Kyiv National University of Trade and Economics
Tourism and Recreation Department

FINAL QUALIFYING PAPER

on the topic:

«DESIGN AND PROMOTION OF TERNOPIL REGION CASTLE TOURISM PRODUCT TO THE INTERNATIONAL MARKET»

Student of the 2^d year, group 12,
academic degree «Master»
specialty 242 «Tourism»
specialization «International Tourism   _____   Semeniuk V. S.
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Kyiv, 2020

Kyiv National University of Trade and Economics

Faculty of Restaurant, Hotel and Tourism Business

Tourism and Recreation Department

Educational Degree «Master»

Specialty 242 «Tourism»

Specialization «International Tourism Business»

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Approved by

Head of the Department

_____T. I. Tkachenko

«____» _____ 2020

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Task
for a final qualifying paper

Semeniuk Vladyslav

1. Topic of a final qualifying paper: «Design and promotion of the castle tourism product of Ternopil region to the international market»

Approved by the Order of KNUTE of November 04, 2019 № 3755.

2. Term of submitting by a student his/her terminated paper: 20.11.2020.

3. Initial data of the final qualifying paper

Purpose of the paper: to design the tourism product of Ternopil region in the international castle tourism market.

The object: the process of designing a tourism product in the international market for castle tourism

The subject: theoretical, methodological and practical principles of tourism product design in the international castle tourism market.

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4. Consultants of the research and titles of subsections which were consulted:

Section	Consultant (last name and initials)	Date and signature	
		The task given	The task received
1	Kravtsov S. S.		
2	Kravtsov S. S.		
3	Kravtsov S. S.		

5. Contents of a final qualifying paper (list of all the sections and subsections):

INTRODUCTION

PART 1. CONCEPTUAL PRINCIPLES OF FORMATION AND SALE OF THE TOURISM PRODUCT OF CASTLE TOURISM

1.1. Castle tourism as an object of scientific research

1.2. Formation of the tourism product of castle tourism in world practice

Conclusions to part 1

PART 2. BACKGROUND FOR CASTLE TOURISM PRODUCT FORMATION IN THE SEGMENT OF CASTLE TOURISM IN THE TERNOPIL REGION

2.1. Development potential of castle tourism in Ternopil region

2.2. Marketing research of the tourism services market in Ternopil region

2.3. Stakeholders of the castle tourism product in Ternopil region on the international market

Conclusions to part 2

PART 3. DESIGNING TERNOPIL REGION TOURISM PRODUCT ON THE INTERNATIONAL MARKET OF CASTLE TOURISM

3.1. Virtualization as a tool for creating a tourism product of castle tourism in Ternopil region

3 2. Designing a tourism product using VR technologies and its efficiency

Conclusions to part 3

CONCLUSIONS

REFERENCES

APPENDIX

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6. Time schedule of the paper:

No.	Stages of the final qualifying paper	Terms of the final qualifying paper	
		de jure	de facto
1.	Choosing and approval of the final qualifying paper topic	09.01.2019-04.11.2019	09.01.2019-04.11.2019
2.	Preparation and approval of task for the final qualifying paper	05.11.2019-03.02.2020	05.11.2019-03.02.2020
3.	Writing and pre defense of the 1st part of the final qualifying paper	04.02.2019 -21.06.2020	04.02.2019 -21.06.2020
4.	Writing and preparation of scientific article	till 01.07.2020	
5.	Writing and pre defense of the 2nd part of the final qualifying paper	22.06.2020-20.09.2020	22.06.2020-20.09.2020
6.	Writing and pre defense of the 3rd part of the final qualifying paper	21.09.2020-18.10.2020	21.09.2020-18.10.2020
7.	Preparation of the final qualifying paper (title, content, introduction, references, appendences), presentation of master diploma paper on the department and pre defense in the committee, additional processing, getting a review from a teacher in a related department	19.10.2020-10.11.2020	19.10.2020-10.11.2020
8.	Additional processing, printing, preparation of material to final qualifying paper defense	11.11.2020-19.11.2020	11.11.2020-19.11.2020
9.	Presentation of the final qualifying paper on the department and on the deanery, receiving of referrals for external peer review	till 20.11.2020	
10.	Defensing of the final qualifying paper in the Examination Board	According to the schedule	

7. Date of receiving the task «____» _____ 20__ .

8. Scientific adviser of the research _____Kravtsov S. S.

9. Manager of the educational program _____Tkachenko T.I.

10. The task received by the student _____Semeniuk V.S.

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11. *Response of scientific adviser of final qualifying paper*

Student Semeniuk Vladyslav Serhiiovych completed his final qualification paper in time according to the calendar plan. Contents, structure and design of the work meet all requirements. The work consists of an introduction, three parts, conclusions, a list of references and appendices.

In the final qualifying work the conceptual bases of castle tourism development are investigated, including castle tourism as object of scientific research and world practice of castle tourism product formation are considered. The analysis of of tourism product formation preconditions in the castle tourism segment of Ternopil region was made, in particular the potential of castle tourism development in Ternopil region was estimated, marketing researches of tourism services market in Ternopil region were carried out, stakeholders were identified. According to the conducted researches the project of Ternopil region tourism product on the international market of castle tourism was developed and proved.

The final qualifying paper can be admitted to defense in the Examination Board and deserves high positive score.

The electronic version of the final qualifying paper is given. The consent to transfer paper text to the University repository is attached.

Scientific adviser of a final qualifying paper _____ Kravtsov S.S.

Pre-defense check mark _____

<div align="right">

(last name and initials, signature, date)

</div>

12. Conclusion on the final qualifying paper

A final qualifying paper can be admitted to defense in the Examination Board.

Head of educational and professional program _____ Tkachenko T.I.

Head of the Department _____ Tkachenko T.I.

" " _____ 2020

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CONTENT

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INTRODUCTION

Actuality of research. Castles, fortresses and fortifications are an integral part of the history in any country. Their historical value is immeasurable, and the tourism potential is inexhaustible. The gradual destruction of historic buildings leads to a decrease in the tourism attractiveness of the region, reducing tourist flows and revenues of the region from the tourism sector. The use of the latest technologies can help increase the tourism attractiveness of regions with a high concentration of castles and fortifications.

Castle tourism as a segment of the tourism market is characterized by dynamic development, which determines growing interest in this type of tourism for scientists, government agencies and business circles. This interest is justified by the fact that tourism in general is one of the most promising sectors of the economy and cause changes in each area, changing its infrastructure, consumer market, other areas of business, and the castle tourism, in particular, provides the implementation of the educational function in addition to economic, while opening opportunities to learn the national historical heritage through acquaintance with objects fortification construction. In the rich historical and architectural heritage of Ukraine a prominent place belongs to the monuments of defense architecture - fortresses, castles, defensive temples, city fortifications. Realizing the importance and impact level of castle tourism on the country's economy, European countries have created all conditions for its successful development, and continue to modernize and improve these conditions.

Unfortunately, in Ukraine in most cases the condition of castle tourism facilities is unsatisfactory. In many European countries, castle tourism is an integral part of the tourism industry and is in high demand, bringing significant revenues to the budget, thanks to visiting fortifications and palaces by visitors, tourists, travelers, vacationers. Following the experience of EU countries, Ukrainian tourism market, with the help of castle tourism, can develop rapidly. In the 21st century, the skillful integration and collaboration of the latest technologies and the nation's historical heritage can provide the country with a large market share in the international

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economic arena.

Purpose of the paper: to design the tourism product of Ternopil region in the international castle tourism market.

The objectives of the research are:

to describe castle tourism as an object of scientific research;

to determine the prospects for the development of castle tourism in the Ternopil region;

to make marketing research of castle tourism services market of region;

to study stakeholders of castle tourism development in Ternopil region;

to develop and evaluate of the effectiveness of the Ternopil region tourism product on the international market of Castle tourism.

The object is development of the castle tourism in Ternopil region.

The subject is theoretical, methodological and practical methods of development of castle tourism in Ternopil region.

Methods of research. For the purpose of meeting previously mentioned objectives we have used the number of qualitative and quantitative methods. The process of the scientific research implemented for the writing of qualifying paper comprised the review of the existed literature on this topic, analysis of current state of castle tourism in Ternopil region and its main indicators, studying of other destinations experiences in castle tourism tourism development and others. In the process of qualifying paper writing, the next research methods were used: analysis, systematization, comparative analysis, generalization and classification. The second part of the paper was created with the usage of case studies and SWOT analysis.

Scientific innovation. In this scientific work the new castle tourism product of Ternopil region was developed as well as the complex of improvement measures for tourism industry was proposed.

Practical value. The use of virtual and augmented reality technologies allows visually reproduce the destroyed buildings and architectural monuments, and with the correct and detailed development of software even to make interaction between a person and a tourism attraction.

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Creating a virtual tourism space will help increase the demand not only for tourism professionals, but also IT professionals

Publications. As the result of investigation of the final qualifying work was published the article "Increasing the tourism attractiveness of castle tourism through the use of the latest technologies" in Articles of master programs students "Hotel Restaurant and Tourism Business: Focus on international trends" (appendix A)

Paper structure. Final qualifying paper consists of the Introduction, 3 parts; first and third part consist of two sections, the second part consists of three sections and conclusions.

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PART 1
CONCEPTUAL PRINCIPLES OF CASTLE TOURISM PRODUCT FORMATION AND SALE
1.1 Castle tourism as an object of scientific research

In the work "Castle tourism in Ukraine" Rutynsky Mykhailo, points out that all objects of historical and cultural heritage available in Ukraine we are under state protection. There is a special law of Ukraine "On protection of cultural heritage" from June 8, 2000 № 1805-III, which regulates the legal, organizational, social and economic relations in the field of protection of national cultures heritage in order to preserve it, use the objects cultural heritage in public life, protection of traditional nature of the environment in the current and future generations interests [1]. Article I of this Law approves the following official ones local lore terms:

cultural heritage - a set of cultural heritage inherited by mankind from previous generations;

object of cultural heritage - a landmark, building (work), complex (ensemble), their parts, related movable objects, as well as territories or water bodies (objects of underwater cultural and archaeological heritage), others natural, natural-anthropogenic or man-made objects, regardless of the state of preservation, which have brought to our time value from the archaeological, aesthetic, ethnological, historical, architectural, artistic, scientific or artistic point of view and have preserved their authenticity [2].

In foreign sources, visits to castles are classified as heritage tourism. The National Trust for Historic Preservation in the United States defines heritage tourism as "traveling to experience the places, artifacts and activities that authentically represent the stories and people of the past", and "heritage tourism can include cultural, historic and natural resources" [3].

Castles and fortres due to their original functional purpose were mostly built on a hill, surrounded by water, had one or two access roads. Urban development, change in the appearance of castles as a result wars, fires, reconstructions, their loss of

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defense functions caused their various location in urban agglomerations. At the present stage urban development castle complexes have a specific location (table 1.1).

Table 1.1

Specification of the location of castles and fortresses in Ukraine [4]

Location of castles and fortresses	Number of castles and fortresses,% of the total	Cities where this type of settlement planning prevailed
inside the system settlements	29	Lutsk, Dubno, Mukachevo, Ternopil, Zalizhtsi
on the outskirts of settlements	33	Feodosia, Korets, Vynohradiv, Ivanivtsi
outside urban planning formations	38	Khotyn, Novomalin, Pniv, Rakovets,

Based on the analysis of castles historical value, features of their location, characteristics of the surrounding landscape, technical condition, features of architectural planning solutions, modern use characteristics, as well as economic feasibility of adapting monuments with the possibility of planning functional groups of recreation and tourism in these attractions, castles are divided into 4 classes (fig 1.1).
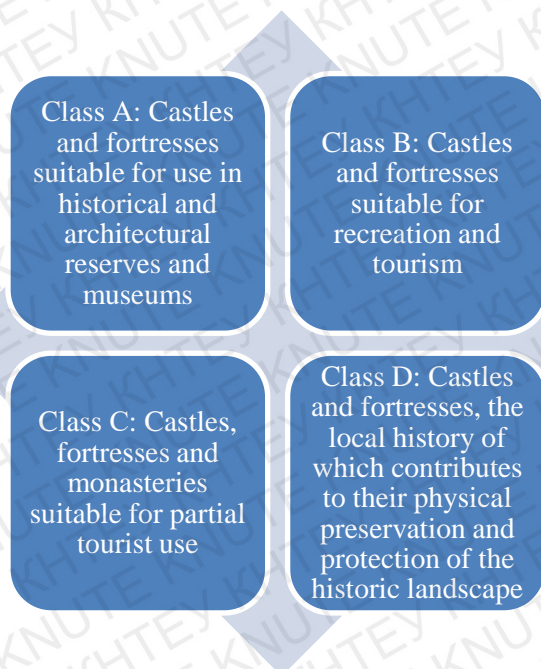

Figure 1.1 Classification of fortifications in Ukraine

Source: own elaboration based on [4]

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Thus, the castle buildings, which are classified as class B and C can be used for accommodate tourism facilities, and all other buildings are only tourist attractions.

The castles in Italy, Great Britain, Germany, Slovakia can be an excellent base for the study of castle tourism on the neighboring territory and European countries. Scotland provides an ideal case study for this process. With well over 2,000 castles and tower houses still standing to some extent, the international perception of Scotland is inextricably linked with its castle architecture. The first castles in Scotland, however, were met by many not with enthusiasm but with resentment. Fortified sites such as hill forts and brochs had existed in Scotland for thousands of years, yet the castle was something new: an overt power play by the emerging feudal order that became entrenched in the wake of the Norman Conquest. [5]. Castles and fortifications become a subject of interest and a inspiration source of inspiration for many cultural figures of the past and present, as well as a fascinating tourism attraction (Table 1.2).

Table 1.2

Castles of Scotland for tourists to visit

The name of the castle	Year of construction or the first mention of the castle	Location
Edinburgh Castle	1139	Edinburgh, Scotland
Balmoral Castle	1852	Royal Deeside, Aberdeenshire, Scotland
Blair Castle	1269	near the village of Blair Atholl in Perthshire in Scotland
Inverary Castle	1745	near Inveraray in the county of Argyll, in western Scotland, on the shore of Loch Fyne
Eilean Donan	1263	on the small rocky tidal island of Donan, located in Loch Duich Fjord, Scotland
Dannottar Castle	1400	on the east coast of Scotland, 3 km (2 miles) south of Stonehaven
Glamis Castle	1376	near the village of Glams, in the county of Angus, Scotland
Stirling Castle	1110	in Stirling

Source: own elaboration based on [6]

Many Polish specialists consider that the interpretative presentation of architectural monuments, created to address the cultural tourism needs, often impede
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the audience's ability to recognise the heritage values of those historic assets [7]. The term 'tourism attraction' in the architectural monument field is most frequently and favorably replaced in Polish scientific literature with the term 'tourism value'. It probably results from a reluctance to include such a monument in the category of tour product, with its intrinsic implication of a packaged offer comprising services and goods designed for marketing and consumption[8]. Due to their frequently restrictive laws of monument protection in Poland, it is difficult to transform architectural heritage into tourist attractions. The Polish heritage protection system and legislation, which is founded on Aloise Riegl value theory, principally guards the educational role of the historical monuments. This has always held a special position in Poland, especially in the face of the loss of state independence. Protection of the heritage of the past, particularly that pertaining to the glory of the nation, is still guaranteed by Constitution. The incorporation of heritage protection initiatives into a policy of sustainable regional development became one of the ways of saving local heritage assets. These assets were now re-shaped to become places providing consumption and cultural services. Undoubtedly, these initiatives have had a positive effect on local communities, if they are included in the share of income derived from exploitation of their monuments. This is not limited to the specific increase of individual income per head, but also less material benefits such as a general expansion of perception of higher values and improvement of inter-social relations in the area. The range of possibilities which cultural tourism brings is difficult to underestimate. The formula of an attractive monument which is 'earning its keep' must be regulated by conciliatory initiatives that emerge from the new heritage protection policy [9]. Unfortunately, in Ukraine, for most cases, the condition of castle tourism facilities is unsatisfactory. While in many European countries, castle tourism is an integral part of the tourism industry and is in high demand, bringing significant revenues to the budget, thanks to visiting fortifications and palaces by visitors, tourists, travelers, vacationers.

According to the national rating conducted by the Internet resource Zruchno.Travel with the help of experts from the Association of Hospitality Industry

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of Ukraine, Ternopil region is the leader of castle tourism, and the state of tourism infrastructure ranks only 7th in the ranking of regions of Ukraine with the best tourism potential and great effort for its promotion in the domestic and international tourism markets (Table 1.3) [10].

Table 1.3

TOP 7 tourism destinations of Ukraine 2019 [10]

№	Region	Leading positions in the domestic tourism market	Tourism tax for 2018
1	Lviv region	Excursion tourism	13.4 million
2	Odessa region	Beach tourism	11.5 million
3	Zakarpatska region	Gastronomic tourism	3.8 million
4	Ivano-Frankivsk region	Active tourism	3.7 million
5	Kherson region	The territory of reserves	3.69 million
6	Zaporozhye region	Family vacation	3.61 million
7	Ternopil region	Castle tourism	0.4 million

Despite the fact that castle tourism in the Ternopil region is among the top 7 tourism destinations in Ukraine, its tourism fees are the smallest of the seven presented. Only 0.4 million UAH, against 3.61 million UAH received from family recreation of Zaporizhia region which is on the 6th place of the top, and against 13.4 million UAH received from excursion tourism of Lviv region which heads the top.

1.2. Formation of the tourism product of castle tourism in world practice

According to the WTO, more than 2/3 of the castles (which is more than 1500 fortifications) of Europe today successfully restored and used in the tourism sector, particular in the hotel industry [11]. European tourists have a desire to live at least a few days in medieval castle, taste dishes of ancient ethnic cuisine and take part in animated knightly entertainment programs of the castle leisure. In addition, royal castles and noble aristocratic courts partially or completely transformed into museums, historical monuments and thus are objects of excursions.

Others - form integral tourism complexes with mysterious, hotel rooms,
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conference halls, tourist attractions (knight tournaments, crossbow shooting, wine tasting events, etc.). An important and increasingly popular area of castle tourism in Europe is organizing wedding and other ceremonies, which is bright illustrates current trends in the imitation of aristocratic behavior and spirit.

Due to greater attractiveness, better marketing, better preservation, castle buildings in Europe are much more popular among tourists than castle buildings in Ukraine. An excellent example of successful development can be considered Edinburgh Castle(Figure 1.2), whose tourist flows from 2018 are more than 2 million a year [12].
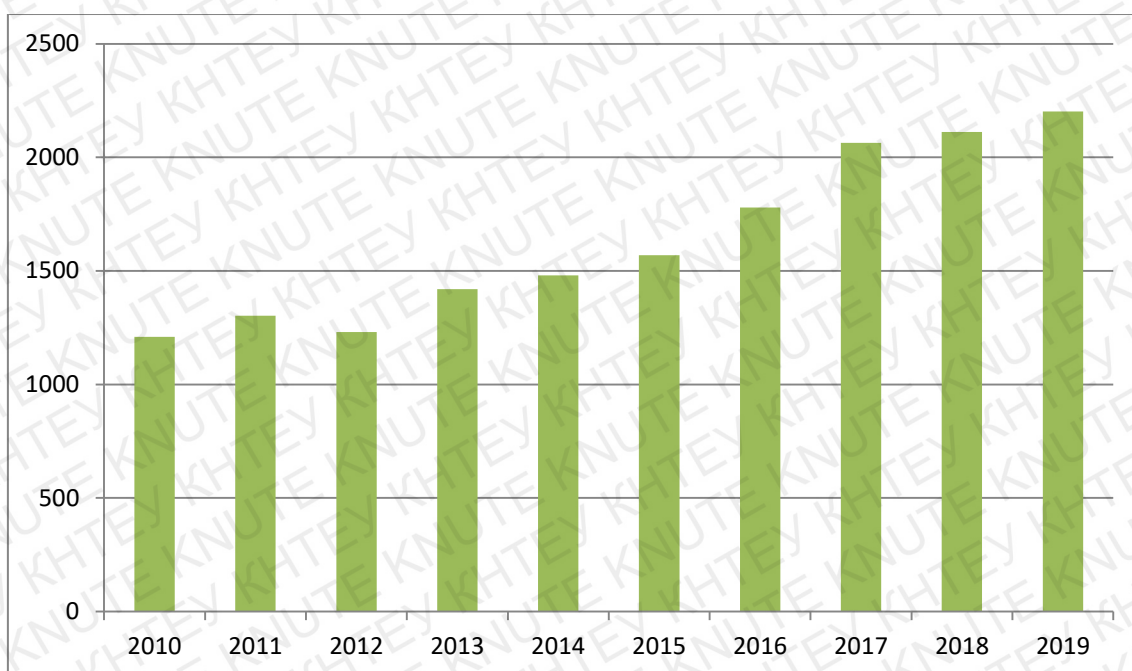

Figure 1.2 Number of visits to Edinburgh Castle from 2010 to 2019, ths. Source: [12]

But the development of castle tourism is not only in the UK. Supported by the European Union, World Heritage Journeys showcases UNESCO recognized outstanding cultural heritage in a travel platform that promotes sustainable tourism development across Europe.

The World Heritage Journeys of the European Union is a project implemented in partnership with National Geographic, and brings together 34 World Heritage sites through four different thematic itineraries; Royal Europe, Ancient Europe,

Underground Europe and Romantic Europe. Each journey is intended to help travelers develop a greater understanding of Outstanding Universal Value. Cultural heritage is the primary focus for this initiative, combining both built heritage, with historic and existing intangible cultural heritage expressed through the community's living cultural values. By including both iconic and lesser-known sites, these journeys enable people to see Europe's World Heritage sites from a new and exciting perspective and to 'travel differently, travel deeper' within the European Union.

Each of the 34 participating World Heritage sites are committed to the development of sustainable and high-quality experiences that will spur investment in culture and community-centered creative industries [13]. Each country also independently implements measures for castle tourism development.

The latest technologies are developing rapidly today. Abroad, the use of virtual and augmented reality technologies is becoming very popular in the field of tourism. They are often used for information purposes and in advertising campaigns of tour operators. In the segment of castle tourism, virtual and augmented reality technology is used to restore destroyed castles and promote preserved monuments. New inventions and ways of applying old ones appear every day. Despite the fact that augmented reality technology is quite young, it is already used successfully in tourism. Castle tourism is no exception. A striking example is the Sheffield Castle.

Sheffield's medieval castle is long gone, destroyed during the English Civil War in the mid-seventeenth century. However, the legacy of the castle endures in the landscape of the city: the location of the castle, Castlegate, was developed for industry and then for various markets. It now lies abandoned, after Castle Market was relocated in 2013, and awaits redevelopment.

Outdoor AR experiences which attempt to embed 3D content into an environment are more complex than AR experiences inside buildings. Potential solutions are complicated by real world complexities such as dynamic environments and solving the occlusion problem, i.e. showing a 3D model with some parts in front of and some parts behind different buildings. Specialist hardware, with depth cameras, can help, as can remote server power, but real-time SLAM (simultaneous localisation and

mapping) is beyond consumer mobile phones for outdoor AR [14].

Practical AR applications can be produced on consumer mobile devices, albeit with compromises. Perhaps the best known example of this is Pok´emon GO, which became wildly popular across the UK and in many other countries after its release in 2016. This takes advantage of a multiscale approach, where the map view only uses GPS to roughly locate the user and then markerless detection is used to place a virtual Pok´emon on the ground level in front of the user. As the locations are controlled and the Pok´emon only appear near to the user, it is (reasonably) certain that the ground plane will be easy to detect and that there isn't much integration required to make the Pok´emon appear as part of the scene [15]. Using similar algorithms and its own calculations, the University of Sheffield was able to reproduce the visual image of the Sheffield Castle (Figure 3) which was projected on the devices while near the castle.

Figure 1.3 The virtual castle viewed with the real Old Town Hall in the background [14]

Attention should be paid to the practical Poland experience in the preservation and restoration of architectural monuments and their further use as a tourism attraction. The selected sites are located in the area of the so-called Jura Krakowsko-Częstochowska – a micro-region situated in southern Poland, comprising an 80 km-long belt of hills rising to 515 m above sea level. This is where the border of the Polish Kingdom was in the 14th century, and many castles were constructed as the

royal foundation of Kazimir the Great. The majority were destroyed during the Swedish invasion and despite several rebuilding attempts, never regained their original glory. At present 90% of those sites are presented as picturesque ruins [16].

Ogrodzieniec Castle constructed in 14th century as a private castle, it was demolished by Swedes and rebuilt several times. In 1906 the completely ruined site was purchased by the Polish Tourist and Sightseeing Society who consolidated and opened it to the public. In 1967 it was entered on the Monuments Register List. Since 1995 the castle has been managed by 'Castle Ltd.' Company founded by local administration. The company is tasked with creating a visitor experience, initiating events and promoting the castle as tourist attractions. Its work has received general public applause as a social and economic success [17]. The latest analysis produced for regional council (in 2016) strongly demonstrated that it is necessary to halt the processes of degradation of monuments and prevent negative impact on the historic character of those areas which have cultural values. Critics of those changes clearly show that the cause of present conflicts lies in the mass consumption and the latest development of various forms for tourism and recreation [18]. The medieval ruins of castle have always been regarded as one of the most picturesque landmarks in the region. Three rooms have been adapted as the castle history museum. It takes 45 minutes to complete the trail that is not accessible to disabled visitors. Neither it is recommended for children because of inadequate protection on high-level passages and terraces. In consequence, access has been limited to a narrow audience group and this has not been mediated even by the provision of a virtual trail, possibly constructed as a digital kiosk at the foot of the ruins. In an effort to attract the largest possible visitor numbers, and in competition with managers of several other ruined castles in the area, the company created alternative trails promoting other cultural and natural heritage values in the area. Soon the tourist numbers began to decline. In 2014 an attempt was made to remedy this by adding new attractions such as: The Entertainment Park, the Park of Physical Experiences, the Abseiling Park, the House of Legends and Dreads and a Tobogganing Track.

Bobolice castle from 14th century was demolished and rebuilt several times. It

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started decaying in the 18th century. Robbing activities of 19th- century treasure hunters contributed to further deterioration. After World War II remaining walls were robbed, using material to construct the local road. The castle, together with surrounding grounds, belonged to the family of a local farmer, who at the end of the 20th century sold it to the private business of the Lassocki family. The new owner decided to rebuild it in a 16th century mood and open some rooms to visitors. Works lasted for 12 years and were funded entirely by the owners as the idea had no support from conservation authorities. Although traditional materials and building techniques were used, the result provoked a lively national debate on the merits of such a 'historicizing pastiche'. The reconstruction was completed in 2011. According to statistics presented by the managers of the site, it was visited by 150 000 people in 2012 [16].

Taking into account the experience of other countries, we see that the preservation of cultural heritage is an integral part of tourism development. Castle tourism will exist as long as programs to preserve and restore castles are implemented and improved.

Conclusion to the part 1

First of all, it should be clearly defined what is meant by the concept of castle tourism. It is impossible to find a clear definition of the term castle tourism in open sources. Thus, in Ukrainian-language textbooks, articles, magazines, the castle type of tourism is most often covered not as an independent unit, but as a component of cultural and cognitive tourism, as castles, fortresses and fortifications are cultural and historical heritage.

Castle tourism is a unique type of tourism. Its research shows that one of the most important factors in the development of this type of tourism is the resource potential of the regions. Insufficient level of development of castle tourism is associated with the destruction or dilapidation of buildings and the lack of desire or ability to restore them with the subsequent revival of the cultural heritage of the

country. To solve these problems and further development and promotion of castle tourism in Ukraine, European experience in the restoration, preservation and protection of cultural heritage sites, including fortifications, should be taken into account. The use of the latest technologies will increase the attractiveness of Ukraine in the international tourism market. In the segment of castle tourism, virtual and augmented reality technology is used to restore destroyed castles and promote preserved monuments. In addition, virtual and augmented reality technologies will help create new tourist attractions in the old places, which will increase tourist flows in the regions.

Also, given the lack of the term castle tourism, we want to offer our own definition of castle tourism. Castle tourism - a type of tourism in which the objects of visit are castles, fortresses, fortifications, the complex purpose of which was long-term defense against enemy attacks, and ensuring the viability of nearby settlements during a long siege.

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PART 2
BACKGROUND FOR CASTLE TOURISM PRODUCT FORMATION IN THE SEGMENT OF CASTLE TOURISM IN THE TERNOPIL REGION
2.1. Potential of development of castle tourism in Ternopil region

Ternopil region is located in Western Ukraine and has an area of 13,800 km^2 (5,300 sq mi). It is situated at the western part of the Podilian Upland, which is known for its rocky terrain. Among noticeable mountains there are the Kremenets Mountains. Ternopil region is also famous for its caves the most famous of which is the cave "optimistic".

Ternopil region is one of two oblasts in West Ukraine that do not have an international border. It is surrounded by five other region of Ukraine: Chernivtsi region – to the south, Ivano-Frankivsk region – to the southwest, Lviv v – to the northwest, Rivne region – to the north, and Khmelnytskyi region – to the east.

One of the major rivers in the country Dniester forms southern and southwestern borders of Ternopil region with the adjacent Chernivtsi region and Ivano-Frankivsk region. Its tributaries that flow through the region include Zbruch, Seret, and Strypa among just a few of them. The Seret River) is a left tributary of the Dniester flowing through the oblast administrative center, i.e. Ternopil [19].

There are 1,401 rivers with a total length of 6,066 km, 26 reservoirs with a total water surface area of 3,579 hectares, a water volume of 81.2 million m^3 and 886 ponds with a total water mirror area of 5,627 hectares and a water volume of 58.8 million. m^3.These are the rivers that belong to the Dniester basin, the largest of which are: Zolota Lypa, Koropets, Strypa, Seret, Nichlava, Zbruch. The rivers of the Dnieper river basin - Ikva, Viliya, Horyn - flow to the northeast and their mouths extend beyond the region (Table 2.1). They have sloping shores, slow flow, poorly developed valleys, swampy floodplains [20].

The climate of Ternopil region is moderately continental, with warm humid summers and mild winters. The average temperature ranges from −5 ° C in January to

+19 ° C in July. The highest indicators of the average air temperature in July are typical for the southern part of the region (+18.8 ° C), the lowest - for the western and central parts (+18 - +18.5 ° C). In January, the air temperature in the central part is lower (-5.4 ° C) than the temperature in other parts of the region, due to the fact that it is the highest, forestless part of the hill.

Table 2.1

Water resources of Ternopil region

№	Name	Flows into the	Tributary (right or left)	Length within the region, km	Area, km^2
1	Dniester	Black Sea		215	
2	Barysh	Dniester	Left	38	186
3	Vysushka	Strypa	Left	32	187
4	Vilkhovets	Strypa	Left	38	173
5	Hnyla	Zbruch	Right	58	772
6	Hnizdechna	Hnizna	Right	39	264
7	Hnizna	Seret	Left	34	1110
8	Hnizna Hnyla	Hnizna	Left	36	410
9	Dzhuryn	Dniester	Left	51	300
10	Dupla	Seret	Right	44	229
11	Zolota Lypa	Dniester	Left	85	1310
12	Zbruch	Dniester	Left	244	3955
13	Koropets	Dniester	Left	78	511
14	Nichlava	Dniester	Left	83	871
15	Seret	Dniester	Left	218	3900
16	Strypa	Dniester	Left	135	1610
17	Strilka	Nichlava	Right	38	209
18	Taina	Hnyla	Right	45	327
19	Viliia	Horyn	Left	32	745
20	Horyn	Prypiat	Right	50	995
21	Zherd	Zhyrak	Right	41	139
22	Zhyrak	Horyn	Right	30	561
23	Ikva	Styr	Right	40	354

Source: [21]

Winds (most often northwest and southwest, least - north and south) are characteristic of all seasons, especially summer. Active cyclone activity causes a large amount of precipitation, which averages 520-600 mm per year. In summer there are often showers, often - thunderstorms, sometimes - hail. Snow cover - from the second half of December to early March. Thickness - 8-10 cm, reaches a maximum in

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the 2nd decade of February [22].

The basis of the region's mineral resources are non-metallic minerals, in particular natural building materials, of which about 300 deposits have been explored. Including: limestones, chalk, marls, gypsum, sands, sandstones, clay, gravel and pebble materials, dolomites.

In Ternopil region there are deposits of mineral waters such as "Naftusya", sulfide waters. Also known are the yields of bromine water, sodium chloride brine, water without specific components, natural water.

As of January 1, 2020, the current population in the region amounted to 1038.7 thousand people. (Table 2.2)

Table 2.2

Formation of population growth (reduction) in 2019-2020

	The current population on January 1, 2019	Total increase, decrease (-)	Natural increase, decrease (-)	Migratory increase, decrease (-)	The current population on January 1, 2020
By region	1045879	-7184	-6858	-326	1038695
Urban settlements	473694	33	-1358	1391	473727
Countryside	572185	-7217	-5500	-1717	564968

Source: [23]

There are rail and road international transport corridors in directions Berlin-Odessa and the Baltic-Black Sea. This creates opportunities for profitable location of logistics centers, wholesale markets, transport companies.

The distance from Ternopil to the 10 largest cities in Ukraine is: up to Kharkiv - 769 km straight and 914 km by motorway; to Dnepropetrovsk - 8692 and 807 km; to the city of Odessa - 505 and 668 km; to the city of Donetsk - 897 and 1,056 km; to Zaporizhzhya - 715 and 855 km; to the city of Lviv - 117 and 127 km; to Kryvyi Rih - 591 and 682 km; to the city of Nikolaev - 544 and 664 km; to Mariupol - 906 and 1092 km.

The transport industry of the region is represented by rail, road, river, pipeline

and aviation vehicles. The railway complex of the region includes 14 enterprises that belong to the Ternopil Directorate of the Lviv Railway. There are almost 40 stations and waiting rooms for passengers in the region, as well as stop platforms for races between stations. The density of the railway network in the region is 45.9 km per 1 thousand km, which is much higher than the same figure in Ukraine (37.6 km).

The most important highway (Lviv - Kyiv) crosses the region from west to east, and is the only electrified section in the region. The Ternopil-Chernivtsi railway is of interregional importance. Train 357 to Rakhiv, suburban trains to Zalishchyky, Chortkiv, Ivane-Pusty, and from September 1, 2017 also to Husiatyn run on it. The main, though less significant, sections of Ternopil-Shepetivka and Ternopil-Khodoriv also run through the region. The length of highways in the region is 5.6 thousand km (2005), and 5.1 thousand km are paved roads.

River transport in the region is developed only on the Dniester River below the town of Zalishchyky. It transports mainly building materials (gravel, pebbles), which are extracted from the bottom of this river. The territory of Ternopil region is crossed by the Druzhba oil pipeline, the Soyuz gas pipeline (Orenburg - western border), Urengoy - Pomary - Uzhhorod, Dashava - Kyiv, Torzhok - Dolyna. Air transport was actively developed during the Soviet period and was mainly used to transport passengers. At that time, the region had a dense network of airports, and An-2 aircraft were used for long-distance flights. After the economic crisis of the 1990s, most airports in small towns in Ternopil region were closed. Ternopil Airport, located on the eastern outskirts of the city, has a runway with an artificial surface of 2000 m x 42 m, can serve aircraft with a maximum takeoff weight of up to 61 tons (aircraft type L-410, An-24, An- 26, An-12, Yak-40, Yak-42, Il-18, TU-134, and helicopters of all types). There are 2 airfields in the region (Borshchiv and Melnytsia-Podilska), 1 heliport (Lopushne village, Kremyanets district), and they are rarely used today [19].

There are 2,067 cultural and art institutions in the region, including 918 club-type institutions, 940 libraries, 52 schools of aesthetic education, 26 state museums (including branches) and 140 public museum institutions, including the Ternopil Regional Museum of Local Lore, Ternopil Art Museum, Borshchiv Museum of Local

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Lore, Velesnivsky Ethnographic and Memorial Museum of V. Hnatyuk, Memorial Museum-Estate of Lesya Kurbas, Memorial Museum of Bohdan Lepky (Berezhany), Literary Memorial Museum of Juliusz Słowacki and others, drama and puppet theaters, and regional branches. One of the important activities of cultural institutions is amateur art.

There are more than 25 different festivals in Ternopil region, the most famous of which are: folklore and ritual action "Malanka" (Goroshova village), book festival "JuraFest" (Ternopil), culinary festival "Varenyk-Fest" (Zbarazh), festival of Brzezany Castle (Berezhany) (Table 2.3).

Table 2.3

List of festivals of Ternopil region [24]

№	Name	Status	Venue
1	Baida	festival-competition of Cossack song	Ternopil
2	BiblioFest	library festival	Ternopil
3	Bratina	art and local history festival	Shumsky District
4	Buchach fanfare	Brass Band Festival	Buchach
5	Vyshyvankas bloom in Borshchiv region	Festival of Ukrainian Vyshyvankas	Borschiv
6	Galician defilida	gastronomic festival	Ternopil
7	JuraFest	All-Ukrainian Book Festival of Ukrainian Books	Ternopil
8	Bells of Lemkivshchyna	All-Ukrainian traditional festival of Lemko culture	tract "Bychova" near Monastyryska
9	Kremenets pre-call	festival of christmas carols and schedrivok	Kremenets
10	Malanok Festival	Malanok Festival	Goroshova
11	Believe in yourself	city festival of children with special needs	Ternopil
12	Morning dew	regional competition-festival of young talents	Buchach
13	Love your Ukraine	regional festival-competition of vocal and choral arts among secondary and extracurricular educational institutions	Ternopil
14	Slovia	festival of Ukrainian artistic word	Chertkov
15	Ternopil theater evenings. Debut	festival of young directing	Ternopil

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16	Fine City	rock song festival	Ternopil
17	Nativity Festival	city nativity festival	Ternopil
18	Festival of Carols	local festival of christmas carols	Yazlovets
19	Festival "Y"	art festival of postmodern literature	Ternopil
20	Puppet Festival	the first doll festival in Ukraine	Ternopil
21	Egg-reice	city festival of decorative and applied arts	Ternopil
22	I am where there are blessings	Festival of Spiritual Song	Ternopil

Ternopil region has the largest number of castles and fortresses in Ukraine They have different states, and are in different locations. In order to preserve and restore the monuments of cultural heritage and to establish museum work, in 2005 the National (Historical and Architectural) Reserve "Castles of Ternopil" was created. (Table 2.4)

Table 2.4

Castles included in the National (Historical and Architectural) Reserve "Castles of Ternopil"

Settlement	District	Castle	Year of construction	Type	Current state	Rating on Tripadvisor
Zbarazh	Zbarazh	Zbarazh Castle	1626-1631	Defensive fortress	Restored	4.5
Vyshnivets	Zbarazh	Vyshnivets Castle Palace	The castle of 1494 and the palace of 1720.	Defensive castle and palace complex	Restored	4
Scalat	Pidvolochysk	Skalat Castle	1630	Defensive fortress	It is being restored	-
Terebovlya	Terebovlya	Terebovlya Castle	1631	Defensive fortress	It is being restored	4.5
Chortkiv	Chortkiv	Chortkiv Castle	1610	Defensive fortress	Preparation for Restoration	4
Pidzamochok	Buchach	Pidzamochok Castle	1600	Defensive fortress	Ruins	-

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Zolotyy Potik	Buchach	Zolotopoty Castle	Approximately 1568–1631	Defensive fortress	Partially destroyed, the remains of the palace	-
Kryvche	Borshchivsk	Kryvche Castle	1639-1650	Defensive fortress	Partially preserved	3.5
Yazlovets	Buchach	Yazlovetsk Castle	14-18 centuries	Defensive castle and palace complex	The ruins of the castle and the restored palace	-
Skala-Podilska	Borshchivsk	Skala-Podilsky castle	1518	Defensive fortress	Ruins	4
Mykulyntsi	Terebovlya	Mykulynets Castle	16-18 centuries	Defensive fortress	Ruins	3.5

Source: own elaboration based on [25]

In order to analyze the demand for tourism resources of the region, in particular in the segment of castle tourism, we analyze TripAdvisor, travel and restaurant website company that shows hotel and restaurant reviews, accommodation bookings and other travel-related content. (Fig 2.1)
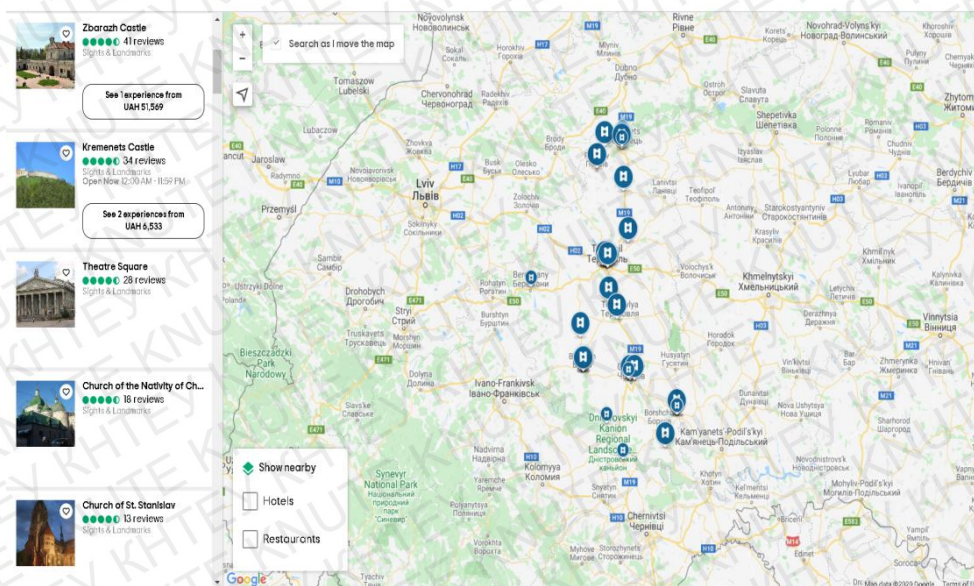

Figure 2.1 Ternopil region tourism locations that TripAdvisor's users recommend [26]

There are more than 100 speleological objects in the region: caves "Crystal",

"Lake", "Mills", etc. The cave is "optimistic" the largest in Europe, and also - the largest in the world among gypsum caves. The "crystal" cave is adapted for mass tourism, the length of the electrified route is 2800 m. recently to the number tourism caves were added as well Verteba cave near the village of Bilche-Zolote. The main natural objects of excursion tourism are: Kremenets mountains, Tovtrov ridge, Dniester canyon and karst caves. Reserves and sanctuaries of Ternopil region occupy about 8.9% of the region.

According to the resolutions of the Cabinet of Ministers of Ukraine of March 12, 2005 № 179 "On streamlining the structure of the staff of central executive bodies, their territorial subdivisions and local state administrations" (as amended), dated September 26, 2012 № 887 "On approval of the Standard Regulations on the structural subdivision of local state administration", order Ministry of Infrastructure of Ukraine dated November 26, 2012 № 709 "On approval of Methodical recommendations for the development of regulations on structural units for infrastructure and tourism of local state administrations" and the order of the head of the regional state administration of November 26, 2012 № 979-od "On streamlining the structure of the regional state administration" (as amended) Ternopil Regional State Administration issued an order dated April 9, 2013 approving the regulations on the Department of Tourism and Resorts of the Ternopil Regional State Administration

According to this provision, the Department of Tourism and Resorts of the Ternopil Regional State Administration (hereinafter - the Department) is a structural unit of the regional state administration, formed by the head of the regional state administration, is part of it and within the region ensures the tasks assigned to the department. The main tasks of the department are to ensure the implementation of state policy in the region in the field of tourism and resort activities [27].

One of the important stages of development of tourism infrastructure in the region is the creation of a project called "The concept of development of tourism and resorts in the Ternopil region". In this project you can find information about the analysis of the current state of tourism development in the region. The analysis of

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natural and recreational resources and historical and cultural potential of the region demonstrates a wide range of opportunities for organizing various types of tourism, treatment and recreation. Ternopil region acts on the national tourism market as an administrative, historical, cultural, industrial, sports and business center, and in the region tourism should become one of the priority areas of development.

The following types of tourism have been developed in the region:

- cultural and cognitive, based on the interest of historical, cultural and natural monuments both by domestic consumers and foreign guests;

- pilgrimage (Zarvanytsia and Holy Dormition Pochaiv Lavra);

- rural green tourism;

- event (gastronomic, military-historical and other festivals of local, national and international status);

- ecological;

- urban tourism (shopping, leisure and entertainment), primarily for residents of Ternopil.

In order to increase the representativeness of the tourist and recreational image of the region, the introduction of promising areas of regional tourism and resorts, it is necessary to take into account those components of tourist and recreational potential that have the necessary properties to develop, create and successfully use competitive tourism products in the regional and national markets. Analysis of the components of tourist and recreational potential available in Ternopil region (picturesque landscapes, favorable climatic and balneological conditions, a large number of unique cultural and historical monuments, objects of scientific, educational, industrial, religious purpose, etc.) shows the objective prerequisites for development on the territory of the region both traditional and new types of tourism and treatment: Bicycle tourism, Military tourism, Gastronomic tourism, Ecological tourism, Extreme tourism, Ethnographic tourism, Castle tourism, Film tourism, Cultural and cognitive tourism, Museum tourism, Pilgrimage tourism, Event tourism, Adventure, Religious tourism, Speleotourism, Social tourism, Photo tourism [28].

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2.2. Marketing research of the tourism services market in Ternopil region

Ternopil region as a recognized tourist region is positioned in Ukraine and abroad due to the wide well-known brands: "Dniester Canyon", "Ternopil Castles", "Ternopil Caves", "Borshchivska embroidered shirt "," Buchach and Pinzel "," Chervonogorod tract "," Picturesque Brzezany region "," Medobory, Tovtry invite" [29].

In 2019 assistance to travelers was provided by 94 tourism entities, including 7 tour operators, 78 travel agents and 9 entities that carried out only excursion activities. The average number of full-time employees employed in the tourism industry of the region was 146 people. During 2019 11.3 thousand vouchers worth UAH 234.9 million were sold (in 2018 - 5.7 thousand vouchers worth UAH 107.3 million). The number of citizens of the region who went abroad, compared to 2018 increased 2.2 times and amounted to 20.8 thousand people, most of whom (99.9%) went on vacation. Domestic tourism covered 3.8 thousand people, or 15.4% of the total number of tourists (in 2018 - 3.6 thousand people, or 27.6%). Revenue from travel services (excluding VAT, excise tax and similar mandatory payments) in 2019 amounted to UAH 21.8 million (in 2018 - UAH 12.3 million) [30].

Receipt of tourist tax to local budgets (according to the SFS) have shown steady growth over the last years. (Fig 2.2)
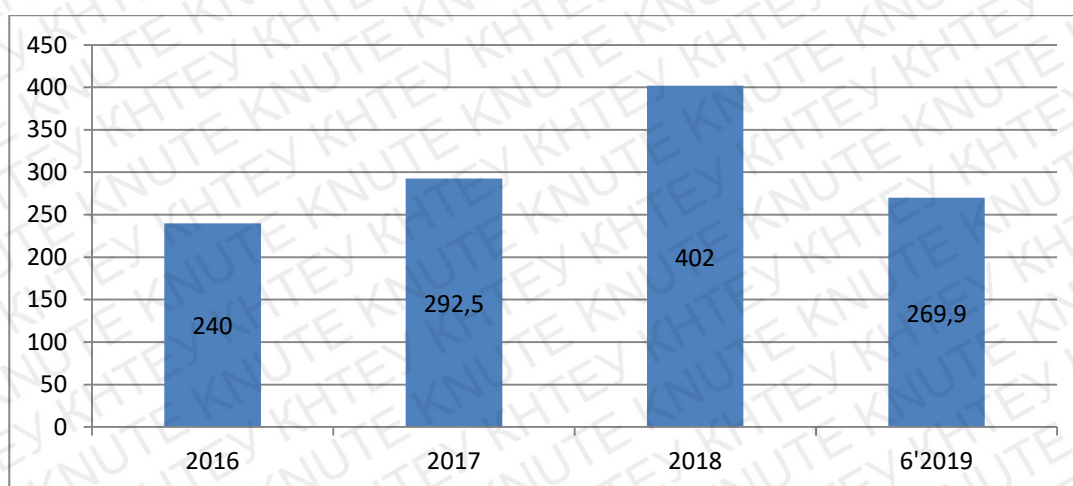

Figure 2.2 Receipt of tourist tax to local budgets in Ternopil region

Source: own elaboration based on [30]

The smallest number of tourists in the territory region was in 2015 - 6668 people, among whom inbound (foreign) tourists accounted for only 0.8%, the main number (74.5%) were outbound tourists. After 2015, there is an increase in tourist flows, the number of tourists served by tourism entities increased to 13,103 people in 2018 (in 2 times compared to 2014), The vast majority (72.4%) were outbound tourists [31]. (Table 2.5)

Table 2.5

Number of tourists served by tour operators and travel agents in Ternopil region [31]

	2011	2012	2013	2014	2015	2016	2017	2018	2019
The number of tourists that served by tour operators and travel agents, total	14164	12320	13490	9066	6668	7536	9558	13103	24599
including incoming (foreign) tourists	0	2	0	0	55	0	0	0	0
outbound tourists	5103	6035	7929	4691	4970	5601	7526	9485	20823
domestic tourists	9061	6283	5561	4375	1643	1935	2032	3618	3776

Despite the hostilities in the east of the country, as well as the Coronavirus pandemic, we see an increase to 24,599 in tourist flows in 2019 by almost 2 times compared to 2018. However, we also observe a lack of positive dynamics in tourist revenues from abroad (Fig. 2.3)
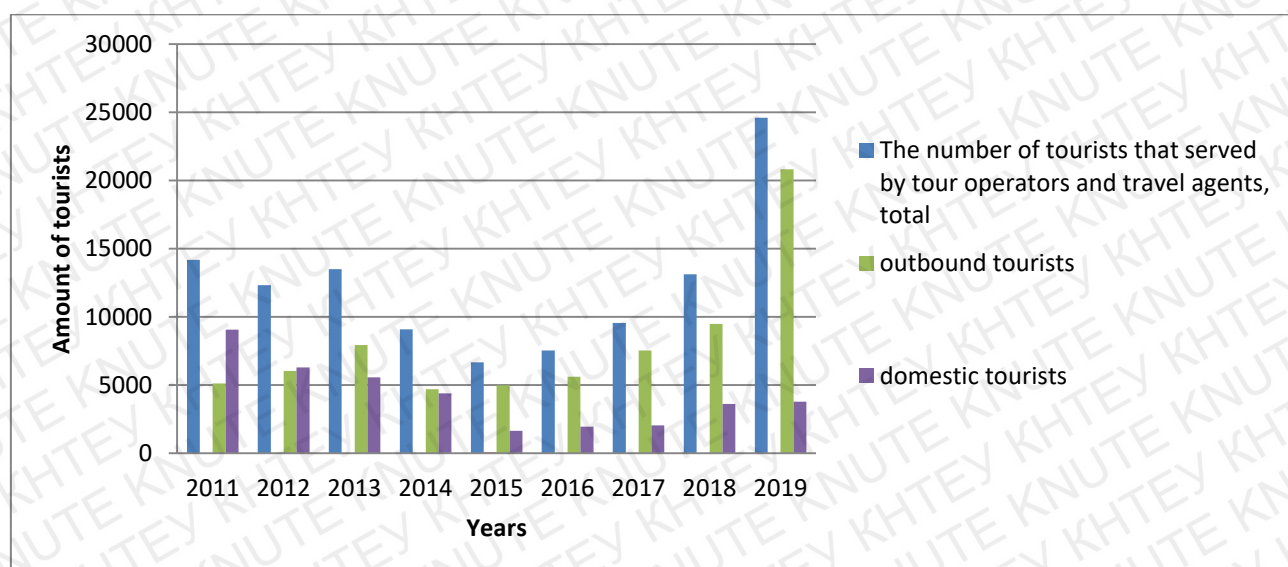

Figure 2.3 Fluctuations in tourist flows of Ternopil region
Source: own elaboration based on [31]

The reason for this is the lack of confidence in foreign tourists in their own safety, because despite the fact that hostilities take place only in the east of the country, a number of foreigners refuse to come to Ukraine precisely because of the war. In addition, an important factor is the lack of a powerful advertising campaign aimed at foreign consumers, and many other factors. In addition to statistics on tour operators and travel agents, we should also pay attention to statistics on hotels and other accomodation. (Table 2.6)

Table 2.6

Collective accommodation facilities in Ternopil region 2011-2019 [32]

	Number of collective accommodation facilities, units	Number of places in collective accommodation facilities, units	Number of persons in collective accommodation
2011	62	4362	91237
2012	64	4399	135933
2013	73	4529	147627
2014	70	4074	126337
2015	68	4324	138435
2016	70	4613	210770
2017	66	4077	125262
2018	14	1267	46103
2019	15	1392	43723

In 2019, 15 collective accommodation facilities - legal entities and separate subdivisions of legal entities provided temporary accommodation services in the region, including 11 hotels and similar accommodation facilities (hotels and motels), 4 other accommodation facilities (accommodation facilities for the period vacations and other temporary accommodation, campsites and parking lots for campers and trailers, other accommodation). The average capacity (average number of beds) was 93 units, including hotels and similar accommodation - 87 units, other accommodation - 108 units. During 2019, there were 43.7 thousand people in collective accommodation facilities, including in hotels and similar accommodation - 38.4 thousand people, in other accommodation - 5.3 thousand people.

Among those who were in collective accommodation, there were 7.5 thousand foreigners from 59 countries [32].

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The total number of foreigners visiting the region was 83.5 thousand persons. Among the leaders of foreign flow - the Republic of Poland (20%), Russia Federation (11.8%), Italy (10%), Germany (7.7%), Estonia (7.4%). Of course, it should be considered that in the data obtained there is a share of so-called "labor migrants ", which is typical for all regions of Western Ukraine.

As part of the implementation of medical reform, health care facilities in Ternopil oblasts carried out active work on transformation into communal ones non-profit enterprises. As of January 1, 2019 in the utility non-profit enterprises transformed all primary health care facilities assistance and 20 secondary institutions. 43 institutions were inspected by the National Health Service of Ukraine and signed agreements on medical care. There is a tendency in the region to gradually reduce the birth rate and slightly increase mortality. The quality of medical services has improved due to the opening of family medicine outpatient clinics and an increase in the number of family doctors and primary health care centers.

Thanks to the construction of new base stations in 2018, the network of 3G communication was expanded and the quality of communication in the existing territories was improved. Also, in 2018, 4G communication was launched [33]. Kyivstar network coverage in Ternopil region is shown in Figure 2.4
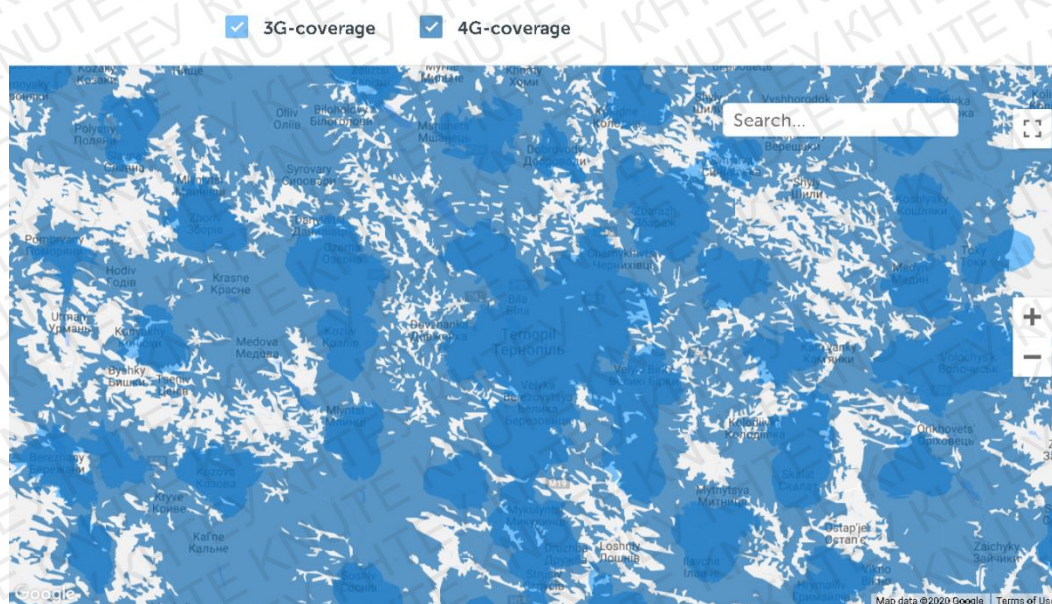

Figure 2.4 Kyivstar network coverage in Ternopil region

Source: [34]

An important component for determining promising areas of tourism development in the region is the analysis of competitors and understanding the place of our destination among them.

As noted in the first section of the first part of the final qualifying work Ternopil region is the leader of castle tourism, and the state of tourism infrastructure ranks only 7th in the ranking of regions of Ukraine with the best tourism potential and great efforti for its promotion in the domestic and international tourist markets. The main competitors are Lviv region (excursion tourism), Odessa region (beach tourism), Zakarpatsk region (Gastronomic tourism), Ivano-Frankivsk region (active tourism), Kherson region (The territory of reserves), and Zaporozhye region (family vacation). Such conclusions follow not only from the financial indicators when comparing these areas, but also from the number of tourists served by tour operators and agents in these regions. (Table 2.7)

Table 2.7

The number of tourists served by tour operators and travel agents in 2019 by region

	The number of tourists that served by tour operators and travel agents, total	including incoming (foreign) tourists	outbound tourists	domestic tourists
Lviv region	249442	7929	159164	82349
Odessa region	99764	821	77197	21746
Zakarpatsk region	28044	114	19962	7968
Ivano-Frankivsk region	63545	2295	25146	36104
Kherson region	28113	7	23607	4499
Zaporozhye region	56838	182	44391	12265
Ternopil region	24599		20823	3776

Source: own elaboration based on [35]

Given the table above, we see that Lviv leads both in the number of national

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tourists and the number of foreign visitors. This is due to the active advertising of Lviv destinations among tour operators and travel agents, as well as the well-known positioning of Lviv as an ancient city with incredible ancient architecture, well-developed national cuisine, and a large number of festivals. A direct example of a weak advertising campaign for the tourist potential of the castles of Ternopil region is the presence of the well-known tourism route "Golden Horseshoe of Lviv region" in the Lviv region and the lack of a similar well-known route in the castles of Ternopil.

Tourism routes to the castles offer many national and local tour operators in both Ternopil and Lviv regions. However, such tours are also offered by branches of international tour operators and travel agencies, including such giants as Coral Travel, Anex Tour, TUI, Pegas Touristik.

At ua.igotoworld.com we can find Excursion tour of the castles of Ternopil: Vyshnivets - Ternopil - Zbarazh - Mykulyntsi - Terebovlia - Bilokrynytsia – Kremenets. Excursion route includes a visit to Vyshnevetsky Palace, Zbarazh Castle, Terebovlya Castle, Voronin Palace.

2.3. Stakeholders of the castle tourism product of Ternopil region on the international market

Preparation, implementation and execution of any project is impossible without the identification of stakeholders. In order to comprehensively assess and further develop the tourism potential of the castles of Ternopil region, stakeholders were found and analyzed.

Ternopil Regional State Administration makes a significant contribution to the development of tourism in the Ternopil region. The Regional State Administration, together with district administrations and local councils, is engaged in the constant development of sustainable tourism routes, as well as the development of new destinations. First of all, we should pay attention to the site developed by the of Tourism Department. (Fig 2.5)
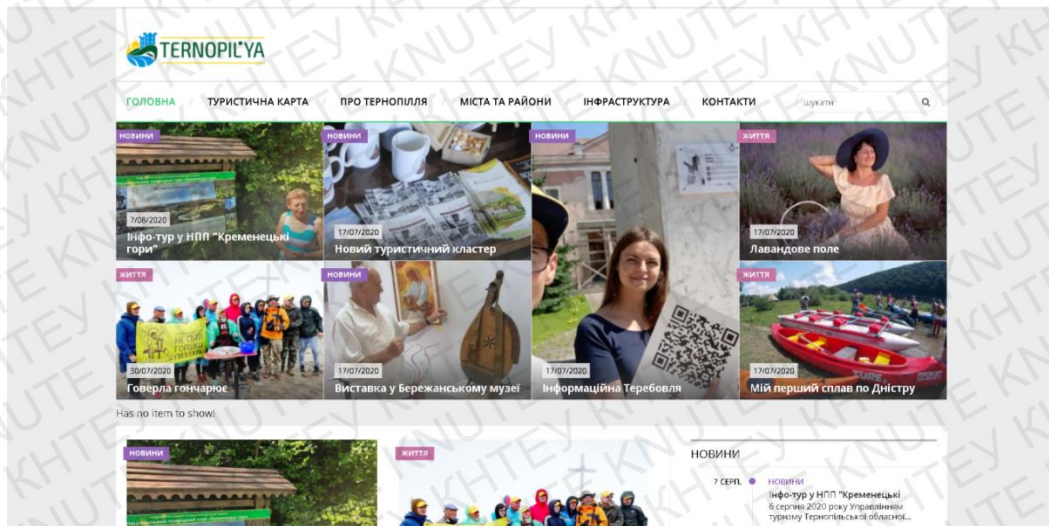
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Figure 2.5 Tourism site of Ternopil region

Source: own elaboration based on [36]

Lanovets City Council launch the project of creation a Marchuk Museum in Lanovka, Ternopil region. If this idea will be successfully implement, the Ivan Marchuk Museum become a wonderful tourist magnet for the Lanovets Tourism Cluster. In the district center of Buchach in Ternopil region, a new tourism cluster with thematic products for travelers was presented, mainly based on natural heritage. The event was initiated and organized by the team of the NGO "Buchach-Tour". During the presentation of the tourism cluster, the participants learned about the new identity of the Buchach district, symbols, a certain recognizable tourism brand of the region. It was also about pilgrimage and religious tourism, castles and fortifications of the region as tourism locations.

The Terebovlya Tourism Information Center, which is actively developing, has been optimized due to quarantine restrictions and moved to a new promotion mode. They decided to start a series of online short tours of the city of Terebovlya. The first video tour was made from the train station. Architectural monuments in Terebovlia received new information boards. Specialists of the Tourism Information Center of Terebovlia held events to mark architectural monuments. All signs are multilingual: information written in Ukrainian, English and Polish. It should be noted that two plates are installed, one for information and the other for organizing the quest.

On August 6, 2020, the Tourism Department of the Ternopil Regional State

Administration together with the National Nature Park "Kremenets Mountains" conducted an info-tour for the tourism industry and local media. For tourists, in which the Ternopil region acts only as a buffer zone, the city of Chortkiv can offer a holiday in the sports and entertainment center "Magnit". For any tourist, the place of his night rest is important. Hotel and restaurant complex "ALIGATOR" will not only provide a neat and clean room for sleeping, but also offer to visit the water park, sauna or enjoy spa treatments. [36]

There is close cooperation with the NGO "Tourism Association of Ternopil", the Tourism Department of Ternopil Regional State Administration, TIC Ternopil. The activity of the Ethno Gallery "Heritage" implements an important direction of ethno-tourism development in Ternopil region [37].

Stakeholder Matrix

Figure 2.6 Matrix of the main stakeholders in the development of castle tourism in Ternopil region

Source: own elaboration

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Fig. 2.6 shows that the key stakeholders are the tourism department and the tourism development centre, which are active in the development of castle tourism in the region. The Ternopil Regional State Administration's Tourism Department has the highest level of importance and influence, as it is a key figure in the development of tourism in the region.

To better understand the strengths and weaknesses of the Ternopil region in the field of tourism, it was decided to conduct a SWOT analysis. (Table 2.8) On the basis of socio-economic analysis, such strengths and weaknesses have been identified factors (parties) and possible external influences (opportunities and threats) on further social and economic development of Ternopil region.

Table 2.8

SWOT analysis of Ternopil region

Strengths	Weakness
• Favorable geographical location at the intersection of important transport arteries, which are part of the transnational corridor GO higway (Gdansk, Gdynia (Republic of Poland) - Odessa, Mykolaiv (Ukraine)) • Favorable natural conditions for agriculture • Positive dynamics of agricultural production development, which forms a strong raw material base of the crop industry for the food processing industry • Well-developed food industry • A network of small and medium business support infrastructure facilities has been formed • Powerful and diverse tourism, natural and cultural-historical potential of the region • Presence of preconditions for creation of an innovative environment in the region • Availability of capacity for training and retraining of workers in order to meet the needs of the region. • Rationalization of nature use, reproduction of natural resource potential of the region and formation of nature-stabilizing ecological network • High spirituality of the population and one of the lowest crime rates	• The raw material structure of export of products prevails, insignificant percent of the small enterprises which export own production • Lack of affordable long-term lending by banking institutions for a wide range of businesses • Insufficient number of infrastructure facilities for processing and storage of grain and oilseeds • Critical condition of housing and communal infrastructure • Low quality of road infrastructure of the region, lack of a functioning airport, insufficient provision of the region's economy with railway infrastructure • high unemployment • Difficult demographic situation, in particular the reduction of the existing population, the excess of the number of deaths over the number of newborns, international migration processes • Insufficient number of modern infrastructure of the tourism industry, including the leisure and entertainment industry • Disproportions of socio-economic development of administrative-territorial units of the region

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Conclusion of the table 2.8

Opportunities	Threats
• Deepening integration trends, increasing export-import and investment relations with countries • Improving the business climate and implementing effective products to support small and medium-sized businesses at the state level • Growing demand for quality IT products in global and domestic markets • Growing demand for domestic tourism products both in the world and in Ukraine • Formation of an effective network of vocational education institutions to meet the needs of the labor market • Deepening of international scientific cooperation, opportunities for integration of scientific research of educational institutions into the European market of educational and scientific innovations	• Socio-political instability and incomplete hostilities in eastern Ukraine • High level of shadow economy • Orientation of foreign investors, mainly on the exploitation of mineral resources, land resources, cheap labor • Lack of an effective mechanism for the use of resort and recreational areas, a mechanism for the use of cultural heritage sites and architectural monuments for tourism • Demographic crisis • Preservation of tendencies to international migration, including Intellectual • Climate change • The threat of global pandemics, accompanied by high morbidity and mortality and negative impact on the economy

Source: own elaboration based on [33]

According to the data collected during the analysis, it is possible to draw conclusions about the impact of certain socio-economic factors on the prospects for tourism development in the region. Growing demand for domestic tourism products both in the world and in Ukraine, as well as the introduction of effective products to support small and medium-sized businesses at the state level, including in the field of tourism and recreation, opens new opportunities for Ternopil region, given the region powerful and diverse tourism, natural and cultural-historical potential. An additional Ternopil region advantage in terms of growing demand for domestic tourism products is the high spiritual population and one of the lowest crime rates. The availability of preconditions for creating an innovative environment, the potential for training workers to meet the needs of the region will be further enhanced by deepening international scientific cooperation, increasing opportunities for integration of research into the European educational and scientific innovations market, growing demand for agricultural and food products. industry and niche, organic products, quality IT products [33].

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We should not forget about the risks that will affect the tourism sector. The high level of shadowing of the economy makes it impossible for a wide range of business entities to access long-term lending by banking institutions of the region. The lack of an effective mechanism for the use of resort and recreational areas, the mechanism for the use of cultural heritage sites and architectural monuments for tourism will significantly hamper the development of modern infrastructure of the tourism industry.

Conclusions to the part 2

According to the analysis, it can be determined that the Ternopil region has incredible prospects for development in the field of tourism. Ternopil region ranks first in Ukraine in the number of ancient castles and fortifications. One-fifth of all natural monuments, first of all, caves and waterfalls in Ukraine are located in Ternopil region. There are more than a hundred caves in the region. More than 20 festivals are held annually. There are more than 100 caves in the region, which are a popular tourist attraction. Ternopil Regional State Administration is constantly developing and implementing measures for the development of the region. Tourism Department is directly involved in this. Successfully developed strategy for tourism development until 2020 helped increase the number of tourists who visited the region and tourist revenues in the region.

The tourism industry of Ternopil region is represented by religious-pilgrimage, cultural-cognitive, adventure, festival-event, health-recreation, rural green and castle tourism. In 2018, there was a tendency to increase the flow of tourists to the region. And in 2019 the tourist flow double again. This is a real confirmation that Ternopil region is a sightseeing and attractive region. The need to substantiate and implement a regional tourism development policy adapted to European integration processes remains relevant. Ternopil region should become a region with modern tourism and transport infrastructure, a transit base for tourists traveling to the Carpathians and Europe.

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PART 3
DESIGNING TERNOPIL REGION TOURISM PRODUCT ON THE INTERNATIONAL MARKET OF CASTLE TOURISM
3.1. Virtualization as a tool for creating a tourism product of castle tourism in Ternopil region

The development of castle tourism in Ternopil region can be implemented through many promising projects. We believe that one of the most promising project can be considered the creation of a potentially new tourism product on the basis of the best preserved castles. The main purpose and idea of such a project will be to recreate the life and way of life of the inhabitants of a certain castle during its creation. To better understood the end result of such a project, we should pay attention to the activities of the cultural park in the Kiev region, known as "Kievan Rus".

Another, no less promising project can be the inclusion of virtual and augmented reality technologies in ready-made excursion routes to famous castles or ruins that cannot be restored. This is a virtual tour - a sequence of several combined panoramic photos, between which, in the process of viewing, you can visually move using special transitions, and interact with objects that are part of the image, for additional information [38].

Modern world development is characterized by the formation of information (cyber) space. Just as geographical space gradually united different cultures and civilizations, so at this time the information space connects different civilizations, different cultural and economic values, which have historically been formed in a different space and time.

It should be noted that today on the basis of interactive panoramas are created tours, as well as presentations of entire countries. States, seeking to increase the attractiveness of certain areas, create entire virtual projects through which to promote the national tourism product and attract tourism to the region.

For example, the Louvre Museum (with the state participation and support of

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sponsors) has created a virtual tour of the Louvre. The Italian Ministry of Tourism has funded a project by renowned photographer Hans von Weissenflu, which focuses on the country's historical and cultural heritage; The project includes a wide range of excursions, but the most popular is the tour of St. Mark's Square in Venice. A virtual White House museum has been set up in the United States. In China, as part of the Beyond Space and Time project, IBM and the Chinese government have created a virtual model of the Forbidden City Imperial Palace, located in central Beijing. Similar virtual projects have also been established in Japan, Denmark, Mexico, the United Kingdom, France, Cyprus, India and many other countries [39].

According to a study by Harris Interactive, one of the most important factors when choosing a place to rest or visit is the visual information. 73% of respondents said they choose a place of recreation or tourism on the Internet. 69% consider the most important information needed to make a final decision, namely the visual - photos, virtual tours or videos. 59% of respondents found 3D-spherical panoramas and virtual tours useful when choosing a place to visit or relax [40].

Nowadays, gadgets are being created that embody the future in reality. The CGI tool, developed by the 3RD Planet technology brand, allows users to take realistic walks through the city's streets. A team of scientists from the University of North Carolina designed the virtual reality of the square near St. Paul's Cathedral in London in 1622, within which visitors can change their point of view at will. The new Oculus Rift VR headset from the American startup Oculus VR is the predecessor of virtual reality devices. The traveler will use the gadget at home to experience different vacation scenarios in 3D. Like ski goggles, the headset combines smartphone technology and motion sensors, which together create an experience comparable to viewing an image on an infinite IMAX screen. Images are projected on the retina in the same way as old-type projectors displayed images on the screen [41].

One of the ways to solve the problem of virtual tourism development in Ukraine may be to create an interactive system, the purpose of which is to partially replace real tours with virtual ones. In order to develop castle tourism in the Ternopil

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region, it was decided to create a project. (Table 3.1)

Table 3.1

Castle tourism product creation project

Project title	Virtualization of castle tourism in Ternopil region
Strategic goals of the project	Creating a product of virtual castle tourism.
	Increasing the interest of potential consumers and investors in the updated tourism routes
	Development of information infrastructure of the region
	Ensuring the viability of this project
Project objectives	Development of a virtual tour of Zbarazh Castle and its surroundings, creating a virtual reality that will allow tourists to see people's lives during the settlement of the castle.
	Development and implementation of measures to promote a new product in national and international markets.
	Creating a virtual information directory for the region.
	Creating a virtual tourism information center in the region.
	Finding qualified personnel
The purpose of the project	Formation of a positive image in the field of tourism, comprehensive development of the tourism infrastructure of the region
The area that will be affected by the project	Zbarazh region
Description of the problem to be solved by the project	The problem of reducing society's interest in cultural and architectural monuments and the history of their nation is urgent. Low level of development of modern types of tourism in the region and low interest in the region among foreign tourists
Economic and / or budgetary efficiency of the project implementation	Increase of revenues to local budgets due to the tourism tax, as well as the provision of related services related to tourism activities, creation of new jobs
Social impact	Raising awareness of the local population and tourists. Creating an offer for it employees
Project implementation period	2021-2022
Approximate amount of project financing, thousand UAH:	
Total	420,.000
National budget	40,000
Local budget	20,000
Other sources of funding	360,000

Source: own elaboration

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Creating a virtual tour is the development of a mobile application and a full-fledged computer program. Both a company and a freelancer can be involved in the development of such an application (program). SEOTM has established itself as a stable, responsible company, focused on meeting all customer needs and the full cycle of application development from the creation and approval of the terms of reference to the application debugging The cost of creating a high quality mobile application is 180,000 - 200,000 UAH. Creating a mobile application together with testing, correction and implementation of the final version 1.0 will take 9-12 months. (fig 3.1)

Figure 3.1. Stages of mobile application development

Source: [42]

Ultimately, with this application, the tourist will be able to visit Zbarazh Castle directly through the screen of a smartphone.

The use of such a system can be as follows:

- first, those who want to go on a tour without leaving home, can use such a system for its intended purpose, ie to go on a tour, viewing photos and movies on a computer and listening to the explanations of the electronic guide;

- secondly, selective versions of the system can be used by travel companies as advertising tools when offering customers certain routes;

- thirdly, tourists can use such a system as an additional source of information, for example, in the actual passage of the tour without a human guide;

- Fourth, the system can be used as a training for the training of new guides, or, training of already experienced.

The creation of a virtual information center, a virtual library and a virtual

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directory will contribute to the development of tourism infrastructure not only in a particular region, but in the region as a whole. Development of an application for such an array of information, with the lease of a quality server per year will cost 300,000 - 320,000 UAH. It should be noted that for the correct operation of the mobile application online, you should rent a high-speed server to work with large data streams. The cost of a monthly rental of a high-quality server in Ukraine is from UAH 10,000. Despite the costs, creating a virtual tourism space has its advantages.

Table 3.2

Components of virtual tourism space [41]

Virtual tourist information centers	Information about the tourism opportunities of the region; Placement of virtual tours; Information about tourism resources, tourism objects and tourism infrastructure of a certain region; Information about tourism organizations and enterprises (address, contact information, information about partners, customer reviews, etc.); Advertising and promotion of tourism products; Informing potential investors investment projects and investment climate in the region.
Virtual libraries	Accumulation of information that is used or is the result of research activities in the field of tourism and educational and practical activities related to the training of tourism professionals
Virtual directories	Contains information on: registration of entry documents (foreign passports, visas, etc.), addresses of embassies, features of culture, political system, language, currency, religion and other countries of tourism destination; legislative provision of tourist safety and rights of tourists as consumers of tourism services, etc. Providing consulting services to tourists and tourism entities (legal, management, organizational, marketing).

The creation of such a virtual space will allow for a virtual association of tourism enterprises in the region, which can be considered as a comprehensive system of dynamic production, technological, trade, , scientific and information interaction of enterprises and organizations of tourism and related industries and public sector in order to create and promote a common competitive tourism product. The

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specialization of the Virtual Association of Tourism Enterprises should be aimed not only at a particular type of tourism, but at a complex tourism product of the region and provide incentives, development of rural, green, historical and cultural, sightseeing, business, health, scientific, religious, sports, ethnic, festival tourism, which will form a competitive tourism product of the region.

Creating any mobile application or computer program involves its constant administration, maintenance and regular updates. The use of a mobile application or computer program of virtual tourism involves its constant load by users (both tour operators or travel agencies, and potential consumers of the tourism product). For constant, uninterrupted and correct work of mobile applications and computer programs they need constant support by qualified IT workers.

To create future virtual tours, we can attract graduates of Ternopil National Technical University named after Ivan Pulyuy who will receive education in the field of IT. This will increase the demand for IT professionals, create new jobs, there will be prospects for the development of new educational courses in the field of virtual tourism.

To promote this product in the national and international tourism markets, the following promotion methods should be used:

Product presentation at scientific and tourist exhibitions.

It will allow to acquaint visitors with a new tourism product of the Ternopil region, will present to investors perspective development which should be financed.

- Offer loyal customers an exclusive preview

This can take the form of a private, in-person or virtual pre-launch party: an online tour, preview, or demo. Or, it could even be a special invitation to test it out and give feedback.

- Run a social media contest

Since a large number of people around the world use social networks (Facebook, Instagram, Twitter) on a daily basis, correct and properly designed advertising within these networks will gain a tourism product of mass popularity in a short period of time.

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- Share customer feedback

Psychologically, the consumer will trust more a product or service that has already been used by other consumers and provided a constructive response to the product or service.

- Providing tour operators and travel agents with full access to the entire program of virtual tours that are in the application

Providing free full access to travel agencies and tour operators to the database of virtual tours in the application will allow you to use it to advertise a tour with prior acquaintance with it.

3.2 Designing a tourism product using VR technologies and its efficiency

This tourism product is created for the placement on the tourism siteof the Ternopil region http://www.ternotour.com.ua/, which belongs to the Tourism Department of the Ternopil Regional State Administration. The whole process of creating a virtual tour can be described in three steps:

1. Photographing objects that will be presented in the tour;

2. Processing of the received results, creation of the panoramic 3D image from several photos;

3. Programming interactivity effects and creating a virtual tour [43]

In order to understand the process of creating and using this product, a terms of referencewas developed to create a virtual tourism route through Zbarazh Castle using virtual reality technologies.

Terms of reference for the development of a virtual tourism route through Zbarazh Castle using virtual reality technologies:

1. General description. Purpose and tasks of the virtual tourism route: Preliminary acquaintance of the potential tourist with the destination. Providing information on the tourism route, acquainting the tourist with the expositions in the virtual space. Popularization of the tourism route among Internet users and virtual reality.

2. Description of the main parts. The virtual tourism route should consist of the

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following parts: "historical background" which will provide information on historical events related to the tourism route. This section is performed exclusively in text format, without the use of images. The information provided in this section must be accurate and documented. "Around the castle" which includes 2 subsections: "aerial view" and "ground view". "Aerial view" in turn must provide a clear, comprehensive view of the object on its full plane and from all possible angles from at least 9 fixed viewing positions. "Ground view" must provide a clear, comprehensive view of the object from 17 positions (two on the outside of each wall at a distance of at least 75 meters from each other, one for a panoramic view from the west, east, north and south, and 5 positions in the courtyard , 4/5 positions will form the vertices of the schematic square, and 5th will be its center). "Architecture" includes 2 sections: "an overview of the architectural style" with its description, and "3D model of the object". The architectural style must be fully, clearly and literary described. "3D model" should be interactive (change the position of the model in three planes at an angle of 360 degrees each). A walk through the castle includes 4 divisions: "first floor of the palace", "second floor of the palace", "casemates", "basement". The number of positions for viewing in each unit should accord to the number of expositions located there. This means that each exhibition should have its own point of view. "Contacts" must contain contact details of institutions and organizations responsible for the preservation and operation of the object, in our case, the contacts of the Tourism Department of Ternopil Regional State Administration and the Ternopil Castles National Reserve to which the object belongs. "Language variation" - change the interface language at the visitor's choice (ukrainian, russian, english). Button that looks like a logo of the tourism siteof Ternopil Which redirect users to the tourism siteof Ternopil.

3. Detailed functionality of interfaces and algorithm of work. "Historical background" should contain complete information about the history of the object, its owners, historical events associated with it, history of destruction and reconstruction, current state of the object. When users press the key, they go to the site that contains historical information about the object. "Around the castle" (aerial view). Directs to

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the site of the virtual route, where user, using a computer mouse (or smartphone when using a mobile browser) select 1 from 9 positions to view the object. The selection is made by pressing a key that is in place that applies to the point from which it is possible to look at the object. Go to another point by clicking on it. The circular view is performed by holding down the left mouse button or by pressing the arrow keys or the joystick on the phone screen. The sections responsible for the visiting a virtual tour should work in a similar way (Around the castle - the ground view, a walk through the castle - all 4 subdivisions). "Architecture" - an overview of the architectural style with its description. When selecting this unit and clicking on it, a page should open with a description of the architectural style used in the construction of the object and the changes that were made during its reconstruction. Under the description of the architectural style should be 4 images with captions (2 with the image of individual elements of the object that are characterize its architectural style and 2 with the image of world - famous objects built in the same architectural style). "Architecture - 3D model". Pressing this key will open a page with an interactive 3D object model. User must be able to bring the individual elements closer to their detailed study, and to separate the element from the whole. The layout is controlled by using computer mouse (in versions for smartphones, this feature should be unavailable in order to save the working period of smartphones). "Contacts". When press this key, a page with contact information of the institutions responsible for the object should open. This information should include: the full name of the institution or organization, telephone numbers for mobile communications, e-mail address, a link to the website of the organization or institution. Clicking on the link should open the institution's website. When you click on an e-mail address, e-mail page should open to write an e-mail. "Language change". Clicking this button should bring up a drop-down list of selectable languages.

4. Technical requirements for the virtual tourism route. The virtual tourism route is available through public networks via TCP / IP. It is assumed that the route will be fully functional and compatible with the current ones (at the time of completion) versions of browsers such as Google Chrome, Mozilla Firefox, Opera, Safari. The

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route software code must conform to the standards of the latest stable versions of the relevant programming languages used during route development.

5. Design requirements. The design of the virtual route must be adaptive - to adapt with the size of the user's screen for making the most efficient use of available space and ensure the comfort of viewing. The virtual travel route must be compatible with mobile devices. This also means the ability to comfortably view on small screens and support touch control.

6. Transfer virtual tourism route. During development, a prototype route can be hosted on the Developer's server. The finished software product will be transferred to a servers selected by the Ternopil Regional State Administration and configured by authorized representatives of the Ternopil Regional State Administration accompanied by representatives of the Developer.

7. Period of testing, fixing bugs and completion. As soon as the route starts working on the server the 3-month period of testing, debugging and completion begins. All shortcomings of the software code that will be found during this period must be eliminated by the Developer on his own and at his own expense.

8. Time requirements. The route must be developed and transferred to the server of the Ternopil Regional State Administration within 12 months from the date of signing the contract.

9. Selection criteria for development companies. Only a company that is a resident of Ukraine, officially registered and pays taxes can act as a developer. Experience in developing similar projects for other large companies, international or non-governmental organizations is required. Not only the company's work will be taken into account, but also the portfolio of key specialists, which they acquired outside the company. The key specialists that the Developer Company plans to involve in the creation of a virtual tourism route must have 1 year of proven professional experience in the form of work in which company plans to involve these specialists. Having certificates of international format will be considered an advantage.

10. Payment procedure. Payment will be made in 2 stages: 20% are paid

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immediately after signing the contract, 80% after accepting all work under the contract. According to the terms of reference, the cost of developing a virtual tour of Zbarazh Castle will vary in the range of 200 – 250 thousands hryvnias.

The Ukrainian engineering company AERO3D will be responsible for the development of the virtual tourism route. It has established itself as a professionally oriented company. The works of this company in the Ternopil region include a virtual 3D tour of the cave "Verteba" and 3D visualization of Kremenets Castle. Their services include: 3D and laser scanning, virtual 3D tours, 360 photos, photo and video shooting, 3D modeling. [44]. Information support will be provided by the team of the Ternopil Castles National Reserve with the support of the Ternopil Regional State Administration Tourism Department. Possible points of view of the castle territory in a virtual tour we can see on Figure 3.2

Figure 3.2 Possible points of view of the castle territory in a virtual tour [45]

The main task of the virtual tourism route is not to increase cash flows, but to increase the popularity of castle tourism in the national and international tourist markets, which will increase the number of tourists who want to visit the destination physically rather than virtually. Virtualization will help increase the popularity of the region and create the image of the region with high-tech tourism and an exclusive tourism product. It is assumed to attract investments in high-tech leisure facilities,
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increase the efficiency of activities for the organization of meaningful leisure of the population, popularize the national historical and cultural heritage.

Table 3.3

The number of tourists who visited the national reserve "Ternopil Castles" in 2019 [46]

№	Name of the structural unit	Total number of visitors	Chose the services of a guide
1	Zbarazh Castle	29155	15874
2	Vyshnevetsky Palace	20188	5381
3	Terebovlya Castle	5444	1258
4	Skalat Castle	2488	720
5	Total	57275	23233

In 2019, Zbarazh Castle was visited by 29,155 people, which is almost 51 percent of the total number of tourists who visited the National Reserve "Ternopil Castles". The division of tourists by the most popular castles of the reserve is shown in the figure 3.3
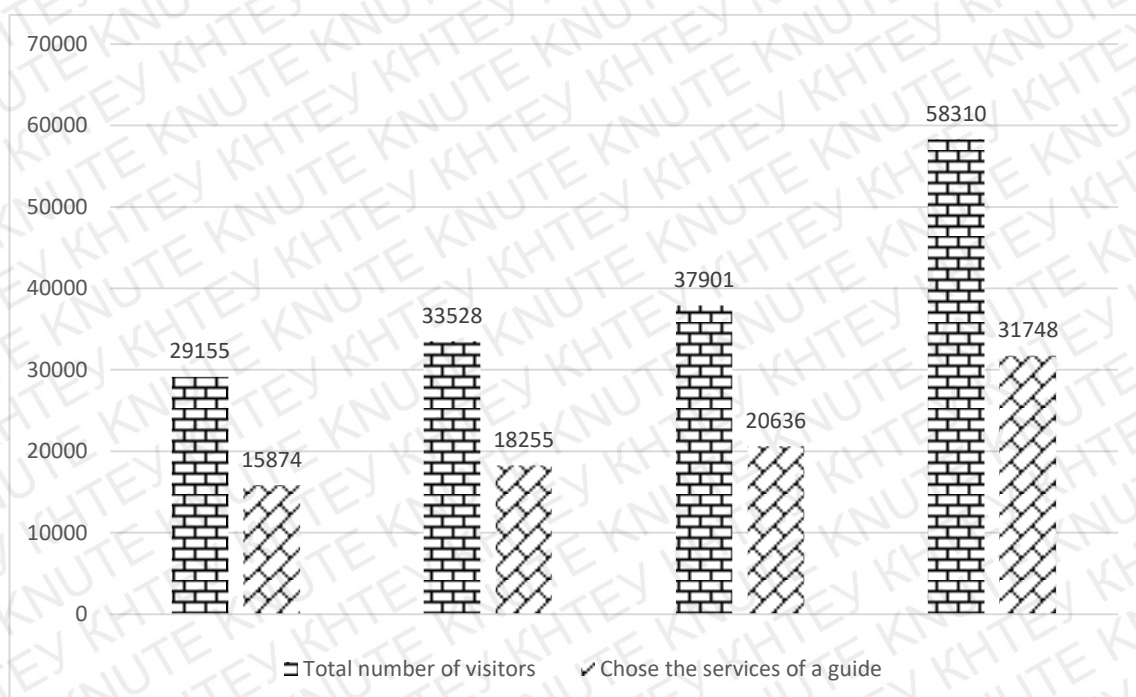

Figure 3.3 The division of tourists by the most popular castles

Source: own elaboration based on [46]

59% of respondents found 3D-spherical panoramas and virtual tours useful when choosing a place to visit or relax, we can assume that a third of them will choose a tour whose visual component in cyberspace will look more attractive. This means that the planned number of visitors to Zbarazh Castle in 2020 and 2021 can be increased by 15 and 30 percent, respectively. Under the conditions of successful implementation of the development strategy of Ternopil region until 2027, the number of tourists who will visit Zbarazh Castle in 2022 and 2023 will increase by 100 and 150 percent, respectively (Figure 3.4)
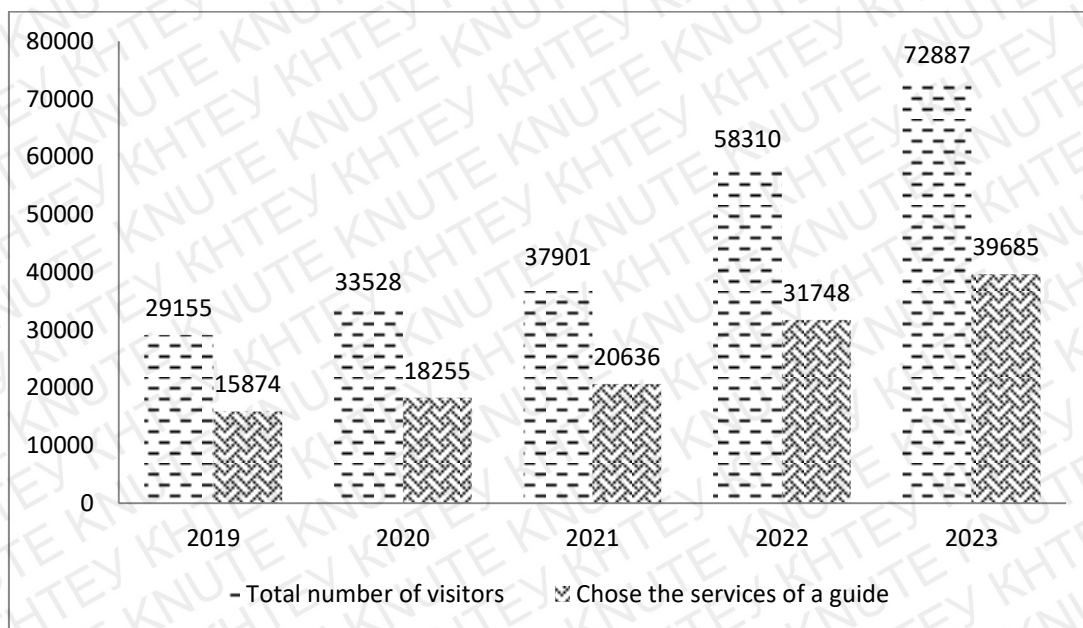

Figure 3.4 The projected number of tourists who will visit Zbarazh Castle by 2023

Source: own elaboration

When the virtual tour of Zbarazh Castle becomes successful, it will be possible to start a project to create a virtual museum of Ternopil region. Virtual museums are museums that exist on the global information and unique Internet network by combining information and creative resources to create fundamentally new virtual products: virtual exhibitions, collections, virtual versions of non-existent objects, etc [47]. Creating a product like a virtual museum is a much more complex process. The difficulty of creating it is that creating exhibits in cyberspace is a very complex, time-consuming and expensive process. A virtual museum should be like a separate world.

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One of the most famous virtual worlds online is the computer application "Second Life". Residents of the virtual world of Second Life offer tours, opening virtual travel agencies and publishing guides. Between computer games and chats, these digital worlds allow visitors to explore 3D virtual environments and interact with each other in cyberspace [48].

The virtual presentation of the object allows to acquaint the potential client with the offered tour, or its separate components, evokes positive emotions and influences his choice. Therefore, to stimulate the purchase of tours, to awaken the desire of potential customers to visit certain places, a travel agency, museum or hotel and restaurant complex must use virtual tourism in their activities, form virtual tours, place panoramic images of sights and cultural monuments for attracting more customers [49]. We should also pay attention to the experience of Zaporizhia region. In order to promote the tourism attractiveness of the Zaporozhye region, a project was developed. Several panoramic 3D images of objects and monuments that may be of interest to tourists have been created [50].

It should be take into account the that the virtual tourism route should not include absolutely all the information about the object of visit. This is impractical. Providing complete and comprehensive information about a particular tourism siteand the opportunity to visit it in cyberspace, the tourist may lose the desire to visit it physically. In the case of mass virtualization of tourism routes, this may reduce the number of tourists visiting the region.

Conclusions to the part 3

The creation of a potentially new tourism product in the Ternopil region will contribute to the development not only of tourism but of the region as a whole. New trends in this world claim that the most popular and desirable goods and services of our time are products that combine environmental friendliness and high technology. This also applies to tourism.

Virtualization of existing and creation of new, high-quality virtual tours will

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motivate tourists to spend their weekends in the Ternopil region. In addition, it will also encourage investors to increase funding for tourism development projects in the region in connection with increasing the tourism attractiveness of the region and creating prospects for the entry of the tourism component of the region to a new level of competition. Directing the development of tourism in the region in line with the latest technologies will create a demand for qualified personnel in the field of tourism and IT. This, in turn, will increase the number of young people in the region, reduce labor migration of Ukrainians abroad, and promote the development of other areas of the region's economy.

In Ukraine, there are companies engaged in the virtualization of cultural heritage sites, which indicates the popularity of this method of increasing interest in the region among potential tourists, as successful virtualization is primarily a successful marketing move. We chose the company aero3d, due to the fact that it has experience in implementing similar projects. This company created a virtual tour for the cave "Verteb" in the Ternopil region.

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CONCLUSIONS

The first part analyzed the works of domestic and foreign authors on the development of castle tourism in the world and Ukraine. Castle tourism is characterized by the dynamics of development, which determines the growing interest in this type of tourism among scientists, government agencies and business groups. This interest is justified by the fact that tourism in general is one of the most promising economy sectors and cause changes in each region, changing its infrastructure, consumer market, other areas of business. Castle tourism, in addition to economic, performs educational functions allowing to learn about the national historical heritage with the help of castles and fortifications. Abroad, the use of virtual and augmented reality technologies is becoming very popular in the field of tourism. They are often used for information purposes and in advertising campaigns of tour operators. In the segment of castle tourism, virtual and augmented reality technology is used to restore destroyed castles and promote preserved monuments. The first part identified the need to create a definition for the term "castle tourism", as it is absent in the analyzed sources and is used in the context of cultural and cognitive tourism in Ukraine, and haritage tourism in foreign sources.

In the second part, we determined that Ternopil region has all precondition for the rapid and intensive development of both domestic and foreign tourism. This area has the largest number of castles, palaces and fortifications in Ukraine. There are more than 100 caves in the region. Ternopil Regional State Administration is constantly developing and implementing measures for the development of the region. Tourism Department is directly involved in this. Successfully developed strategy for tourism development until 2020 helped increase the number of tourists who visited the region and tourist revenues in the region. In 2018, there was a tendency to increase the flow of tourists to the region. And in 2019 the tourist flow double again. This is a real confirmation that Ternopil region is a sightseeing and attractive region. However, it should be noted that the positive dynamics of tourist flows can be traced in the version where tourists from Ukraine are considered. If we pay attention to the
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number of foreign tourists served by tour operators and agencies in recent years, the dynamics is absent at all, compared to the main competitors of the Ternopil region in the national tourism market. The problem today is the inefficient and irrational use of resources, the inconsistency of the level of development of the tourism industry with the existing potential. These are, first of all, the lack of developed infrastructure, low quality of service, lack of quality advertising and complete information about tourist services, lack of regional tourism development policy adapted to European integration processes.

In the third part of the final qualifying work, we considered the visualization and virtual tourism space, its impact on tourism development in the region. It will help to unite all spheres of activity in the region in a convenient virtual space, the use of which will make life easier for both tourism workers and tourists. In addition, methods of promoting a tourism product on the international tourism market were considered. It was decided to increase the popularity of castle tourism in the Ternopil region as one of the most promising areas of tourism. For this purpose, a virtualization method for Zbarazh Castle was chosen. In order for the virtualization method to start working, it is necessary to develop a virtual tourism route around the castle in accordance with the terms of reference that were developed in paragraph 3.2. Taking into account the trends of our time, the use of virtual and augmented reality technologies will attract a large number of tourists. The rapidly growing popularity of the latest technologies as well as their constant development will attract not only Ukrainian but also foreign tourists. Psychologically, the tourist finds it more attractive to visit a destination that he can pre-evaluate. After completion of the project, the Ternopil Regional State Administration should provide free access to the site of the virtual tour. This tour can be presented at travel exhibitions and scientific seminars, used in advertising campaigns. It is very important to remember that ill-considered virtualization of a large number of tourism facilities can reduce the number of tourists who want to physically visit the Ternopil region for tourism purposes. This will negatively affect the development of the region's tourism infrastructure.

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