



STATUS, CHALLENGES AND PERSPECTIVES OF DIGITAL PLATFORMS IN TOURISM DEVELOPMENT IN BULGARIA (FEATURING THE BURGAS BLACK SEA REGION)

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ABSTRACT

This study examines the status, challenges and prospects of digital tourism platforms in Bulgaria through an in-depth analysis of the Burgas Black Sea Region. The MAIN OBJECTIVE is to assess the effectiveness and functionality of digital tourism tools at the municipal level as well as their role in sustainable tourism development. The METHODOLOGY includes a combined approach: quantitative analysis through an LDA model and comparative tabular evaluations of the content and functionality of the tourism sections of the official municipal websites, as well as a qualitative review of the information presented and its accessibility. The RESULTS show significant differences between municipalities - from good practices in Nessebar and Burgas to a weak digital presence in smaller municipalities such as Karnobat and Rouen. Deficits were found in the presentation of natural and sport resources, limited mobile accessibility and poor integration with social networks. The study highlights the need to unify and modernize digital infrastructure, focus investments on digital tourism education and create new jobs as a step towards a more sustainable and competitive tourism sector in Bulgaria.

Keywords: digital tourism, sustainable development, tourism platforms, municipal websites

INTRODUCTION

The contemporary tourism sector is witnessing an increasingly intensive digitalization that is transforming the ways in which tourism products and services are planned, offered and consumed. In this context, online platforms have become crucial for regional development, serving as the main channels for information, communication and interaction between tourists, local businesses and destinations. The growing role of these digital tools necessitates an in-depth understanding of their current status and effectiveness, especially at the regional and municipal level, where the specific characteristics and potential of individual regions can be significantly helped or hindered by the availability and quality of the respective online platforms.

In Bulgaria, despite the general trend towards digitalisation, the state and level of development of digital tourism platforms varies considerably across regions, districts and municipalities. This raises the need for a systematic assessment of their structure, functionality and contribution to the sustainable development of tourism in the country.

This paper seeks to fill this gap by aiming to analyze the current state of a well-developed tourist region (Burgas Black Sea Region) and its digital tourism platforms, to identify existing challenges to their effective use and to outline potential prospects for future development in the context of sustainable tourism. To achieve this goal, the research will focus on the following main questions:

- What is the current state of digital tourism platforms in the different municipalities of the Burgas Black Sea Region?
- What are the main characteristics (structure, functionality, content) of these platforms?

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- What is the role of digital platforms for the development of sustainable tourism at municipal level?
- What are the main challenges for the effective use of these platforms?
- What are the potential directions for future development and improvement of digital tourism platforms in the district?

The following sections of the paper will present a theoretical overview of the main concepts, describe the methodology used, analyse the results obtained, discuss them in the context of the objectives set and finally propose conclusions and directions for future research.

LITERATURE REVIEW

Over the last decade, the digitalization of the tourism industry has gained immense importance for the development and competitiveness of the sector. With the development of internet technologies and mobile platforms, the tourism industry is going through significant changes related to the way tourists plan and experience their trips, and the way tourism presents and offers its service or product. Through internet platforms, which can also be defined as interactive online environments facilitating multifaceted information exchange and interactions between end users (tourists), through booking sites and even to local food and souvenir businesses. According to some authors (1), digitalisation involves the use of internet platforms, mobile applications and digital media for information gathering, booking, marketing and management of tourism destinations. The growing importance of digital platforms is undeniable, digital content and online platforms can attract potential customers globally by influencing their travel decisions at every stage of planning (2). For this reason, the creation and maintenance of tourism websites is of utmost importance not only at the regional level but also globally. However, the lack of dedicated staff to take responsibility for these online information systems, as well as their integration with tourist places and destinations and their co-development, is not taken seriously. There is often a miscoordination between tourism service providers and technology sectors, which hinders effective digital integration (3). Many regions, especially in developing countries, face limited knowledge and resources to effectively use digital platforms (4), and in terms of less developed regions, Uhodnikova et. al (5) point

out that poor digital infrastructure significantly hinders the potential benefits of these platforms. Changing consumer behaviour is leading to the emergence of innovative business models, such as accommodation sharing platforms (e.g.: Airbnb) and transportation services, which are impacting traditional players in the tourism market. The sharing economy, represented by platforms such as Airbnb, is significantly disrupting traditional accommodation models, with the greatest impact on the medium and budget sectors, leading to a decline in revenue and occupancy for these establishments (6). In this context, updating official tourism websites by improving their structure and awareness, as well as integrating links to popular tourism portals, is essential. These efforts not only facilitate user access to a variety of services, but also give the region and destinations a competitive advantage. Working with new entrant business models is an important factor in increasing the competitiveness of the local tourism market and providing a better and more personalized tourism experience. As a result of these dynamic processes, digital transformation is becoming a key determinant for the competitiveness of tourism destinations and individual businesses, which need to flexibly adapt their marketing and operational strategies to reach efficiency and engage the modern digitally oriented consumer (7). Bulgarian academic literature has also highlighted the growing role of digital marketing and online platforms as a model for the successful positioning of tourism products and destinations (8).

Moreover, well-built and maintained digital platforms not only facilitate access to tourist information, but also have the potential to actively engage the local community. They provide opportunities to showcase and promote authentic local products, traditional crafts and unique experiences, thus encouraging the development of more authentic and sustainable tourism. By providing relevant content, tourism platforms can create a positive impact on the local economy. In addition, the focus on tourism on municipal websites requires not only attractive resources, but also the "production" of appropriate content, which stimulates societies in the regions and municipalities. This, in turn, leads to the creation of new jobs and economic opportunities that enrich local economies and create a stronger foundation for the sustainable development of tourism and regions as a whole.

Digital platforms offer significant opportunities to effectively promote the principles of sustainable tourism. They can easily disseminate important information on environmentally responsible practices, certified accommodation and tour operators that apply sustainable approaches, as well as concrete ways to minimise negative environmental impacts. Furthermore, these platforms can play a key role in the preservation and promotion of local cultural heritage and in supporting local producers and artisans, creating a direct link between them and interested tourists (9). Other Bulgarian researchers focus on the importance of digital communications in promoting cultural heritage as an element of sustainable tourism in Bulgarian regions (10).

There is a significant and growing body of research on the multifaceted role of digital platforms in the dynamically developing tourism sector. Some of these studies focus on the specific impact of social media on the process of choosing a tourist destination (11), while others analyse the effectiveness and impact of online travel agencies (12). In the context of regional development, scholarly works often examine the ways in which digital tools can be effectively used to enhance the competitiveness of smaller and less popular destinations. Despite the existing scholarly interest, there is still a need for more in-depth research that focuses specifically on analyzing the current state and effectiveness of digital tourism platforms at the regional level, especially in the specific context of sustainable tourism and the unique characteristics of Bulgarian regions.

METHODS

In this paper, a combined research approach combining qualitative and quantitative methods of data collection and analysis is applied. The quantitative stage includes a review and a meaningful manual tabular analysis based on the LDA model (Dirichlet Latent Distribution Model) applied on the textual data collected from the websites of the municipalities of the Burgas Black Sea Region in two areas: municipal websites and tourist websites.

The data on the digital platforms of the different municipalities are presented in two models. The first model, Table 1: Presence/Absence, aims to identify the presence or absence of specific tourism elements in the content of official municipal websites, such as the "Tourism" section, the "Cultural Heritage" section, etc.

Two symbols are used in the table: ✓, which indicates the presence of a given element in the structure, and ✗, which indicates its absence.

The second model, Table 2: Quality Score (0-3), presents the analysis of the main functional characteristics of the municipalities' tourism websites. The assessment is made on several key aspects, including information structure, completeness of tourism content, relevance of information provided, language accessibility, and others. The rating scale used is from 0 to 3, with:

- 0 means "missing or unusable functionality";
- 1 indicates 'unsatisfactory functionality' (the platform is not well developed or does not function effectively);
- 2 indicates 'good functionality' but with potential for improvement;
- 3 indicates 'excellent functionality' where the functionality is fully developed and effectively provides the required information and services.

The qualitative stage includes a review of the textual data from the municipalities' websites, paying attention to their structure, ease of understanding and accessibility for tourists. The organisation and thematic grouping of the information provided on the site is analysed. It is particularly important to assess whether the texts are clearly formulated and tailored to the target audience, which is looking for easily accessible, quick and understandable information.

RESULTS

The state of digital tourism platforms in Bulgarian regions is dynamic and characterised by increasing digitisation, albeit with uneven development between regions. There is a variety of platforms ranging from official websites of municipalities and regional administrations to regional tourism associations and private initiatives. These platforms aim to present the tourism potential of the municipalities concerned, providing information on attractions, accommodation, transport, events and services. More developed tourism regions have better maintained and functional platforms, while other municipalities and regions are making efforts to improve their online presence in the tourism sector.

Key features of these digital platforms include the provision of information on tourism resources and the availability of multilingual content, interactive maps and multimedia elements. Some platforms may also offer more

advanced functionalities such as virtual tours and social media integration, although online booking options at the regional level may be more limited.

Despite the existence of individual studies and initiatives that address the digitalisation of tourism in Bulgaria, there is still a lack of comprehensive research work that systematically presents the status, characteristics and typology of digital tourism platforms in Bulgarian municipalities and districts. The need for in-depth research in this area is evident, as the scattered information has not yet been brought together in a unified analysis to provide a comprehensive picture of the state of these platforms in the country. The results of this study have the potential to contribute significantly to filling this gap by

using the proposed methodology to systematically investigate and analyze these critical tools for regional tourism development. The study focuses on the economically and touristically well-established region of the Burgas Black Sea coast, which, despite having achieved a high level of development, is characterized by significant variations in socio-economic indicators and infrastructure condition at the municipal level. Due to these differences, the digital performance in the region will be analysed.

• **Comparative and LDA analysis of tourism content on the official websites of the municipalities of the Burgas Black Sea Region**

Results of the analysis of the tourist content in the official websites of the municipalities of the Burgas Black Sea Region (Table 1)

Table 1. Comparative and LDA analysis of the tourist content in the official websites of the municipalities of the Burgas Black Sea Region

Municipality	"Tourism" (menu)	Cultural-historical heritage, museums, events, festivals	Natural landmarks	Tourist sites	Sports calendar and events	Digitalization, mobile applications	Link to a tourism website
Aytos	✗	✓	✗	✓	✓	✗	✗
Bolyarovo	✓	✓	✓	✓	✗	✗	✗
Burgas	✓	✓	✗	✗	✓	✓	https://www.gotoburgas.com/
Kameno	✗	✓	✓	✓	✗	✗	✗
Karnobat	✗	✓	✗	✗	✗	✗	✗
Malko Tarnovo	✓	✓	✗	✓	✗	✓	✗
Nesebar	✗	✓	✗	✗	✗	✗	✗
Pomorie	✗	✓	✗	✗	✓	✗	✗
Primorsko	✓	✓	✓	✓	✓	✗	✗
Ruen	✓	✓	✓	✓	✗	✗	✗
Sozopol	✓	✓	✗	✓	✗	✗	✗
Sredets	✗	✓	✗	✓	✗	✗	✗
Tsarevo	✓	✓	✓	✓	✓	✗	✗

The analysis of the tourist content on the official websites of the municipalities of the Burgas Black Sea region reveals a considerable degree

of diversity both in the structural layout of the information and in the thematic emphases placed by the individual administrations. There

is a lack of a unified approach to the digital presentation of tourism resources, which is particularly evident in the presence of specialized menus and sections dedicated to tourism. Specifically, the "Tourism" menu is found in only seven of the thirteen municipalities in the region (Bolyarovo, Burgas, Malko Tarnovo, Primorsko, Rouen, Sozopol and Tsarevo), while in the rest of this type of information is either scattered in other sections or completely absent. This raises the question of the effectiveness of communication with potential visitors and the need for clearer structuring of the content in accordance with modern standards of tourism marketing.

Despite the differences in structural presentation, the content analysis shows that cultural and historical heritage is by far the most strongly represented aspect of the region's tourist identity. In all thirteen municipalities there are materials presenting cultural and historical sites, museums, events and festivals, which underlines the sustainable role of cultural tourism as a leading segment in the tourism offer of the Burgas Black Sea coast. The presentation of natural attractions is considerably weaker, being highlighted only in five municipalities (Bolyarovo, Kameno, Primorsko, Rouen and Tsarevo). This shows that despite the wealth of natural resources and opportunities for ecotourism development, the potential of this niche remains underutilized in the digital environment.

Regarding the availability of information on specific tourist sites, seven municipalities (Aitos, Bolyarovo, Kameno, Malko Tarnovo, Primorsko, Rouen and Sozopol) present this type of content, while the others apparently do not use their official websites to promote key destinations and attractions. Sports tourism is particularly under-represented - only four municipalities offer information on the sports calendar and related events, with more active coverage in Burgas and Primorsko.

The digitalization of tourism services and the introduction of modern technological solutions also seem limited. Only two municipalities (Burgas and Malko Tarnovo) offer mobile apps or other digital tools aimed at facilitating tourists, which puts the region significantly behind established European practices for developing "smart" tourist destinations. The presence of dedicated tourism portals is even more underrepresented - only the municipality

of Burgas provides a direct link to a separate tourism website (<https://www.gotoburgas.com/>), which distinguishes it as an example of a more active digital presence.

In conclusion, the analysis highlights that despite the high tourism potential and the established role of the Burgas Black Sea coast as a key national tourism region, there are serious challenges to digital communication at municipal level. While cultural and historical resources are consistently represented in all municipalities, natural attractions, sports tourism and digital services remain underdeveloped and poorly promoted. This points to the need for a concerted effort to unify and modernise tourism content on official websites so that the region can meet the growing demands of the tourism market and strengthen its competitiveness nationally and internationally.

• **Analysis of the functionality of the tourist websites of the municipalities of the Burgas Black Sea Region**

Results of the analysis of the functionality of the tourist websites of the municipalities of the Burgas Black Sea Region (Table 2)

The analysis of the functionality of the tourism websites of the municipalities of the Burgas Black Sea Region again shows significant differences in the level of digitalization and functionality between the municipalities. The municipalities were evaluated according to ten key criteria: information structure and accessibility, completeness of tourist content, timeliness of published information, language accessibility, content categorization (thematic grouping), available information on accommodation and catering facilities, availability of mobile version, interactive map of tourist sites and integration with social networks.

In the middle range are Sozopol (16 points), Kameno (14 points) and Tsarevo (13 points), which offer a relatively good structuring of information, but lag behind in terms of mobile solutions, the availability of interactive maps and the presentation of accommodation and dining options. Primorsko (12 points) and Bolyarovo (9 points) show a basic level of web development, with serious gaps in completeness and relevance of content.

Table 2. Analysis of the functionality of the tourist websites of the municipalities of the Burgas Black Sea Region

Municipality	Information structure and accessibility	Completeness of tourist content	Relevance (up-to-dateness) of information	Language accessibility	Language accessibility	Accommodation options	Information about food establishments	Mobile version	Interactive map of sites	Social media	Evaluation
Aytos	0	1	2	0	0	0	0	2	1	0	6
Bolyarovo	1	2	1	1	2	0	0	2	0	0	9
Burgas	3	3	3	2	3	3	3	3	3	3	29
Kameno	2	2	3	1	2	0	1	2	0	1	14
Karnobat	1	1	0	0	1	0	0	2	0	0	5
Malko Tarnovo	3	3	3	0	3	3	3	3	0	3	24
Nesebar	3	3	3	3	3	3	3	3	3	3	30
Pomorie	3	3	2	3	3	3	2	3	0	2	24
Primorsko	2	1	1	1	2	0	0	3	0	2	12
Ruen	1	1	0	1	1	0	0	2	0	0	6
Sozopol	2	2	3	1	3	0	0	3	0	2	16
Sredets	0	1	1	3	0	0	0	2	0	1	8
Tsarevo	2	2	3	1	3	0	0	2	0	0	13

In the middle range are Sozopol (16 points), Kameno (14 points) and Tsarevo (13 points), which offer a relatively good structuring of information, but lag behind in terms of mobile solutions, the availability of interactive maps and the presentation of accommodation and dining options. Primorsko (12 points) and Bolyarovo (9 points) show a basic level of web development, with serious gaps in completeness and relevance of content.

At the bottom of the ranking are Sredets (8 points), Aitos and Rouen (6 points each) and Karnobat (5 points), whose websites are

characterized by minimal functionality, lack of key categories of information, absence of mobile versions and limited or completely missing content on tourist sites and infrastructure.

The overall analysis shows that the availability of mobile versions and integration with social networks remains inconsistent, with these functionalities implemented only in the sites of a few municipalities (mostly those with the highest scores). The same applies to interactive maps, which are presented in a limited number of pages. Language accessibility is also

incomplete - although some municipalities offer content in English and other languages, it is completely lacking in smaller municipalities. These results show that the disparity in digital infrastructure and tourism information between municipalities is significant, with only a few implementing modern practices to build functional, accessible and user-centric tourism websites. The high performance of Nessebar and Burgas can serve as an example of good practice, while weaker municipalities should take action to modernise and improve their digital presence to meet the expectations of modern tourists and increase their competitiveness regionally and nationally.

Recommendations

- Ensure information is up-to-date: The content of websites needs to be regularly updated to ensure that information on tourist attractions, events and services is current and accurate.
- Expand language accessibility: to attract international tourists, especially in less popular regions, it is important to provide content in several languages, including English, to improve the site's appeal to a global audience.
- Integrate social networks and mobile apps: Communities that do not yet use social networks and mobile apps should consider implementing them as part of their tourism strategy. This will improve interaction with tourists and facilitate their engagement.
- Create interactive maps and navigation tools: Extending the functionality of websites with interactive maps and navigation tools will make it easier for tourists to find tourist sites and local services such as restaurants and souvenir shops.
- Develop education in digital tourism: To train new staff to manage digital tourism platforms, it is important to invest in education programmes that train professionals in digital marketing, online content management and tourism technology. Creating specialised courses and academic programmes in universities will prepare a new generation of professionals to tackle the new challenges in the tourism industry.
- Open up new jobs in the digital sector: The expansion of digitalisation of tourism platforms in municipalities will lead to the need for new jobs related to the maintenance and development of these sites. This includes positions such as web developers, digital marketing specialists, social media managers and content specialists. The creation of such jobs will support the local economy and provide new career opportunities in the regions.

CONCLUSION

In conclusion, the digitalisation of tourism platforms in Bulgaria appears to be a key factor for the sustainable development of tourism and increasing the competitiveness of both individual regions and at national level. While significant steps have already been made in some municipalities to improve digital infrastructure and content, the analysis clearly shows that there are significant disparities between different regions. These disparities have a direct impact on the ability to effectively promote tourism resources and attract a wider audience, especially in the context of modern requirements for multilingual communication and mobile accessibility.

It is advisable to invest purposefully in the development and deployment of mobile applications that provide interactive and personalised tourism information in real time, facilitating orientation and travel planning. In addition, regular updating and upgrading of online content is necessary to ensure relevance and credibility, with particular attention to expanding language accessibility in order to attract foreign tourists and integrate into the global tourism market.

Equally important is the increased use of social networks and modern digital technologies, which provide opportunities for interactive communication, feedback and community building among tourists, which in turn enhances engagement and loyalty to a region. In this regard, the development of education and training in digital tourism is a critical element that will provide the necessary human resources capable of managing and developing modern tourism digital solutions.

Finally, stimulating new jobs related to digital tourism will contribute not only to improving the economic performance of regions, but also to creating sustainable ecosystems that integrate technology, tourism and local development. In this way, Bulgaria can establish itself as a competitive tourism destination at European and global level, with digital transformation becoming a key driver for innovation and growth in the sector.

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