URBAN CULTURAL HERITAGE IN THE DIGITAL SPACE

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Abstract
The aim of the study was to identify ways of digitalising specific cultural heritage sites in the space of six selected Polish cities: Białystok, Bydgoszcz, Gdynia, Kielce, Olsztyn and Rzeszów. The data used in the analysis came from four types of online sources. Firstly, these were the official websites of the 18 sites under study, existing in the 2022. Another source of information was the tourist review portal Tripadvisor. In addition, information from popular promotional platforms and social networks was taken into account. The study used techniques applied for existing materials analysis, as well as the following methods: analytical, descriptive, internet query, statistical and graphical. An own zero-one rating system was applied, assigned to six categories of assessment of the digitalisation level of the sites. Among the analysed cities, the best results as to the level of digitalisation were obtained by the facilities located in Kielce, Rzeszów and Bydgoszcz, respectively.

1. Introduction

Tourism is gaining more importance in the development of the modern economy. The dynamics of tourism development is due to the very fast-growing demand for such products and services. At the same time, there is a certain evolution in the profile of the tourist who is becoming a customer with increasingly higher demands and needs, with an increasingly strong desire to gain a broad knowledge of the world by fully experiencing it. In addition, he/she is more aware and active in his/her search for the tourist offer which will be the most advantageous in many aspects. At the same time, in order to make a purchase, a tourist no longer needs to go in person to, for example, a travel agency, because he or she can book and buy services online. As in every field of activity, modern technology (its revolutionary changes) has created new opportunities in tourism, including enriching the offer with innovative forms and types of tourism, or making the way of selling them more flexible.

As a result, tourism is now increasingly inseparable from online portals and virtual media. In the era of widespread social media, among other things, this strong link is actually already a global trend. Among

the forms of tourism increasingly affected by the phenomenon of online tourism (e-tourism) one can include cultural tourism.

Cultural heritage sites in Poland are starting or expanding their activities in the digital space. Tourists eagerly check Internet portals before selecting a cultural heritage site of interest, following the opinions of Internet users published on forums or websites. Museums and religious institutions digitise their websites or communicate with tourists through social media. By using virtual forms of marketing, they aim to increase interest in cultural heritage among web users. This is especially true for sites located in cities, where competition among facilities is the strongest.

Therefore, the aim of the study was to identify ways of digitalising particular cultural heritage sites located in urban space. In order to achieve the aim of the study, three research questions were posed:
1. What forms of digitalisation were used in the selected sites of cultural heritage?
2. How did modern forms of commercialisation and visiting cultural sites influence the assessment of the destination by the visitors?
3. Will e-tourism replace traditional forms of sightseeing?

The research area of urban cultural heritage has been limited to six carefully selected cities. They are also voivodeship centres that perform economic control functions in a given region (in alphabetical order): Białystok, Bydgoszcz, Gdynia, Kielce, Olsztyn and Rzeszów. They were selected mainly because they are not the most popular tourist destinations in Poland, visited by most tourists (including foreign ones), such as Warsaw or Cracow. In turn, in each of these cities, three sites of urban cultural heritage were selected. This selection was based on three criteria: uniqueness on a national scale, originality, and their greatest recognition in the studied cities. Table 1 lists selected sites of cultural heritage.

Tab. 1. The studied sites of urban cultural heritage in the selected Polish cities

No.	City	Voivodeship	The sites of urban cultural heritage
1.	Białystok	Podlaskie	The Museum of the History of Medicine and Pharmacy, The Branicki Palace, the Holy Spirit Eastern Orthodox Church
2.	Bydgoszcz	Kujawsko-Pomorskie	The Museum of Soap and the History of Dirt, Granaries on the Brda River, the Exploseum
3.	Gdynia	Pomorskie	The Emigration Museum, the Museum-ship "Dar Pomorza", the Naval Museum
4.	Kielce	Świętokrzyskie	The National Museum, the Centre of Geoeducation, the Museum of Toys and Play
5.	Olsztyn	Warmińsko-Mazurskie	The Planetarium and Astronomical Observatory, St. Jacob's Cathedral basilica, the Castle of the Warmian Cathedral Chapter
6.	Rzeszów	Podkarpackie	The Bedtime Cartoons Museum, Rzeszów Cellars, the District Museum

Source: own elaboration

2. Materials and methods

The data necessary to analyse the state of digitalisation of cultural heritage came from four types of online sources. First of all, these were the official websites of the studied sites, existing in 2022, which were considered their basic tool for commercialisation in cyberspace. The tourist review portal Tripadvisor was also a valuable source. In addition, information from popular promotional platforms (TikTok, YouTube, Spotify) as well as social networking sites (Facebook, Instagram, Twitter, etc.) was taken into account.

Therefore, the research used techniques applied for the analysis of existing materials, as well as the following methods: analytical, descriptive, Internet query, statistical and graphical ones. Thanks to the analytical and descriptive method, e.g. theoretical aspects of the research question related to digitalisation and cultural heritage were presented. The results of a detailed Internet query became an indispensable source of qualitative and quantitative information, and thus enabled the assessment of cultural sites as regards: forms of digitalisation, commercialisation, running and updating of websites. The opinions of Internet users posted in the above-mentioned portal recommending tourist enterprises were also analysed.

An original approach to the Internet query method was used, which is based not only on official websites of the studied sites, but also on profiles from social and commercial websites, including in particular the use of aggregators of opinions on tourist destinations. This approach allowed for

a multidimensional assessment of the research problem. In the first stage, the zero-one rating system was applied and assigned to six categories for assessment of digitalisation level of the studied sites:

1. official website,
2. mobile applications,
3. translation of the website into foreign languages,
4. profile on Facebook,
5. profile on Instagram,
6. other multimedia (Discord, Spotify, YouTube, Twitter).

Then, the ratings resulting from the fulfilment of the above criteria were compared (averaged) with the ratings resulting from reviews of a given tangible heritage by Tripadvisor users, in order to verify whether such modern forms of commercialisation and sightseeing influenced the assessment of destinations made by visitors.

In addition, a zero-one rating system was applied in the assessment of the level of advancement of the websites of 18 selected facilities. In this aspect, the fulfilment of 10 criteria by the websites was verified:

1. official website,
2. translation of the website into foreign languages,
3. regular updates of the website,
4. direct links to commercial and social networks,
5. links to original sites applications,
6. facilities for people with disabilities,
7. multimedia (e.g. virtual walks, maps, films, games, etc.),
8. contact details to the site staff,
9. visiting hours,
10. possibility to buy tickets online.

3. Cultural heritage in cyberspace

For over four decades, the concept of cultural heritage has been systematically penetrating from the conservation community, involved in the protection of monuments and remnants of the past, to the scientific discourse in the fields of socio-economic development (Gutowska, 2003; Kobyliński, 2011), gaining more and more interest among researchers representing, among others, social sciences, humanities and arts. The results of these analyses are reflected in the extensive literature on the subject, presenting the achievements of, among others, history, archaeology, cultural, religious and art studies, historical and socio-economic geography (Dolata, 2022). In the Polish academic literature, cultural heritage has been analysed in various contexts. These include studies on the borderline of physical and socio-economic geography, regarding the regionalisation of cultural landscapes (Myga-Piątek, 2012; Plit, 2016; Plit, Plit, 2018). The issue of

cultural heritage management in local and regional development is also widely discussed (Gutowska, Kobyliński, 2011; Murzyn-Kupisz, 2010, 2012; Nowakowski, 2018).

Nowadays, in the literature, it is difficult to find a single, accepted definition of cultural heritage, because – as I.M. Batyk (2010) emphasizes – it is a concept difficult to define. It depends on how culture is understood and who, i.e. a representative of which discipline, studies it (Legutko-Kobus, 2016). As noted by Z. Kobyliński (2011), cultural heritage includes the products of the past (previous generations), but at the same time it is a product of the present, because it is read (interpreted) nowadays, becoming a current social constructor. The social dimension of cultural heritage is strongly emphasized in humanistic geography, where heritage is interpreted as relations (cultural, identity, social and economic) of man with the place where he functions (Góral, 2014; Legutko-Kobus, 2016). Cultural heritage can be divided into:

1. tangible heritage – monuments, material testimonies of the past and products of nature; in this respect, the following are specified: immovable or movable monuments, museums and exhibits, archives, library resources, as well as the cultural landscape (Legutko-Kobus, 2016);
2. intangible heritage – traditions and oral history, performing arts, customs, rituals and festive ceremonies, knowledge and practice concerning nature and the universe, as well as skills related to traditional crafts (Konwencja UNESCO…, 2003).

Technological revolution is a phenomenon that cannot be ignored in the context of management and access to cultural heritage. The implementation of technological innovations in the sphere of culture is related to the concept of «culturetech», which is derived from the assumption that technology and culture are inextricably linked and influence each other (Augustyn et al., 2018). These are categories of products, services and experiences that arise as a result of the interaction of culture, technology and science. Culture dictates the direction for technology development, and technology opens up new opportunities for the development of all fields (Otwarte innowacje…, 2017). The main assumptions of culturetech include, among others:

1. the use of cultural heritage, which is characterised by high originality and uniqueness (literary achievements, history, heroes, pop culture trends, distinctive design, original scientific thought);
2. using new technologies as a platform for dissemination or a tool to co-create content and experiences «at scale»;
3. designing products intended for international markets (Otwarte innowacje…, 2017).

Contemporary cultural heritage is subject to various innovation processes. One of them is the

dynamic phenomenon of digitalisation of culture, understood as the digital preservation of content and forms (Preuss, 2016; Kordha et al., 2019). The progressing digitalisation of social life means that when performing many social functions, we take into account the opportunities arising from digitalisation, which at the same time translates into a change in the image of reality (Dąbrowski, 2021). Combining the physical and digital dimensions of cultural heritage (phygitalisation) can enhance its value, meaning and perception (Muangasame, Tan, 2023).

With the increasing computerisation of the society, more and more people have access to a computer and the Internet. In addition, an important aspect of digitalisation is the dissemination of mobile technologies that give additional dynamics to the computerisation process. Currently, a number of instruments based on modern technologies can be identified, which are used e.g. in the promotion of culture or in order to facilitate access to cultural heritage resources. These include:

• digital heritage repositories (digital repositories that present collections of cultural heritage in virtual space, which are usually located in the building of a cultural institution) (Dzięgielewski, 2015);
• augmented reality (technology that allows the imposition of an additional image on an element of the real world, observed using e.g. a camera or a smartphone) – e.g. the use of projection mapping technology (Li, Ito, 2023);
• Google Museum View (an Internet platform that allows viewing interiors and collections of many popular museums online);
• audio guide (a voice device that allows visiting cultural institutions on one's own);
• Google Cultural Institute (an online platform aimed at promoting culture) (Augustyn et al., 2018).

As can be seen from the above, the digitisation of cultural objects is primarily meant to increase access to their resources for various groups of users, including elderly people, people with disabilities, who naturally have limited opportunities to visit such places directly. This phenomenon is also influenced by various crisis situations, as exemplified by the COVID-19 pandemic (Righettini, Ibba, 2022). The digitisation of cultural heritage, e.g. in a 360-degree technology (Jia et al., 2022), virtual or augmented reality, is increasingly affecting how we visit, interact with and consume this heritage (Ocón, 2022). According to the research by A. Dąbrowski (2021), the creators of Internet portals disseminating cultural resources state that the most important opportunities and strengths related to this type of activity are organisational factors (trained and committed staff, cooperation with other institutions and conceptual way of organising work), legal, financial and technological. The socio-cultural aspect is also important here, which was pointed out by M. Dzięglewski and A. Guzik (2016) who emphasized that modern times are characterised by the fashion for the use of new technologies, oral stories, sharing family heirlooms and photos, and an increase in the interest of the Polish society in cultural heritage.

4. Status of digitalisation of selected cultural heritage sites

In the first stage of the analysis, which included the assessment of the state of digitalisation of the studied sites, a comparative analysis was carried out within the selected cities. In the case of Białystok, the best digitalised building is the Branicki Palace, which met 5 out of 6 assessment criteria (Tab. 2). It stands out in the comparison by having a profile on Instagram. In turn, a very poor state of digitisation was indicated in the case of the Holy Spirit Orthodox Church (2 criteria met). None of the three facilities

Tab. 2. Assessment of the level of digitalisation of the selected sites of urban cultural heritage in Białystok

Assessment criteria	Museum of the History of Medicine and Pharmacy	The Branicki Palace	Holy Spirit Orthodox Church
Official website	1	1	1
Mobile applications	0	0	0
Translation of the website into foreign languages	1	1	0
Facebook	1	1	1
Instagram	0	1	0
Other multimedia	1	1	0
Total points	4	5	2

Source: own elaboration

has a mobile application. However, after comparing the ratings of digitisation with the ratings resulting from the reviews of this tangible heritage by Internet users on the Tripadvisor platform, the Museum of the History of Medicine and Pharmacy is the best (average rating – 4 points), and the worst – the Holy Spirit Orthodox Church (average rating – 3.25 points). The lowest rating of the Orthodox Church may result from the specificity of the monument, which can be confirmed by one of the opinions of the Internet users: «A huge, beautiful church with a terrible, too high bell tower, distracting the observer's attention from the main building. Every time I pass this site, I am involuntarily wincing at the sight of it. The church itself makes a very good impression. For those unfamiliar with the Orthodox Church, I recommend taking a look inside, if possible.»

Assessing the official websites alone (basic tools for the commercialisation of the studied sites in cyberspace), the highest number, i.e. 7 out of 10 criteria for the advancement of websites, is met by the Museum, the lowest one (5 criteria) – by the Orthodox Church (Tab. 3). The feature that distinguishes the website of the Museum of the History of Medicine and Pharmacy from the others is multimedia, the quality of which is at a very high level. It should be added that it encourages the user with the interface itself and updated information to visit this facility in reality.

In Bydgoszcz, all three studied cultural heritage

Tab. 3. Assessment of the level of website advancement of the selected sites of urban cultural heritage in Białystok

Assessment criteria	Museum of the History of Medicine and Pharmacy	The Branicki Palace	Holy Spirit Orthodox Church
Official website	1	1	1
Translation of the website into foreign languages	1	1	0
Regular updates of the website	1	1	1
Direct links to commercial and social networks	1	1	1
Links to original sites applications	0	0	0
Facilities for people with disabilities	0	0	0
Multimedia (virtual walks, maps, films, games, etc.)	1	0	0
Contact details to the site staff	1	1	1
Visiting hours	1	1	1
Possibility to buy tickets online	0	0	0
Total points	7	6	5

Source: own elaboration

sites showed a similar degree of digitalisation (Tab. 4). Only the Museum of Soap and the History of Dirt distinguished itself by having a profile on the Instagram application, which is why it received the highest number of rating points among the studied facilities of the capital of the Kujawsko-Pomorskie Voivodeship. The sites received similarly high ratings from the users of the Tripadvisor platform, who assigned them 4.5 points each under the rating system functioning on the portal. Positive reviews are an additional proof of this. Some of them read:

• «A visit to the museum is only an hour, but what a pleasure! The guide was very nice. She presented the story of the washing in such an interesting way that we regretted it lasted so briefly. The museum is small, but interestingly decorated. Making your own soap is an attraction primarily for children, but adults should also like it. The shop has a large selection of soaps, as well as of magnets from Bydgoszcz».

• «Needless to say – the granaries are the 'logo' and the showpiece of Bydgoszcz. Probably the most recognisable landmarks in the city along with the River Brda. Anyway, both elements of architecture fit perfectly from the right perspective. Nicely restored – it is worth stopping and admiring».

• «A very interesting destination presenting a very attractive place where we can see and touch the stories of World War II and modern times. Knowledgeable guides who may interest people who do not feel this climate. Conveniently located. I especially recommend it on open days, because then it is possible to visit the longer route. World War II enthusiasts must come here».

Tab. 4. Assessment of the level of digitalisation of the selected sites of urban cultural heritage in Białystok

Assessment criteria	Museum of Soap and the History of Dirt	Granaries on the Brda River	Exploseum
Official website	1	1	1
Mobile applications	0	0	0
Translation of the website into foreign languages	1	1	1
Facebook	1	1	1
Instagram	1	0	0
Other multimedia	1	1	1
Total points	5	4	4

Source: own elaboration

After averaging the level of digitalisation with the ratings of the facility resulting from the reviews of Internet users, it was found that the facilities were rated similarly, and the highest score for the Museum of Soap and History of Dirt (average rating – 4.75 points) resulted from the fact that only this facility is active on Instagram.

In addition, this museum of hygiene has a very advanced website, meeting 8 out of 10 criteria (Tab. 5). It stands out in the comparison with the possibility of buying tickets online and the use of numerous multimedia. Granaries on the Brda River meet only 5 criteria for the assessment of the level of website advancement.

Tab. 5. Assessment of the level of website advancement of the selected sites of urban cultural heritage in Białystok

Assessment criteria	Museum of Soap and the History of Dirt	Granaries on the Brda River	Exploseum
Official website	1	1	1
Translation of the website into foreign languages	1	1	1
Regular updates of the website	1	1	0
Direct links to commercial and social networks	1	1	1
Links to original sites applications	0	0	0
Facilities for people with disabilities	0	1	1
Multimedia (virtual walks, maps, films, games, etc.)	1	0	0
Contact details to the site staff	1	0	1
Visiting hours	1	0	1
Possibility to buy tickets online	1	0	0
Total points	8	5	6

Source: own elaboration

In the third analysed city – Gdynia – both in terms of the degree of digitalisation (Tab. 6) and after averaging it with the ratings from the Internet users – the best rating was given to the Emigration Museum, and the worst to the Museum-ship "Dar Pomorza". Tripadvisor users appreciated the Emigration Museum's modern multimedia and the number of exhibits: «(…) when visiting Gdynia, you should not miss the Emigration Museum. A very modern museum – a lot of photos, multimedia and various exhibits related to the emigration of our countrymen to different parts of the world». This facility met 5 out of 6 criteria for the assessment of the digitalisation level and it stood out in the ranking by having an Instagram profile. The lowest level of digitalisation of the Museum-ship "Dar Pomorza" resulted from the lack of activity in social media. The Internet users scored this facility with 4.5 points, similarly to the Emigration Museum.

However, this ship-based museum reached the

Tab. 6. Assessment of the level of digitalisation of the selected sites of urban cultural heritage in Gdynia

Assessment criteria	The Emigration Museum	The Museum-ship "Dar Pomorza"	The Naval Museum
Official website	1	1	1
Mobile applications	0	0	0
Translation of the website into foreign languages	1	1	1
Facebook	1	0	1
Instagram	1	0	0
Other multimedia	1	1	1
Total points	5	3	4

Source: own elaboration

highest level of website advancement, meeting the 9 assessment criteria. In this very balanced list, its website is distinguished by the possibility of booking and buying tickets online (Tab. 7).

Tab. 7. Assessment of the level of website advancement of the selected sites of urban cultural heritage in Białystok

Assessment criteria	The Emigration Museum	The Museum-ship "Dar Pomorza"	The Naval Museum
Official website	1	1	1
Translation of the website into foreign languages	1	1	1
Regular updates of the website	1	1	1
Direct links to commercial and social networks	1	1	1
Links to original sites applications	0	0	0
Facilities for people with disabilities	1	1	1
Multimedia (virtual walks, maps, films, games, etc.)	1	1	1
Contact details to the site staff	1	1	1
Visiting hours	1	1	1
Possibility to buy tickets online	0	1	0
Total points	8	9	8

Source: own elaboration

Cultural heritage sites in Kielce received the same – very high – number of points, both for meeting the digitalisation criteria (Tab. 8) and when averaging the points with the ratings of online reviewers (average score – 4.75 points). The Centre of Geoeducation should be particularly distinguished as it is the only one among all 18 facilities having its own mobile application. In addition, this facility uses rich multimedia equipment to show the geological past of the region, which is appreciated by visitors: «I visited [this place] four times, each time bringing my guests. Both me and my 3-year-old daughter and our companions left satisfied. (…) The guides provide interesting information and even the little ones listen with interest. At the end, a 5D cabin journey into the depths of the Earth and a nice playground for those who are interested». The facility in Kielce stands out in the city space. It is located in the Wietrznia nature reserve, i.e. a closed quarry in the south-eastern part of Kielce. It is a part of the «Świętokrzyski Archeo-Geological Trail», which aims to disseminate knowledge about geology through modern methods and educational tools. Its collection includes charts, photo-simulations, fossils, models and geological exhibits of animals and plants, existing mainly in the Devonian period. In addition to traditional exhibitions, visitors can sign up for stone processing workshops, as well as experience a virtual journey to the centre of the Earth in a 5D capsule. In addition, the facility widely promotes its resources on the Internet using numerous video materials and the already mentioned application.

Tab. 8. Assessment of the level of digitalisation of the selected sites of urban cultural heritage in Kielce

Assessment criteria	The National Museum	The Centre of Geoeducation	The Museum of Toys and Play
Official website	1	1	1
Mobile applications	0	1	0
Translation of the website into foreign languages	1	1	1
Facebook	1	1	1
Instagram	1	0	1
Other multimedia	1	1	1
Total points	5	5	5

Source: own elaboration

In addition, the feature that distinguishes the website of the Centre of Geoeducation from the others is the function of linking to the original application (Tab. 9). This is the second, after the Museum-ship "Dar Pomorza" in Gdynia, example of a cultural heritage website with the highest level of advancement that the analysed sites have managed to achieve. On the other hand, only 6 out of 10 advancement criteria are met by the website of the Museum of Toys and Play, because it does not have links to the original application nor to social and commercial networks, and it does have facilities for people with disabilities nor the possibility to buy tickets on-line. The other two cultural heritage institutions do not meet this last criterion either.

In the case of Olsztyn's cultural heritage sites, the Castle of the Warmian Cathedral Chapter is characterised by a very high degree of digitalisation (5 out of 6 criteria) contrary to St. Jacob's Cathedral basilica (Tab. 10). The only thing that the best digitalised facility did not have was its own mobile application. However, this site distinguished itself by a profile created on the Flickr.com photo platform and by translation of the website into three languages (English, German and Russian). The Planetarium and Astronomical Observatory was digitally active only through the website and social profiles on Facebook and Instagram, although the publication activity of posts on Instagram ended in 2018. This order was also reflected in the averaged aggregation of the level of digitalisation with the ratings of the Internet users. The sites received the following ratings: 4.85 points (the Castle of the Warmian Cathedral Chapter), 3.5 points (the Planetarium and Astronomical Observatory), 3.25 points (St. Jacob's Cathedral basilica). The Tripadvisor users describe, among others, the Castle of the Warmian Cathedral Chapter as «a well-kept museum, many interesting facts about Copernicus, editions of Luther's Bible from the 16th century, a must for lovers of history and the region. Inexpensive tickets, a nice way to spend time».

Tab. 9. Assessment of the level of website advancement of the selected sites of urban cultural heritage in Kielce

Assessment criteria	The National Museum	The Centre of Geoeducation	The Museum of Toys and Play
Official website	1	1	1
Translation of the website into foreign languages	1	1	1
Regular updates of the website	1	1	1
Direct links to commercial and social networks	1	1	0
Links to original sites applications	0	1	0
Facilities for people with disabilities	1	1	0
Multimedia (virtual walks, maps, films, games, etc.)	1	1	1
Contact details to the site staff	1	1	1
Visiting hours	1	1	1
Possibility to buy tickets online	0	0	0
Total points	8	9	6

Source: own elaboration

Tab. 10. Assessment of the level of digitalisation of the selected sites of urban cultural heritage in Olsztyn

Assessment criteria	The Planetarium and Astronomical Observatory	St. Jacob's Cathedral basilica	The Castle of the Warmian Cathedral Chapter
Official website	1	1	1
Mobile applications	0	0	0
Translation of the website into foreign languages	0	0	1
Facebook	1	1	1
Instagram	1	0	1
Other multimedia	0	0	1
Total points	3	2	5

Source: own elaboration

Tab. 11. Assessment of the level of website advancement of the selected sites of urban cultural heritage in Olsztyn

Assessment criteria	The Planetarium and Astronomical Observatory	St. Jacob's Cathedral basilica	The Castle of the Warmian Cathedral Chapter
Official website	1	1	1
Translation of the website into foreign languages	0	0	1
Regular updates of the website	1	1	1
Direct links to commercial and social networks	1	0	1
Links to original sites applications	0	0	0
Facilities for people with disabilities	1	1	0
Multimedia (virtual walks, maps, films, games, etc.)	1	1	1
Contact details to the site staff	1	1	1
Visiting hours	1	1	1
Possibility to buy tickets online	1	0	0
Total points	8	6	7

Source: own elaboration

However, compared to the websites of cultural facilities in this city, the functional, modern website of the Planetarium and Astronomical Observatory is definitely ranked the first – with the highest level of advancement (Tab. 11). It stands out due to the possibility of buying tickets online. Its advanced interface adapted to the needs of people with disabilities is also worth appreciating.

In Rzeszów, as in Kielce, each selected cultural heritage site is characterised by a very high level of digitalisation, meeting 5 out of 6 criteria. They only do not have a dedicated application (Tab. 12). In addition, all three facilities received similar scores after averaging the level of digitalisation with the ratings of the tourist resource, which were recorded thanks to the reviews of the Internet users – the Bedtime Cartoons Museum and Rzeszów Cellars (average score – 4.75 points), the District Museum

(average score – 4.5 points). The values of these ratings were influenced by numerous positive opinions of visitors, e.g.:
• «Perfectly prepared underground route. A safe walk in the underground with a witty and thematically interesting guide. You can see and know a world that no longer exists without feeling tired after leaving».
• «A museum worth visiting (…). We went to knight shows, we took part in workshops from this era (…). We spent 5 hours there and there was plenty to see and do».

In Rzeszów, there were two examples of facilities whose websites have the highest level of advancement within the assumed criteria (Tab. 13). The Bedtime Cartoons Museum and Rzeszów Cellars websites were updated regularly and also contained translation into English, links to commercial and

Tab. 12. Assessment of the level of digitalisation of the selected sites of urban cultural heritage in Rzeszów

Assessment criteria	The Bedtime Cartoons Museum	Rzeszów Cellars	The District Museum
Official website	1	1	1
Mobile applications	0	0	0
Translation of the website into foreign languages	1	1	1
Facebook	1	1	1
Instagram	1	1	1
Other multimedia	1	1	1
Total points	5	5	5

Source: own elaboration

Tab. 13. Assessment of the level of website advancement of the selected sites of urban cultural heritage in Rzeszów

Assessment criteria	The Bedtime Cartoons Museum	Rzeszów Cellars	The District Museum
Official website	1	1	1
Translation of the website into foreign languages	1	1	1
Regular updates of the website	1	1	1
Direct links to commercial and social networks	1	1	1
Links to original sites applications	0	0	0
Facilities for people with disabilities	1	1	1
Multimedia (virtual walks, maps, films, games, etc.)	1	1	1
Contact details to the site staff	1	1	1
Visiting hours	1	1	1
Possibility to buy tickets online	1	1	0
Total points	9	9	8

Source: own elaboration

social platforms, solutions for people with disabilities, multimedia (virtual walk), contact details and visiting times, as well as they offered a possibility to purchase tickets online. It is worth mentioning that the Bedtime Cartoons Museum and Rzeszów Cellars differ from the District Museum in the possibility of buying tickets online.

Rzeszów Cellars is the most recognisable site of the city's cultural heritage, which was developing dynamically as a commercial centre since the Middle Ages. What remained of this function are the cellars under the tenement houses and the market square, where merchants' goods were stored in the past. Currently, the underground is a very popular tourist destination. This facility operates in accordance with the latest trends in museology, consisting in an interdisciplinary way of presenting collections. At the same time, it is worth emphasising that the concept of Rzeszów Cellars significantly goes beyond the

multimedia solutions used so far in Poland, through an unconventional and innovative approach to the story of art, tradition and history of the city and the region (Rzeszowskie…, 2023).

While comparing the results of the levels of digitalisation of the selected facilities, synthesised per city, averaged with the destination ratings made by tourists, in relation to the separate and similarly synthesised ratings of tourist facilities, which were published on Tripadvisor (Fig. 1), certain regularities were observed. Thus, the best results for digitalisation level were achieved by the sites located in Kielce (4.75 points), in Rzeszów (4.66 points), and then in Bydgoszcz (4.42 points). Białystok was in the least favourable situation (3.6 points). On the other hand, there were no large discrepancies in the opinions of the Internet users. The reviewers appreciated Bydgoszcz and Kielce the most (4.5 points each), and Białystok and Gdynia the least (4.3 points each).
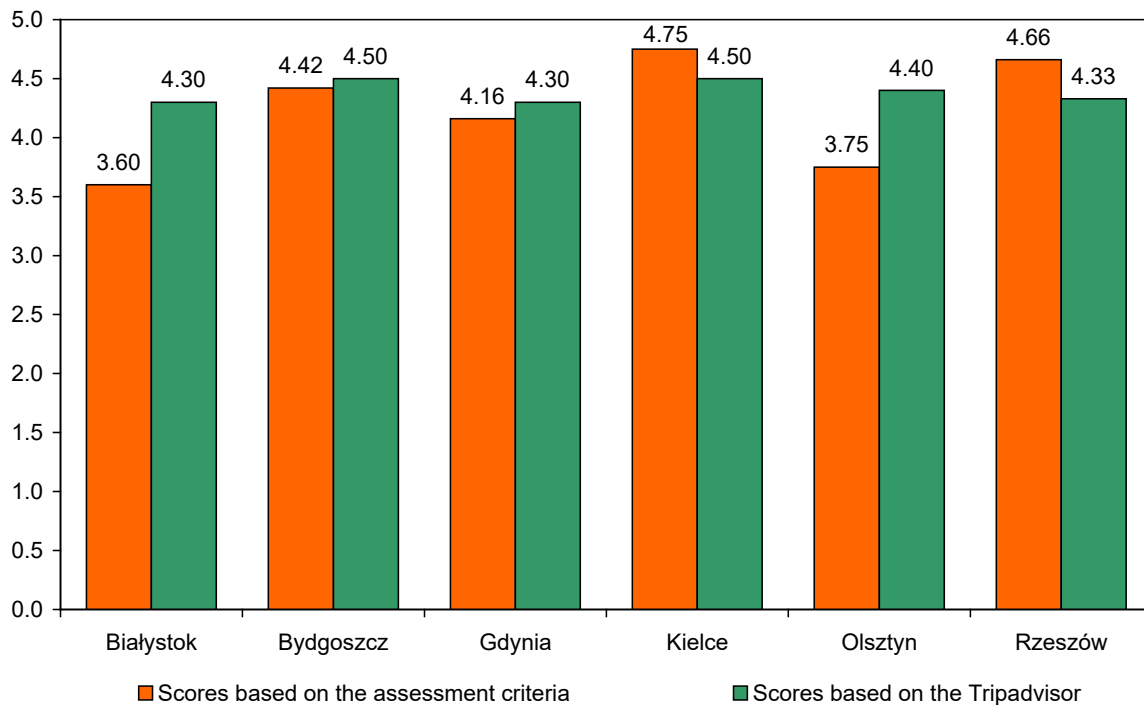
Fig. 1. Comparison of assessments of urban cultural heritage based on own research and opinions of Internet users.
Source: own elaboration.

5. Discussion of the results

Life in the modern world is linked with the progress of new technologies that can ensure the diversity of the services offered by cultural heritage sites. Currently, a new quality is emerging in tourism, which is oriented towards education and entertainment. It is implemented, among others, through the developing digitalisation of cultural heritage sites. Researchers of the analysed phenomenon point to the changing preferences of the so-called new tourists. Therefore, original attractions are sought to encourage a potential recipient to visit a specific tourist facility. Apart from the development of new forms of tourism, e.g. geotourism, ecotourism, the digitalisation and digitisation of tourism is developing (MacCannell, 2002; Kruczek, 2011; Bernat, 2014). Cultural heritage evokes emotions, provides new experiences, and allows developing a sense of cultural belonging, hence the educational aspect is very important. Educational activities based on cultural heritage are nowadays strongly emphasized in the literature on the subject. In the conducted research it was noticed that the best digitalised facilities (also according to the website advancement criteria) turned out to be those whose main area of activity was education. The Centre of Geoeducation in Kielce, Rzeszów Cellars and the Emigration Museum in Gdynia should be highlighted. On the other hand, it should be borne in mind that the least digitalised facilities were the sacral ones, i.e. the Holy Spirit Eastern Orthodox Church in Białystok and St. Jacob's Cathedral basilica in Olsztyn. The specificity of these places affects the way they are promoted and digitised in the virtual Internet space. It should be emphasised that the results of the research could have been influenced by the method of selecting the sites, which was subjective to some extent. As indicated in the introduction, the focus was on the uniqueness of cultural heritage on a national scale, its recognisability in given cities, as well as originality. There were also some limitations in determining the list of sites to be studied, resulting from, among others, a small number of websites dedicated to cultural sites, the lack of profiles on social media platforms, and also from a small number of opinions published on the review portal.

6. Summary

The most frequently used forms of digitisation of urban cultural heritage on websites and in social networks and applications were sharing up-to-date information, posting maps and photographic documentation. Digitisation and digitalisation of the studied sites mainly concerned an interactive gallery of exhibits, virtual walks, ticket interfaces and facilitating the acquisition of information for people

with disabilities and foreigners.

It should be noted that modern forms of commercialisation have made it possible for visitors to compare the cultural heritage sites presented online and confront them with reality. Activities performed in cyberspace were aimed at commercialising the studied sites and at the same time encouraging people to visit them. A potential visitor, checking e.g. modernistic and transparent websites of particular facilities, may get an impression that his or her expectations in relation to the selected tourist destination will not be disappointed.

However, the studied sites were characterised by a varied level of digitalisation, which did not significantly affect their assessment by Internet users. When assessing these facilities via Tripadvisor, many visitors gave positive opinions, most often assigning good and very good ratings. Therefore, the degree of digitalisation of a given facility, achieved through the use of an application, a YouTube channel, or virtual walks, may encourage people to visit a given place, but it is not a decisive factor. Its specificity, uniqueness and recognisability are still the most important.

E-tourism can shape visitors' perception of a cultural site in urban space. The online form of sightseeing may encourage or discourage traditional visits to a given destination. Research has shown that e-tourism will not replace traditional tourism. It can complement it. A tourist, encouraged by visiting a facility online, will want to buy a souvenir, take a souvenir picture and share it on Facebook or Instagram, thus "recording" the site not only with the sight receptor, but also with the sense of smell, taste and touch – in a real way.

To sum up, it should be stated that digital technologies have an impact on the areas of social activity, which are e.g. forms of participation in culture or new forms of online distribution of goods and services. Participation in culture, an element of which is, for example, learning about cultural heritage, is no longer possible only within predefined forms of content reception, provided by various cultural institutions at a specific place and time. Therefore, it is very important for cultural institutions to be able to use the potential of technological changes and adapt to new forms of content transfer and offer creation through their digitalisation.

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