# A PRACTICAL EXAMPLE OF THE DIGITAL TWIN IN ACTIVE LEISURE AND ENTERTAINMENT TOURISM: ACTIVITIES WITH HORSES

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**Abstract.**
***Purpose and aim of the study:*** *Based on the need to classify leisure and entertainment tourism services, the research aims to give an example of the practical application of the digital twin in leisure and entertainment tourism – horse riding.*
***Design / Methodology / Approach:*** *The research employed the monographic and descriptive methods to analyse the definitions of active leisure and entertainment tourism as well as a semi-structured interview with Latgale region farms providing equestrian activities to tourists to identify the compliance of tourism services supplied by each farm with the criteria set by the classification by applying the NewStarT digital twin prototype.*
***Main Findings:*** *Based on the results of the interview, it was found that out of the 10 farms interviewed, 3 farms scored 100% and that these farms met all seven of the criteria for successful management of the service.*
***Originality:*** *The research gives insight into the practical application of the digital assistant to assess the compliance of tourism services supplied by a farm with the criteria set by the classification.*
***Implications:*** *The research results could be used for the implementation of the digital tool to assess the compliance of a leisure tourism service – horse riding –, as well as to develop recommendations for farms whose tourism services supplied are not 100% compliant.*

***Keywords:*** *active leisure, classification, digital twin, entertainment tourism, horse riding, management.*

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## Introduction

There is insufficient complementarity of tourism products supplied in Latgale region, as other tourism service providers are perceived as competitors rather than cooperation partners. Defining precise and unambiguous tourism categories and managing the tourism industry requires digital tools to make data-driven decisions.

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Complementarity is an important concept in organizational analysis, as it applies an approach to explaining patterns of organizational practices, whether they fit with certain business strategies and why various organizations apply different patterns and strategies. A formal complementarity analysis focuses on interactions between interrelated decisions (Brynjolfsson & Milgrom, 2013).

Building cooperation between businesses is an important factor in persuading tourists to stay longer in a destination of their choice. Businesses should not be perceived as competitors, thereby jointly supplying a range of leisure and entertainment services.

Competitiveness can have several different definitions, depending on whether it refers to individual businesses or groups of businesses. However, the competitiveness of an individual business usually involves its ability to survive in the market and make a profit. Competitiveness refers to the competition between products supplied by various businesses in the same market (Peneder & Rammer, 2018).

Both of these factors need to be defined and developed in order to successfully manage the supply of active leisure services that can appeal not only to local tourists visiting the available tourist attractions but also to foreign ones.

The research problem relates to leisure and entertainment tourism, particularly horse riding, as there is no single classification thereof to successfully manage the supply of this tourism service, which is included in different tourism categories, thereby confusing current and potential tourists. Besides, tourists cannot assess the expected quality of this tourism service.

The research aims to give an example of the practical application of the digital twin in leisure and entertainment tourism – horse riding –, based on the need to classify leisure and entertainment tourism services.

To achieve the aim, the following specific research tasks were set: to review the literature on the definitions of active leisure and entertainment tourism and to use a digital assistant to identify the compliance of horse-riding services in Latgale region by conducting interviews with farms.

The research employed the monographic and descriptive methods to analyse the definitions of active leisure and entertainment tourism as well as a semi-structured interview with Latgale region farms providing equestrian activities to tourists to identify the compliance of tourism services supplied by each farm with the criteria set by the classification by applying the NewStarT digital twin prototype.

## Research results and discussion

The tourism industry is one of the largest industries in the world. It emerged to meet the need of individuals to travel and see various places as part of travel, including hospitality (e.g. accommodation, restaurants), transport (e.g. airlines, car rental), travel facilitation and information (e.g. tour operators, tourist information centres), tourist attractions and entertainment (e.g. heritage sites, traditional and cultural events) (Romos, 2023).

The travel and tourism industry contributed 9.1% to global GDP in 2023, an increase of 23.2% from 2022 and only 4.1% below the 2019 level (WTTC, 2024).

Active leisure and the physical and intellectual renewal of individuals is one of the main objectives of tourism. The driving force of tourism involves relieving the tensions of civilization through active leisure, the creation of wealth, the restoration of working capacity and the preservation and improvement of health. This includes a wide range of tourism activities, from exploring remote and exotic places or enjoying a holiday by the sea to taking part in cultural programmes and various forms of entertainment. Entertainment tourism shares many characteristics with wellness tourism, medical tourism and health tourism. Nowadays, spending quality time during a trip is important for sports tourists. The main objectives of entertainment tourism are to actively participate in a leisure activity or to attend a sporting or cultural event as a spectator, e.g. to go to a play at the theatre. Intellectual leisure activities are also part of tourism. Cultural tourism includes visits to castles, manor houses, museums, etc. Gastronomy, such as wine tasting, is also important from this perspective. Tourist leisure mainly involves activities undertaken by the tourists themselves. They can make use of the leisure opportunities offered by the destination's natural or man-made environment (Készült az Új, 2015).

Active tourism involves physical activities in nature and combines sport, culture and adventure into an original tourism product. For more than 150 years, tourists have spent their free time doing activities in unique natural areas (Education and Culture DG Lifelong Learning Programme. 2017).

Active tourism is a kind of leisure and travel, with the tourists themselves doing all or part of the activities required for the trip (Brencis, 2003).

A person becomes an active tourist if the person derives leisure from traveling on his or her own as well as provides accommodation and food him/herself, which ultimately involves more or less physical exertions. Therefore, an indication of active tourism is physical exertions as part of

relaxation (nervous tension relief, mental and physical resting) (Chang & Hong., 2018).

It is important to assess the capacity and functionality of resources for active tourism (Luo & Lam, 2017).

The term leisure experience covers the whole range of motivations, expectations, psychological and embodied states and outcomes experienced by an individual before, during or after the leisure time (Gatti et al., 2022).

Tourists enjoying active leisure activities want to take advantage of the additional services available in the surrounding environment, which are available in many tourist attractions, e.g. a water attraction service is available during a walk along the lake, which gives the tourist the opportunity to enjoy also entertainment tourism experiences at one site.

The authors summarised the definitions of active leisure from various literature sources and concluded that active leisure is an adventure planned by a tourist individually according to his/her own wishes and needs; the tourist also plans the way the active leisure time is spent, thereby resulting in positive emotions and experiences while enjoying the surrounding natural landscape. It is also up to each tourist to decide how to spend their time and what resources to use for the activity. Each tourist can evaluate individually how well the activity has been planned and whether the experience has been enjoyable. Active leisure involves physical activities, yet a tourist does not have to be a professional athlete, and it is up to each tourist to choose how much exertion they do to get positive emotions from the activities.

Entertainment tourism is a kind of tourism that aims to gain an unforgettable experience. Entertainment tourism has become increasingly popular nowadays. It encourages tourists to travel the world for entertainment. Entertainment includes, e.g. concerts, magic shows, dance performances etc. Entertainment activities represent tourism products designed to meet the needs of tourists and to create memorable experiences and positive emotions (Koorts et al., 2022).

Entertainment tourism involves an activity that can stimulate, encourage and create an exciting and magical experience (Vogel., 2014).

The authors concluded that the definitions of entertainment tourism refer to various entertainment activities that provide tourists with new emotions, experiences and positive memories, and one of the reasons why visitors come to enjoy entertainment tourism is to relieve the stress they experience in their daily routine. Entertainment tourism also includes various cultural activities such as concerts, theatre performances, water attractions etc. Any entertainment activity involves adventures with no age limit for a tourist, and

everything depends on the preferences and needs of each tourist. Besides, entertainment tourism plays an important role in the growth of the tourism industry, as tourists often make their choices based on the entertainment activities available in the destination.

The authors analysed in more detail the sub-category Activities with horses. The choice of this sub-category was based on the authors' personal interest in further investigating and analysing the variety of such services supplied by farms in Latgale.

The equestrian tourism literature generally agrees that it originated in France in the 1950s and 1960s. Since then, it has become a well-organised industry of equestrian tourism (Gilbert & Gillett,2014).

Activities with horses involve the use of equine resources, regardless of the breed: horse rental, horse riding, horseback riding competitions, sporting events, exhibitions and shows, parades, animation games, day or multi-day horse hiking, panoramic and field horse riding and many other activities innovatively designed for groups or individual tourists (Grefe & Pickel-Chevalier, 2015).

There are two main aspects of equestrian tourism: horse riding and horse attractions for various audiences and therefore various success factors. This involves socializing with like-minded people, relaxing and developing riding skills, as well as learning something new about horses, especially the local breed (Tomljenović et al., 2018).

Horses have been involved in tourism for centuries as a means of transport for humans and their luggage and for amusement, yet there is surprisingly little research conducted on horses. Several authors have illustrated the cultural role of horses in places from Australia to Iceland and Morocco and how this heritage has been used, modified and sometimes transformed for tourism purposes. Horseback riding is a popular activity on various trails (Dashper,2020).

Based on the classification criteria for the sub-category of leisure and entertainment tourism – activities with horses –, summarised in Figure 1, a structured interview was conducted to find out whether the supply of farm services met the classification criteria. The interview covered farms offering horse riding activities to visitors in Latgale region. The interview consisted of 30 questions.

The goal of the interview was to find out how farms classified their services supplied, what visitors could experience when visiting the farm, as well as to identify the demand for farm services and factors in the development of the farm.

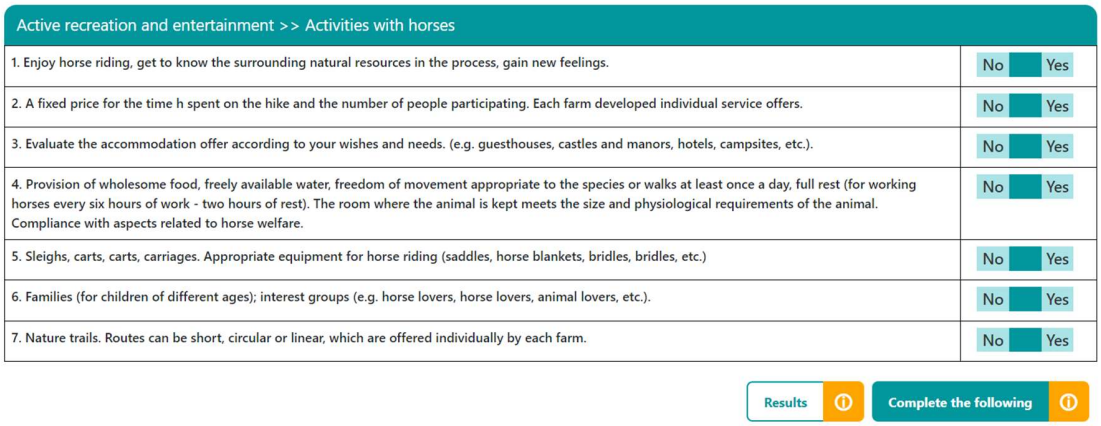
Farms offering "activities with horses" were searched on various tourism portals such as Latvia travel, Latgale travel, visitlatgale, horseriding.lv, Rural Traveller, and on municipality websites – sections for tourism.

After aggregating the information available on all the portals about farms offering horse riding activities in Latgale, the research identified 21 farms. Based on the available contact information, the authors contacted the farms by e-mail or by phone, familiarizing them with the research conducted as part of the research project.

Of the 21 farms found on the tourism portals, 10 offered activities with horses and 11 no longer did it, yet their services were referred to as still available. One farm could not be contacted. When searching for farms, the authors faced inaccurate farm names, 3 farms on each website had different names, yet all of the farms still offered activities with horses to visitors.

The interview was conducted with each farm individually, setting the most convenient time and platform to contact via Zoom, Whatsapp or phone. The authors contacted by phone the farms that did not reply to the emails sent and the farms that did not have an email address listed.

The interviews with the farms were conducted between 24/04/2024 and 13/05/2024. The results of the interviews were analysed by the authors using the NewStart digital tool to identify whether the services offered were managed according to the classification criteria set for the category ''activities with horses''. Figure 1 shows what the NewStart digital tool looked like and what criteria were set for the category "activities with horses". After the interviews with the farms were completed, the authors employed the digital tool to analyse the compliance of each farm's service offered with the criteria. If a farm met a criterion, the answer was marked as "yes", if it did not meet a criterion, the answer was marked "no". The result represents a percentage that allowed us to conclude whether the service met the criteria set for the category.



| Active recreation and entertainment >> Activities with horses | |
|---|---|
| 1. Enjoy horse riding, get to know the surrounding natural resources in the process, gain new feelings. | No Yes |
| 2. A fixed price for the time h spent on the hike and the number of people participating. Each farm developed individual service offers. | No Yes |
| 3. Evaluate the accommodation offer according to your wishes and needs. (e.g. guesthouses, castles and manors, hotels, campsites, etc.). | No Yes |
| 4. Provision of wholesome food, freely available water, freedom of movement appropriate to the species or walks at least once a day, full rest (for working horses every six hours of work - two hours of rest). The room where the animal is kept meets the size and physiological requirements of the animal. Compliance with aspects related to horse welfare. | No Yes |
| 5. Sleighs, carts, carts, carriages. Appropriate equipment for horse riding (saddles, horse blankets, bridles, bridles, etc.) | No Yes |
| 6. Families (for children of different ages); interest groups (e.g. horse lovers, horse lovers, animal lovers, etc.). | No Yes |
| 7. Nature trails. Routes can be short, circular or linear, which are offered individually by each farm. | No Yes |

Results Complete the following

**Fig.1 Screenshot from the NewStart digital tool** (authors' construction)

Figure 1 shows seven classification criteria for the sub-category ''Activities with horses'', which indicate the successful management of the service ''Activities with horses''. The development of a unified set of criteria helps to analyse the services offered by each farm and identify the percentage of compliance with the criteria for the service.

Figure 2 shows a situation where a farm did not meet one of the criteria.

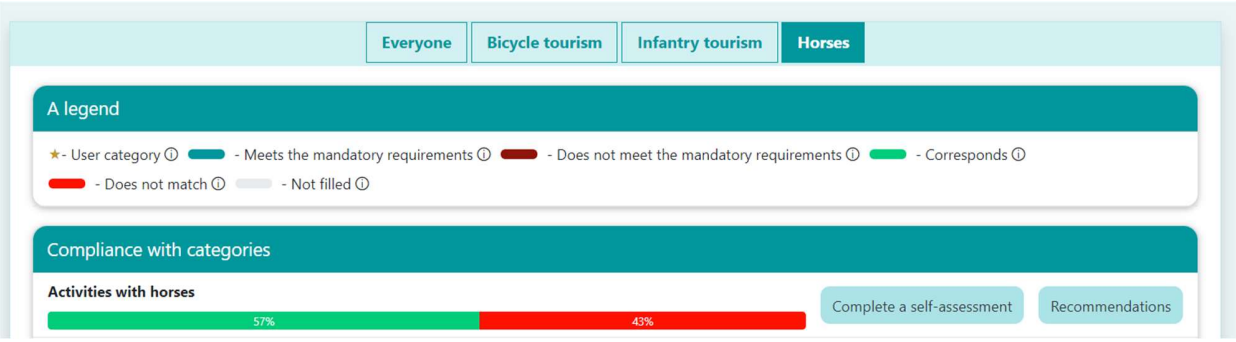



**Fig.2 Results for a situation if a criterion was not met by the farm**
(authors' construction)

Figure 2 shows a farm whose service offered met only 57% of the classification criteria, while 43% did not meet the criteria for successful management of the service ''activities with horses''. In the example given, Farm X scored 57 % because there was no possibility for visitors to ride a horse and, during the ride, enjoy the surrounding countryside, as well as there were no hikes offered and no routes for horse riding were designed. There was a possibility to ride a horse or pony on this farm. Of the 10 farms interviewed, four farms scored 57% and three farms scored 71% in terms of criteria met.

## Conclusions and suggestions

1. A well-structured and predictable classification system helps businesses to develop and increase the quality and availability of their services. A single classification of "active leisure" and "entertainment tourism" can facilitate and encourage new businesses to supply tourism services in Latgale region.
2. The interview involved 10 farms. After analysing the information obtained by the digital tool NewStart for the sub-category of active leisure and entertainment tourism, only three farms met 100% criteria for activities with horses. The remaining farms did not provide an opportunity to go hiking on specially created routes, which were nature trails, or the routes

were short, circular or linear, while an opportunity to go horseback riding was offered only in a special paddock or farm area. Besides, the farms that scored 57% did not provide an opportunity for riding a horse because there were no established hiking trails and, as a result, the visitors could only enjoy a horse or pony ride and go on a cart, carriage or sledge ride through the farm area.

3. The main reason for not offering horseback riding on the farm was a lack of horses or the farm had old horses and, therefore, new horses needed to be raised and trained.
4. Developing a classification for the successful management of tourism services would help to improve the current services offered on seven farms, as the farms did not achieve 100% compliance with the criteria for activities with horses, according to the digital tool NewStart. The tool indicated what needed to be done to achieve 100% compliance.
5. Horse farms should use the digital twin to successfully manage their services offered. The digital twin can help to structure the range of services supplied and gives an opportunity to improve the services. This would encourage visitors to visit the farm and use the services available.
6. The farms that scored 71% compliance with the criteria for activities with horses need to increase the number of horses for riding. Increasing the number of horses would not only attract visitors who want to learn to ride a horse but would also reach the part of the audience that knows how to ride horses.
7. The farms that scored 57% need not only to provide horse riding in a special paddock but complement their services with hiking opportunities along specially designed routes where visitors can enjoy not only the riding process but also the surrounding natural landscape.

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## References

1. Brynjolfsson, E., & Milgrom P. (2013). *Complementarity in Organizations.* https://doi.org/10.1515/9781400845354-003
2. Peneder, M., & Rammer. C. (2018). *Measuring Competitiveness.* https://www.wifo.ac.at/wp-content/uploads/upload-6919/s_2018_competitiveness_60838.pdf

3. Romos, C.M.Q. (2023). *Contemporary Approaches of Digital Marketing and the Role of Machine Intelligence*. https://www.igi-global.com/chapter/analyses-of-visitors-experiences-in-museums-based-on-e-word-of-mouth-and-tripadvisors-online-reviews/327556
4. WTTC (2024). *Economic Impact Research.* https://wttc.org/research/economic-impact
5. Készült az Új. (2015). *Recreational tourism, the recreation of tourists.* http://www.jgypk.hu/tamop15e/tananyag_html/Rekreacio_I_angol/ii4_recreational_tourism_the_recreation_of_tourists.html
6. Education and Culture DG Lifelong Learning Programme. (2017). *Active Tourism. handbook*. http://www.visitdaugavpils.lv/wp-content/uploads/2017/06/Akt%C4%ABv%C4%81-t%C5%ABrisma-rokasgr%C4%81mata.pdf
7. Brencis, A. (2003). *Active Tourism.* Turiba University, Riga. 223 p.
8. Chang, T. M., & Hong, C. Y. (2018). *Safety first: The effect of recreation safety climate on recreation perception.* 398-410. http://www.ahtmm.com/wp-content/uploads/2018-8th_AHTMM_proceedings_2018_1.pdf
9. Luo, J.M., & Lam. C.F. (2017). *Entertainment Tourism*. 76 p. https://doi.org/10.4324/9781315162652
10. Gatti, E.T.J., Brownlee, M.T.J., & Bricker, K.S. (2022). Winter recreationists' perspectives on seasonal differences in the outdoor recreation setting. *Journal of Outdoor Recreation and Tourism*, 37. https://doi.org/10.1016/j.jort.2021.100366
11. Koorts, H., Salmon, P.M., Swain, C.T.V. *et al.* (2022). A systems thinking approach to understanding youth active recreation. *Int J Behav Nutr Phys Act* Vol 19 (53), https://doi.org/10.1186/s12966-022-01292-2
12. Vogel, H. L. (2014). *Entertainment industry economics: A guide for financial analysis*. United Kingdom: Cambridge University Press.
13. Gilbert, M. & Gillett, J. (2014). Into the mountains and across the country: emergent forms of equine adventure leisure in Canada. *Society and Leisure*, 37(2), 313-325.
14. Grefe, G., & Pickel-Chevalier, S. (2015). *The equine business: the spectacular growth of a new equine segment market in FC*. Wageningen Academic Publishers: Wageningen, 61-76.
15. Tomljenović,R., Boranić-Živoder, S., & Čorak, S. (2018).Horse riding tourism-definitional conundrum. *International Rural Tourism Congress, Congress Proceedings.* https://www.fthm.uniri.hr/images/kongres/ruralni_turizam/4/znanstveni/Tomljenovic_BoranicZivoder_Corak.pdf
16. Dashper, K. (2020). Holidays with my horse: Human-horse relationships and multispecies tourism experiences. *Tourism Management Perspectives*, 34, 100678. https://doi.org/10.1016/j.tmp.2020.100678