

THE INFLUENCE OF MODERN TECHNOLOGIES ON THE SELECTED DETERMINANTS OF TOURISM AND RECREATION DEVELOPMENT

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Abstract The 21st century, especially its second decade, is a period of very dynamically developing science and technology, which is particularly manifested in many discoveries and inventions. The development of medical sciences, biotechnology, cybernetics, and computer science are making important progress. Industrial robots and other machines carry out programmed work by specialists faster, more precisely and economically than workers. Currently, there is no problem with smartphones to book a plane ticket, accommodation in a hotel, order a taxi or set the shortest route to the holiday destination. Unfortunately, adverse effects of technological progress are also observed, e.g. loss of workplaces caused by the introduction of new production technologies, loosening of social bonds, loneliness and depression of the individual, etc. The aim of the conducted research was to get to know the respondents' opinions on selected problems related to modern technology in meeting the needs in the field of tourism and recreation and the impact of modern technology on the tourist labor market.

The research group was narrowed down to students studying at the Faculty of Physical Education and Health Promotion of the University. Its participants were first- and second-cycle students – a total of 211 people aged 18 to 25 (58 women and 153 men). According to our research, the 92.16% of the respondents use the services available via the Internet, for example for shopping. The 85.29% of the respondents are not afraid of the risk of losing their job to modern technologies. Our research presented in this article shows that the vast majority of the respondents perceive the negative impact of the development of modern technologies on the labor market related to tourism and recreation. In order to stay on such a labor market, employees should constantly acquire new qualifications and be ready for a change of their job at multiple times during their careers.

Key words physical activity, tourism, recreation, modern technologies, labor market

Introduction

The 21st century is a period of very dynamically developing science and technology, which can be observed especially in the field of medical sciences, biotechnology, cybernetics or in areas related to tourism and recreation. A large number of inventions finds application in all spheres of human activity and contributes to the faster development of civilization, which stimulates further progress in many spheres of life. The rapid growth of knowledge

makes it necessary to seek answers to the numerous questions that have troubled humanity. One of them is the problem of the practical use of such a huge and constantly growing knowledge base.

Industrial robots and automatons – especially in the automotive industry – have already performed work programmed by specialists in the production process of vehicles for a number of years, carrying out assigned tasks faster, more precisely and cheaper than human. Machines do not request for holidays, do not join trade unions nor do they require regenerative meals. The industry is therefore facing a technological revolution because parallel efforts are being made to improve autonomous vehicles. Self-driving vehicles will probably soon begin regular operation from the main airports to the big city centers. Technology makes new and previously unknown offers start to appear in the area of tourism and recreation, such as an orbital space trip which can be already available for reservation (Harari, 2018). Other examples demonstrating fast technical progress are computers, tablets, smartphones that are widely used in companies and also in the private life of every human being.

Modern technologies have undoubtedly had a profound impact on the life of an individual and, more broadly, civilizational changes, even global ones. Examples of the phenomena taking place include loosening of social bonds, loneliness, depression or loss of jobs caused by the introduction of new production methods. An incredible amount of information emerging at a rapid pace, which may cause some individuals to experience a kind of fatigue syndrome or, unfortunately often, have their brain overloaded with irrelevant information, may also be another social never-seen-before phenomenon until the times of the information revolution. There are millions of websites of companies and individuals on the Internet, and hundreds of thousands of messages appear on social media forums, and at the same time, countless emails are sent between network users. Huge information resources, therefore, force an individual to make choices and selectively absorb content.

The dynamic technological progress made it possible to manufacture equipment that also allows the development of new, previously undiscovered areas of the tourist and recreational services market. Previously unknown equipment capabilities, for example in the form of marking interesting objects with QR codes, virtual tours and trips to places of interest, or geotagging services are very popular and often used by tourists (Berebka, Borodako, 2018).

Due to the drop in production prices and miniaturization, these devices become more accessible to the average user. For instance, smart watch type electronic equipment or fitness trackers etc. can be useful for people who care about their health and consciously implement planned activities related to their own recreation and a healthy lifestyle. Such technological solutions are designed for everyone who wishes to improve his/her physical condition, monitor his/her physical activity, the number of calories burned, or the length and quality of sleep (Bronikowski, Bronikowska, Glapal, 2016). More expensive and complex models are also equipped with a GPS module or virtual reality options that are compatible with applications installed in smartphones. Such trackers can be worn all day, because they are very light, often waterproof, not requiring frequent recharging, which extends their useful life. Fitness trackers and “smart” watches allow a user to maintain a good form or return to it, and improve his/her own well-being without the need to engage a personal trainer (Nadobnik, 2018). The great possibilities are also offered by the wireless Internet and satellite navigation technology. By using smartphones, a user can book an air ticket, check in a hotel, order a taxi or set the shortest route to his/her holiday destination. A mobile phone also often serves as the only camera carried by a modern tourist.

The dynamic development of modern technologies led to computers, tablets and smartphones enter new (sometimes surprising) areas of human activity. An example of using modern electronics are proposals for the use

of tablets in schools, including (which should no longer be surprising) during physical education lessons (Sinelnikov, 2012). High technological progress, miniaturization of devices, the decrease of prices of consumer electronics production, including so-called electronic haberdashery (fitness trackers, smart watches, etc.) makes it possible to talk about changes that take place in recreational and health behavior of children and adolescents. Numerous applications are created for the needs of consumers, including the needs of physical activity. At the same time, researchers postulate introducing such changes to curricula, so that PE lessons are also attractive for students and at the same time meet the needs of the 21st century in terms of content taught, in particular "Health Education", "Health Training" or "Whole Life Sports" (Bronikowski, 2015a).

The research carried out in the United States shows that 57% of smartphone users use their devices for holiday planning, some of them (32%) book air tickets and accommodation via mobile phones. 32% of tourists search for places worth visiting or attractions in their place of stay, while 27% of travelers store their airline boarding passes on mobile devices (Xi Yu, 2015), which is confirmed by a study of new technologies in sport and recreation that was conducted in Cracow (Berbeka, Lipecki, 2019).

In recent years, the tourist market has developed towards cheaper travel. This is due to the needs of tourists who prefer more frequent but shorter trips (Pettersson, Zillinger, 2011). These determinants cause geolocation devices (GPS) to become more popular or even indispensable. That is because they make it easier to reach the destination, replacing the classic maps, and in the place of stay, thanks to the Internet connection, there is no need to use local guides – all necessary information can be provided by the ICT network, allowing users to download and display information on their smartphones or tablets; additionally, users can specify the number of calories burned and post interesting travel photos on social media, etc.

There is also a growing need of enterprises for unrestricted access to information, which enables customer service at a convenient time for the consumer. Large global companies, hotel chains, airlines, fitness clubs, restaurants etc. serve customers through new and more efficient systems thanks to the enormous possibilities of modern technology. Not being able to allow themselves a short technical maintenance break, they enable customers to make purchases of products, services and reservations even 24 hours a day.

One of many practical and frequently used applications of information technology on the tourist market are "chatbots". These are computer programs with technologically advanced communication capabilities. They also work on tablets and smartphones on numerous platforms and operating systems. Thanks to them, there is the possibility of contacting a company that offers services of selling products using almost any language for the convenience of any potential client.

Owing to the technology, the popularity of virtual "smart" assistants, for example "Google" or "Alexa" is growing. These devices resemble small speakers that respond to voice commands and give users access to a range of useful services and extensive databases. The machine communicates with the user, for example helping in searching for holiday offers, flight connections, booking tickets, ordering a table at a selected restaurant, making an appointment or a visit to a fitness club, or even obtaining a recipe for a dish with a certain nutritional value and the desired number of calories. These devices are small in size, so they can be used at home or in the field. Electronic assistants use the database resources available on the Internet, thanks to which the user has access to a huge database of information, including up-to-date information, which in case of booking or setting up communication connections is necessary for their proper functioning. Applications available on almost all of the smartphones present on the market work similarly. Owing to modern software and technologically advanced equipment (hardware), every consumer with

a mobile phone, tablet or computer can start the personal virtual assistant service. Modern technology allows much more. In 2015, the first hotel of the “Henn na Hotel”¹ chain was opened in Japan, whose guests are served almost exclusively by machines. A humanoid robot welcomes guests at reception, assisting in check-in and then check-out, additionally it provides all necessary information in Japanese or English. The hotel bar serves drinks while the robot delivers luggage to the room. All these devices are able to execute commands given by a human voice.

The above phenomena are only selected examples that are becoming more and more visible in the world around us. They point to a certain trend in the impact of new technologies on tourism, recreation, physical activity and lifestyle of modern society in an environment where more frequently a person is supported or even sometimes replaced by machines. The purchase of air tickets, tickets for sporting events, booking trips, buying passes at ice rinks or swimming pools in most cases is possible without leaving home – via the Internet. The convenience of customers, no queues, multimedia and interactive presentations of offers, the opportunity to obtain other people’s opinions on expert forums, etc. affects the decreasing number of employees hired in companies such as tourist offices, fitness clubs, recreational and other equipment rental centers, in which the owners have decided to implement modern sales and customer service systems.

The Aim of the Studies and Research Hypotheses

It is assumed that consumers of tourist services are very eager to use the opportunities provided by modern information technology. It is therefore appropriate to ask whether indeed and to what extent modern technologies determine the attitudes of customers, and whether it is possible to define potential threats resulting from phenomena accompanying the technical revolution. It is worth considering the issues of the perception of potential threats that may be associated with the ongoing processes of crowding out of people from the labor market and, thus, replacing people with the ubiquitous technique. Does technological development cause only positive changes in the area related to physical activity, tourism and recreation?

The views of people the vast majority of whom will be fulfilled professionally in the tourism and recreation industry and in other areas related to physical activity and culture or the promotion of a healthy lifestyle in the future may be particularly interesting.

Therefore, it has been suggested to test the following research hypotheses:

1. Universal access to information technology means that many consumers enjoy the opportunity to purchase goods and services online.
2. New technologies facilitate the implementation of professional responsibilities entrusted, so they are expected by employees.
3. Users of modern technical solutions use new technologies with elements of artificial intelligence to meet their own consumer needs in the field of tourism and recreation industry services.

Method

In order to provide answers to the author’s questions in January 2018, a survey was conducted. The research method was carried out based on Babbie’s survey research methods (Babbie, 2013). The research was anonymous, a questionnaire consisting of 25 questions closed with scaling (Yes/No/I do not know) and 5 additional questions

¹ See: <http://www.h-n-h.jp/en> (10.07.2019).

with the possibility of developing the statement was the tool for obtaining the data used for this purpose. Its participants were first- and second-cycle students – a total of 211 people aged 18 to 25 ($M = 22.65$), 58 women and 153 men. The research group was narrowed down to students studying at the Faculty of Physical Education and Health Promotion of the University of Szczecin in the following fields of studies: “Physical Education”, “Tourism and Recreation”, “Public Health” and “Sports Diagnostics”. Graduates of these faculties could become trainers, PE teachers, healthy lifestyle advisers, fitness instructors, travel agents, tour leaders or tour guides for travel groups etc. The health of the population will largely depend on them in the future. Due to the imposed word limit for the article, it has been decided to present only a part of the results from the conducted research. Other results being part of wider inquiries regarding the impact of modern technologies on social, economic and cultural aspects of broadly understood physical education among children, adolescents and adults, will be presented by the author at a later stage in the scientific monograph.

The qualitative and quantitative analyses, as well as the collection of research results and the interpretation of results, were performed by using the Microsoft Excel Office 2013 program.

Results

Based on the questionnaires received – $n = 204$ people (96.6% return) – and after analyzing the data, it was possible to state that:

- a) 188 respondents (92.16%) made use of the possibility of making purchases via the Internet using access to the platforms of tourist, catering or transport companies at least once or more, and 16 of the surveyed students (7.84%) have never made use of the possibility of making purchases of tourist, catering or transport services through the computer network (Figure 1);

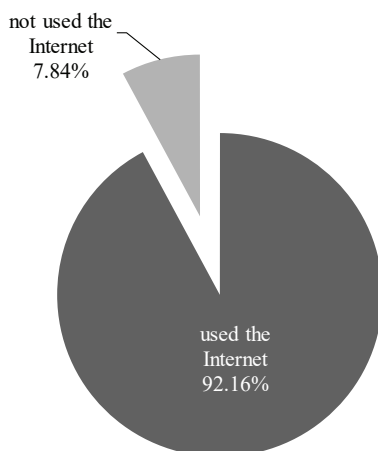


Figure 1. Percentage of respondents making purchases via the Internet using access to the platforms of tourist, catering or transport companies

- b) 119 respondents (58.33%) indicated preference for shopping in online stores, but the products other than those related to the tourist, recreational and catering sectors, while 85 respondents (41.67%) indicated preference for the traditional type of shopping in physical stores and their willingness to use the offers of “traditional” stores (Figure 2);

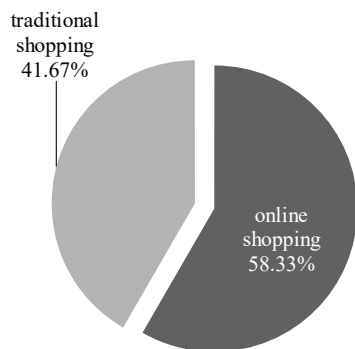


Figure 2. Percentage of the respondents' preference for the traditional or online type of shopping

- c) according to 85.29% of the respondents (174 people), modern technologies may have a negative impact on finding employment in the labor market related to tourist and recreational services, while 10.78% of the respondents (22 people) did not see the negative impact of modern technologies on finding future work in their acquired profession; the remaining 3.92% of the respondents (8 people) did not take an unequivocal position on the potentially negative or positive impact of modern technologies on the labor market (Figure 3);

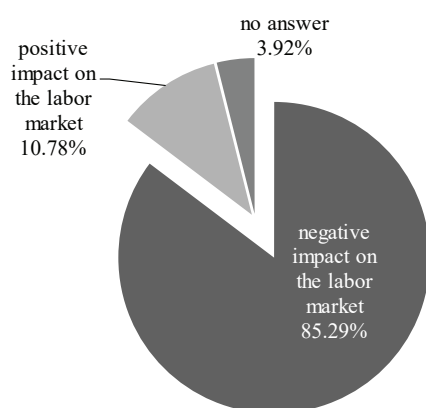


Figure 3. Percentage of the respondents indicating a potentially negative or positive impact of modern technologies on the labor market

- d) the analysis of received questionnaires shows that 141 people (69.12%) have not used the “smart” technical solutions available so far, while 63 people (30.88%) use elements of artificial intelligence, indicating examples of its presence in the form of, for example, online chatbots, virtual assistants, search engines, and booking systems, etc. (Figure 4).

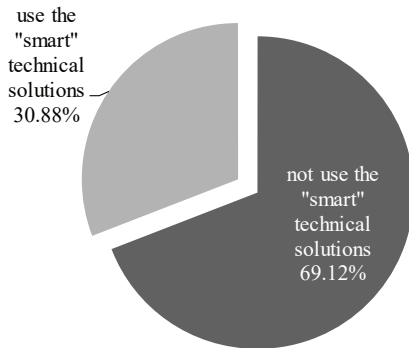


Figure 4. Percentage of the respondents using “smart” technical solutions

Discussion and Conclusions

Modern technologies, miniaturization of devices and their complexity, and in particular the Internet, currently play a significant role in all aspects of social and economic life of modern society (Mears, 2012). Changes also occur in such areas of professional activity as tourism, recreation and health promotion. Social media and a large number of applications available on smartphones and computers means that we automatically become consumers (participants) of new phenomena on the market that people have never experienced before. Examples of changes include sales channels for holiday trips, social marketing, thanks to which customers can exchange information, for instance, related to the quality of services, multimedia and attractive ads tailored to a specific recipient, quick hotel search engines or computer service and ticket booking systems etc. An interesting picture of the modern consumer emerges from the information received from the studies concerning the issues related to the purchase of services and products via the Internet. The vast majority of the respondents had the opportunity to purchase from tourist and recreational services provided remotely via the Internet, but considerably fewer people prefer shopping by the network for products and services other than those relating to tourism and recreation. It can, therefore, be assumed that the purchase of, for example, air tickets, holidays or other tourist services is more often carried out via a “virtual” channel than the purchase of, for example, food products, consumer electronics and household appliances, which are offered in physical stores – which is confirmed by the above results.

The vast majority of the respondents confirm the observation of the potentially negative impact of modern technologies on the labor market, which directly affects the financial situation of employees and their families. The tourist market also means services related to, among others, tourist information, tour-leading and tourist guiding the areas for which IT increasingly finds justification for the implementation of advanced technological solutions.

On the basis of the information obtained from the survey it can be concluded that the technological revolution we are experiencing, in particular digital technology, directly affects the labor market related to tourism and recreation, physical activity and promotion of a healthy lifestyle, which creates a real risk of job losses (Bronikowski, 2015b). Technology, on the one hand, facilitates the execution of official duties, but it can also be the cause of employment decline.

In technical development, we are currently witnessing the next step in the implementation of new technologies artificial intelligence, which is intended by scientists as a complex computer program simulating intelligent human behavior (Szymański, 2013). This technology has already been implemented in booking systems, virtual assistance, electronic translators, or chatbots, etc. The vast majority of the respondents declare that they have not used this technology so far. This result is surprising, given the fact that the significant majority of the respondents claimed that they made the purchase of tourist and recreational services via the Internet, and it is in this sector that the application of artificial intelligence is particularly widely used and thus visible.

Probably, a considerable number of the respondents did not know what technical solutions the operation of many on-line services is based on. Therefore, the elements of artificial intelligence were relatively little known to the respondents. The postulate of modifying curricula in selected fields of study and its subsequent implementation, which was mentioned at the beginning of this article, would be justified (Ludwiczak, Bronikowski, 2017).

Modern technology, together with automation and computerization, affects the efficiency of human resource management, increases sales and improves customer service, facilitates the management of deliveries (logistics) and the production process. Companies achieving global reach are subject to enormous competition, which has its source in the freedom of cross-border movement of people and goods (Kachniewska, Nawrocka, Pawlicz, 2012).

The Internet has blurred borders and space, and consumers with even minimal communication skills in foreign languages and the freedom to use information technologies are increasingly expecting high-quality products to meet their consumer needs relatively easily. The market of tourist and recreational services, health promotion and physical activity is no exception in this respect, therefore it is also subject to the rules and tendencies observed in other areas of human activity. The power of globalization alongside cultural, legal and political changes is the technological revolution, and in particular the commonly used computer information and booking systems, which are very good examples of the above. (Kędziorek, Różycka, 2016).

The distribution of offers and services by electronic means (online) is primarily due to the need for service providers, which are directed to providing the current product to the consumer as soon as possible in accordance with his/her specific needs. The choice of selling via virtual channels is currently becoming the most efficient way of delivering goods which significantly reduces distribution costs, but is also often expected by consumers themselves as a convenient and customer-friendly form (Oczachowska, 2015). Modern technology not only facilitates the implementation of tasks undertaken by a human, in some situations it substitutes or displaces a man from traditional work positions so far, for example, instead of a personal trainer in a fitness club "their" virtual character with any attractive avatar can be installed on the smartphone.

The rapidly changing human environment, including growing competition, forces the market to implement innovations. In the case of entities in tourism, recreation, fitness etc. sectors, it means continually customizing offerings to meet individual needs, learning about customer's "behaviors and habits, determining competitors" strategies and increasing competences and skills of employees in achieving customers' target wishes (Bednarczyk, 2006). Innovation also includes combining various types of services "into packages" (Krzyżanowska, 2013).

The observation of processes taking place in recent years allows to conclude that elements of modern technologies are particularly easily introduced into workplaces related to trade, transport, logistics and administrative service (BAS, 2016). Therefore, people working jobs with low education and qualifications requirements related to routine and repetitive simple tasks are inherently at risk of unemployment.

At the stage of the current technical advancement of the modern world, robots are becoming more and more of competition for people, although it seems to be a difficult task to automate workplaces where employees are expected to have social competence, for instance empathy, argumentation and negotiating skills. Machines still have problems with personal competences, including artistic and intellectual creativity.

The use of modern technologies on the tourist and recreational labor market in numerous aspects resembles other markets of economic activity, mainly related to services. The current generation of 20-year-olds will decide on the demand and supply in the perspective of the next few decades in the near future.

This new generation of employees should be equipped with the competences necessary to efficiently “find themselves” in the changing labor market. This applies to the efficiency in the use of information technology, the freedom to function in social networks, flexibility, mobility and commitment (Kachniewska, Para, 2014). Only employees who are aware of the necessity of constantly acquiring new qualifications and who agree to a change of position or even a place of work that is repeated during their professional career will find employment on such a labor market. Certainly, modern technology will have an impact on the directions of the development of the entire tourism and recreation industry, physical activity and health with similar determination that one observes the changes in other areas of a human activity.

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