in this medium. The media is also the other most powerful market driver in the sport, it is the basis for community building and has a huge role in influencing marketability and awareness.

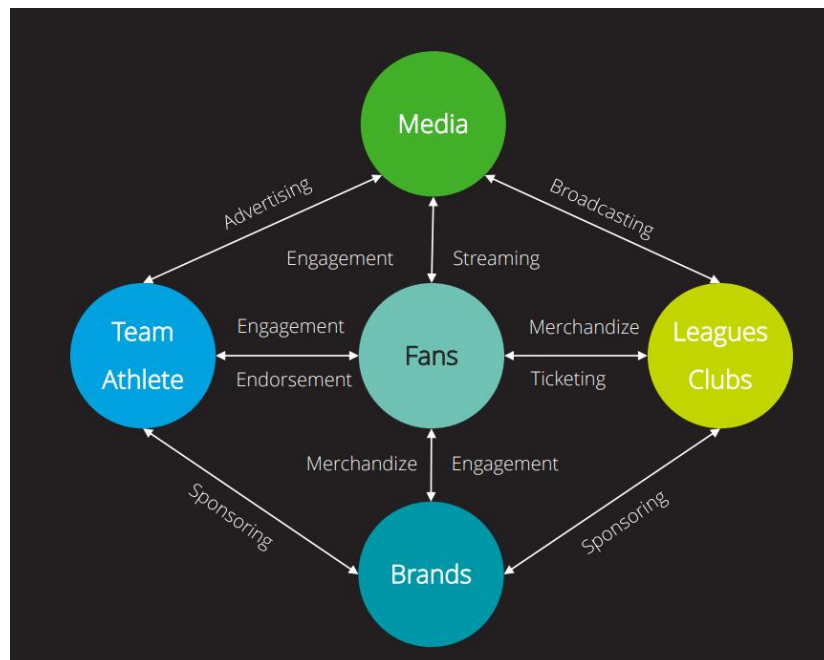


Figure 4. Five key stakeholders in the sports eco-environment

Source: deloitte.com

Smart cities and sports innovation

Sport, through its tools, is also used in territorial development to increase competitiveness (Faragó, 2020). The socio-economic development of cities can be increased through sport in the fields of health, leisure and tourism. With the emergence of sports technologies, territorial competitiveness and innovative technological areas through sport can be combined and act as a development generator, creating jobs, developing the local economy and attracting talent to the city. Startups have been created to boost the activity of the young entrepreneurial generation, which has also set innovative directions for urban development. The relationship between cities and startups also creates innovative, attractive and successful cooperation in the field of competitiveness. The city is linked to sports and provides a platform for the unfolding of sports startups, which are a tool for urban development. (Csiszár, 2020) In the development of smart cities, urban management must implement digitalization, artificial intelligence and innovative technical solutions, in which the field of sport offers a solution. thus, the intertwining of the smart city and sports startups can be determined. One of the big segments of the economic competitiveness of urban development is the market for sporting events, but one of the big areas of digitalisation is the market for media rights, which has also led to the globalisation of sport. A new area for the use of sport as a spatial development tool is the cooperation between smart cities and sports startups, putting their innovative directions into practice, thus promoting and increasing each other's competitive position.

Sport startups internationally

The world of sport is not just about the game, it affects our lives in many ways. Its economic direction is growing, slowly overtaking its social, cultural and national function. Many industries are opening up to sport and developing their innovative directions in this field, creating new markets. Sports technology is a new industry, but it is developing rapidly. The United States is leading the industry and setting the trends.

Startups

Looking at the conceptual framework of startups, several definitions can be found. The most commonly cited formulation is that of Ries (2014), an American entrepreneur, who defines a startup as "a business that aims to create a new product or service under conditions of extreme uncertainty". "In essence, a startup is nothing more than a catalyst that transforms ideas into products."

They share the common characteristics of rapid growth, easy market access, and a supportive ecosystem, usually available in large cities. Startups have high market potential and also high mortality, are innovative and enter the market with new products or services. They have a high rate of venture capital investment, which makes it easy for them to fall out of the market or grow rapidly. Startups have a significant economic development impact by creating new market areas, creating jobs, promoting local economic development and contributing to GDP (Karsai, 2021). They have the flexibility to adapt to market demands, by which they attract a large share of the consumer market. Initially, startups comprised emerging high-tech firms (Enright, 1998, Florida, 2002) but later expanded to cover more industries. The pace of their development is linked to the development of communication technologies, the Internet, and Industry 4.0 (Skawinska, Zalewski, 2020) The European Union has also given high priority to the spread of startups to stimulate the market economy, and has developed a support system and international programmes such as Startup Europe under Horizon 2020 (2014), which encourages the creation of startups through the development of institutions, social capital, networks and systemic conditions (Rosetti et al, 2018) The characteristics of the beneficiaries are early stage entrepreneurship, lack of funding, operating in the digital field, limited

investment in young companies in their country, starting in the domestic market but showing a willingness to break out into the international market. The programme aims to create jobs and increase economic activity. (EU, 2016) In 2016, a new EU policy recommendation was made to encourage startups. The success of a startup depends on the type of management and the size of the startup. (Zaech, Baldegger, 2017) Barriers to the success of startups can be financial, human constraints, lack of relationship capital, and problems due to external factors. (Tehseen, Ramayah, 2015) The stages of startup development can be defined by the time factor and the stages of maturity (Figure 5).

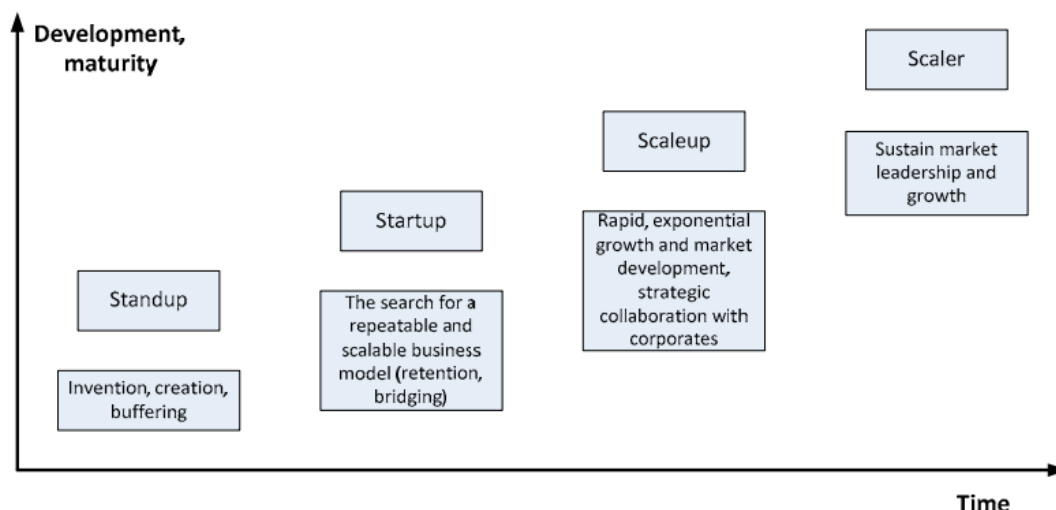


Figure 5. Startup development stages
Source: Skawinska, Zalewski, 2020

The main characteristics of startups were summarised by Kézai (2021), who distinguished eight elements (Figure 6.) These elements describe the definition of startup enterprises, which can be used to distinguish them from other types of businesses.

1.	Early life stage and small size
2.	Big growth potencial
3.	Innovation, breakthrough ideas technologies
4.	Aims for the global market
5.	High unvertcertainity
6.	Unique work culture and thinking
7.	Unique financing needs and problems
8.	Special branch

Figure 6. The 8 main characteristics of startups
Source: Kézai, 2021

Leading international startups

The most effective startup sectors that are the preferred economic directions for investors are E-commerce, Fintech, Cybersecurity, Big Data, Artificial Intelligence and

Business Intelligence, e-Health, Internet Sectors, Collaborative Economy (en.economy-pedia.com)

There are fewer large market analyses in the literature, but rather studies analysing the business structure. The sources of economic analysis in this new industry are the business magazines, so the results of these articles are presented below, showing the largest startups by the scope of activity and country of founders (Figure 7.)

The world's largest startups, worth more than USD 10 billion, are privately held, called unicorns (Skala, 2019). Digitalisation is taking place in different sectors of each startup.

	startup name	startup activity	country
1.	Bytedance	artificial intelligence	China
2.	SpaceX	other	USA
3.	Stripe	financial digitization	USA
4.	Klarna	financial digitization	Sweden
5.	Canva	Internet software	Australia
6.	Instacart	supply chain, logistics, transportation	USA
7.	Databricks	data management, analytics	USA
8.	Revolut	financial digitization	UK
9.	Nubank	financial digitization	Brazil
10.	Epic Games	other	USA

Figure 7. World's largest startups 2021

Source: visualcapitalist.com

International Sport startups

New forms of entrepreneurship such as startups are open to conquering innovative industries. By merging industries, there is the potential to create new market areas that will stimulate the market, making a wider consumer market available. Recognising this, the tech and technology industries have also entered the sports industry and innovated the sports industry. The new consumer segment is no longer just in love with the sport but treats sports products and services as part of everyday activities and entertainment. The global nature of the sport has made these services available all over the world. The orientation of startups towards the sports market is becoming more and more pronounced (Witt, 2004), as it offers a wide range of opportunities in many areas of the economy. A significant part of social demand in the field of sport, leisure and entertainment is increasingly competing with other industries. The field of sport is flexible, both in terms of organisation and activity, but also in terms of flexibility and openness to innovation. It is an innovative field which attracts businesses and provides a professional source of human capital. In the sports industry, a number of innovations are implemented to increase the market and enhance results. Sports startups are the translation of these innovative activities into practice. (Kim et al., 2019, Dietrick, Cool, 1989) The flexibility and dynamism of sports startup businesses also imply a number of pitfalls, which mainly involve financial opportunities and less-known areas of the market. Sports startups, on the other hand, are characterised by bricolage, which means that they use what they have at hand in their business model by reusing and recombining what they have a hand (Baker, Nelson, 2005). These reduce risk, allow for improvisation and promote new product outcomes. (Ratten, 2020) The sports industry is characterised by a high level of dynamism (Molan et al., 2019), whether we look at performance in competitive sports or in the field of sports innovation, where the recreational sport is making strong inroads. The development of sports

startups is based on these factors. The following figure shows the most popular and successful international sports startups by activity, based on the European Union Startups List (Figure 8.)

	sport startup name	sport startup activity
1.	Sorare	transform online football fandom through a global fantasy football game, where any football fan can become a manager.
2.	PlayerData	a mission to transform the way athletes train, giving everyone from amateur to professional access to the latest wearable technology
3.	Quell	develops a virtual fitness world that offers an intense workout experience while gaming to achieve fitness goals
4.	MyLADS	develops engaging Augmented Reality content that fans can access through its collectible items, the LADS. The LADS are high-quality replicas of football equipment allowing fans to experience AR content like photos and videos with players, 360° stadium tours, and infographics about players' performances
5.	Horizm	a new, real-time solution to digital inventory management, leveraging artificial intelligence to help sports and entertainment better track, value, and monetize their digital media
6.	ReSpo.Vision	uses computer vision to capture detailed 3D tracking data from sporting events and turn them into practical insights
7.	Playermaker	utilizes advanced technology to accurately measure foot to ball interaction performance
8.	PandaScore	provides statistics and odds for the top esports competitions globally
9.	Immersiv.io	is reinventing the sports fan experience with Augmented Reality
10.	ScorePlay	an AI-powered media asset management platform built for football clubs

Figure 8. Ranking of the international sports startups 2021

Source: eu-startups.com

The list of the most innovative and successful startups shows that digitalisation is the first area to make headway in the sports industry. Apps to enhance performance are emerging, as are apps that offer experiences in entertainment.

Sports startups in Hungary

The top positions for Hungarian startups are held by the artificial intelligence and biotechnology industries. These sectors have accumulated the most significant knowledge capital. In doing so, they have attracted international and cutting-edge investors. The following startups have been rated the most valuable by a jury of Hungarian experts in 2021. They all have in common that they are no older than seven years, have at least one Hungarian founder, but are not required to be Hungarian-registered. The ranking indicators are disruptiveness, scalability, global market presence, uniqueness of know-how and investor quality. The preliminary selection was carried out by Forbes business magazine experts based on interviews with industry players, followed by additional industry experts. Such a list is compiled every two years by this business magazine. Based on this, the leading startup companies are as follows. (Figure 6)

	Startup name	Startup activity
1.	Bitrise	develops a service that automates the work of mobile app developers
2.	SHAPR3D	3D design software development startup
3.	SCIPHER MEDICINE	it conduct drug tests with one of America's largest private health insurance companies
4.	TURBINE AI	startup that accelerates cancer research with the help of digital, artificial intelligence-based experimental simulations
5.	MENTEN AI	designs proteins with the help of quantum computers and artificial intelligence algorithms, thereby significantly speeding up the development phase of new generation drugs
6.	CRAFT	a new generation document editing solution specially developed for touch screen devices
7.	AIMOTIVE	it is building a concept car with two industry giants, Magna Steyr and Sony
8.	SEON	a startup dealing with the detection of online bank card fraud
9.	KINEPICT	the device developed by the startup provides a better picture of the state of the vascular system than before with less X-ray exposure and less use of contrast material
10.	RE CART	Facebook discusses its latest Messenger improvements
11.	PUBLISHDRIVE	on demand and publishing audio books
12.	BITNINJA	cyber security company
13.	BARION PAYMENT	facilitates electronic payments for webshops
14.	PREFIXBOX	a company that smartens the search engine of webshops
15.	B-CUBE	artificial intelligence-based cryptocurrency trading software developer
16.	POLILOOP	technology for breaking down single-use plastics
17.	ZIPPSAFE	manufactures intelligent and space-saving cabinets

Figure 9. Leading Hungarian startups

Source: Own compilation based on forbes.hu

Hungarian sports startups are also supported by the government's strategic policy, with programmes to promote entrepreneurship in the field of sport. One such programme is the Sporttech Startup Programme 2021 Startup Campus. The programme provides 5 weeks of business development training, business and sports mentoring and testing opportunities for the qualifying teams, with the best projects receiving an additional 5 weeks of investment coaching and up to HUF 20 million in venture capital investment, of which HUF 5 million is provided by Startup Campus and HUF 15 million by Hiventures. The sports-related ideas can include validated ideas or prototype products specifically related to sports or sports health. Other areas of support include performance enhancement, sports health, prevention and rehabilitation, sports equipment technology, sports facility development, economical operation of clubs, expansion of stadium services, mass sports, healthy lifestyles, fan experience technologies, and development of sports management tools.

The SportTech Hungary Programme has been created to prepare Hungarian sports technology innovations for the international market and to promote the export of companies that are competitive abroad. The programme supports the cooperation between Hungarian technological developments and innovations, the Hungarian sporting community and internationally successful athletes and Hungarian networks of foreign representations. SportTech Hungary aims to identify and systematically support the latest technological advances in sports and sports health: the programme provides the best companies with international networking capital, visibility, international market entry best practices and

mentoring. It also aims to tap into the exceptional global network of contacts that our most successful athletes have built up over their careers and to unleash the creativity and business potential of the most promising domestic sports technology companies.

The programme builds on the mutually beneficial cooperation between diplomacy, business and the world of sport: the dissemination of sports innovations will benefit Hungarian sports life, while the network of ambassadorial and diplomatic relations will benefit innovative companies and thus the national economy. The initiative is also intended to offer a new career path for retired and active athletes and to create a supportive and innovative sports community and business culture (startupcampus.hu/sporttech).

The best Hungarian sports startups and their fields of activity are presented below, based on the Crunchbase and SemRush databases in 2021. (Figure 10) This list showcases the top picks for the best Hungary-based Sports companies. These startups and companies are taking a variety of approaches to innovate the Sports industry, but are all exceptional companies well worth a follow. We tried to pick companies across the size spectrum from cutting-edge startups to established brands. We selected these startups and companies for exceptional performance in one of these categories: Innovation, Innovative ideas, Innovative route to market, Innovative product, Growth, Exceptional growth, Exceptional growth strategy, Management and Societal impact.

	sport startup name	Sport startup activity
1.	Statzup	Statzup is a developer and operator of various fantasy sports games and related products for different platforms.
2.	Omnicoach	Omnicoach is designed to be the most practical AI Coach for esports games
3.	KayakFirst Ltd.	KayakFirst is an innovative producer of indoor paddling machines for canoe, kayak, dragon boating or stand-up-paddle.
4.	KWINDOO	KWINDOO is a system platform for sailing regatta administrators, organizers, and racers.
5.	Flying Birds Entertainment Kft	Flying Birds Entertainment is a Hungarian, young startup.
6.	Footy Cards	Developer of Footy Cards, the soccer card trading game for mobile.
7.	Paddlemate	Sportstech, Paddlemate develops sensors and associated subscription-based evaluation software for paddle athletes
8.	Tep	Tep is the combination of a sports tracker app with a Tamagotchi that needs to be kept alive by your real physical activities.
9.	Tactic	Tactic is a digital store that offers sports products for athletics, cycling, fitness equipment, clothing and swimming pool technology.
10.	Ride Bike	Ride Bike is a retail company that offers bicycles and related accessories.
11.	Alinda	Alinda is an e-store that delivers electronics, home and garden decor items, travel products, bed frames, sports, and kids accessories.
12.	Start Sport	Start Sport focuses in manufacturing sports equipment and gym equipment.
13.	Motibro	MotiBro provides software solutions, class organization, customer communication, and online club management to sports clubs and studios.
14.	CamON	Automated video production for sports. Films amateurs to look like pros.
15.	Lancast	Lancast is an online store that offers a range of sports shoes, bags, sportswear and sports equipment.
16.	Tennis Signal	An innovative company aiming to revolutionize the world of tennis through advanced analytics and AI.
17.	Is Sport Bt.	Intersport is a network of sports retailers that offers branded products of sports equipment to its customers.
18.	Fitness-Vital Trade	Fitness-Vital Trade specializes in sports that distribute and supply a collection of gym products and sports equipment online.
19.	MITI TEX	MITI TEX is an apparel and fashion company that produces sports and technical garments made from warp-knit stretch fabrics.
20.	Jako Living Sports	Jako Living Sports is an online shop that offers a wide variety of sportswear for both individual customers and teams.
21.	Bringavilág	Bringavilág is an online store that deals with bicycles, fitness machines, bicycle accessories, parts and equipment.
22.	SportSarok	SportSarok is a distributor of sports equipment and accessories.
23.	Marathon Taneszköz-Sport	Marathon Taneszko-Sport is a commercial company that manufactures gymnastic equipment, basketball equipment, and other sports equipment.
24.	Bicajozz	Bicajozz is an online portal that sells a wide range of bicycles and accessories with various brands to choose from.
25.	Sportnagyker	Sportnagyker is a webshop that provides sports-related apparel, equipment, products and accessories.
26.	Gobe Sport	Gobe Sport specializes in the distribution of sports equipment and products for schools, kindergartens and fitness parks.
27.	BattleTac	BattleTac is a company which develops sports applications and softwares for iPhone
28.	Stilianos Babauszoda	Stilianos Babauszoda is a baby swimming franchising company that offers water skill development, training, and swim learning services.
29.	Lv International	LV Sport is a webshop that offers the equipment of professional athletes.

Figure 10. The best Hungarian sports startups in 2021

Source: based on Crunchbase and SemRush database, beststartup.eu

Among Hungarian sports startups, a higher proportion of startups are involved in industrial production, such as the production of sports equipment, the technical development of new sports products, and the implementation of sports engineering products. There are also basic digital technology businesses, which are specific to startups.

Summary

Innovative trends in economic incentives have conquered the sports industry. Sport has entered the world of startups with its social and economic functions. The main startup trends are digitalisation and artificial intelligence, which are the most successful startups. But the emergence of technologies alone does not represent a major breakthrough in economic innovation if they are not translated into practice. Sport offers great potential for this in many areas, from competitive sport as a performance enhancer to the recreational sport as a health promoter, a marketplace for products and services to reach a wider consumer segment. It also offers opportunities for innovative ideas in sports tourism, as a market for sports products and as part of the entertainment industry. The study used secondary sources to investigate the emergence, success and areas of startups and in this context sports startups, assessing the current situation and development trends of the sports startups market. It was concluded that the dynamic development of startups is present in all industrial sectors and that sport as a globalisation sector has a major role to play in this area. The unfolding trend of sports startups, which is also stimulating the sports economy, is increasingly moving towards the entertainment industry, which is influenced by the social values of the functions of sports. The study examined international and Hungarian scenes, with slight differences in funding and scope of activities. The economic background and consumer market in Central and Eastern Europe have a significant impact on the development and expansion of these businesses and their success based on the consumer market base. International trends and businesses require a larger and higher quality purchasing power, which is less evident in Hungary compared to international Western societies. National startups are seeking internationalisation to broaden the market. This approach is entirely relevant for startups, as their dynamic form, flexible organisational structure and reliance on the quality of human capital make them easier to achieve than larger companies in a bureaucratic system.

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