Modern technologies and the management of sports and leisure buyer engagement

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Abstract
The market for sports and leisure services is constantly evolving. Polish consumers are more often interested in the offer of sports and leisure enterprises such as fitness clubs, water parks, gyms, or sports and leisure centres, recognising the importance of looking after their health and physical fitness. After a period of isolation during the COVID-19 pandemic, physical activity is even more frequently regarded as fundamental to maintaining health and fitness, harmony and balance in life. Currently, all fitness-related activities are classified as leisure time mega trends (e.g. work-life balance). Modern technologies are another noticeable trend, which is beginning to accompany people in physical activity as well. They help streamline the service delivery process and apply a personalised approach to the customer. We are not just talking about today’s most popular social media, apps and activity monitoring devices. QR codes, geolocation, gamification, sports coaching, and others can be applied in business practice. The objective of the article was to show the specifics of the sports and leisure industry, characterise the dominant technological solutions and identify the opportunities they can provide for sports and leisure businesses. It was assumed that modern technologies could be complementary and successfully used both to promote physical activity itself and to build the commitment of buyers of services provided by such companies. The research used qualitative and quantitative methods, as well as literature analysis. As the analysis of the survey results and observation of the market has shown, modern technologies motivate participants of physical activity, while sports and leisure companies are beginning to recognise their advantages in promoting their services. The article emphasises the complementarity of solutions and their comprehensiveness, as well as possible implications in the service activity of sports and leisure enterprises. The result of the analysis is a proposal for a set of useful features and solutions dedicated to companies providing sports and leisure services. By applying the proposed solutions, these companies can become more innovative, while their customers will be more satisfied.

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1. Introduction

In the last decade, we have seen a very rapid development of modern technology. More often, we are accompanied by modern devices, technologies, applications, and solutions in our professional and private lives, which are designed to make life easier. They help to carry out duties effectively and quickly, communicate, and provide access to information. Modern technology makes it possible to develop our passions, establish relationships, expand our knowledge, keep fit and healthy. At the same time, numerous studies point to the great importance of physical activity in people’s lives (Czarnecki et al., 2022). Even minimal activity helps to maintain well-being, prevent obesity, diabetes, chronic circulatory problems, etc. Unfortunately, during the period of the pandemic, many people gave up physical activity and did not return to it after months of isolation, preferring a passive lifestyle (Drygas et al., 2021, 36). It has become a public health issue to look for solutions and health programmes that can allow people to build healthy habits and participate in physical activity. Physical activity in Poland has been analyzed for 20 years. There have been few studies that cover the entire population (GUS, 2021). K. Krzyżanowska and S. Wawrzyniak mention that the first study to assess the level of physical activity in Poland was the Large-Scale Study of the Health of the Population (WOBASZ). The study was conducted in 2002–2004 among 13,545 people aged 20–74. The questions concerned physical activity at work and in leisure time, as well as activity related to transportation. The mentioned studies only dealt with sports activity, participation in sports and recreational activities, and the forms of recreation taken. The level of physical activity was not assessed (Krzyżanowska and Wawrzyniak, 2020, 82). W. Drygas, M. Gajewska, and T. Zdrojewski highlight the insufficient level of physical activity in Poland as a public health threat and challenge (Drygas et al., 2021). M. Lenartowicz, Z. Dziubiński and K.W. Jankowski also tried to analyze how Polish participation in physical activity has changed in the last two decades. The authors note that there has been a positive increase in physical activity among Poles in the last 20 years. However, they also point to several worrying trends: Poles lack knowledge and habits about sports and recreation, there is a strong focus on individual sports and recreation activities among Poles, and there is insufficient use of the community potential of social sport. Despite the improving sports infrastructure, there is insufficient reach and a lack of proper functioning of non-commercial sports and recreation facilities (Lenartowicz et al., 2017, 208).

Sports and leisure companies are also facing the problem of people resigning from exercising and participating in fitness activities. According to research, participation in paid sports and leisure activities offered by companies (aerobics, fitness, yoga, gym workouts) is less popular than budget-friendly forms of exercise such as walking and cycling (Czarnecki et al., 2023, 154–155). People are spend-
Modern technologies and the management of sports and leisure  

ing more and more time using mobile devices, playing games, using apps, or simply exercising at home. Today’s generations are very keen to use such solutions in everyday life. This raises the question of how and to what extent modern technologies can be used to build commitment and promote physical activity. How sports and leisure businesses can utilise the knowledge about buyers’ methods of spending free time and their relationship to screen technology? Is it possible to set up programmes to build habits of being physically active, promote physical activity and, at the same time, meet the business objectives of sports and leisure service providers? The purpose of the article was to show the specifics of the sports and recreation industry, characterize the dominant technological solutions, and identify the opportunities that they can offer sports and recreation enterprises. This is because the assumption is that modern technological solutions can be complementary. They can be used successfully to promote both physical activity itself and the services provided by such companies.

2. The market for sports and leisure services

The sports and recreation services market in Poland has changed significantly in the last 20 years. As Z. Waśkowski notes, although sports and recreation activity has been the subject of research by scholars from both Poland and abroad (Das, Horton, 2016; Salmon, Owen, Crawford, Bauman and Sallis, 2003; Basińska-Zych, 2017; Żuryński, 2013; Maciąg, Kantyka, Prawelska-Skrzypek, 2018; Waśkowski and Jasiulewicz, 2017), it seems that the mechanisms that govern it still conceal many unrecognized rules and relationships (Waśkowski, 2023, 197). In the past, it could be observed that this was a very fragmented market covering small fitness clubs, gyms, or sports and leisure centres. Currently, the Polish market features several large chains offering a wide range of leisure and physical activity services and many micro-networks of fitness clubs. Among the most popular ones are Jatomi Fitness, Calypso Fitness Club, ZdroFit, CityFit. In recent years, facilities meeting various sophisticated customer needs have been appearing in large numbers, e.g. boutique fitness clubs, small intimate clubs for VIP customers (e.g. the Polish boutique club chain Harder) or women-only clubs (e.g. Mrs. Sporty).

According to the Central Statistical Office (GUS) data from 2021, there was a 51% increase in Poles’ spending on sport and recreation compared to 2016 (GUS, 2021, 1). The structure of expenditure on sport and recreation is shown in Figure 1. Cycling was the most popular activity. This was followed by swimming, general exercise and fitness classes, playing football and aerobics, fitness and gymnastics (GUS, 2021, 2).

Observations have shown that the COVID-19 pandemic period accelerated changes in the sports and leisure market. One of the changes has undoubtedly been digitisation and digitalisation, or more broadly put, modern technologies. The need
to keep a distance between activity participants and trainers, the restrictions and policies of the government related to the pandemic, the need to eliminate jobs in clubs, and the search for savings are all factors that have impacted the wider use of modern technologies in the operation of such venues. Social media, which became a place for clubs to contact and exchange information with their members, online training that was available on Facebook, for example, themed groups, channels on YouTube, and all other places where video\(^1\) could be streamed, allowed clubs to stay in business.

### 3. Modern technologies in marketing

The pandemic period has defined, changed, and re-evaluated the functioning of many industries. Currently, we can observe an incredible saturation of modern technologies. In virtually every area of today’s life, modern tools accompany us. “Internet activities, such as browsing the World Wide Web (WWW), sending emails, posting on instant messaging and social networking sites, leave a digital footprint on the servers visited, and locally on the computer. Mobile devices are generating location traces, there is an increasingly improved ability to recognise people based on biometric characteristics, using a variety of monitoring systems, most commercial transactions also leave detailed digital data as a consequence,

\(^1\) Video streaming – sharing content through streaming technology.
an increasing part of our private lives is being recorded digitally” (Wieczorkowski et al., 2022, 4). A report on the global digital market published in February 2023 provided interesting information. This report contains information dedicated to 250 countries worldwide, including Poland. “The total population of Poland in January 2023 was 41.48 million. In January 2023, there were 36.68 million internet users in Poland, including 27.50 million social media users and the internet penetration rate in Poland was 88.4% of the total population at the beginning of 2023. As the authors of the report show, there has been no noticeable decline in overall social media use, and in almost all countries social media use continues to grow” (Digital 2023: Poland, 2023). From the study, you can find out what the most popular social media in Poland are, what changes are taking place in this regard, how modern tools are evolving, and what advertising reach they have. In the area of sports and leisure services, modern media have also found their way. Fitness clubs communicate with their current and potential customers via websites, email, instant messaging, or social media. As A. Miotk points out, “one more trend (author’s note: after the popularization of the Internet) had a very large impact on social media, which has been strongly marked in recent years. It is the emergence and development of smartphones that are no longer designed just for making voice calls, but primarily for browsing the web and using a variety of applications” (Miotk, 2017, 24). In the case of promoting physical activity and sports and leisure services, as Z. Gao mentions, the industry has adapted well to the daily technological life. The author identifies some of the most important tools for promoting physical activity. These include social media, mobile apps, GPS and GIS, smartphones and smartbands, virtual reality and video games like Playstation (Gao, 2017, 3). “Mobile technologies play a huge role in popularising a new view of marketing effectiveness. What is meant here is the ‘marketing of the moment’ approach, which involves reaching the right customer with the right offer at the right time, but a time counted not in days but in seconds” (Mazurek, 2018, 21). More often, sports and leisure businesses are looking for unconventional ways to reach customers and promote physical activity. Building, maintaining, and enriching customer relationships, which are the foundation of relationship marketing (Berry, Otto, Kotler, 2002), can be done in a variety of ways. Modern companies use a wide range of tools to capture the attention of buyers, complete the first transaction with them, and offer benefits that will help build their mutual relationships for as long as possible. One of the proposals is modern technology, including social media, mobile applications, multimedia sharing portals, messengers, blogs, forums, and others. “Their impact on business is not just a passing trend. In the context of the contemporary purchasing behaviors of internet technology users and the different roles they assume in social networks, such as experts, advisors, commentators, critics, customers, or sellers, the optimal use and integrated management of new media is the duty of the 21st

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2 GPS – Global Positioning System and GIS – Geographical Information System.
century entrepreneur, in the spirit of the principle ‘where our customer is, so are we’” (Ratajczak et al., 2022, 104–105).

Network products are a solution that utilises modern technologies that can be successfully applied by companies providing sports and leisure services and other needs for health, fitness, and leisure activities. Urban Sports is one such product. The offer includes access to gyms, sports, and leisure centres and wellness services in many European cities, such as Germany, France, Belgium, Spain, and Portugal. The network of partners and countries in which Urban Sports is available continues to grow. Today it offers access to 50 different activities provided by 10,000 partners. The Urban Sports network is a membership option with several packages available (S, M, L, XL). Customers can choose from exercises at local fitness clubs, gyms, pool activities, golf, skiing, dancing, yoga, team games, and more. Within the same card and membership, they can also use the services of partners in other countries. The availability of Urban Sports services is shown in the mobile app. All you have to do is select the country and city, along with the services offered in that city, and their availability will be searched for. Urban Sports also offers sports activities online, which proved to be a good solution during the pandemic. Existing customers can vary their physical activity depending on the weather, by choosing indoor or outdoor activities and, after the activity, enjoy spa services also as part of the Urban Sports card.

Poland, on the other hand, has the Multisport System, a product similar to Urban Sports, available throughout the entire country. In this case, the offer includes more than 38 types of sports activities to choose from in more than 4,000 clubs (650 cities in Poland). Urban Sports is targeted at both individuals and companies, while in the case of Multisport, the offer applies to companies with a minimum of five employees. Both Urban Sports and Multisport have applications to search for an offer or activity venue. Users can filter the database of venues by specific sports and activities, start times, opening hours of venues, depending on their needs and the package they have (Urban Sports) or the type of card (Multisport has cards for adults, including seniors, children, and students). These are not the only solutions using modern technologies. There are a number of facilities on the market that combine different possibilities, including the ability to browse and select offers, monitor training progress, and record achievements created for the needs of a specific sports and leisure enterprise. Fitness club management software is also available, e.g. eFitnes or Gym Manager, that sports and leisure companies can purchase and implement with a choice of different features.

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4 https://efitness.pl/mobile-app/
5 https://gymmanager.io/
4. Methodology and results of the research

When analysing the changes taking place in the sports and leisure market, the question arose as to how and to what extent modern technology could be used to build engagement and promote physical activity. How can sports and leisure businesses utilise the knowledge about buyers’ methods of spending free time and their relationship with screen technology? Is it possible to create programmes to build habits of being physically active, and at the same time, meet the business objectives of sports and leisure service providers? The purpose of the research was to diagnose the following:

1. The most important motivators for physical activity;
2. The key barriers in undertaking physical activity;
3. Current trends in physical activity;
4. The extent to which modern technologies are used in sports and leisure services and the opinions of participants in physical activity regarding them;
5. The role of the environment (family, friends, institutions, local government, media, state) in promoting physical activity.

The study adopts the following hypothesis: *It is assumed that modern technologies can be complementary in nature and can be successfully used both to promote physical activity itself and to build buyer commitment with the services provided by such companies.* The research utilising a diagnostic survey method was conducted in February 2023. The research tool was a survey questionnaire with 15 questions and personal details questions. A total of 98 people took part in the survey. Purposive non-random sampling using the “snowball” method was used. “In the snowball method, the researcher collects data relating to several members of a population that can be found, and then asks these individuals to provide the information needed to find other members of that population that they happen to know” (Sęk, 2015, 59). Participants in the study, who were physically active people, were provided with a link to a survey questionnaire available online. In addition, a link to the survey was circulated on the Internet (in thematic groups related to physical activity, e.g. Facebook, Instagram). Due to the narrow research sample, the results obtained should be treated as an introduction to further research regarding the application of modern technologies in the area of physical activity promotion and sports and leisure services. The results of the survey can be useful to both businesses and institutions involved in the promotion of physical culture.

The respondents included men (26%) and women (74%), mostly residents of cities with more than 200,000 inhabitants (40%), cities with 100,000–200,000 inhabitants (25%), and rural areas (20%). The age of the respondents varied. The largest group was people aged 21–30 with 30%, followed by people aged 41–50 years with 28% and people under 20 with 17%. Of those surveyed, almost all owned a smartphone (99%), used the internet several times a day (99%), and regular-
ly used mobile apps and social media (86%). The respondents declared that they
practiced physical activity: at least once a week (26%), 2–3 times a week (38%),
and daily (27%). The obtained results are shown in Figure 2. The high activity of
the respondents results from the characteristics of the sample, as the questionnaire
was made available online, as mentioned above, among people who are physically
active.

Respondents indicated walking, exercising at home, cycling, gym, fitness, and
team sports among the most popular forms of physical activity.

Respondents’ motives in deciding to be physically active include the desire to
feel better (62%), the desire to improve their health (62%), as well as the effect that
can be achieved while looking after one’s physical appearance (49%). The most fre-
cently indicated barriers to undertaking physical activity were lack of time (39%),
lack of motivation (33%), and lack of financial resources (15%). Other statements
included location of the facilities (far from home), health conditions, and having
to look after a child. According to the respondents, the most common reasons for
a lack of interest in physical activity included excessive responsibilities, a passive
lifestyle caused by long-standing habits, and a lack of ability to organise one’s time.

When it comes to the most important trends in physical activity, respondents
most often indicated modern technologies (including mobile apps) as well as per-
sonal trainer care. Fewer indications were given for home exercises and online
workouts. The remaining responses are shown in Figure 2.

Another issue that was raised was respondents’ opinions on modern technolo-
gies that motivate to undertake physical activity. Social media and physical activity

![Figure 2. Frequency of physical activity by respondents](source: prepared by the author based on research.)
monitoring (e.g. by smartwatch or smartband) were most frequently mentioned. The remaining responses are shown in Figure 3.

**Figure 3.** Trends in physical activity observed by respondents

Source: prepared by the author based on research.

Among the most popular high-tech solutions, apps such as Zepp Life\(^6\) (formerly Mi Fit), the Pacer app\(^7\) and available apps such as pedometer or Samsung Health app\(^8\), as well as activity monitoring devices such as smartbands or smartwatches were indicated. According to the respondents, modern technologies provide support to the customer, i.e. they give quick access to the calendar, class schedule, etc. (26.3%), allow the customer to observe their training progress (25.3%), motivate the customer to be physically active (17.%), and assist with managing a club (13.7%). Only 11% of respondents indicated that people who want to exercise do not need to be assisted by technology (Figure 4).

Participants in the study also evaluated the impact of the environment on undertaking physical activity. According to respondents, promoting healthy habits and undertaking physical activity is the responsibility of ourselves and those around us (most notably parents and peers) – 59% and 66%, respectively. Responses such as the media (32%), the state (13.4%), and sports and leisure companies (12.4%) had significantly fewer indications.

\(^6\) Zepp Life (formerly named Mi Fit) is an app that is used to connect the Mi Band (first or second generation) to a smartphone (https://www.dobreprogramy.pl/mi-fit,program,android,662859656195713 online access on: 15 December 2022).

\(^7\) Pacer – a free phone app that makes it possible to count steps, calories burned, distance and activity time.

\(^8\) Samsung Health – an app dedicated to Samsung smartphone owners allowing them to manage and motivate their physical activity.
5. Development perspectives for the market of sports and leisure services using modern technologies

According to the results of the survey, modern technologies already occupy an important place in people’s lives today. They are also used in physical activity. The
assumptions of the study were confirmed. Modern technologies can be a motivator for physical activity, while sports and leisure businesses can use modern technology solutions to promote physical activity and their services and build long-term relationships with their customers. As the results of the survey and observation of the behaviour of purchasers of this type of services show, modern technologies can be effective in promoting the services of sports and leisure businesses if, in addition to supporting the customer in the form of access to a calendar, timetable and booking of services, they include elements that motivate and allow to monitor the effects of exercise. Already today, physical activity participants indicate mobile apps and modern technologies (second only to the personal trainer service and ahead of at-home/online workout) as the most noticed trends in the sports and leisure services market. In order to meet expectations of the customers, but also to respond to market changes, sports and leisure companies have a wide range of solutions at their disposal:

1. Using a smartwatch or a smartband can be the first step in exploring other ways to satisfy the need to be active, such as undertaking physical activity in sports and leisure facilities.

2. Fitness clubs using modern technologies should take into account the following features:
   – managers being able to streamline club management;
   – supporting the customer by providing the timetable, selection, and booking of classes;
   – monitoring training progress;
   – motivating activity through gamification elements, e.g. achievement tables for club members, publication of the results of the “club member of the month” competition, rewards (points, badges, challenges, etc.);
   – the use of QR codes, e.g. to make it easier to enter a facility or to use promotional mobile coupons;
   – geolocation to find club network facilities offering a particular type of sports activity;
   – virtual reality, virtual trainer, virtual sports and leisure activities as cost reductions for the club and innovations in the offer to customers.

3. Utilising modern technologies, including mobile apps, for marketing activities. Mobile apps of sports and leisure companies can be a carrier of advertisements for products and services related to healthy lifestyles.

4. Customers can act as brand/club ambassadors by sharing positive feedback, as well as using tags⁹, posting photos or stories of sports activities on social media and adding the location of the facility.

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⁹ Tags – keywords assigned to a specific piece of information, place, event.
5. Modern technology can be a tool contributing to building the habit of being physically active. Popular science content related to physical activity and broadly-defined healthy lifestyles (e.g. company blogs) can be published on club websites.

6. Social media can be used to publish information and conduct webinars or other engaging activities with wellness industry professionals. These activities will also help build a positive image of the company in the environment.

7. Modern technologies can be used to personalise messages sent to customers through geolocation (GPS and GIS mentioned above). All of these suggestions can be used to manage a sports and leisure facility utilising modern technologies. Furthermore, the results of the survey showed the usefulness of modern technologies in promoting physical activity and building commitment of participants in sports and leisure activities.

6. Conclusion

In recent years, we can observe an increasingly strong impact of digital technologies on various aspects of our lives. Soon, the reality will belong to artificial intelligence. Such rapid and significant changes will also affect the sphere of leisure and the sports and recreation industry presented here.

Companies in the sports and recreation industry, like many others, operate in a changing environment. The task of managers will be to constantly monitor the market and react to changes taking place in it. It can also be noted that we are entering the “post-digital era”, which means that the digital revolution has already taken place and the division into traditional and modern (digital) marketing has disappeared. In the sports and recreation industry, the creation, maintenance, and enrichment of participant engagement in activities will be accompanied by modern technologies.

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Modern technologies and the management of sports and leisure


