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| Fontys University of Applied Sciences |
| Applied research |
| The impact of the Emerging Technologies – AI and VR, on the Travel and Tourism industry |

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# Abstract

This applied research document explores the impact of emerging technologies, such as artificial intelligence (AI) and virtual reality (VR), on the travel and tourism industry. The research design involves review of already existing literature and surveys, as well as studies from experts. The results show that AI and VR have already transformed these industries, providing the users with many personalized experiences. These technologies continue evolving every single day, hоwever there are some downsides of the development of AI and VR, such as the high costs. The conclusions highlight the potential of evolving these technologies, as it leaves customers with better experience throughout the whole process. The study finds that there are a lot of future plans for the practical applications of AI and VR in the travel and tourism industry.

# Introduction

The travel and tourism industry is constantly evolving in order to make the user experience better. Artificial intelligence (AI) and virtual reality (VR) have a significant impact on the industry. The purpоse of this applied research document is to answer the question – How are the emerging technologies, such as AI and VR, impacting the travel and tourism industry? This document will address the following sub-questions:

1. What are the emerging technologies that are currently used in the travel and tourism industry?
2. What are the advantages and disadvantages of implementing AI and VR technologies in the travel and tourism industry?
3. How is AI changing the processes of planning and travelling for the people?
4. How is AI impacting the workers in the tourism industry?
5. Is VR enhancing the user experience and if yes, how?
6. Will VR eventually replace real life travelling?
7. What are the potential future developments for AI and VR in the travel and tourism industry?

# Methodology

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|  | **Question** | **Method(s)** |
| **Objective 1** | What are the emerging technologies that are currently used in the travel and tourism industry? | Available product analysis |
| **Objective 2** | What are the advantages and disadvantages of implementing AI and VR technologies in the travel and tourism industry? | Interview |
| **Objective 3** | How is AI changing the processes of planning and traveling for the people? | Community research, Available product analysis |
| **Objective 4** | How is AI impacting the workers in the tourism industry? | Community research, Available product analysis |
| **Objective 5** | Will VR eventually replace real life traveling? | Interview, Available product analysis |
| **Objective 6** | Is VR enhancing the user experience and if yes, how? | Available product analysis |
| **Objective 7** | What are the potential future developments for a AI and VR in the travel and tourism industry? | Available product analysis |

# Results

## Objective 1

Nowadays, technology is a crucial part of every possible field in life. As for the travel and tourism, with every single day, technology is integrating more in the industry. These emerging technologies include artificial intelligence (AI) such as voice search, facial recognition, smart speakers in hotels and alsо virtual reality (VR) tours from travel agencies according to Revfine (2021). All these technologies are developing fast in order to enhance the user experience and please the needs of the customers.

## Objective 2

In order to dive into the advantages and disadvantages of implementing AI and VR, two interviews were conducted.

Participants: 2 females, both of whom travel a couple times a year

Advantages: Both participants emphasized on the fact that VR travelling saves time by not having to wait in queues and having the possibility to go wherever you want whenever you want. Another advantage is the fact that by virtual reality traveling you do not waste any money and you still can see the sights of a cоuntry. As for the implementation of AI in the travel and tourism industry, without any doubt, people have a better user experience by getting suggestions based on their preferences and likes.

Disadvantages: Both participants share the same opinion that virtual reality traveling will not give the same experience that real life traveling gives. You can still see the sights of a place, but you will never get to know the culture, the cuisine, the excitement and the joy that come when visiting a new place. Alongside, one of the participants showed concern about the protection of personal data. The biggest cоmpanies do little to deter the activity of data blockers, leading to unsatisfied customers.

The full transcripts of the interviews can be found in Appendix A.

## Objective 3

According to EPAM Anywhere Business (2021), “Before AI revolution, travelling was a chore”. AI can help you do anything as it is your personal travel agent. AI provides the user with personal recommendations and findings based on their previous searches. Along with that, when the user plans the trip, AI cоntinues with suggestions to help to make the trip even better by showing the weather forecast, some sights and museums, taxis and cars to rent and actually adding the trip to the user’s calendar. Basically, after implementing artificial intelligence in the travel and tourism industry, people do not have to spend so much time to plan and strategize, because their own “travel agent” organizes everything for them.

## Objective 4

Overall, in every single field that AI has been implemented, it causes job losses. In the travel and tourism industry, thanks to artificial intelligence, people no longer need to visit travel agencies in order to book a flight or a hоtel. According to Hotelmize (2021), AI assistants have taken the place of travel agents allowing the travelers to do everything they need for their trip in one simple click. AI has transformed the travel industry and travel agencies and companies that do not implement these technologies sooner or later will be out of business. Of course, AI provides opportunities for new jobs in the fields of data analysis and AI development, but the old-fashioned occupations such as a travel agent are expected to go “extinct”.

## Objective 5

The author of Travel Weekly (2021) notes that according to a Booking.com study 44% of U.S. travelers said that they would use VR ahead to inspire vacation choices, but 59% said that virtual reality travelling will not be fulfilling enough. To look more in depth of this controversial topic, I am going to use the previously stated interview. Both participants agree that by virtual reality travelling you can see a lot, such as buildings and sights. However, one of them said that it will not be enough to check a destination off their bucket list just by VR travelling. The other interviewed person had the оpinion that a destination can be marked as visited. This is a very controversial topic and based on extensive research, it shows that it depends on the person or the destination if it will be enough or not. However, the findings show that still a big part of the travelers would prefer real life travelling, so it can never actually be replaced entirely.

The full transcripts of the interviews can be found in Appendix A.

## Objective 6

Virtual reality is definitely enhancing the user experience of the travel and tourism industry. By using VR, people can experience different destinations from the comfort of their own home. Virtual reality provides people with an opportunity to “test drive” a destination before actually visiting it, which helps with planning a better and more fulfilling trip. VR tours can be also included for a hotel or an airline so that the users can choose the most suitable option by seeing a preview of their services, rooms and cabins. Moreover, VR allows people to visit places that are either too far away, too dangerous or way tо expensive. Overall according to Oriorly (2021), VR can be really helpful and can increase the user experience by allowing the customers to catch a glimpse of the atmosphere of the place they are about to book. It is definitely an innovative way to enhance user experience and increase customers satisfaction.

## Objective 7

According to Euronews (2022, November 11), the trends of implementing AI and VR into the travel and tourism industry have taken off since COVID-19. Prior the pandemic, technologies like VR were highly ignored by travel companies. However, during the pandemic, a solution to travel without leaving your home was in a high demand. Nоwadays, post-pandemic, these technologies will continue to develop and will become an irreplaceable part of travelling. There are a lot of predictions for the future regarding how AI and VR will change travelling and what will the new developments be. Some of these include virtual tours of attractions and museums to visit with augmented reality, robots that use UV light to disinfect airports and hotels. Another development could be the use of VR to stimulate air travelling, so people can experience what it is actually to fly. The possibilities with these technologies are endless and, in the future, we expect a lot of new developments of AI and VR in the travel and tourism industry that will eventually enhance the user experience.

# Discussion

In general, according to the research, emerging technologies are already used in the travel and tourism industry. They are enhancing the user experience by recommendations based on the customer’s likes and by suggestions that make the planning of the trip easier. AI assistants have become a crucial part of the travelling process. These technologies continue to grow with every single day to make planning an easier task. Hоwever, there are also disadvantages of the implementations of these technologies, shown in the job loss in the tourism industry as well as the unprotected data. Nevertheless, future predictions show that AI and VR will stay a crucial part of travelling. But it is not expected for technologies such as VR to actually replace real life travelling, but it will definitely be a big part of the planning and decision-making processes.

# Conclusion

In conclusion, the impact of AI and VR on our daily lives is undeniable and their influence on the travel and tourism industry is no exception. These technologies are already an essential part of the industry by enhancing the user experience and making travel planning less time consuming and easier. Although there are concerns about job loss and data protection the benefits of AI and VR are expected to cоntinue in the future. Future predictions show that new technologies will be developed and integrated into the industry, and it is likely that they will further enhance the overall travel experience. As such it is essential for travel companies to adapt to these technologies and embrace them in order to meet the needs of the travelers.

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# Appendices

## Appendix A: Interview transcript

Person 1:

How often do you travel?

I travel a couple of times a year.

Will you be interested in using VR to travel?

This would be good option if I want to go somewhere but do not have the money needed or the free time to do it.

What concerns do you have about using VR to travel?

By using VR to travel I would not be able to explore the place fully and the culture is something that cannot be seen from a VR experience which is the main thing about different nationality

Do you think AI and VR has the potential to change the way people travel?

Yes, that is for sure, and people are currently working on improving them both and they are reducing their flaws so they can be used in the near future by everyone.

In your opinion what are the advantages and disadvantages of using these technologies in the travel and tourism industry?

For pros regarding VR, I would say more places visited, no money spending, no time lost for travelling, you can go wherever you want and whenever you want. For cons - unreal travelling, no experience with different people, not eating different cuisines, no feeling and excitement like real travelling. Along with that, artificial intelligence is really making the planning of the trip easier by helping with different aspects and giving you personalized suggestions.

If you ever do visit a country by using VR, will it be enough for you to check that place as visited?

Not entirely, because I would not have the real experience, but of course I will consider the sights of the place as seen.

Person 2:

How often do you travel?

I travel a few times a year.

Will you be interested in using VR to travel?

Yes, mainly because of VR I would visit countries, that I would never actually consider going in real life because of money and time.

What concerns do you have about using VR to travel?

My only concern is that the user experience will not be the same, I do not think it would be possible to actually dive into the culture and history of a place by travelling with VR.

Do you think AI and VR has the potential to change the way people travel?

Definitely yes, I think that these technologies are impacting every single field, as well as travel and tourism and they will continue integrating and developing further more.

In your opinion what are the advantages and disadvantages of using these technologies in the travel and tourism industry?

For advantages I think that AI helps with your choice about destinations, hotels, and flights by suggesting something based on your preferences. It saves time and effort. You do not feel the need to go to travel agencies and make extensive research about a destination. The interesting and most fascinating thing about VR is that you can actually go anywhere even the places you can never visit in real life because of restrictions or physical inability. Using VR, you will not pack luggage, wait in lines at the airport and spend a ton of money. As for the disadvantages, I think that the user experience will not be enough for many people. Also, I am scared for my personal data when using big companies that use AI. I do not find it secure at all times and I have had problems with data protection in the past.

If you ever do visit a country by using VR, will it be enough for you to check that place as visited?

Yes, it will.