

## POTENTIAL OF DEVELOPING THE SMART TOURISM DESTINATION IN THE PODRAVINA REGION REPRESENTED ON THE MODEL OF THE CITY OF KOPRIVNICA

### POTENCIJAL RAZVOJA PAMETNE TURISTIČKE DESTINACIJE PODRAVINE PREDSTAVLJEN NA MODELU GRADA KOPRIVNICE

**Andreja RUDANČIĆ**

Assistant Professor

Libertas međunarodno sveučilište

(Libertas International University)

Trg J. F. Kennedy 6b

10000 Zagreb

Primljeno / Received: 29. 9. 2022.

Prihvaćeno / Accepted: 29. 10. 2022.

Pregledni rad / Review

UDK / UDC: 338.486(497.525.1Koprivnica)“20”

338.483(497.525Podravina)“20”

**Petar MIŠEVIĆ**

Assistant Professor

Sveučilište Sjever

(University North)

Trg dr. Žarka Dolinara 1

48000 Koprivnica

**Dino BRUŽA**

Treća ekonomska škola Zagreb

(School of Economics No. 3, Zagreb)

Trg J. F. Kennedy 5

10000 Zagreb

#### ABSTRACT

*Modern information and communications technology (ICT) form the backbone of the development of smart tourism. Establishing a positive correlation of technology with other factors of a certain destination is necessary for the development of a smart tourism destination.*

*The smart tourism destination is based on the digitalization of the destination's tourist system, personalization of experiences and services, and the use of corporate social responsibility. Digitalization means the application of modern ICT when interacting with tourists. Personalization of the experiences and services implies an expanded tourism supply that includes special programs and tourist animation/entertainment. The corporate social responsibility (CSR) of the destination represents business operations that are run in line with the principles of sustainability, green economy and ethics. Starting from this, the purpose of this research is to detect and explore the potential of Koprivnica as the flagship tourist destination of the Podravina Region. This research aims to provide a model for the development of the Koprivnica smart tourism destination, which is based on the conducted qualitative research. To present the smart tourism destination model, the method of analysis and the method of comparison with destination Split were used, which is the leader in the process of transforming the classic tourist destination into a smart one. Considering the position of Koprivnica in relation to the emissive tourism markets/centres, the rich cultural*

*and historical heritage of the destination and the preserved environment, Koprivnica has the competitive advantage of being the bearer of the Podravina region's development of smart tourism as part of the Koprivnica-Križevci County. Koprivnica is the headquarters of the Koprivnica-Križevci County's Tourist Board, thus it is the administrative centre of the Podravina Region's tourist system and it certainly has the potential for faster implementation of the smart destination model. In tourism terms, Koprivnica has not yet reached its full tourist potential. Branding Koprivnica as a smart tourism destination will enable its faster positioning in the tourist market. The resource base of Koprivnica, the current infrastructure and the tourism carrying capacity (TCC) distinguishes Koprivnica from other destinations. Based on the research results presented in this paper, the main guidelines for the development of the smart tourism destination model of Koprivnica are presented.*

**Keywords:** smart tourism, smart destination, Koprivnica, expectations and satisfaction, digital transformation, experience

**Ključne riječi:** pametni turizam, pametna destinacija, Koprivnica, očekivanja i zadovoljstvo, digitalna transformacija, iskustvo

## INTRODUCTION

The Podravina region is regarded as a part of Croatia that offers unique tourist experiences, and the development of tourism is based on a rich history, cultural heritage, preserved nature and proximity to emissive centres. The city of Koprivnica stands out as the flagship tourism destination. It is an administrative, economic, political, cultural and social centre of Koprivnica-Križevci County. Additionally, Koprivnica has its own Tourist Board and is the headquarters of the Tourist Board of the County. This alone increases its importance and stands out as a relevant example of the implementation of modern trends in the development of smart tourism and smart destinations. Consequently, there was a need for a clearer differentiation of Koprivnica from the competing destinations. This paper presents a possible smart destination model for Koprivnica to be classified as a smart tourism destination and to become the leader of smart tourism development in the Republic of Croatia. An overview of scientific and professional literature is given, and a cross-section of the Koprivnica's analysis as a tourist destination is given, the reasons and needs for digital transformation are highlighted, with comparison and reference to the destination Split, which is already implementing the development phases of smart tourism. Based on the results of the conducted research, the authors propose guidelines, which provide a unique model for the city of Koprivnica and list the crucial components of the smart destination. The review of recent scientific and professional research literature concludes that this topic is relatively new and thus insufficiently researched in this region, making this paper one of the pioneer researches of smart tourism destinations in the Republic of Croatia.

## LITERATURE OVERVIEW

Tourist destinations have at their disposal many sources of information that provide them with insight into the characteristics of visitors, that is, they use databases that contain information about their transactions, behaviour, and perception; however, many data remain unused (Fuchs, et al., 2015). There are many reasons for this, but primarily this underutilization of information can be attributed to the fact that it is usually a large number of data (Sheehan, et al., 2016), while an additional reason for this is also the complexity and diversity of this information. Nevertheless, there are ways to collect them and use them usefully, which is what many authors do, proposing different ideas. Managers of tourist destinations can thus collect information with the help of various tools of business intelligence, and then include approaches and solutions that would best suit the tourist, that is, to better respond to the demands and needs of tourists (Hamilton, et al., 2012). It is also important to take into account that it is necessary to find out how tourists perceive the destination, and to understand what they want during

their travel and stay, so that intelligent decisions can be made, the more so because nowadays there is an almost unlimited selection of destinations on the tourist market (Stepchenkova & Mills, 2010).

However, it is necessary to assess what levels of intelligence are needed, depending on the competition and business requirements, given that a higher level of sophistication of business intelligence entails higher costs. According to Lee, et al. (2020) »cities and tourism operators are investing enormous resources in smart system initiatives because information technologies are a key factor for the competitiveness of the city destination«, and the concept of smart tourism and related strategies is increasingly recognized in the world as a desirable focus for development. In the high-competition areas, higher, more complex and more expensive levels of intelligence are likely to be needed. This additional cost can be justified if used and implemented properly, to better match the demands of tourists (Hamilton, et al., 2012).

In the hotel industry, stakeholders involved in the development of the hotel product are constantly analyzing new trends and presenting new standards to improve the quality of catering facilities and achieve innovations in accommodation structures, aimed at meeting the expectations and needs of modern travellers. Hotels use ICTs in their business to »(...) increase productivity, reduce costs and improve the quality of service«, all for the sake of greater sustainability, financial profit and guest satisfaction (Lee, et al., 2020).

There are many ways in which data obtained from various databases can be used. Lu, et al. (2020) point out that web browsers with their search engines are an important source of timely and useful data because the search history can indicate interests and intentions, that is, the behaviour of visitors can be predicted, and this data can also be used for various types of research, as well as for predicting tourist flows or influx of tourists. Some authors also point out the importance of innovation. According to Floričić (2016), innovations are key to future success and can provide a unique experience for visitors, while also differentiating oneself from the competition and applying digital and mobile technologies within the framework of sustainability concepts as one of the recognized global trends. In addition, the emphasis is placed on the ability to learn and adapt to rapid and unpredictable changes in today's tourist market, because this is how a competitive advantage is created (Sheehan, et al., 2016).

Many authors agree that information and communication technologies have brought many novelties and that they are applicable, i.e. present, in all stages of a tourist's journey, thus changing the business of stakeholders in tourism (Gretzel, et al., 2015; Floričić, 2016; Ivars-Baidal, et al., 2019; Lee, et al., 2020; De Carlo, et al., 2021) There is no doubt that tourism is affected by the technological progress, and thus digitalization, ICT, as well as artificial intelligence and robotics are changing the business in tourism and are used to achieve the best possible tourist experiences (Wang, et al., 2020). However, it is difficult to predict how the technology will develop, as well as what will be applied successfully in the tourism business in the future.

Grundner and Neuhofer (2021) are engaged in artificial intelligence and its use in the field of tourism; a wide range of purposes and diverse uses are mentioned, such as increasing efficiency and productivity by reducing the cost of services, security increase, support to decision-making processes and also assistance to tourists in navigating through smart destinations. Furthermore, the application of artificial intelligence is also investigated due to the special and diverse elements of tourist products, their complexity, as well as a large number of involved stakeholders and dynamic influences – both on the tourist product itself and the tourist experience of visitors. Artificial intelligence thus according to De Carlo, et al. (2021) can be used when examining cooperation, strategies and inter-organisational relations that pursue the same objectives and mutual benefits. Furthermore, when personalizing services, as well as new tools for market analysis. Wang, et al. (2020) state with certainty that regular use of a large number of data will become necessary for the smart management of tourist destinations, and that it is artificial intelligence that can enable the automation and simplification of certain activities and steps in business. These papers offer new perspectives and predictions for the future, related primarily to the application of artificial intelligence in tourism for the improvement of products and services, but also for providing personalized and desired tourist experiences.

The purpose of the application of information and communication technologies in tourism according to Grundner & Neuhofer (2021) is to create personalized and more relevant tourist experiences through the integration of physical and virtual elements, and artificial intelligence is the next level of these technologically enhanced experiences. De Carlo, et al. (2021) agree that artificial intelligence offers new tools for market analysis to tourism companies and destinations, as well as for the personalisation of services and possibilities of cooperation between business entities. Wang, et al. (2020) point out that AI leads tourism towards a more automated future, and allows business activities to be simplified, but that its use is becoming popular in practice – examples are facial recognition, virtual reality and robots, which provide new experiences.

In the context of significant improvements in the field of management of a tourist destination, the following are recognized: the ubiquity of the information available at any time on various devices, the improvement of the visitor experience, increased marketing opportunities and opportunities for personalized marketing, more efficient management of tourist sites and attractions (specially protected cultural and heritage sites), as well as destination intelligence – which refers to the use and analysis of a large number of data in addition to various technologies that create support systems in the decision-making and creation of tourist experiences, which also implies cooperation and exchange of know-how between stakeholders (Ivars-Baidal, et al., 2019). Moreover, many authors emphasize precisely the importance of cooperation, exchange of information and know-how between stakeholders who participate in the management of tourist destinations and the creation of tourist experiences (Boes, et al., 2016; Sheehan, et al., 2016; Ivars-Baidal, et al., 2019; Lee, et al., 2020; Grundner & Neuhofer, 2021)

Tsaih & Hsu (2018) describe in a similar way the information flow and the logistics of the existing tourist ecosystem (which includes tourism operators, transport operators/carriers, accommodation operators, and tourism professionals...) as »information islands«, which lack mutual connections and interoperability. Marketing, branding, as well as the development and management of the destination, »depend to a large extent on knowledge related to the behaviour of potential visitors«, that is, it is related to the perception of tourists and how they experience a certain destination (Stepchenkova & Mills, 2010). Furthermore, the active participation of visitors, as well as the local population/residents, through the sharing of experiences is also extremely important (Lee, et al., 2020), and technologies make this possible in real time. Thus, sharing experiences related to travelling and staying in a destination can be considered an »upgraded« type of word of mouth, where consumers create and influence the image of the destination, which is sometimes different from the one that destination management organizations or other tourism entities want to broadcast to the market (Stepchenkova & Mills, 2010).

Oftentimes, efficient and sustainable destination management is linked to efforts to create and maintain a smart destination. According to Gretzel, et al. (2015), the term »smart tourism« is a complex concept, which implies innovation, competitiveness, and sustainability, with an emphasis on the use of technologies and their integration to achieve many goals, such as resource optimization, efficient and fair management, supporting new forms of cooperation and creating new values. López de Avila Muñoz & Sánchez (2015) define a smart tourist destination as »(...) an innovative tourist destination, built on the infrastructure of state-of-the-art technology that guarantees sustainable development of tourist areas, accessible to all, which facilitates the visitor's interaction and integration into their environment, increases the quality of experience in the destination and improves the quality of life of the local population«. Closely related to the concept of smart destination and ICTs, Boes, et al. (2016) also deal with human resources, social capital, innovation, leadership and other success components that make up a smart destination, and emphasize the importance of cooperation and the human factor, with only the use of available technologies. Considering how important tourism is for the economy, from the local to the national level, and then as an important part of the global economy, predictive models that can be developed with the help of technologies are also valuable (Lu, et al., 2020). Various data on the actions of potential and real visitors before, during and after the trip can thus be used to predict their interests and activities during their stay in a tourist destination. Destination management organizations are so crucial for the success of the destination because they are responsible for the coordination of resources, whether human, financial or otherwise, as well as for data collection, analysis, interpretation and transmission

to the stakeholders who will use this information – all to contribute to their competitiveness in the tourist market with their efforts. (Sheehan, et al., 2016)

Furthermore, some of the prerequisites necessary to develop a smart tourist destination, » (...) leadership, vision, patience, strategic management and continuous evaluation and change are needed« (Boes, et al., 2016). Additionally, Lee, et al. conclude that »(...) (2020) a smart tourist city, combined with creativity and innovation, is the answer for designing a sustainable environment for both residents and visitors.«

Reaching the smart destination level is a goal that is aspired to and considered valuable by many experts, but there is also a degree of caution and concern associated with it. Ivars-Baidal, et al. (2019) point out certain problems related to the availability of smart destinations and the evolution of information and communication technologies, and thus they state: ambition when applying the concept of a smart destination and relative inaccuracy in defining this concept, the inability to apply this model and concept in many destinations due to too high organizational and technological requirements, in addition to the fact that they exceed the management capacities of destination management organization, as well as the unavailability of data of various databases since they are owned by large technology or tourism operators, and availability of some are also limited by privacy laws. As a negative side of the use of various databases that offer a lot of information about visitors, as well as the increasingly comprehensive use of technologies in the organization and during travel and stay, some authors express concerns regarding the privacy of tourists, i.e. the increasing vulnerability and possibilities of information misuse (Gretzel, et al., 2015; Grundner & Neuhofer, 2021). Unwanted and negative consequences are not mentioned by many authors, and it is necessary to explore more broadly and deeply this side of using various technologies and access to various databases.

Likewise, the concept of smart tourism often appears as a solution to the problems and challenges faced by tourist destinations; from the excessive numbers of tourists and crowds to environmental concerns and the degradation of cultural heritage. However, technological or smart solutions alone are not enough to solve these problems, although they can certainly be a crucial step in achieving greater tourist satisfaction and ensuring the local population's quality of life (Lee, et al., 2020), in addition to technological possibilities, the non-technological, i.e. human and managerial ones are also needed (Sheehan, et al., 2016).

From the application of information and communication technologies, and artificial intelligence, to defining the concept of smart destinations, various authors approach these and other innovative solutions in different ways, some based on different definitions of terms. Due to the sudden and increasingly frequent changes in the market, but also in terms of innovations and the way of doing business, more research is needed, as well as proposals, forecasts and examples of good practice. Likewise, comprehensive research, which would deal with as many innovations and possible applications of technologies in a tourist destination as possible, would be valuable and necessary to improve efficiency, the satisfaction of visitors and meet their needs, as well as the financial and other benefits for all stakeholders in the management of the tourist destination.

## FLUCTUATION OF TOURISTS AND CHARACTERISTICS OF KOPRIVNICA AS A TOURIST DESTINATION

The town of Koprivnica is the tourist, traffic, economic and administrative centre of the central Podravina region and at the same time the centre of Koprivnica-Križevci County. Although Koprivnica is a city that occupies an area of only 91 km<sup>2</sup> and has around 30,000 inhabitants, it is the centre of central Podravina in every respect. The proximity to the capital of Croatia, Hungary, Slovenia and other emissive centres, and with good transport links to the east of the country and beyond, has potential for the sustainable development of tourism in general. In addition, the city has a preserved cultural and historical heritage, which is why the entire old town is viewed as a historical monument. Consequently, Koprivnica was in the process of being elected the European Capital of Culture in 2020, together with its partner city of Varaždin ([www.koprivnica.hr](http://www.koprivnica.hr)). The vision of the destination is by its nature based on common interests concerning the future and forms the guiding principle in planning the development

of tourism of the destination (Tourism Development Strategy of the city of Koprivnica and its surroundings until 2025, 2017). Furthermore, the vision states that Koprivnica is a city of nettles (kopriva = nettle), traditions and heritage, with hospitable and hardworking hosts. According to data from the Croatian Bureau of Statistics, the total number of rooms, apartments and camping places in the destination area in 2022 is 130, and the number of permanent beds is 255. As for arrivals, there were a total of 5,736 of them, and the number of overnight stays in the same period was 9,994 in the area of Koprivnica. If we analyse the data for arrivals and overnight stays in 2020 and 2021, it is clear that there was an increase in both arrivals and overnight stays, although the total number of rooms and permanent beds decreased by 2%. Various forms of tourism are being developed in Koprivnica and its surroundings, which is why tourists are extending their stay in this area. New and renovated wine roads, cycle routes, galleries and other cultural and art-related facilities are included in the tourist offer. According to the above, it can be concluded that resources, tourists and transport infrastructure are crucial for changing the structure of tourists from hikers staying in the city for a day or two to longer-staying guests.

Table 1 shows the secondary data of tourist indicators over the past two years. It leads to the conclusion that there has been an increase in the number of tourists, and the increase in overnight stays shows that the average retention time of tourists in Koprivnica is also on the rise. The city has therefore ceased to be a transit hub for hikers. However, it is necessary to increase the number of quality accommodation capacities and the number of permanent beds in accordance with the carrying capacities of the accommodation facilities.

**Table 1** Accommodation capacities, arrivals and overnight stays in Koprivnica 2020-2021

Year	Tourist indicators							
	Number of rooms, apartments and camping sites	Number of permanent beds	Arrivals Total	Arrivals - local tourists	Arrivals - foreign tourists	Overnight stays - total	Overnight stays - domestic tourists	Overnight stays - foreign tourists
2020	131	260	2.919	1.930	989	7.430	4.826	2.604
2021	130	255	5.736	2.201	3.535	9.994	4.035	5.959
Index 2020/2021	99,23	98,07	196,50	114,04	357,43	134,50	83,61	228,84

**Source:** Author's research and analysis, according to the data supplied by the Croatian Bureau of Statistics ([www.dzs.hr](http://www.dzs.hr), access date: 1 September 2022)

As shown above, there was a 1% drop in terms of the number of rooms, apartments and camping sites, and consequently, the permanent accommodation capacities decreased by 2%. It is significant that despite the decline in the number of accommodation capacities, the number of arrivals increased by as much as 96.5%. This can be interpreted as a consequence of the 2020 pandemic when travel restrictions were imposed, which resulted in a greater desire to change place and travel. In addition, during the pandemic people did not spend much money, thereby generating the amount planned for tourist trips. The greatest surge was observed in the number of foreign tourist arrivals, with as much as a 257% increase in the number of arrivals of foreign tourists in 2021 compared to the pandemic year 2020. There was a noticeable 16.39% drop in overnight stays of domestic tourists in 2021 compared to 2020. This can be interpreted by the fact that the travelling of domestic tourists was also limited in 2020, which is why they stayed more in coastal destinations during the summer months of 2021. An analysis of the accommodation supply in Koprivnica found that hotels accounted for 81% of the offer of accommodation during the observed period. Observation of the accommodation capacities of Koprivnica from 2015 to 2021 shows an upward trend. Nevertheless, there is still a lot of untapped potential for further development of urban tourism, cultural tourism, cycle and eco-tourism and other selective forms of tourism. Firstly, it is necessary to expand the accommodation supply with a new hotel and other forms of accommodation and connect it with the culinary and catering offer. Since Koprivnica has a favoura-

**Table 2** SWOT analysis of the destination Koprivnica

<b>Strengths</b>	<b>Weaknesses</b>
Cultural and historical heritage	Insufficient dispersion of tourist events throughout the entire destination
Geotrafic location of the destination	Non-recognizability of the brand Koprivnica
Preserved environment	Insufficient accommodation infrastructure and quality
Proximity to emissive centres (Hungary, Slovenia, Austria)	Insufficient involvement of the local population in the development of tourism in Koprivnica
Close to equestrian roads, cycling routes and wine roads	
<b>Opportunities</b>	<b>Threats</b>
Sustainable development	Changes in legal regulations in the domain of smart destination management
Development of smart tourism as a specific form	Changing preferences of tourists
Branding Koprivnica as a smart destination	The economic crisis in the European Union
Withdrawal of money from EU funds for the implementation of ICT	Unsafe environment
Diversification of the tourist product through the smart destination development model	Emerging health and financial crises and the war situation in Eastern Europe

**Source:** Author's research and analysis, according to the Tourism Development Strategy of the city of Koprivnica and its surroundings until 2025 and in line with the document: Analysis of the Current State of Tourism in the Area of the Podravina Region Near Koprivnica, Institute for Tourism, 2016.

ble geographical location (close to Zagreb and its airport and near to the Hungarian border), it is necessary to make further use of such an advantage. With the preserved nature in the surrounding area and rich cultural and historical heritage, Koprivnica has a significant attraction basis for further sustainable development of these forms of tourism. According to the status analysis of the county development strategy for Koprivnica-Križevci County for the 2014-2020 period (Regional Development Agency of Koprivnica-Križevci County PORA), emphasis was placed on the development of equestrian tourism and health tourism in the vicinity of Koprivnica. In 2014, an equestrian trail was established as the first of its kind in Croatia, and with the proximity of geothermal sources, Koprivnica could also attract environmentally conscious tourists who want to spend an active holiday which includes sustainable development and environmental protection. In addition to the above, this destination provides visitors with a rich cultural and historical heritage. According to the analysis of the status of tourism in this area (Institute for Tourism, 2016), the need for the spatial distribution of attractions and events was indicated. In the past five years, Koprivnica has generated as many as 80% of the attractions of the Podravina area. Koprivnica is a place of more intensive gathering of tourists, which can be the starting point for the dispersion of demand throughout the region (Tourism Development Strategy of the city of Koprivnica until 2025).

In the area of Koprivnica 2, the most important tourist events are certainly the Koprivnica Carnival in February and March and the Renaissance Festival in August. They are followed by events such as Fishermen to Their Town, the flower exhibition and fair, Legend of Jagnjedovec, Motifs of Podravina, Summer on Zrinski, Summer in Ludens, International »Fest Jazz«, Festival, Street art festival, European Movement Week, Galović's Autumn, Christmas Fairy Tale and The Day of the City of Koprivnica ([www.koprivnica.hr/gradani/kultura/manifestacije](http://www.koprivnica.hr/gradani/kultura/manifestacije), 2 September 2022). According to the researched current situation as well as based on the conclusions of the document Analysis of the current state of tourism in the area of Podravina region around Koprivnica (Institute for Tourism, 2016) and the document Tourism Development Strategy of the city of Koprivnica and its surroundings until 2025. (Koprivnica Tourist Board, 2017) an analysis of strengths, weaknesses, opportunities and threats for this destination can be formed. The internal environment of the destination makes strengths and weaknesses, while the external environment presents opportunities and threats. Table 2 lists the main elements regarding the constructive development of the Koprivnica smart destination model in the future period. Thus, it can be concluded that Koprivnica has a predisposition to develop smart tourism and transform the destination into a smart one through greater inclusion of the local population, implementation of information and communication technology, dispersion of tourist events and the improvement of the transport and accommodation infrastructure of the destination. The weakness of the destination is cer-

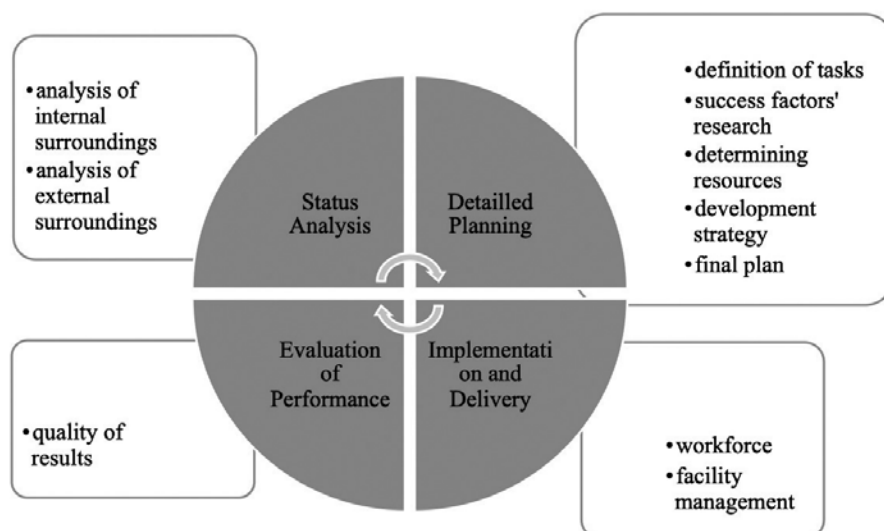
tainly the non-recognizability of the destination in the tourist market, and threats are certainly the current economic crisis in the European Union's emitting centres, the duration of the pandemic, the possible outbreak of a new health crisis and the war situation in eastern Europe. Nevertheless, the successful branding of the Koprivnica smart destination can contribute to the development of the awareness of tourists that this destination is a safe place, where value for money is realized. Stronger cooperation between the City and County Tourist Boards would certainly contribute to greater inclusion of domestic entrepreneurs and the population in the development of smart tourism.

## PROPOSAL OF THE DEVELOPMENT MODEL OF THE SMART DESTINATION KOPRIVNICA

For a destination to be classified as smart, it is important to detect the development factors that generate the growth and development of smart tourism as a specific form of tourism. For a smart destination in Podravina to be developed according to a certain model, it is important to form a model that will contribute to strengthening the competitive and comparative advantages of such a destination over other smart destinations with similar characteristics. the growth and development of smart tourism in any area can be managed through such a smart destination model, which indicates that each destination can be competitive in this context.

A smart destination follows the trends of digitalisation and the needs of all generations and must meet the demands of new visitors growing up with digital technology (Smart Tourism, 2021; Rako, 2019; Gretzel, 2018). According to the conducted research and a review of scientific and professional literature, a basic definition of a smart destination can be given – smart cities in tourist regions that base their business on implemented information and communication technology, ensuring sustainable development and environmental protection and connecting tourists with the local community in an innovative way. The given definition highlights three essential components of a smart destination that must be met for a destination to be called smart, and according to Mandić (2022), these are digitalization (technology) as a catalyst for innovation, smart experiences (focus on the improvement and personalization of the experience) and a smart business ecosystem, with a focus on strengthening competitiveness and improving the efficiency of stakeholders in the tourist supply segment. Branding Koprivnica as a smart destination for smart tourism will enable faster positioning in the tourist market.

The resource base of Koprivnica, the current infrastructure and the carrying tourist capacity sets Koprivnica apart from other destinations. Split is taken as a reference smart destination, which is currently in the implementation phase of modern technology in the management of tourist destinations. The smart destination model of Koprivnica is based on the satisfaction of tourists and the local popula-



**Figure 1** The development model of Koprivnica smart destination (Source: Author's analysis according to the 2022 research)



tion, which can lead to the business excellence of the destination. The model is thus based on three main elements: information and communication technology, environmental quality and smart experiences.

These elements of the model are developed under the assumption that the set criteria for the development of the destination are met, namely: compliance with international trends in the tourist market, rational use of resources, revitalization of traditional customs and strengthening of the culture of the local population, compliance with the national tourism development strategy and generating economic benefits. Figure 1 shows a model of such development.

### CONCEPT OF KOPRIVNICA AS A SMART DESTINATION

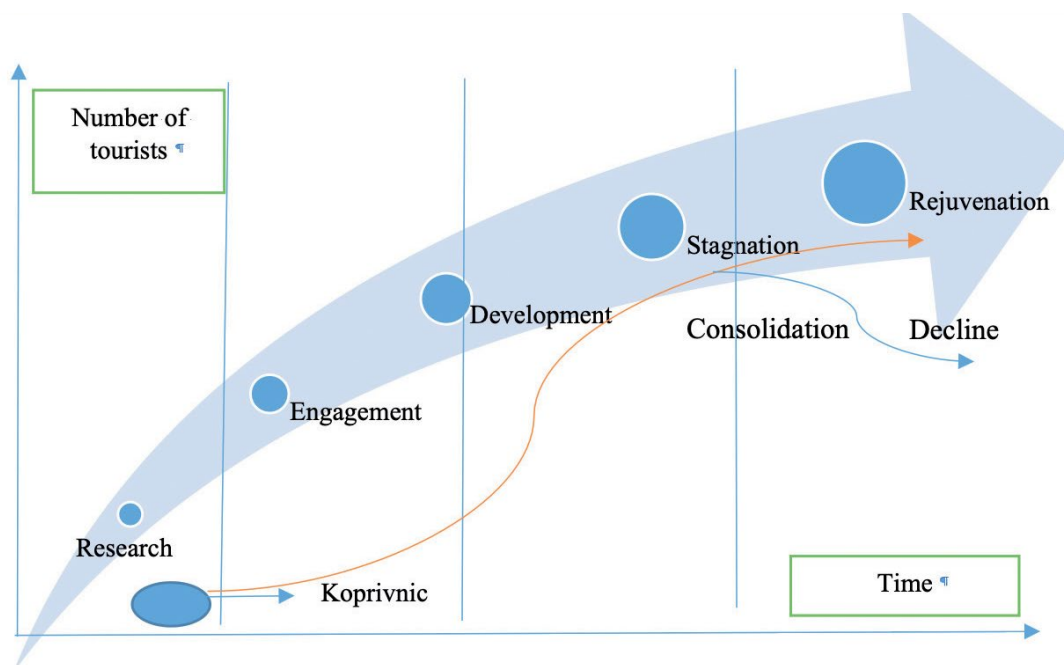
The concept represents a qualitative response of companies to market challenges, aimed at achieving growth and development, repositioning in the market, maximum consumer satisfaction and multiplication of profits (Stipanović, 2006:21). The development system in this model covers the totality of activities, interactions and connections that occur throughout the entire life cycle of products and services in a smart destination. In doing so, one should take into account the specifics of the smart destination, namely the specifics of the market and the specifics of the destination's management activities. For the concept to be realized, networking and cooperation between the City and the County Tourist Boards and the Koprivnica City Council are necessary. This can be achieved by implementing modern information and communication technologies. All principles and rules will be listed, the current situation will be analysed, goals will be defined, and alternative strategies will be established in the concept of the Koprivnica smart destination development. In this way, the concept of smart destination Koprivnica can be the main instrument of management and activities in the destination that will show the future of the city's development and more easily shape and realize its competitive advantages. In addition, it represents the dynamic development integrity of smart destination management. Thus, the dynamics of the relationship between the leading structures of the community will be demonstrated.

Koprivnica could follow the course of such development on the example of the development of the Split smart destination, where the concept of »Split Smart City« was devised at the level of city management. This concept lists three phases: infrastructure, development and delivery of the application solution ([www.split.hr](http://www.split.hr), access date 3 September 2022). Thus, the applications for solving the problem of parking at the destination stand out and provide the possibility of alternative transportation using the public bicycle system. In addition, parking places for people with disabilities are visible. Koprivnica could harness the potential of its transport networks and improve the transport infrastructure so that tourists could move more easily in the entire area of the city and its surroundings. In addition to the infrastructural elements, other elements that make a smart destination attractive are ecological elements, social elements, entertainment and recreation, destination offer, accommodation supply and evaluation elements.

In this way, all the necessary information is available to the entire local community, as well as to tourists staying there. Accordingly, efforts are being made to strengthen the quality and equipment of the smart destination, diversify the offer, develop additional selective forms of tourism, and give residents and tourists an additional sense of security. Joint management of the destination also encourages better communication with the public, resulting in all stakeholders experiencing value for money. The recommendation in this context is the implementation of a common management platform, which will also develop corporate social responsibility as part of a smart eco-management system.

### DEVELOPMENT STRATEGY AND BUSINESS POLICY OF THE KOPRIVNICA SMART DESTINATION

In terms of management of the Koprivnica smart destination, a unique strategy should be chosen, modelled on the development strategies of smart cities. Based on the analysis of the condition and offer of the destination, it is possible to detect the position of the destination in the context of the life cycle. Accordingly, it can be concluded that Koprivnica is currently in the phase of researching and redefining the destination's development strategy so that smart tourism can develop. After that, it is possible to



**Figure 2** The life cycle of the destination city of Koprivnica and its surroundings (Source: Authors' analysis of the research, adapted according to the template from the Tourism Development Strategy of the city of Koprivnica and its surroundings until 2025, p. 54)

engage stakeholders to develop a smart destination management system and continue with the sustainable development of the destination. Figure 2 shows the life cycle of the Koprivnica destination and is based on the previous results of the research team working on the Tourism Development Strategy of the city of Koprivnica and its surroundings until 2025.

According to the presented Koprivnica lifecycle scheme, it is clear that changes are needed in the destination management system are needed in terms of access to the creation and maintenance of competitive advantage. Any change in the tourist market also evokes changes in the management system, and Koprivnica has a unique opportunity to form a unique management development team for the formation of a sustainable smart destination strategy. There is a need to pay attention to the interdependence of the strategy and business policy of the destination and the city. In this context, the proposal is to evoke private sector activities and implement the concept in achieving the set objectives.

At the same time as Split, this destination has also passed this first phase and implemented new communication channels, thus connecting the private and public sectors, and taking the first steps to engage a larger number of community and destination stakeholders. Concrete steps in the implementation of this phase are proposed: define target markets and tasks, detect critical performance/success factors, specify resources, connect resources with critical performance factors and, based on this, create a new smart destination development strategy and form a final plan. This includes the given lifecycle of the destination, portfolio analysis, systematic development of tourism products and services, strengthening of the supplier chain and development of risk management.

The city of Split can be mentioned as an example in this context, which, according to Erceg (2019), has already developed a smart street lighting system, smart buildings, traffic control sensors, smart buses, electric bicycles, e-charging points for electric vehicles, connected the management of heating, ventilation, air conditioning and lighting of residential and tourist buildings and the like. In addition, Koprivnica has the opportunity to deploy smart benches within the destination, modelled after the city of Split, which contain air quality sensors, measure temperature, serve as Hot spot Internet, provide the possibility of wireless charging of smart devices and everything is implemented in a unique application called *City Eye* ([www.split.hr](http://www.split.hr)). Such an application is available to residents, entrepreneurs, city admi-

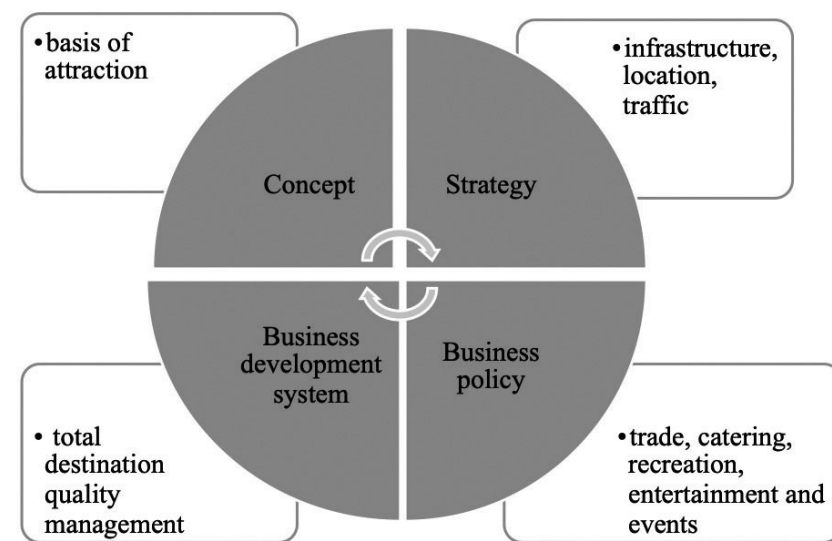
nistration, Split and County Tourist Boards and tourists staying there. It includes all mapped institutions in the smart city area, with the aim of sustainable development. In this way, Koprivnica would offer tourists an active involvement in the local community, a feeling of contribution to the destination and usefulness while staying there.

### SYSTEM FOR DEVELOPMENT CONTROL AND EVALUATION OF THE KOPRIVNICA SMART DESTINATION'S BUSINESS ACTIVITIES

As the last factor of the proposed smart destination development model, the business development control system, i.e. the evaluation of all undertaken performances, was mentioned. This refers to the totality of activities, connections and interactions of everyone who lives, works or visits the destination. Through the control system, it is possible to develop smart destination quality standards, continuously and promptly receive feedback, measure results and make corrections. This will result in the growth and development of smart destination management. In addition, it will serve as the basis for future analyses of the situation and the determination of future strategies for the development of destination management.

It is important to point out that the presented smart destination model could influence the development of the attraction basis of the destination, which would contribute to the creation of a new image of Koprivnica as a smart city for smart tourism, and thus round off the concept of a smart destination of Koprivnica. Through the development and control of infrastructure, accommodation, traffic, attractions, catering, shops and other offers in the destination, it is possible to brand Koprivnica as a smart destination. Figure 3 shows the addition to the proposed model of the smart destination of Koprivnica, in which the components that are controlled and evaluated are listed.

Current shortcomings are evident in the existing transport connectivity infrastructure, networking between the main drivers of the smart destination development and insufficient engagement of the local population. In addition, there is great potential in the development of additional tourist and hospitality products, in increasing the quality of accommodation facilities and equipment, and in integrating tourists into the sustainable development of the destination. On the other hand, through the performed status analysis and the comparison with the destination of Split, it is evident that in the area of Koprivnica there are competitive and comparative advantages and potentials in the development of the attraction base. Koprivnica should do more to promote preserved nature, favourable geographical location and rich heritage. With such a resource base, it is possible to reposition Koprivnica in the tourist market, but it is also necessary to consider the actual limitations at this moment.



**Figure 3** Control and evaluation of the elements of the Koprivnica smart destination model (Source: Authors' analysis of the research 2022)

## CONCLUSION

A smart destination consists of digitalization of the destination's tourist system, personalization of experiences and services and corporate social responsibility. The concept of smart tourism consequently emerges as a solution to the problems and challenges faced by tourist destinations; from excessive numbers of tourists and crowds to environmental concerns and the degradation of cultural heritage. Smart tourism includes several interdependent variables (smart destination, smart experiences and smart ecosystems), based on implemented information and communication technology. At the European Union level, there is an initiative aimed at developing smart cities where smart tourism will continue to develop, and thus gradually become recognizable smart destinations.

A smart destination is thus defined as an area of integrated technology, through which all stakeholders remain connected and networked, and with the development of environmental protection awareness, the tourist product is expanded, respecting the needs and expectations of modern tourists. The city of Koprivnica has all the predispositions to get transformed into a smart destination and thus become a promoter of smart tourism. With the presented model of smart destination on the example of Koprivnica, it is clear how long-term goals can be met in this way: economic, socio-cultural and environmental protection. The smart destination model of Koprivnica represents a vision of sustainable development of the urban environment, which, by implementing the ICT, ensures sustainable management of city resources, a higher quality of life for its inhabitants and a better connection of the tourist and catering services providers with modern tourists. Accordingly, the Koprivnica smart destination model supports the projected quantified goals of smart tourism development according to the Tourism Development Strategy of the city and its surroundings until 2025.

The smart destination model thus ensures the growth of tourist indicators in terms of arrivals, overnight stays, average stay, quantity and average utilization of permanent accommodation facilities in days. According to the analysis of the current situation, Koprivnica has insufficient accommodation infrastructure, an underdeveloped selection of special programs and events, as well as an insufficiently branded gastronomic and catering product, which is why the overall quality of the offer is not at the level of competitive smart destinations. When choosing a smart destination model, the focus was on the resource base, existing strengths (real advantages of Koprivnica) and the weaknesses (real limitations) of the destination, as well as potential opportunities for the development of smart tourism in the destination. It is necessary to carry out the planned projects contained in the Strategy for the development of the city of Koprivnica and its surroundings and rebrand it into a smart destination by developing the information and communication infrastructure. Achieving a greater engagement of the local community in terms of diversification of the tourist offer and ensuring continuous control (monitoring) of the plan and Strategy's implementation is also necessary.

## LITERATURE

1. Boes, K., Buhalis, D. & Inversini, A., (2016). *Smart tourism destinations: ecosystems for tourism destination competitiveness*. <https://www.emerald.com/insight/content/doi/10.1108/IJTC-12-2015-0032/full/html> (datum pristupa 26. travanj 2022)
2. De Carlo, M., Ferilli, G., d'Angella, F. & Buscema, M., (2021). *Artificial intelligence to design collaborative strategy: An application to urban destinations*. [https://id.elsevier.com/as/authorization.oauth2?platSite=SD%2Fscience&scope=openid%20email%20profile%20els\\_auth\\_info%20els\\_idp\\_info%20els\\_sa\\_discover%20urn%3Acom%3Aelsevier%3Aidp%3Apolicy%3Aproduct%3Ainst\\_assoc&response\\_type=code&redirect\\_uri=https%3A%2F%2F](https://id.elsevier.com/as/authorization.oauth2?platSite=SD%2Fscience&scope=openid%20email%20profile%20els_auth_info%20els_idp_info%20els_sa_discover%20urn%3Acom%3Aelsevier%3Aidp%3Apolicy%3Aproduct%3Ainst_assoc&response_type=code&redirect_uri=https%3A%2F%2F), (datum pristupa 26. travanj 2022)
3. Erceg, T. (2019). *Primjeri dobre prakse kao temelj za razvoj grada Splita kao pametnog grada*. Split, Sveučilište u Splitu, Ekonomski fakultet.
4. Floričić, T., (2016). *Comprehension of innovative solutions in hospitality industry*. [https://www.researchgate.net/publication/322925863\\_Comprehension\\_of\\_innovative\\_solutions\\_in\\_hospitality\\_industry](https://www.researchgate.net/publication/322925863_Comprehension_of_innovative_solutions_in_hospitality_industry), (datum pristupa 27. travanj 2022)
5. Fuchs, M., Höpken, W. & Lexhagen, M., (2015). *Applying business intelligence for knowledge generation in tourism destinations—A case study from Sweden*, [https://link.springer.com/chapter/10.1007/978-3-658-06660-4\\_11](https://link.springer.com/chapter/10.1007/978-3-658-06660-4_11), (datum pristupa 27. travanj 2022)

6. Grad Koprivnica, službena internet stranica, [www.koprivnica.hr/turizam](http://www.koprivnica.hr/turizam), (datum pristupa 1. rujna 2022)
7. Gretzel, U. (2018), *From smart destinations to smart tourism regions*. <https://investigacionesregionales.org/wp-content/uploads/sites/3/2019/01/10-GRETZEL.pdf>, (datum pristupa 2. rujna 2022)
8. Gretzel, U., Sigala, M., Xiang, Z. & Koo, C., (2015). *Smart tourism: foundations and developments*. <https://link.springer.com/article/10.1007/s12525-015-0196-8>, (datum pristupa 1. rujna 2022)
9. Grundner, L. & Neuhofer, B., (2021). *The bright and dark sides of artificial intelligence: A futures perspective on tourist destination experiences*. <https://www.sciencedirect.com/science/article/pii/S2212571X20301335>, (datum pristupa 20. svibnja 2022)
10. Hamilton, J., R., (2012). *Gathering and deploying tourism destination intelligence*. <https://researchonline.jcu.edu.au/23257/>, (datum pristupa 20. svibnja 2022)
11. Informacijski sustav za prijavu i odjavu gostiju, [www.e-visitor.hr](http://www.e-visitor.hr), datum pristupa 5. rujna 2022.
12. Ivars-Baidal, J. A., Celdrán-Bernabeu, M. A., Mazón, J.-N. & Perles-Ivars, Á. F., (2019). *Smart destinations and the evolution of ICTs: a new scenario for destination management?*, <https://www.tandfonline.com/doi/abs/10.1080/13683500.2017.1388771> (datum pristupa 21. svibnja 2022)
13. Lee, P., Hunter, W. C. & Chung, N., (2020). *Smart tourism city: Developments and transformations*. <https://www.mdpi.com/2071-1050/12/10/3958>, (datum pristupa 21. svibnja 2022)
14. López de Avila Muñoz, A. & Sánchez, S. G., (2015). *Destinos turísticos inteligentes*. <https://dialnet.unirioja.es/servlet/articulo?codigo=5248689>, (datum pristupa 21. svibnja 2022)
15. Lu, W., Jin, J., Wang, B., Li, K., Liang, Ch., Dong, J., Zhao, Sh., (2020). *Intelligence in tourist destinations management: Improved attention-based gated recurrent unit model for accurate tourist flow forecasting*. <https://www.mdpi.com/2071-1050/12/4/1390>, (datum pristupa 21. svibnja 2022)
16. Manifestacije u Koprivnici, [www.koprivnica.hr/gradani/kultura/manifestacije](http://www.koprivnica.hr/gradani/kultura/manifestacije), (datum pristupa 2. rujna 2022)
17. PORA, službena internet stranica Regionalne razvojne agencije Koprivničko-križevačke županije, Županijska razvojna strategija za Koprivničko-križevačku županiju 2014.-2020., [www.pora.com.hr](http://www.pora.com.hr), (datum pristupa 2. rujna 2022)
18. Rako, M. (2019). Tehnološki projekti u funkciji razvoja smart destinacija. Split: Sveučilište u Splitu, Ekonomski fakultet
19. Sheehan, L., Vargas-Shanchez, A., Presenza, A., Abbate, T., (2016). *The use of intelligence in tourism destination management: An emerging role for DMOs*. [onlinelibrary.wiley.com/doi/abs/10.1002/jtr.2072](https://onlinelibrary.wiley.com/doi/abs/10.1002/jtr.2072), (datum pristupa 21. svibnja 2022)
20. Smart CulTour (2022). Veći inovacijski potencijal u razvoju pametnog turizma imaju destinacije poput ovih gradova, <http://www.smartcultour.eu/veci-inovacijski-potencijal-u-razvoju-pametnog-turizma-imaju-destinacije-popt-ovih-gradova/>, (datum pristupa 2. rujna 2022)
21. Smolčić Jurdana, D., Milohnić, I., Soldić Frleta, D., Ribarić, I., Glavić, R. (2017). *Strategija razvoja turizma grada Koprivnice i okolice do 2025.*, Turistička zajednica grada Koprivnice, 2017.
22. Stepchenkova, S. & Mills, J. E., (2010). *Destination image: A meta-analysis of 2000–2007 research.*, <https://www.tandfonline.com/doi/abs/10.1080/19368623.2010.493071>, (datum pristupa 15. lipnja 2022)
23. Tsaih, R.-H. & Hsu, C. C., (2018). Artificial intelligence in smart tourism: A conceptual framework, <https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1013&context=iceb2018>, (datum pristupa 15. lipnja 2022)
24. Wang, R., Luo, J. & Huang, S. S., (2020). *Developing an artificial intelligence framework for online destination image photos identification*, <https://www.sciencedirect.com/science/article/pii/S2212571X20301347>, (datum pristupa 15. svibnja 2022)

## SAŽETAK

Suvremena informacijska i komunikacijska tehnologija (ICT – information and communication technology) čini okosnicu razvoja pametnog turizma. Uspostava pozitivne korelacije tehnologije s drugim čimbenicima određene destinacije nužna je za razvoj pametne turističke destinacije.

Pametna turistička destinacija temelji se na digitalizaciji turističkog sustava destinacije, personalizaciji doživljaja i usluga te korištenju društveno odgovornog poslovanja. Digitalizacija podrazumijeva primjenu suvremenih informacijskih i komunikacijskih tehnologija u interakciji s turistima. Personalizacija doživljaja i usluga podrazumijeva proširenu turističku ponudu koja uključuje posebne programe i turističku animaciju/zabavu. Društveno odgovorno poslovanje (CSR – corporate social responsibility)

destinacije predstavlja poslovanje koje se vodi u skladu s načelima održivosti, zelene ekonomije i etike. Polazeći od toga, svrha ovog istraživanja je detektirati i istražiti potencijal Koprivnice kao vodeće turističke destinacije Podravine. Ovim istraživanjem želi se dati model razvoja destinacije pametnog turizma Koprivnice koji se temelji na provedenom kvalitativnom istraživanju. Za prikaz modela pametne turističke destinacije korištena je metoda analize i metoda usporedbe s destinacijom Split koja je predvodnik u procesu transformacije klasične u pametnu turističku destinaciju. S obzirom na položaj Koprivnice u odnosu na emitivna turistička tržišta/centre, bogatu kulturno-povijesnu baštinu destinacije i očuvani okoliš, Koprivnica ima konkurentsku prednost kao nositelj razvoja pametnog turizma Podravine u sklopu Koprivničko-križevačke županije. Koprivnica je sjedište Turističke zajednice Koprivničko-križevačke županije, i samim time administrativno središte turističkog sustava Podravine i svakako ima potencijala za bržu implementaciju modela pametne destinacije. U turističkom smislu Koprivnica još nije dosegla svoj puni turistički potencijal. Brendiranje Koprivnice kao destinacije pametnog turizma omogućit će njezino brže pozicioniranje na turističkom tržištu. Resursna baza Koprivnice, postojeća infrastruktura i turistički kapacitet (TCC) izdvajaju Koprivnicu od ostalih destinacija. Na temelju rezultata istraživanja prezentiranih u ovom radu, prikazane su glavne smjernice za razvoj modela pametne turističke destinacije Koprivnica.