

European Virtual Seminary
2018/2019
Geoconservation in Hațeg Country
Dinosaur Park



Claes, Sarah
Georgescu, Adrian-Mihai
Ramos, Margarida
Torcarescu, Bogdan
Vanbaelenberghe, Benjamin

Tutor: Iftode Gabriela
Expert: Andrașanu Alexandru

Content

Summary	2
1. Introduction	3
1.1. What is a Geopark?	3
1.2. Presentation of the The Hateg country dinosaur Geopark	6
1.3. Definition of Ecotourism	8
2 . Methodology	9
3. Results of the investigation	11
3.1 Activities in the Hateg Country Geopark:	11
3.2 How do they promote their activities?	15
4 . Discussion and reflecting of findings	16
5 . Recommendations	25
6. Conclusions	35
7. Appendix - List of UNESCO global geoparks in 2017	38

Summary

This paper focuses on the problem of sustainable ecotourism in the Hațeg Geopark, and ways through which eco-tourism can be improved to the benefit of both man and nature, without damaging one or the other. We compared the situation in the Hațeg County Geopark with other geoparks in the UNESCO GGN, with the purpose of finding out what would work in terms of improving tourism and visibility, and what steps should be taken in order for the geopark to be more eco-tourist friendly and what activities should be promoted in order to attract more eco-tourists in the area. The Hațeg Geopark is one of the richest in terms of cultural and natural heritage, and four main areas of interest can be identified: nature, history (ranging from the time of the romans to the middle ages), the history of man and geosites.

We propose that the best way to take advantage of these four main areas of interest is through ecotourism. The geopark presents a number of activities that could be of interest to an eco-tourism, however the only way it promotes these activities is through a website, that is hard to navigate and to understand as a foreign tourist, and through their Facebook page. We propose a number of recommendations that aim to improve the geoparks visibility, through an increased social media presence, a redesign of the website and a geopark app, among others. Looking at the strategies that other geoparks have implemented, we proposed a number of eco-friendly activities, such as cyclotourism, that are sure to have a positive impact on the tourism in the area. We also explored other, more efficient advertising ways through which the visibility of the geopark can be increased.

1. Introduction

This report has a focus on the Hateg country dinosaur Geopark. This report as you will read later on has a focus on the geopark and possible ecotourism. In this introduction there will be a focus on what a Geopark is and what is understood by sustainable ecotourism. Can we implement Ecotourism in Hateg country dinosaur park?

1.1. What is a Geopark?¹

The Hateg country dinosaur park is part of the UNESCO (The United Nations Educational, Scientific and Cultural Organization) global geopark network.

“UNESCO Global Geoparks are single, unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development. A UNESCO Global Geopark uses its geological heritage, in connection with all other aspects of the area’s natural and cultural heritage, to enhance awareness and understanding of key issues facing society, such as using our earth’s resources sustainably, mitigating the effects of climate change and reducing natural disasters-related risks. By raising awareness of the importance of the area’s geological heritage in history and society today, UNESCO Global Geoparks give local people a sense of pride in their region and strengthen their identification with the area. The creation of innovative local enterprises, new jobs and high-quality training courses is stimulated as new sources of revenue are generated through geotourism, while the geological resources of the area are protected.” (UNESCO, 2015)

Geoparks focus on working with a bottom-up approach, meaning that the local communities are empowered and are given the opportunity to develop partnerships with the different area’s that the specific geopark chooses to focus on. UNESCO global geoparks work through the process of involving local and regional stakeholders of the area promoting a firm commitment by the stakeholders so that the cooperation results in meeting the goals of the local communities and protecting the geological heritage meanwhile.

In 2017 there were 127 UNESCO global geoparks in at least 33 countries. Geoparks are not limited to borders so there are also Geoparks that are a transnational, for example there are Geoparks where Germany and Poland work together, or Austria and Slovenia.

The last years there has been a trend where there are more and more UNESCO Geoparks. Where the parks used to be mainly focused in China and Europe there are now parks across all continents.

¹ UNESCO, UNESCO Global Geoparks: celebrating earth heritage, sustaining local communities,2017

UNESCO global geoparks focus on four² essentials that are important within the development of a Geopark:

- Geological heritage - There has to be geological heritage of international value to be considered a UNESCO global geopark, this is assessed by an evaluation team of scientific professionals.
- Management - Another essential is a management plan, agreed upon by all the stakeholders, that provides for the social and economic needs of the local populations, protects the landscape in which they live and conserves their cultural identity. This plan must be comprehensive, incorporating the governance, development, communication, protection, infrastructure, finances, and partnerships of the UNESCO Global Geopark.
- Visibility - A geopark has to be known locally but preferably also internationally, so UNESCO wants to promote sustainable local economic development mainly through geotourism. Visitors as well as local people need to be able to find relevant information about the Geopark.
- Networking - The UNESCO global geoparks shouldn't just network with the local stakeholders and look at a local scale. It is also important that they network with other Geoparks and in that way there can be exchange of information and knowledge.

Within the UNESCO global geoparks there are different topics that the parks focus on. But there are 10 topics³ that are recurrent and important to most parks.

- Natural Resources - Numerous UNESCO Global Geoparks inform people about the sustainable use and need for natural resources (minerals, hydrocarbons, rare earth elements, geothermal energy), whether they are mined, quarried or harnessed from the surrounding environment, while at the same time promoting respect for the environment and the integrity of the landscape.
- Geological Hazards - The geoparks aim to raise awareness about geological hazards, including volcanoes, earthquakes and tsunamis. UNESCO Global Geoparks have designed different disaster response strategies which they use to inform visitors or locals about how to respond and to build more resilient communities.

² UNESCO, UNESCO Global Geoparks: celebrating earth heritage, sustaining local communities, p. 6, 2017

³ UNESCO, UNESCO Global Geoparks: celebrating earth heritage, sustaining local communities, p.10, 2017

- Climate Change - With the hot topic of Climate change all around the world the UNESCO global geoparks want to stimulate green growth and climate sustainable ways of improving the local areas where the parks are. They want to stimulate best practice approach to utilize renewable energy and employing the best standards of “green tourism.”
- Education - It’s the focus of all parks to develop and operate educational activities for all ages and to spread awareness of our geological heritage and its links to other aspects of our natural and cultural heritages.
- Science - UNESCO Global Geoparks work with academic institutions to engage in active scientific research in Earth Sciences. That doesn’t mean that a park is a museum, but it is an active research area where people can become engaged in science from the highest academic research level to the level of the curious visitor.
- Culture - UNESCO Global Geoparks have the following moto: “Celebrating Earth Heritage, Sustaining Local Communities”. The parks want to bring the heritage and culture together. They want to show locals and visitors the ever-continuing connection between people and the land they live on. The parks want to show these cultural connections and bring some back to life.
- Women - UNESCO Global Geoparks are a platform for the development, nurturing and promotion of local cottage industry and craft products. That doesn’t mean that this are only things women do. But in some communities the Geoparks want to empower local women to become part of the development of the Geoparks.
- Sustainable Development - UNESCO global Geoparks are all about sustainable development. Whenever an area wants to become a part of the network, they have to have a plan to contribute to different goals of the sustainable development plans. Whatever gets implemented in the park needs to be with a view on sustainable development.
- Local and indigenous Knowledge - By recognizing the importance of involving local and indigenous communities UNESCO global geoparks contributes by showing the link between these communities and their land. The parks want to preserve their knowledge, practice and management systems.

- Geoconservation - The UNESCO global geoparks need to focus of course on the conservation of the geological history in the area. To conserve and preserve.

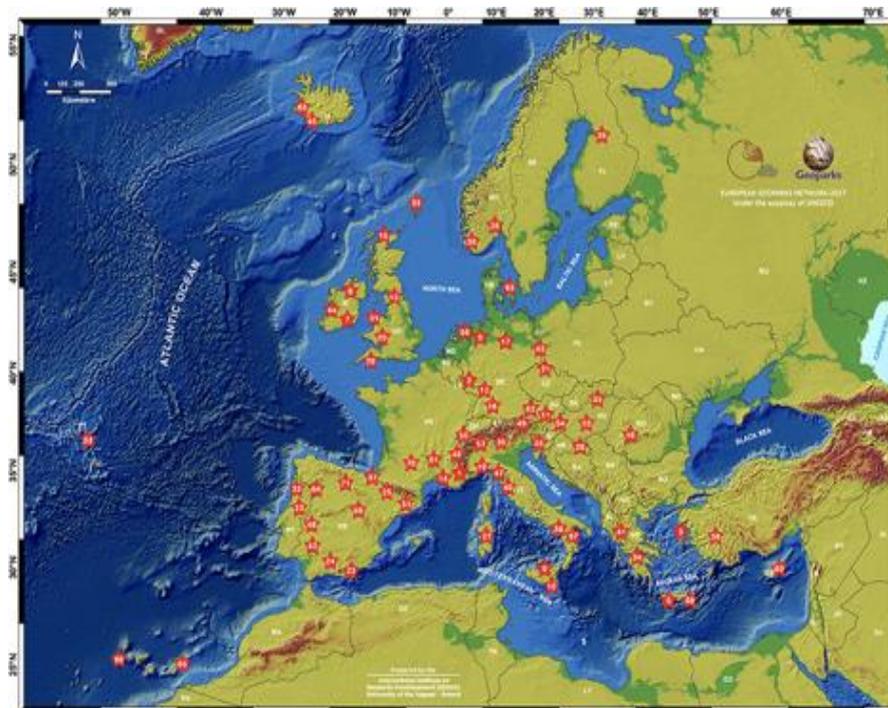


Figure 1: UNESCO Global geoparks in Europe⁴

In the above figure we can see all the UNESCO Global geoparks. The Geopark we are studying in this report will be n°18 the Hateg Country Dinosaur Geopark in Romania. (in appendix there is a list of the European UNESCO global geoparks)

1.2. Presentation of the The Hateg country dinosaur Geopark

Hațeg Country Dinosaurs Geopark is located in the western part of Romania within the Hațeg Basin, an intramountain depression surrounded from all directions by mountain chains: Șureanu Mts, to the eastern part, Retezat Mts. to the southern part, Poiana Ruscă Mts. to the northern part, Țarcu Mts, to the western part.

⁴ http://www.europeangeoparks.org/?page_id=168



Figure 2: The Hateg country dinosaur geopark ⁵

This geopark is the only one from Romania that is a member of the European and Global Geopark Network and obtained its statute in 2005. It aims to promote the local values of the region, to ensure the restoration of the monuments, to identify and document the local traditions and to educate the local communities about the preservation of their cultural identity and heritage. The area is very famous for its historical and cultural sites, covering a history of 4000 years. The most impressive of these sites are the Roman capital of the Dacian province at Sarmizegetusa Ulpia Traiana, the numerous medieval churches and fortresses and the remains of more recent castles and nobiliary mansions. All of the natural, historical and cultural sites are integrated into the management plan to preserve them and to allow the visitors to experience the heritage. Sustainable development in the region is a major objective of the Geopark.

In the Hateg Country Dinosaur Geopark sustainable development means creating a sustainable economy based on geo/agro/eco-tourism by conserving and promoting the local natural, historical and cultural landmarks while aiming to an enhancement of the life quality of the inhabitants and ultimately establishing the Geopark as a worldwide interest point. As such, the Geopark has activities in education, public awareness, and nature conservation that promote and encourage research and education. Courses for local curricula, training courses for tourism guides and educational events are supported. Small info museums and geo-trails promote the geological heritage and traditional activities and local products such as meat, cheese, brandy, handicrafts are part of the local strategy to promote geotourism and ecotourism.

⁵ Andrasnu et al, Hateg country dinosaurs geoparks, 2008

The vegetation of the area ranges from alpine shrubs, spruce and beech forests to oak forest, some of which have been turned into grasslands. From a geological perspective, the area represents a tectonic basin that was formed after the collision of tectonic plates that occurred at the end of the Cretaceous, that was followed by tectonic subsidence when the Northern Tethys Realm closed. The basement rocks of the area are magmatic and metamorphic rocks that are Precambrian-Paleozoic aged and the deposits that cover these basement rocks are represented by Jurassic-Pleistocene aged deposits. Part of the geological heritage is represented by glacial features from the Quaternary Glacial Maximum, old quarries and a closed copper mine.

In the Cretaceous period the area that is now the Hațeg Geopark was part of an island chain that was home to some unique and world famous "dwarf dinosaurs". Fluvial and lake deposits have revealed more than 10 species, both carnivorous and herbivorous and of particular interest are the dinosaur eggs and hatchlings from these same deposits. Other species of mammals, reptiles, frogs, snakes, crocodiles and turtles have also been found in these deposits. The most spectacular find is a huge flying reptile, a pterosaur, that had a wingspan of 12 meters and has been named after the Hațeg Geopark (*Hatzegopteryx thambema*).

1.3. Definition of Ecotourism ⁶

"Responsible travel to natural areas that conserves the environment and improves the well-being of local people." (Wood) or more expanded: "Responsible travel to natural areas that conserves the environment, socially and economically sustains the well-being of local people, and creates knowledge and understanding through interpretation and education of all involved (including staff, travelers, and community residents)."

Ecotourism has been a hot topic over the last decennia and has been increasing through the awareness about climate issues all over the world. In that way people have been looking differently at tourist destinations.

In this way the UNESCO global geoparks are also areas that are already or can become hotspots for ecotourism. There are 4 key-aspects that are important for a place to be seen as an ecotourism spot.

- Build environmental and cultural awareness

The right way of tourism helps with building awareness in different areas. Ecotourism wants to build awareness towards the visitors but also help local communities to grow and share their difficulties or different way of life. This awareness is taken home by visitors and so they might look differently at life.

⁶ <https://greenglobaltravel.com/>

- Design and use sustainable low impact facilities
Any development that is implemented towards tourism should be sustainable and low impact for the environment. It is unwise to develop a golf course to attract tourists in a water scarce area. So, whatever is done to facilitate visitors or locals should be with the future and local ecosystem in mind.
- Provide financial benefit for the local community and conservation
The income generated by ecotourism should be invested in sustainable development in that area. Or to help protect certain endangered areas. It is important that locals involved in ecotourism are paid fairly and not mistreated. What comes in should be used for the good of the specific area.
- Work with clear sustainable development goals
Any project developed for ecotourism should be done with clear development goals. It wouldn't be right to develop projects that would contradict any of the sustainable development goals.



Figure 3: Sustainable development goals ⁷

2 . Methodology

Our study consisted in investigating geoparks in three different phases:

- 1) What is a Geopark? - and for that we gathered information from UNESCO, GGN and EGN websites in order to learn more about geoparks and to better understand how other geoparks applied methods and strategies for sustainable development, geoconservation and advertising.
- 2) To know more about Hateg Country Dinosaur Geopark and what are its strong and weak points through a SWOT analysis (Strength, weakness, opportunities and treats)

⁷ <https://en.unesco.org/sdgs>

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> - Geopark belongs to the National Network of protected Areas so all activities endangering the sites are forbidden - Richness of geological, historical and archaeological sites - Unique place in Romania and a few in Europe where dinosaur's bones and eggs were found - According to the Trip Adviser reviews the guides are excellent - Human pressure is not yet very high - Scientific papers and symposia dedicated to promoting the scientific importance of the findings so far - Accommodation facilities, tourist trails and local operators were identified 	<p style="text-align: center;"><u>Weakness</u></p> <ul style="list-style-type: none"> - The museum is small - Big area to cover 102.392 ha - Do the facilities planned in 2003 exist already (the Open-Air Dinosaurs Museum, the Informational and Educational Centre, etc) - Website not completely accessible and not translated to other languages - Lack of social media and communication
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> - Some sites have not yet official recognition (only 2 from 8 sites protected) – Law 5/200 - A lot of data with educational value has not been evaluated 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> - One of the main issues is fossil hunters (how to avoid this)

3) Search for similar examples of geoparks worldwide that could be worthy to achieve our objectives.

The data was collected mainly online environment but also from documentation and studies about ecotourism in Geoparks. We found a lot of interesting websites, but the most useful one was Hateg Country Dinosaur Geopark Website- <http://www.hateggeopark.ro>. On this website we found information about the geopark's management, local volunteers, communities and partners.

Other useful data sources were the series of documents and articles on Hateg Country Dinosaur Geopark. Writings like "*The heritage of the Hateg Country*. Geomedia. Andrasanu, A., Palcu, D., Oelerer, K. (2004)", "*Hateg Country Dinosaurs Geopark*. Geomedia. Andrasanu, A., Palcu, D., Oelerer, K. (2008)", "*Report template for UNESCO Global Geoparks*, UNESCO. Andrasanu, A. Grigorescu, D. (2015)" helped us gather very interesting and useful information about the natural, cultural and historical wonders of the Hateg Geopark, the scientific and touristic importance of the geopark's area, as well as about the Hateg Geopark's philosophy.

We used all of these websites and documents to define the current state of the Hateg Country Dinosaur Geopark and, most important, to find methods and strategies that we can adopt for Hateg Geopark from other successful geoparks in the world. To do this, we searched on international geoparks websites for sustainable development strategies, advertising methods and social and cultural events that we can also adopt for Hateg Geopark. For that matter we have done comparisons with two geoparks: English Riviera

Geopark in United Kingdom and Hondsrug Geopark in the Netherlands which seemed to be the ones with a more interesting and complete approach on the eco sustainability purpose.

So, our objectives are to answer the following questions:

- *How can we better promote ecotourism with the focus on the natural, historical and cultural character of the Hațeg Country using nowadays technologies in order to raise the people's awareness about it's great economic, cultural and environmental importance?*
- a. *How can we adapt other geoparks strategies into our project?*
- b. *Which are the most efficient advertising means? Newspapers, flyers, Public events, TV advertising, Social media channels etc.?*

3. Results of the investigation

3.1 Activities in the Hateg Country Geopark:

The Hațeg UNESCO Global Geopark is located in the central part of Romania, more specifically in the region of Southern Transylvania surrounded by the Retezat, Sureamu, Tarcău and Poiana Ruscă mountain chains and covers an area of 102.392 ha. This geopark is the only one from Romania that is a member of the European and Global Geopark Network and obtained its statute in 2005. It aims to promote the local values of the region, to ensure the restoration of the monuments, to identify and document the local traditions and to educate the local communities about the preservation of their cultural identity and heritage. The area is very famous for its historical and cultural sites, covering a history of 4000 years. ^{8 9}

The Hateg Country Geopark can be divided into four areas of interest.

- Nature:

The Hateg Country is a depressional region between two branches of the Carpathian Mountains (the South and West Carpathians). Those mountains have very important traces of glacial activity and have given the valleys an imposing appearance. ¹⁰

⁸ Andrasanu, A., Palcu, D., Oelerer, K. (2004). The heritage of the Hateg Country. Geomedia.

⁹www.unesco.org/new/en/natural-sciences/environment/earth-sciences/unesco-global-geoparks/list-of-unesco-global-geoparks/romania/hateg/

¹⁰ Andrasanu, A., Palcu, D., Oelerer, K. (2004). The heritage of the Hateg Country. Geomedia.

In the Geopark, we can identify five vegetation districts: Alpine shrubs and grasslands, spruce-fir, beech forest and three types of oak trees: sessile oak, turkey oak, and Hungarian oak.¹¹

Thanks to the favorable climate, vegetation, and diverse wild areas. The land of Hateg Country benefits from a rich fauna. Back in the days, in the eighteenth century, the area was known as a hunting paradise for fur animals. Nowadays hunting is forbidden in the Geopark. And the most important mammalian species are bats, Alpen gems, black goat, red deer, roe, grizzly bear, wolf, and lynx.

Besides the mammals, bird species, reptiles and amphibians are nowadays well presented. Most common bird species are owls, dwarf musks, codlins, sparrows and storks. Most common reptiles and amphibians are ridge tritons, marsh turtles, vipers, gray lizards. After recent studies by the geopark team, they discovered a large number of rare species of butterflies.¹²

- History

Geological history:

The Hateg Country Geopark has an interesting geological history covering more than 200 million years (if we only consider the sedimentary deposits). The geological history of the Hateg sediments began more than 250 million years ago at the end of the Paleozoic. Permian deposits are represented by conglomerates, sandstones and siltstone red beds type with plant remains.

Lower Jurassic deposits comprise conglomerates, sandstones and clays containing thin beds of coal with fossils of plants and invertebrates. Middle and Upper Jurassic are represented by sandstone, siltstone, and limestone. Paleontological remains like belemnites, crinoids, gastropods, bivalves, ammonites indicate a marine tropical climate.

Lower Cretaceous limestone is Urgonian facies types containing associations of bivalves, forams, and corals. A bauxite complex is present in paleo karstic relief with some lens of lacustrine deposits.¹³

History of men through the ages:

¹¹ Andrasanu, A., Palcu, D., Oelerer, K. (2004). The heritage of the Hateg Country. Geomedia.

¹² <http://www.hateggeoparc.ro/natura/>

¹³ Andrasanu, A., Palcu, D., Oelerer, K. (2004). The heritage of the Hateg Country. Geomedia.

- *Prehistory and Dacian history*

Thanks to its geographical position, the variety of landscapes, mild climate and natural resources, Hateg Country created good conditions for expanding human life.

These favorable environmental factors explain the numerous archaeological finds in the region. Even one of the earliest traces of human life in the region such as the *Neanderthal* specimens from the Ohaba Ponor and Ciclovina caves. In the same region were also found traces of *Homo Sapiens* fossils. But the most important artifact found in the Hateg Country is a Celtic helmet, dated at the end of the bronze age beginning of the iron age (\pm 3th century BC).

The Iron Age is well represented in the Hateg area, marked with important settlements found on the hills such as the one from Subcetate Hill (one example of many settlements).¹⁴

- *Roman history*

The history of Hateg is mainly characterized by a mixture of two important cultures: The Dacians and the Romans. The heart of the Dacian empire was located tenths of kilometers away from the Hateg region. Nevertheless, the region has significant traces of the presence of this civilization. The Roman influence can be found around just outside the pass the Colonia Ulpia Traiana Sarmizegetusa, which will become the capital for the province of Dacia. The whole region has traces of the rich Roman life especially rich rural Roman retreat farms known as Villa Rustica.¹⁵

- *Middle Ages*

In the 15th century, the Hateg Country or district consolidated its entity and historical individuality, becoming Transylvania's main fortress of defense against the Ottoman incursions at a time when the numerous brave princes and free Romanians there turned into a basic pawn of the Transylvanian armies and of the fortresses on the Southern front of the Hungarian Kingdom.

Witnessing an upsurge and assertion in the time of Ioan of Hunedoara, coming from those places and of the big victorious anti-Ottoman battles, the Hateg Land has preserved its political-administrative individuality during the Middle Ages, until its old organization was

¹⁴ Andrasanu, A., Palcu, D., Oelerer, K. (2004). The heritage of the Hateg Country. Geomedia.

¹⁵ Andrasanu, A., Palcu, D., Oelerer, K. (2004). The heritage of the Hateg Country. Geomedia.

dismantled in the mid-19th century. Its human structures were always based on the gentry, with a very complicated evolution, very interesting for that matter.

In Hateg there are also a few important churches dated from the Middle Ages, which were built during the 13, 14 and 15th century. In the medieval churches, you can find remarkable testimony of frescoes and original medieval monuments out of the whole region of Transylvania.¹⁶

- Geosites - In Hateg Country there are different geosites to discover:

Dazzling dinosaurs of Hateg Island is a geological site about the dinosaurs that lived in the area of Hateg Country. More than 70 million years ago, the Earth was in a continuous tectonic transformation. The dryness had begun to fragment. From the continents, there were isolated islands, which, being activated by the tectonic movements, were like floats on the planetary ocean. Such an island was also the Hateg, which was, at that time, where the Mediterranean is today.

Ripping the continent apart, the dinosaurs learned to survive in difficult conditions. Now, the 150 million unique giant continent called Pangea has broken into two smaller continents separated by the Tethys Ocean.

After Hateg Island broke out of the continent, the animals here had to adapt to living conditions in a smaller space with fewer food resources. And this was one of the causes that made the dinosaurs come in time to be much smaller than their relatives who remained on the continent.

The Hateg area contains one of the latest assemblages of dinosaurs in the world. The fossil remains are internationally unique and are commonly known as the *dwarf dinosaurs of Transylvania*. In Hateg there are also other dinosaur species to be found. Just one example, the *Magyarosaurus dacus*, is a dinosaur related to large herbivorous dinosaur species.¹⁷

¹⁶ Andrasanu, A., Palcu, D., Oelerer, K. (2004). The heritage of the Hateg Country. Geomedia.

¹⁷ <http://www.hateggeoparc.ro/geosituri/dinozaurii-pitici-din-insula-hateg/>

All the species found in Hateg were herbivorous. But there is an indication of some carnivorous species thanks to the findings of isolated teeth in the region from species like the *theropods*. Other reptile fossils that lived in the area are from turtles, crocodilians, and the largest flying reptiles in the world with a wingspan of 14m, the *Hategopterix tambema*.¹⁸

Volcanoes in Hateg Country

Maybe it seems hard to believe, there were once volcanoes in the Hateg country. And long before the emergence of the Carpathian Mountains the Hateg area was tropical sea bathing islands.

The volcanoes had formed, under the influence of some forces in the depths of the earth, the magma-rock melt from deep sea and had found a way to reach the surface. Once this lava came to the surface, this glowing paste of rock strengthened and formed a plug that locked the magma from the depth. When the magma from the depths reached with sufficient power to break the "plug", the eruption took place. The plug was thrown into the air at high heights with pieces of incandescent magma.

Thanks to the passage of time most of the traces of these volcanoes have been removed by erosion, by the rivers in the area. The traces kept in the area of Denus-Shi plateau do not give many clues about how many volcanoes were in the area or where they were.

What is known about volcanoes is that they were contemporaries with the dwarf dinosaurs on Hateg Island. If you want to see the traces of the volcanoes left in Hateg, you have to follow the marked *Vulcan Road*.¹⁹

3.2 How do they promote their activities?

Most of the activities can be found on the homepage of the official website: <http://www.hateggeoparc.ro/>. There you can choose four different areas of interest: nature, history, traditions, and geosites. Unfortunately, the website is difficult to understand for international visitors who cannot understand or read Romanian. There is a translation option on the website but the

¹⁸ Andrasanu, A., Palcu, D., Oelerer, K. (2004). The heritage of the Hateg Country. Geomedia.

¹⁹ <http://www.hateggeoparc.ro/geosituri/vulcanii-din-tara-hategului/>

translated information is mostly incorrect and incomplete. This makes the site inaccessible to international visitors.²⁰

On the tab visiting, you can choose recommendation routes. Unfortunately, the different maps are in Romanian and there is no chance of translation possible.

The information about the different visiting points is a little bit unclear. There are many opening-days with opening hours. But mostly you have to call a different phone numbers to make a reservation for your activity. In our opinion, it's not that clear and welcoming for visitors. That is why we listed some results that should improve the information, activities, and accessibility of the Hateg with the aim of attracting more ecotourists in the near future.

4 . Discussion and reflecting of findings

The Hateg Country Geopark is in terms of nature, heritage, geological and cultural history valuable for present and future generations. These four values form a basis for our research question: *'How can we better promote ecotourism with the focus on the natural, historical and cultural character of the Hațeg Country using nowadays technologies in order to raise the people's awareness about it's great economic, cultural and environmental importance?'* We started looking at the findings on the central research question. From these results, we discuss which results are feasible for improving ecotourism in the Hateg Geopark, and which are not and also why they are not achievable.

Website:

The first thing we noticed when analyzing the Hateg Country Geopark was a language barrier in combination with an unclear website. In the Hateg Country Geopark, there are various interesting, instructive and adventurous activities. Just think of the different hiking and mountain bike trails in the beautiful natural landscape, visiting points, heritage sites, museums, workshops, geosites, etc. The geopark could have outstanding ecotourism strategies and activities, but without a certain way of promoting them, they are at risk of remaining unknown.

So, the first thing that needs to be done is to change the display of the information and the language barrier on the website. To attract international tourists to the Geopark through the website it's important to create an easily navigable website that is clearly written and without presenting unnecessary information that provides as a distraction. The website should also be accessible to international tourists. By this, we mean the translation of the website from Romanian to English and maybe other languages if it's possible.

²⁰ <http://www.hateggeoparc.ro/>

Nowadays creating a free website is easy thanks to website construction programs. Just to name a few of the largest and best-known website construction platforms such as Wix, Wordpress, and Webnode. The only thing you have to pay for is a domain name with which your site is registered. The prices for the registration of the domain name with the corresponding unique URL vary from €10 to €50 a year. This amount diversifies depending on the availability, popularity, and country of your chosen URL extension.

As a second option, you can also have your website made by professionals. If you outsource this you will quickly reach a price of between €1000 and €10.000 and even more depending on the requirements like for example a webshop, online ticket office, Search Engine Optimization (SEA), statistics of your website's performance, multiple translations, etc. These additional features can also be found in the free website construction programs but in the form of various basic templates that you can adapt to your house style. For the overall score of your website in the Search Engine like for example Google, Ecosia and Yahoo. There are many easy DIY videos on YouTube, who explain you step by step everything perfectly. So, depending on the time, money and energy you can choose which type of website you prefer for your organization.

Social Media:

After determining which social media channels, you will use and for what purpose. And optimizing each channel, it is important to increase your reach. It is not difficult and can try it yourself with social media strategies below:

1. *Share your content*

Social networks are a volatile medium. Unfortunately, messages and news updates only appear briefly and disappear long before everyone has seen them. As a brand or as an organization it is important to share your blog posts and other own content more than once. Share your content on each Social Media platform you are active on to increase the visibility of your publications.

2. *Use a publication schedule*

Publish your messages regularly on all social media of your organization. Use a publishing scheme to keep the overview and to distribute content that you repeatedly share: determine your publication frequency per network, work with fixed publication times, determine which content is suitable for republishing and for how long, plan variation and repetition. Do not post too often and not in bulk, otherwise, you will become a spammer and lose your followers and visitors.

3. *Use social media management tools*

If you have multiple profiles, groups or company pages on various social networks, then it may quickly become a challenge to manage all of them successfully. That's why it is convenient to use social media management tools. to quickly and efficiently plan your messages and automate a part of your publications.

4. *Giveaways and promotions*

Contests, and promotions are very popular on social media. Use them to awaken the attention of your target audience. Let participants share your message or liking you to win something. This way you can reach many new people very quickly!

5. *Advertise*

If you have some advertising budget, even when it's only € 5,00. You can also attract visitors with Facebook ads, LinkedIn Ads, Instagram Ads or Promoted Tweets that refer to your Social Media accounts, events, product pages or most popular blog posts. When you are you targeting your ads well and you respond to the interests of your target audience. Then you can also increase your reach so drastically thanks to social media advertising. It is very accessible and effective.

6. *Interact with your audience*

Engage your target audience continuously and engage in dialogue: that is one of the most important aspects of successful social media management. After all, social media for your company works in two directions. Do not forget that! If you opt for one-way traffic, you will leave many potential visitors (and therefore a lot of traffic to your website). So, you can go in dialogue with your audience by asking questions, respond to reactions, thank people when they share your content and take part in discussions. It's important to build a relationship with your followers and engage your community!

7. *Measure, analyze and optimize the results*

How do you know if the social media channels of your organization are having good results? By setting up goals, KPIs (Key Performance Indicators) and also regularly following those goals and KPIs. You can learn a lot from statistics, for example: when your target audience is online, which content they prefer to read, which content is most often shared, which networks are most popular, etc. Use that information to improve your results. Is your target audience online at 10 a.m.? Then post around 10 o'clock. Do they prefer to read behind-the-scenes messages? Give them a regular look behind the scenes!

These 7 strategies are applicable by everyone, you do not have to be a digital marketing guru to optimize your social media platforms. It's an easy and free (except advertising) way to promote Hateg Country Geopark to the general public rather than just the local population.

Optimizing Social Media channels is a good start. But you should know that not everyone uses social media in the same way. It is more complex than that. Different age groups use different social media channels and then use these channels in other ways. This means that you have to use every social media channel in a different way depending on your target group that you are trying to reach. Below are the four most known Social Media Channels for businesses and organizations:

- *Facebook* is worldwide still the largest social media channel. However, daily use decreases among almost all age groups. Especially young people aged up to and including 19 leave Facebook more and more often left behind. This trend was already visible last year (2017), but will continue in 2018. The biggest reason the young people give for the drop-off is: "there are too many people that I have nothing with".²¹
- *YouTube* is a good second but has fewer active users than Facebook (about 2.2 million). However, this medium is also used differently than for example Facebook. Facebook works with an algorithm and if you are not active, there is a chance that you are missing something. Youtube is much more used as a search engine, making videos easy to find when a user needs them.²²
- *Instagram* grows in use with all age groups. Growth is greatest among young people up to 19 years, 73% of the age group uses Instagram. In the age group 20-39 years this is 46% and for the age group 40-64 years 22 and 9% of people aged 65 and over, use Instagram. Because you can advertise on Instagram via Facebook, this channel can easily be a good addition to your already ongoing Facebook strategy. Keep in mind that visual material is key on this Social Media channel.²³
- *Twitter* has dropped in the number of users for the second year in a row. Twitter really does not stand out under any age category. The group 20 - 39 years uses Twitter the most, about 26% of its age group. However, daily use in this target group is not yet 10%.²⁴

²¹ <https://www.atvise.nl/welke-social-media-platform-gebruikt-jouw-doelgroep-in-2018/>

²² <http://www.pewinternet.org/fact-sheet/social-media/>

²³ <https://www.targetinternet.com/how-different-age-groups-are-using-social-media/>

²⁴ <http://www.pewinternet.org/fact-sheet/social-media/>

Before you start active advertising on Social Media platforms. It is therefore good to ask yourself where your target group is located and how to attract them.

Content marketing:

Video marketing is the promotion of brands, products or services through video. At a time when the attention span of the consumer is getting smaller and smaller, video marketing is an effective way to keep the consumer's attention. Video marketing is the future of content marketing. Various studies show more than half of companies are already making use of the medium.

Video marketing brings many benefits to companies and organizations. We have compiled a short list with the most important reasons for getting started with video marketing.²⁵

- Qualitative videos often take precedence in the search results at Google and Facebook. This leads to more traffic from these two important sources.
- Consumers prefer to watch a video about a product that they read about it. (according to an investigation by Animoto).
- Online videos are suitable for mobile use. Today, 40% of all online visits go via a mobile phone. An online video is easy to play on a smartphone and is therefore very effective.
- You can distribute videos online via advertisements. You can advertise your own videos in various places.

Video Marketing is an effective way to generate a positive experience to your visitors when browsing on your website and Social Media. Thanks to its custom visuals and videos. For the promotion of the Geopark, you can hire a professional (or student) video maker, to create an attractive and interactive header video for on the website. The video consists of all the most important highlights, attractions, and activities in the Hateg Country Geopark. The highlights have to be displayed in an attractive video that awakens visitors' interest and convinces them to visit the geopark. In fact, the intention is to create a short, attractive video that summarizes the Hateg Country Geopark on the most important sights.

²⁵ <https://www.extendure.com/videomarketing-de-toekomst-van-content/>

This promotion idea is very easy to work out and can appeal to a very large audience. The only costs you have are the hours of the cameraman and maybe advertising budget if you want to promote it on a large scale.

- Geopark app

The geopark app is an idea to improve the experience of the visitors. The intention is to develop an all-in-one functional, user-friendly application with the following must-have substantive components:

- *Things to Do*: attractions, activities, museums, visiting points, and geosites.
- *Calendar*: annual events, festivals and event guide, etc.
- *Maps*: local walking and biking routes, towns and villages, etc.
- *Places to Stay*: hotels, B&B's, guesthouses, hostels, etc.
- *Places to Eat*: cafes, pubs, restaurants, self-catering, takeaways, etc.
- *Local products*: crafts, markets, fairs, local workshops, etc.
- *Local Services*: information points, doctors, chemists, Service Stations etc.
- *Public Transport*: bicycle hire, bus routes, taxi services, carpooling possibilities, etc.

To create a functional app that needs to be user-friendly is almost impossible to make yourself if you have no experience with it. That's why we did research on the price to have an application made by professionals. The costs can vary between € 2,500 to and € 100,000 and even more.

Price range: € 2,500 to € 5,000

For this price you get a standard application. Basic apps often use reuse of existing parts. On the one hand, this means that there is less flexibility if you have your app made, on the other hand, you can use a proven concept for a competitive price.²⁶

Price range € 5,000 to € 20,000

Making a self-signed application costs on average between € 5,000 and € 20,000. Because more customization is possible for this budget, there is also more room to adapt the apps to its environment. For example, many apps are adapted to the company or organization in which they are used and the wishes of the user are taken into account in having the app created. In addition, these apps often have more options with regard to design and often contain new features.²⁷

²⁶ <http://www.oracle.com/us/corporate/pricing/price-lists/business-intelligence-price-list-071347.pdf>

²⁷ <http://www.oracle.com/us/corporate/pricing/price-lists/business-intelligence-price-list-071347.pdf>

Price range more than € 20,000

Starting from € 20,000 you can have a comprehensive app made. In this price range, more customization is required and costs are higher. Particularly when data is retrieved from an external information source or database and displayed in the app, this ensures a lot of customization. In addition, advanced functionalities often ensure that the app takes more hours to create. Of course, this investment is also rewarded: through this customized approach you put a unique app in the market that adds a lot of value to users. For example, to make reservations, a ticket sales option, read and post reviews, etc. ²⁸

Price range more than € 100,000:

The most expensive and most complex option of application development can be found above the price of € 100,000. Making an app costs so much through a combination of many complex technical functions and an exceptional visual design. In such a case, the visual design goes much further than a well-thought-out design, but the user is put at the center of every step. By involving extensive users in the design of an app and approving the design only after many iterations and tests, our exclusive app is made to acquire this app a lot of publicity. ²⁹

To create the all-in-one app of Hateg Country Geopark, we estimate the price ranges around the last two options of application developments. That means a budget between the € 20,000 and € 100,000. If the budget is available, the Geopark app can offer an enormous added value to the tourists. Different functions come together in a single app that contributes to generating an optimal experience. An additional advantage is that you do not have to print out walking and cycling maps, brochures, information bundles, entrance tickets, etc. In short, the application will contribute to a reduction of paper waste, printing costs, transport, and other related services and costs.

- Virtual reality

Specific for the two Geosites: *Walking between dinosaurs* and *Volcanoes in Hateg* we thought of a Virtual Reality experience. The concept would be an experience of a virtual world back into the history of Hateg Country at a time when you can walk around between living dinosaurs and be surrounded by

²⁸ <http://howmuchtomakeanapp.com/>

²⁹ <https://savvyapps.com/blog/how-much-does-app-cost-massive-review-pricing-budget-considerations>

a landscape that is subject to powerful, spectacular volcanic eruptions that were part of the rich history of the Geopark. The Virtual reality concept enables allows someone to do the following:

- Walk around a three-dimensional world of Hateg Country Geopark
- Performing virtual movements
- Taking part in the VR experience with multiple participants

And the fact that they can do this in a 3D environment means that they replicate an experience similar to that in the real world then, but without the many dangers.

But to implement the Virtual Reality concepts for the Hateg Country Geopark little information is available about the prices of creating such virtual reality concepts. But for such a three-dimensional experience, you still have to allocate a large budget. And also, the purchase of Virtual Reality glasses that cost +/- € 200 each. A cheaper option is a 360° video. If you want to respond to the experience and experience of the visitors, you can view this idea as an investment, and implement this in the Geopark.

- Plan your visit

On the Hateg Country Geopark website, there should be a page to plan your visit. There should be an overview of different accommodations, food & drinks, activities, etc. with an overall review score where sustainability must be an important measure in the total score. The score is based on the following 6 criteria of ecotourism:

- The Ecotourism Operation is compatible with the natural and cultural values of the Geopark
- The Ecotourism Operation is designed to fit within the character of the Geopark
- The Ecotourism Operation minimizes its footprint on the Site
- The Ecotourism Operation contributes to protecting and positively enhancing the Geopark.
- The Ecotourism Operation engages, involves and benefits Traditional Owners and local communities.
- The Ecotourism Operation encourages visitors to appreciate and want to protect and conserve the Geopark.

We have established these criteria that the facilities in the Geopark must meet to guarantee visitors the sustainable accommodations, services, and products they are looking for. With the aim of guaranteeing sustainability in the entire Geopark.³⁰

It's not that difficult to score local accommodations, food & drinks, activities, etc. based on these criteria. It only requires a lot of time and multiple checks at every facility in the Geopark and also an integration of the score on the website of the geopark itself and the different facilities. The advantage is, that as an ecotourist you choose an accommodation, restaurant, brasserie, cafe that meet the basic values of ecotourism.

- GEOfood label

In addition to the subject above we also can introduce the Geofood label in the Hateg Country Geopark. GEOfood label is founded by a Geopark in Norway. It's the official label of local food and restaurants in a UNESCO Global Geopark. Only a recognized UNESCO Global Geopark can be allowed to use the GEOfood brand and criteria. To achieve the credit to call your product GEOfood you must be able to confirm that the food is produced inside a UNESCO Global Geopark, and you must be able to tell the story of the product and the geological area it is produced in.

Implementing the GEOfood label is certainly feasible. The membership must be requested to Hateg Country and each Geopark is responsible for the correct use and development of the brand in its area.

The Geofood label gives an added value to the experience of Ecotourists. Thanks to this label they are aware of the origin, ingredients and method of preparation of a product.

The label is only available for facilities in the Geopark. But if we compare the general scores according to certain criteria where sustainability is a huge measure. The facilities outside the area of the Geopark with a good quality score will automatically attract tourists with attention for sustainable products. That's a way they can carefree enjoy the services of facilities with outside the Geopark area.

- Nature Park Resort

³⁰ (2014). *Best Practice Ecotourism Development Guidelines*. Queensland Government.

The most difficult realizable idea of all is to create a small-scale nature park resort specially adapted to the needs of ecotourists.

Nature Park Resort is an initiative of the Styrian Eisenwurzen UNESCO Geopark in Germany. The resort consists of a dozen small eco-friendly prefab homes. The small cottages are made up of a light prefabricated mixture of cement and wood shavings and other sustainable elements. A roof with solar panels to provide for their own energy supply, filtered rainwater for all in-house water needed and each home has its own compost heap for green waste. This natural resort can bring the villages in the Geopark back to life and makes it more attractive while creating added value for the region.

Only the price of realizing a natural resort is very expensive. Integrated with all kinds of costly investments such as solar panels, water purification systems, isolation, solar thermal panels to heat up the water, etc. But they do contribute to sustainable accommodation. And are decisive in attracting ecotourists. The Natural Resort is a long-term investment that can regain itself through the years.³¹

5 . Recommendations

The proposed recommendations this document wants to deliver are focused on how the Hateg country dinosaur geopark can promote sustainable development.

As we define the definition of sustainable development for the Hateg country dinosaur geopark like this:

“In the Geoconservation in Hateg Country Dinosaur Geopark sustainable development means creating a sustainable economy based on geo/agro/eco-tourism by conserving and promoting the local natural, historical and cultural landmarks while aiming to an enhancement of the life quality of the inhabitants and ultimately establishing the Geopark as a worldwide interest point:

- In ways we educate the local community to acknowledge the economic and environmental importance of the natural and geological conservation and we encourage them to take initiative in preserving the Hateg Country Dinosaur Geopark for future generation.

- In ways which elevate the state of the natural, historical and cultural environment while respecting its limits- using the geological heritage only for education, science and local sustainable economy and perpetuating its historical legacy.”

³¹ <https://www.eisenwurzen.com/en/mein-natur-und-geopark/nature-park-resort/>

Ecotourism is the main focus we described in this document for the Hateg Country dinosaur park to use for promotion of sustainable development.

“Responsible travel to natural areas that conserves the environment and improves the well-being of local people.” (Wood)

The Ecotourism Operation is compatible with the natural and cultural values of the Geopark

The Ecotourism Operation is designed to fit within the character of the Geopark

The Ecotourism Operation minimizes its footprint on the Site

The Ecotourism Operation contributes to protecting and positively enhancing the Geopark.

The Ecotourism Operation engages, involves and benefits Traditional Owners and local communities.

The Ecotourism Operation encourages visitors to appreciate and want to protect and conserve the Geopark.

These are our recommendations:

Suggestions on how to present information about the Geopark:

- Website

Condense your menu

The website of Hateg Country Geopark has seven items in their navigation bar with under each item three to six subitems. An overload of information may deter visitors. Cleaner navigation makes things easier to find. When things are easier to find, it creates a better experience for your site’s visitors. In addition, they’ll be less likely to hit the back button because they won’t be frustrated trying to find what they need. ³²

Make your site mobile-friendly

Mobile is huge right now. With over 65% of the population in Western Europe owns a smartphone. That means that your new visitors are likely to come from mobile browsing. But, it’s tough to navigate on a site that is not optimized for a tiny screen. The Hateg Country website has some flaws in mobile browsing. When you view the website on your mobile, you actually get the desktop website, but then displayed very small to fit on your screen. The navigation on the website is also very difficult thanks to the tiny navigation buttons, that are too small for your thumb. To adapt your website to a mobile version, there are several inexpensive tools to create a mobile website from your current site. Explore those or get a designer to make your site mobile-friendly to optimize the experience of your visitors.

33

³² <https://support.google.com/webmasters/answer/7451184?hl=en>

³³ <https://developers.google.com/search/mobile-sites/>

Social Media on website

These days, it seems like the entire world is on social media in some way. That means you can't leave social network pages out of your website. The Hateg website refers to its Facebook page Geoparcu Dinozaurilor Țara Hațegului. The Facebook page publishes various posts about their projects, 10-year challenge, surveys, atmospheric images, nature photographs and much more. We can clearly see the presence on the Facebook page. Unfortunately, the Facebook page is not accessible for international visitors because the publications are all in Romanian.

Visuals

An effective way to generate a positive experience to your visitors when browsing on your website can be to use custom visuals and videos. Especially for a website like the Hateg Country Geopark, there are many possibilities. The Geopark has a huge variety of dazzling nature, fascinating history, impressive visiting points, and educational geosites.³⁴

A suggestion for visuals on the website, you can create an attractive and interactive header video on the website. The video consists of all the most important highlights, attractions, and activities in the Hateg Country Geopark. The highlights have to be displayed in an attractive video that awakens visitors' interest and convinces them to visit the geopark. In fact, the intention is to create a short, attractive video that summarizes the Hateg Country Geopark on the most important sights.

- Social media optimization

How to track traffic to your social media account in two simple steps:

Build a reliable reputation

To generate loyal visitors, it is in my opinion important to build up a reliable reputation in advance. It starts with ensuring you are either an expert or you act as an expert curator. This means undertaking thorough research and producing original content or curating quality content. This will make you a respected and qualified source.

Your reputation is also about how you engage and support people. Your reputation will be enhanced if you openly share your content and expertise including content that is not your own, engage with others through discussions and commenting, and if you are friendly and helpful to people.³⁵

³⁴ <https://www.usability.gov/what-and-why/visual-design.html>

³⁵ <https://blog.hootsuite.com/social-media-integration-for-your-website/>

In case of the social media Facebook page of Hateg Country they post very interesting things about the Geopark, their projects, information about ongoing investigations, nature photos, they participate in the ongoing viral trends, for example the 10-year challenge. Sufficient and reliable information is published that relates to the Geopark.

Engage with your audience

To create commitment with your visitors you need to actively engage with your audience. This can include commenting, mentions, shares, likes, and plus ones. No one is as smart as everyone so share other people's' content and provide a good user experience by providing feedback and comments.

You need to target the networks with which to interact and make it easy for people to interact. As a brand or an organization, you can also encourage people to engage with a call to action, for example, if you find this article helpful please share it. If you think I have missed anything please add your comments below.³⁶

For the Hateg Country Facebook page, there is almost no commitment in the form of reactions to their Facebook publications. By asking simple short questions directed at your followers, one can quickly create interaction with your audience.

Integrate Social into your Website (vice versa)

When building a website, it is important to consider Social Media sharing tools should into your site architecture. For example: include direct web links to your social media channels from your website and from your social profiles back to your website. You can also add social media sharing buttons in the header or footer of your website.

Links on social media are often considered higher-quality links because social sites have a high web authority. Even if your Facebook page is brand new, it's likely to rank well in the SERP's because of Facebook's overall high authority.³⁷

For the Hateg Country website, there are two Facebook buttons represented in the header of the website. One 'Like' button and one leading you to their Facebook page. The 'Like' button is a little

³⁶ <https://marketingland.com/10-ways-increase-social-media-engagement-like-never-180901>

³⁷ <https://blog.hootsuite.com/social-media-integration-for-your-website/>

strange because you can like the Facebook page without seeing it in another tab. The other button is a better option. the Facebook page opens in another tab, so you check out their information and publications before liking the page. Unfortunately, the publications are written in Romanian.

Consistency is Key

Creating your social profile seems like a simple task, yet it's one of the first areas where businesses tend to fall short. It's important that the 'tone of voice' of the website matches that of the Facebook page. It creates a more professional cohesive experience for others in your network, so all the contact information in your social profiles should be exactly the same as they are on your website. ³⁸

The information 'about' on the Hateg Country Facebook page and the contact information on the website is very limited. Comprehensive information is always a plus and it increases the reliability. On the Facebook page, we can find two kinds of telephone numbers but further no information. On the website, we can find those two numbers with more information. It's important to use the website and social media in a cohesive way to optimize the visitor's experience and your reputation.

(The difference in receiving and consulting information between youth, adults and the elderly? For example, the limited access to a device with internet to receive information via the website and/or Social Media for the elderly. Possible solution: sustainably created brochures with the focus on minimizing waste and emitting emissions)

- Geopark app

An idea to optimize the experience of ecotourism in the Hateg Country Geopark is to make use of an all-encompassing application available for iPhone and Android. The geopark app is a multimedia guide that allows visitors to discover over different sites of geological and heritage interest throughout the Hateg Country Dinosaur Geopark, with detailed information and beautiful images and the most important facts to support each point of interest. Each site comes with directions to enable you to explore these fascinating geological features for yourself, with GPS triggered notifications letting you know when you've reached the right spot.

The Geopark App should include:

- *Things to Do*: attractions, activities, museums, visiting points, and geosites.

³⁸<https://www.inc.com/aj-agrawal/importance-of-consistent-branding-across-social-media-platforms.html>

- *Calendar*: annual events, festivals and event guide, etc.
- *Maps*: local walking and biking routes, towns and villages, etc.
- *Places to Stay*: hotels, B&B's, guesthouses, hostels, etc.
- *Places to Eat*: cafes, pubs, restaurants, self-catering, takeaways, etc.
- *Local products*: crafts, markets, fairs, local workshops, etc.
- *Local Services*: information points, doctors, chemists, Service Stations etc.
- *Public Transport*: bicycle hire, bus routes, taxi services, carpooling possibilities, etc.

In addition to these eight basic categories on the app, the user's current location shows up on a variety of maps, when the application is active. Indicated current location moves, which provides the users with the experience of strolling around in various maps.

- Virtual reality

To optimize the experience of visitors, Virtual Reality is a terrific good idea to implement for Hateg Country Geopark. The Geopark is famous for its geological site about the dinosaurs, former volcanic activity, and rich human history in the area of Hateg Country.

Walking between dinosaurs:

More than 70 million years ago, the Earth was in a continuous tectonic transformation. The dryness had begun to fragment. From the continents, there were isolated islands, which, being activated by the tectonic movements, were like floats on the planetary ocean. Such an island was also the Hateg, which was, at that time, where the Mediterranean is today.

Today the Hateg area contains one of the latest assemblages of dinosaurs in the world. The fossil remains are internationally unique and are commonly known as the *dwarf dinosaurs of Transylvania*. In Hateg there are also other dinosaur species to be found. Just one example, the *Magyarosaurus dacus*, is a dinosaur related to large herbivorous dinosaur species.³⁹

All the species found in Hateg were herbivorous. But there is an indication of some carnivorous species thanks to the findings of isolated teeth in the region from species like the *theropods*. Other reptile fossils that lived in the area are from turtles, crocodilians, and the largest flying reptiles in the world with a wingspan of 14m, the *Hategopteryx tambema*.⁴⁰

³⁹ <http://www.hateggeoparc.ro/geosituri/dinozaurii-pitici-din-insula-hateg/>

⁴⁰ Andrasanu, A., Palcu, D., Oelerer, K. (2004). The heritage of the Hateg Country. Geomedia.

One of the most spectacular discoveries over the last years in Hateg is represented by clutches of dinosaur's eggs near the village of Tustea. Alongside of the clutches of eggs were a few bones of babies found. Belonging to the *Telmatosaurus transsylvanicus* or nicknamed the 'Duck-billed' dinosaur. This was a very special discovery because the association of dinosaur eggs and hatchlings has rarely found in the world.

Unfortunately, dinosaurs are extinct during the Cretaceous–Paleogene extinction event 66 million years ago. It is therefore impossible to see living and moving dinosaurs in real life. Thanks to new technology such as Virtual Reality, you can bring the extinct dinosaurs that lived in the Hateg Geopark back to life. As a visitor, you can walk around the park full of terrifying, life-size dinosaurs.

This new virtual reality concept allows audiences of different ages and abilities to explore the existence of dinosaurs in Hateg Country Geopark through multi-dimensional pictures, illustrations, sounds, animations, and interactivity. It's exploring the geopark in a completely new and innovative way, accessible for almost everyone.

Volcanoes in Hateg:

Besides the use of virtual reality for an experience between the dinosaurs, it can also be applied to the Geosite *volcanoes in Hateg* which used to be numerous and that created the current landscape for a large part. Maybe it seems hard to believe, there were once volcanoes in the Hateg country. Long before the emergence of the Carpathian Mountains, the Hateg area was tropical sea bathing islands.

Under influence of the passage of time, most of the traces of these volcanoes have been removed by erosion, by the rivers in the area. The traces kept in the area of Denus-Shi plateau do not give many clues about how many volcanoes were in the area or where they were. But thanks to virtual reality we can travel back in time to the moment Hateg was exposed to a series of different disastrous volcanoes with years of volcanic eruptions.

History of man:

As a third and final virtual reality activity, one can experience the history of humanity through the various centuries. Because of its geographical position, Hateg Country has a variety of landscapes, climate, and natural resources and has created good conditions for human life. This explains the numerous archaeological finds in the region. Several important settlements through the different time periods. From prehistoric times to the iron empire, roman empire and Middle Ages, many people have

called Hateg Country region their homes. Each human civilization has marked Hateg Country with their own values and norms, traditions and way of life.

- Activities on Tripadvisor

TripAdvisor is the world's largest travel website, which is visited every month by millions of travelers planning a trip. Accommodations, restaurants, and attractions can be mentioned on TripAdvisor for free. On TripAdvisor, your company gets the attention of a large, interested audience and you have access to many free marketing tools. So as for Hateg Country Geopark, it's very useful to promote activities, accommodations, restaurants, etc. without any costs. On TripAdvisor you can view the most up-to-date information. In addition to general information such as opening hours, price, location, link to website, temperature and weather forecasts, you can read reviews of other visitors.

A survey showed that three-quarters of the Dutch visitors read reviews and a quarter of all purchases are determined on the basis of a review. The experience of someone else is apparently more valuable than the sales story of an employee or a message on a business or organization website. To win visitors it's important to place activities of Hateg Country on websites like Tripadvisor in combination with the presence of positive reviews. ⁴¹

- Interactive hotspots map

The Interactive hotspots map is a geological map of the Hateg Country area with all activities and hotspots indicated on it. The difference with a regular map is that you can select hotspots based on which interest. For example, geological sites, culture, heritage, nature. After entering your preferences, you get an overview of only the activities within your area of interest. This interactive map is much more user-friendly for visitors, it only gives relevant sights. ⁴²

- Geological timeline of the park

We thought about creating a geological timeline as an additional topic on the website of the Hateg Country. It gives visitors a quick, visually appealing, clear overview of the most important events, times of the Geopark. Under each era or event link to the related activities.

⁴¹ <https://www.5sterrenspecialist.nl/paginas/30-waarom-zijn-reviews-zo-belangrijk.html>

⁴² <http://www.katlageopark.com/?fbclid=IwAR3wTZGIJVVNO9VooF9MA356H-n6QBTGD2Du-3UFWAeZQilwQYoXJ-DIMBA>

An example of a geological timeline we can find in the North West Highlands Geopark in the Scottish Highlands. For the Hateg Country Geopark we would the concept but we would make it more visually attractive. Maybe a video or an interactive timeline where you can click on an event or time period and some additional information will be showing.⁴³

Accommodations in and around the geopark:

- Plan your visit

On the Hateg Country Geopark website, there should be a page to plan your visit. There should be an overview of different accommodations, food & drinks, activities, etc. with an overall review score where sustainability must be an important measure in the total score. In the table below you will find the 6 most important criteria of ecotourism. We have established these criteria that the facilities in the Geopark must meet to guarantee visitors the sustainable accommodations, services, and products they are looking for. With the aim of guaranteeing sustainability in the entire Geopark.⁴⁴

	Best practice Criteria	Values
1	<p>The Ecotourism Operation is compatible with the natural and cultural values of the Geopark.</p> <p><i>The natural and cultural values of the Site are known and unique elements highlighted. Any constraints or stressors on the system are identified and developed and activities on sensitive and vulnerable areas are avoided.</i></p>	Environmental
2	<p>The Ecotourism Operation is designed to fit within the character of the Geopark.</p> <p><i>The design and layout of the Ecotourism Operation is in harmony with the landscape and natural features. The design and layout maximize Ecotourism Facility sustainability and visitor comfort by considering factors such as aspect and orientation. The Site is landscaped with endemic native species.</i></p>	Environmental
3	<p>The Ecotourism Operation minimizes its footprint on the Site.</p> <p><i>Impacts on the Site from the construction and operation of the Ecotourism Facility are minimized. The Ecotourism Operation promotes water and energy conservation and a 'leave no trace' philosophy is</i></p>	Environmental

⁴³ <https://www.nwhgeopark.com/landscape/timeline/>

⁴⁴ (2014). *Best Practice Ecotourism Development Guidelines*. Queensland Government.

	<i>applied in relation to visitor activity. Waste and pollution.</i>	
4	The Ecotourism Operation contributes to protecting and positively enhancing the Geopark. <i>The long-term viability of the national park is supported by the Ecotourism Operation working in partnership with park management and local groups too, for example, rehabilitate disturbed areas of the Geopark and educate staff and visitors regarding intrinsic park values.</i>	Environmental Social
5	The Ecotourism Operation engages, involves and benefits Traditional Owners and local communities. <i>The importance of the Geopark to the cultural and economic priorities of local communities is identified and long-term partnerships pursued. Traditional Owners are involved in the interpretation and experience of Indigenous cultural resources.</i>	Social Economic
6	The Ecotourism Operation encourages visitors to appreciate and want to protect and conserve the Geopark. <i>The natural and cultural values of the Site are appropriately interpreted and visitor activities and experiences support the protection and conservation of these values.</i>	Social Economic Environmental

- GEOfood label

Sustainable food is an extremely important factor in eco-tourism. That is why we would like to propose to oblige the label at all catering establishments in the Hateg Country Geopark. Even stimulate the catering businesses around the Geopark to join the GEOfood label. With the aim of guaranteeing sustainable food for visitors.

GEOfood is the official label of local food and restaurants in a UNESCO Global Geopark. Only a recognized UNESCO Global Geopark can be allowed to use the GEOfood brand and criteria. To achieve the credit to call your product GEOfood you must be able to confirm that the food is produced inside a UNESCO Global Geopark, and you must be able to tell the story of the product and the geological area it is produced in. The membership must be requested to Hateg Country and each Geopark is responsible for the correct use and development of the brand in its area. Many UNESCO Global Geoparks have already asked to use the brand for their products and restaurants.^{45 46}

- Nature Park Resort

⁴⁵ <https://magma.geopark.no/en/discover-experience/geofood-2/>

⁴⁶ <https://www.geofood.no/>

Nature Park Resort is an initiative of the Styrian Eisenwurzen UNESCO Geopark in Germany.

A model for cooperation for small-scale tourist accommodations

There are several small-scale tourist accommodations as well as a large number of rarely used second or weekend homes in the Nature Park. Some of these previously identified vacant homes in the Nature Park communities have an increased potential of becoming a part of this project.

While there is a high demand for authentic, individual and inexpensive accommodations, the hosts entail a wide range of challenges (such as catering or online marketing). Therefore, this project focuses on making ends meet by installing a so-called “Nature Park Resort” that brings resources and managerial skills together. It creates a regional interface which facilitates the management of guests who stay overnight without changing the structure of ownership. This brings the village back to life and makes it more attractive while creating added value for the region.

All in all, Nature & Geopark benefits from the fact that the beds already existing are managed professionally, while guests benefit from a professional and thorough service. And this idea for sustainable ecotourism fits perfectly within the picture of Hateg Country Geopark.⁴⁷

6. Conclusions

This study has treated the subject of sustainable ecotourism in the Hațeg Geopark by formulating a central research question from which two other derived.

6.1. Central Research Question: *How can we better promote ecotourism with the focus on natural, historical and cultural character of the Hațeg Country using nowadays technologies in order to raise the people’s awareness about its great economic, cultural and environmental importance?*

It is a fact that never before has the use of modern technology been as focused on communication as it is nowadays. As long as it is used wisely, the benefits of internet are more than evident to anybody, and a good online strategy can often be the key to success for almost any kind of business. The low price and the ease of accessibility and usage make the online a perfect medium for launching new products, advertising the existing ones and promoting them on a constant basis. That is why it is no wonder that the media is one of largest fields in which the internet is used. Consequently, this study has also reached the conclusion that it is the best way to promote ecotourism.

⁴⁷ <https://www.eisenwurzen.com/en/mein-natur-und-geopark/nature-park-resort/>

As discussed in the Results section of this study, Hateg Country Dinosaurs' Geopark can currently be found on the internet through a website and a Facebook page, but they need further improvements to achieve a higher promoting level. This is, in fact, one of the main issues: without the proper means or strategies, it is hard to advertise a product or a service, no matter how profitable or beneficial it might be, and while Hateg Geopark and ecotourism are indeed subjects of great interest, much of the attention is lost along the way.

To verify this fact, we looked at other geoparks from the GGN and EGN. We found that they are very popular establishments and that their success is owing very much to their efficiency in promoting their natural, historical and cultural values which would not be possible without a good plan of advertising strategies.

Therefore, to answer our central research question, we think that the best way to promote ecotourism with the focus on natural, historical and cultural character of the Hateg Country and using nowadays technologies in order to raise the people's awareness about its great economic, cultural and environmental importance is by comparing it with other geoparks in order to find suitable methods and strategies of promoting ecotourism that can be adopted.

6.2. Derived research questions

a. How can we adapt other geoparks strategies into our project?

Finding new ecotourism strategies, methods or activities by looking at other GGN/EGN geoparks approach is both an easy and useful method. Given the fact that not all methods are suitable for Hateg Country Dinosaur Geopark, this study made an objective from targeting the weak points in the current approach that the geopark is using and finding specific models in the strategies of the other parks that could apply to these. For example, it is impossible to implement eco-sports such as surfing, diving or snorkeling because they are not compatible with the environmental background of the area, but there might be other projects, such as creating a geological timeline on the official website, that might actually help with promoting the geological heritage of the Hateg Country Dinosaurs' Geopark. In other words, what needs to be done is looking for strategies that synergize with Hateg Country natural, historical and cultural backgrounds.

b. Which are the most efficient advertising means? Newspapers, flyers, Public events, TV advertising, Social media channels etc.?

By far the most efficient advertising mean is represented by the online social platforms. Their cost is very low, the information travels around the World Wide Web very fast so anyone can be informed about events, traditional and local products, access ways to the Geopark and its facilities and much more. And no tree is harmed in this process.

7. Appendix - List of UNESCO global geoparks in 2017

AUSTRIA	21 Jingpohu UNESCO Global Geopark	CZECHIA
1 Styrian Eisenwurzen UNESCO Global Geopark	22 Leiqiong UNESCO Global Geopark	44 Bohemian Paradise UNESCO Global Geopark
2 Carnic Alps UNESCO Global Geopark	23 Taishan UNESCO Global Geopark	
3 Ore of the Alps UNESCO Global Geopark	24 Wangwushan-Daimeishan UNESCO Global Geopark	DENMARK
	25 Longhushan UNESCO Global Geopark	45 Odsherred UNESCO Global Geopark
BRAZIL	26 Zigong UNESCO Global Geopark	
4 Araripe UNESCO Global Geopark	27 Ayla Desert UNESCO Global Geopark	FINLAND
	28 Qinling Zhongnanshan UNESCO Global Geopark	46 Rokua UNESCO Global Geopark
CANADA	29 Ningde UNESCO Global Geopark	
5 Stonehammer UNESCO Global Geopark	30 Leye Fengshan UNESCO Global Geopark	FRANCE
6 Tumbler Ridge UNESCO Global Geopark	31 Hong Kong UNESCO Global Geopark	47 Haute-Provence UNESCO Global Geopark
	32 Tianzhushan UNESCO Global Geopark	48 Luberon UNESCO Global Geopark
CHINA	33 Sanqingshan UNESCO Global Geopark	49 Massif des Bauges UNESCO Global Geopark
7 Danxiashan UNESCO Global Geopark	34 Shennongjia UNESCO Global Geopark	50 Chablais UNESCO Global Geopark
8 Huangshan UNESCO Global Geopark	35 Yanqing UNESCO Global Geopark	51 Monts d'Ardèche UNESCO Global Geopark
9 Lushan UNESCO Global Geopark	36 Mount Kunlun UNESCO Global Geopark	52 Causses du Quercy UNESCO Global Geopark
10 Shilin UNESCO Global Geopark	37 Dali-Cangshan UNESCO Global Geopark	
11 Songshan UNESCO Global Geopark	38 Dunhuang UNESCO Global Geopark	GERMANY
12 Wudalianchi UNESCO Global Geopark	39 Zhijindong Cave UNESCO Global Geopark	53 Vulkaneifel UNESCO Global Geopark
13 Yuntaishan UNESCO Global Geopark	40 Arxan UNESCO Global Geopark	54 TERRA. vita UNESCO Global Geopark
14 Zhangjiajie UNESCO Global Geopark	41 Keketouhai UNESCO Global Geopark	55 Bergstraße-Odenwald UNESCO Global Geopark
15 Hexigten UNESCO Global Geopark		56 Swabian Alb UNESCO Global Geopark
16 Taining UNESCO Global Geopark	CROATIA	57 Harz, Braunschweiger Land UNESCO Global Geopark
17 Xingwen UNESCO Global Geopark	42 Papuk UNESCO Global Geopark	
18 Yandangshan UNESCO Global Geopark		GREECE
19 Fangshan UNESCO Global Geopark	CYPRUS	58 Lesvos Island UNESCO Global Geopark

20 Funiushan UNESCO Global Geopark	43 Troodos UNESCO Global Geopark	59 Psiloritis UNESCO Global Geopark
60 Chelmos Vouraikos UNESCO Global Geopark	73 Parco Geominerario della Sardegna UNESCO Global Geopark	NORWAY
61 Vikos - Aaos UNESCO Global Geopark	74 Rocca di Cerere UNESCO Global Geopark	94 Gea Norvegica UNESCO Global Geopark
62 Sitia UNESCO Global Geopark	75 Adamello-Brenta UNESCO Global Geopark	95 Magma UNESCO Global Geopark
HUNGARY	76 Cilento, Vallo di Diano e Alburni UNESCO Global Geopark	
63 Bakony-Balaton UNESCO Global Geopark	77 Tuscan Mining Park UNESCO Global Geopark	PORTUGAL
60 Chelmos Vouraikos UNESCO Global Geopark	78 Alpi Apuane UNESCO Global Geopark	96 Naturtejo da Meseta Meridional UNESCO Global Geopark
61 Vikos - Aaos UNESCO Global Geopark	79 Sesia Val Grande UNESCO Global Geopark	97 Arouca UNESCO Global Geopark
62 Sitia UNESCO Global Geopark	80 Pollino UNESCO Global Geopark	98 Açores UNESCO Global Geopark
	JAPAN	99 Terras de Cavaleiros UNESCO Global Geopark
HUNGARY	81 Itoigawa UNESCO Global Geopark	
63 Bakony-Balaton UNESCO Global Geopark	82 Unzen Volcanic Area UNESCO Global Geopark	REPUBLIC OF KOREA
	83 Toya - Usu UNESCO Global Geopark	100 Jeju UNESCO Global Geopark
ICELAND	84 San'in Kaigan UNESCO Global Geopark	101 Cheongsong UNESCO Global Geopark
64 Katla UNESCO Global Geopark	85 Muroto UNESCO Global Geopark	
65 Reykjanes UNESCO Global Geopark	86 Oki Islands UNESCO Global Geopark	ROMANIA
	87 Aso UNESCO Global Geopark	102 Hateg UNESCO Global Geopark
INDONESIA	88 Mt. Apo UNESCO Global Geopark	
66 Batur UNESCO Global Geopark		SLOVENIA
67 Gunung Sewu UNESCO Global Geopark	MALAYSIA	103 Idrija UNESCO Global Geopark
	89 Langkawi UNESCO Global Geopark	
IRAN _ISLAMIC REPUBLIC		SPAIN
68 Qeshm Island UNESCO Global Geopark	MEXICO	104 Cabo de Gata-Níjar UNESCO Global Geopark
IRELAND	90 Comarca Minera, Hidalgo UNESCO Global Geopark	105 Sierras Subbéticas UNESCO Global Geopark
69 Copper Coast UNESCO Global Geopark	91 Mixteca Alta, Oaxaca UNESCO Global Geopark	106 Sobrarbe-Pirineos UNESCO Global Geoparks
70 Burren and Cliffs of Moher UNESCO Global Geopark		107 Basque Coast UNESCO Global Geopark
ITALY	MOROCCO	108 Sierra Norte de Sevilla UNESCO Global Geopark
71 Madonie UNESCO Global Geopark	92 M'Goun UNESCO Global Geopark	109 Villuercas Ibores Jara UNESCO Global Geopark
	NETHERLANDS	

72 Beigua UNESCO Global Geopark	93 De Hondsrug UNESCO Global Geopark	110 Central Catalonia UNESCO Global Geopark
111 Molina & Alto Tajo UNESCO Global Geopark	119 English Riviera UNESCO Global Geopark	HUNGARY & SLOVAKIA
112 El Hierro UNESCO Global Geopark	120 GeoMôn UNESCO Global Geopark	126 Novohrad-Nógrád UNESCO Global Geopark
113 Lanzarote and Chinijo Islands UNESCO Global Geopark	121 Shetland UNESCO Global Geopark	
114 Las Loras UNESCO Global Geopark		IRELAND AND UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND
111 Molina & Alto Tajo UNESCO Global Geopark	URUGUAY	127 Marble arch Caves
112 El Hierro UNESCO Global Geopark	122 Grutas del Palacio UNESCO Global Geopark	
113 Lanzarote and Chinijo Islands UNESCO Global Geopark		
114 Las Loras UNESCO Global Geopark	VIETNAM	
	123 Dong Van Karst Plateau UNESCO Global Geopark	
TURKEY		
115 Kula Volcanic UNESCO Global Geopark	AUSTRIA & SLOVENIA	
	124 Karawanken/Karavanke UNESCO Global Geopark	
UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND		
116 North Pennines AONB UNESCO Global Geopark	GERMANY & POLAND	
117 North-West Highlands UNESCO Global Geopark	125 Muskauer Faltenbogen / Łuk Muzakowa UNESCO Global Geopark	
118 Forest Fawr UNESCO Global Geopark		

UNESCO, UNESCO Global Geoparks: celebrating earth heritage, sustaining local communities, 3p., 2017

References:

- Andrasanu, A., Palcu, D., Oelerer, K., *The heritage of the Hateg Country*. Geomedia, 2004
- Andrasnu et al, *Hateg country dinosaurs geoparks*, 2008
- Best Practice Ecotourism Development Guidelines*. Queensland Government, 2014
- UNESCO, UNESCO Global Geoparks: celebrating earth heritage, sustaining local communities, 3p., 2017
- www.unesco.org/new/en/natural-sciences/environment/earth-sciences/unesco-global-geoparks/list-of-unesco-global-geoparks/romania/hateg/
- <http://www.hateggeoparc.ro/>
- <https://greenglobaltravel.com/>
- http://www.europeangeoparks.org/?page_id=168
- <https://www.eisenwurzen.com/en/mein-natur-und-geopark/nature-park-resort/>
- <https://magma-geopark.no/en/discover-experience/geofood-2/>
- <https://www.geofood.no/>
- <https://www.nwhgeopark.com/landscape/timeline/>
- <https://www.5sterrenspecialist.nl/paginas/30-waarom-zijn-reviews-zo-belangrijk.html>
- <http://www.katlageopark.com/?fbclid=IwAR3wTZGIJVNNO9Voof9MA356H-n6QBTGD2Du-3UFWAeZQilwQYoXJ-DIMBA>
- <http://www.hateggeoparc.ro/geosituri/dinozaurii-pitici-din-insula-hateg/>
- <https://www.inc.com/aj-agrawal/importance-of-consistent-branding-across-social-media-platforms.html>
- <https://marketingland.com/10-ways-increase-social-media-engagement-like-never-180901>
- <https://blog.hootsuite.com/social-media-integration-for-your-website/>
- <https://www.usability.gov/what-and-why/visual-design.html>
- <https://support.google.com/webmasters/answer/7451184?hl=nl>
- <https://developers.google.com/search/mobile-sites/>
- <http://howmuchtomakeanapp.com/>
- <https://savvyapps.com/blog/how-much-does-app-cost-massive-review-pricing-budget-considerations>
- <http://www.oracle.com/us/corporate/pricing/price-lists/business-intelligence-price-list-071347.pdf>
- <https://www.extendure.com/videomarketing-de-toekomst-van-content/>
- <https://www.atvise.nl/welke-social-media-platform-gebruikt-jouw-doelgroep-in-2018/>
- <http://www.pewinternet.org/fact-sheet/social-media/>
- <https://www.targetinternet.com/how-different-age-groups-are-using-social-media/>
- <http://www.pewinternet.org/fact-sheet/social-media/>