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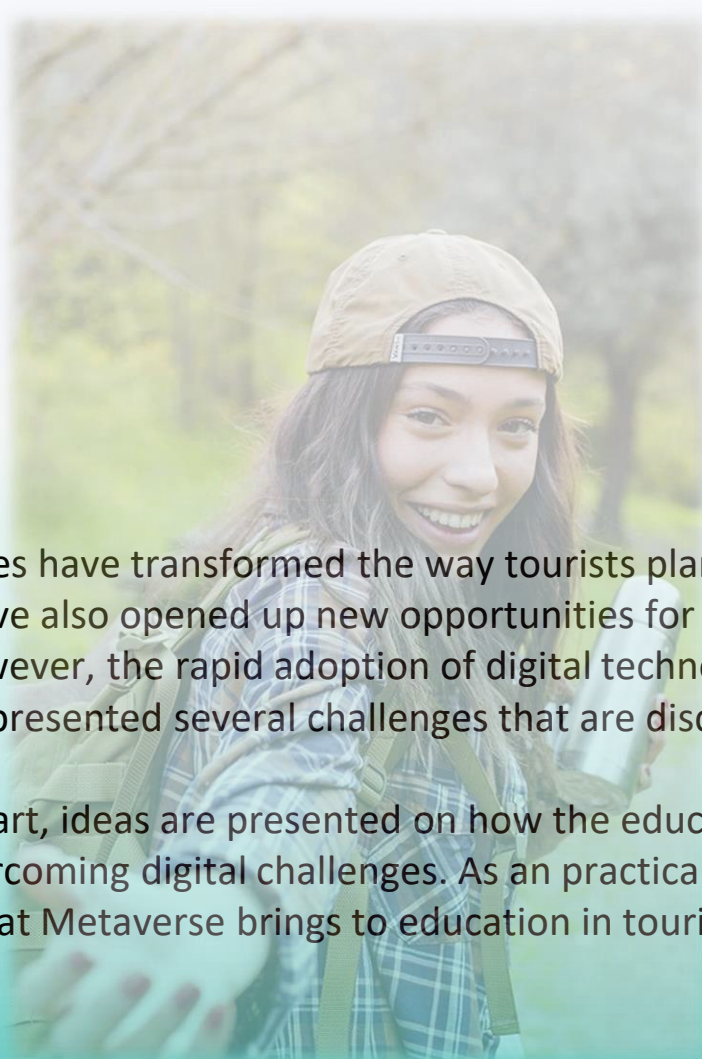
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INTRODUCTION

Digital technologies have transformed the way tourists plan and experience their trips, and they have also opened up new opportunities for tourism industry stakeholders. However, the rapid adoption of digital technologies in the tourism industry has also presented several challenges that are discussed at the beginning of this chapter.

In the following part, ideas are presented on how the educational sector can contribute to overcoming digital challenges. As an practical example, we will analyse learning trends that Metaverse brings to education in tourism.



DIGITAL CHALLENGES IN TOURISM



Based on a comprehensive review of the literature on the topic, the challenges of digitalisation in the tourism industry include issues related to:

- data privacy,
- cybersecurity,
- and the digital divide.

Data Privacy:



- The tourism industry is increasingly dependent on the collection and use of personal data, because personal data is absolutely necessary to offer **personalized services** to tourists.
- However, tourism industry stakeholders **must ensure** that they collect and use personal data in a way that complies with data privacy regulations.
- Failure to comply with data privacy regulations can lead to significant **legal and reputational risks**.



Cybersecurity:



- **Cyber-attacks** can result in the theft of personal data, disruption of services, and reputational damage.
- Measures to ensure that digital systems and data are secure includes: **firewalls, antivirus software, and encryption.**
- Tourism industry stakeholders must also ensure that their employees are aware of cybersecurity risks and **trained to follow** best practices to mitigate these risks.



Digital Divide:



- The digital divide **is a result of the rapid adoption** of digital technologies in the tourism industry.
- The digital divide refers to the **gap between those who have access to digital technologies and those who do not.**
- The digital divide can **limit the opportunities for some tourists** to access and benefit from digital services.
- Tourism industry stakeholders must take measures to ensure that digital services are **accessible to all tourists**, regardless of their socioeconomic status.



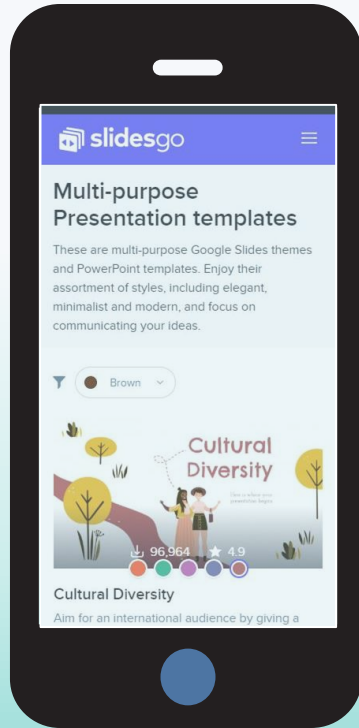
DIGITAL DIVIDE

Public Wi-Fi

Mobile Technology

Community
Technology Centers

Digital Literacy
Programs



Mobile Technology


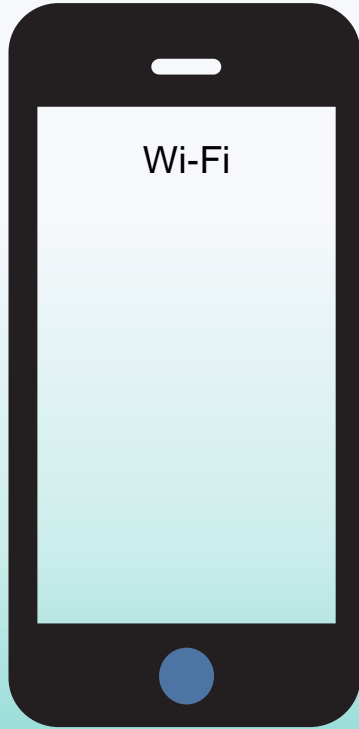
- Mobile technology is a key tool for bridging the digital divide, because many tourists have access to mobile devices, even if they don't have access to a computer or broadband internet.
- Mobile apps can be designed to work offline, ensuring that tourists can access information even if they don't have an internet connection.



The COPENHAGEN CARD is 100% digital and works through app which can be downloaded for free.

The app contains information about the city's best attractions - including opening hours - a map where all the attractions are pinned, and an organizing tool to "favourite" the attractions.

It works offline, so tourist don't have to worry about international data.



Public Wi-Fi

- Many tourists rely on Wi-Fi to access digital services while they are traveling.
- Tourism industry stakeholders can provide free public Wi-Fi in popular tourist areas, ensuring that all tourists have access to digital services.
- For example, the city of New York provides free public Wi-Fi in public parks and tourist areas through its LinkNYC program.



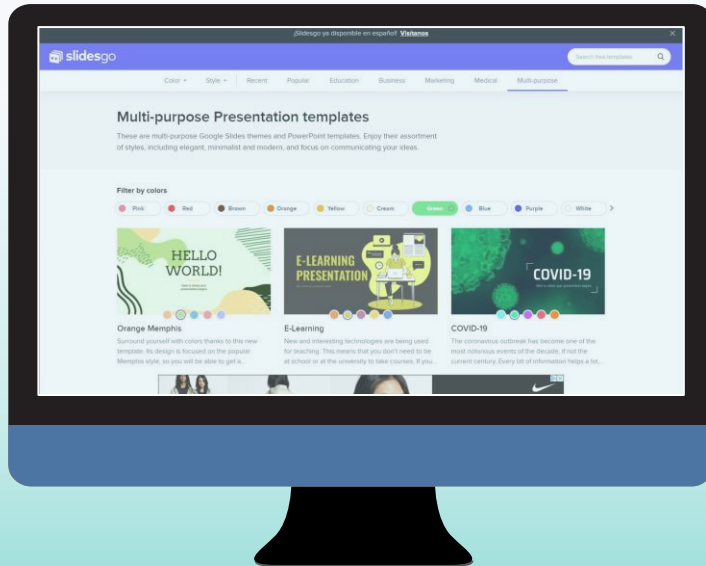
Community Technology Centers



- Community technology centers - physical locations where tourists can access computers, broadband internet, and other digital services
- Community technology centers can also provide training and support for tourists who are not familiar with digital technologies.
- For example, the city of Philadelphia operates a network of community technology centers that provide computer access, training, and support to low-income residents and visitors.



Digital Literacy Programs



Digital literacy programs are designed to teach tourists the skills they need to use digital technologies, such as internet safety, social media, and online booking.

Tourism industry can partner with community organizations, libraries, and schools to offer digital literacy programs to tourists.



City of Amsterdam offers digital literacy programs in partnership with local libraries.

<https://www.centre-for-bold-cities.nl/news/digital-literacy-in-the-public-library>



DIGITAL EDUCATION FOR TOURISM



Education can play a crucial role in efforts to overcome digital challenges in tourism by providing individuals with the knowledge and skills they need to access and use digital technologies.

Some ways that education can support those efforts include:

- inclusive design of digital education,
- partnerships between educational institutions and tourism industry,
- digital literacy training for public,
- Technology and Tourism courses for professionals.



Inclusive design of digital education refers to the practice of ensuring that all individuals, regardless of their background or ability, have equal access to digital education and training opportunities in the tourism industry.

For example, online learning platforms, webinars, tutorials, and interactive learning resources available and accessible to everyone.

Free and accessible online resources provide opportunities to individuals to learn at their own pace and to access the resources they need to prepare themselves for challenging digital economy.



Partnerships between educational institutions and tourism industry stakeholders can support efforts to overcome digital challenges in tourism.


- For example, educational institutions can partner with tourism boards to provide digital literacy training to tourism industry employees and customers.
- Educational institutions can also collaborate with tourism businesses to develop and test new technologies that enhance the tourist experience.





Digital literacy training for public can help individuals learn the basic skills they need to use digital technologies in tourism industry effectively, such as:

- how to use search engines and to navigate websites,
- how to use social media responsibly,
- how important Cybersecurity is,
- how to use digital implants and wearable technologies.



For example, 2,5 million Dutch citizens are estimated to lack the necessary digital skills, resulting in a high risk of exclusion from public services.

To increase the digital literacy and inclusion of this group of citizens, the government thinks they need to develop ICT-skills, online communication skills as well as the ability to critically evaluate online information and the safety of their online behaviour.

The Royal Library in collaboration with eight governmental organisations have initiated the program “Digital Inclusion, Support of Vulnerable Target Groups” to work on these challenges.



Technology and Tourism Courses for professionals that explore the intersection of technology and tourism.

For example, these courses can cover topics such as:

- digital marketing,
- e-commerce,
- the use of technology in destination management,
- metaverse technology, Internet of Bodies and the Internet of Senses.



Effective educational tools that help to design inclusive digital education contain:

- accessible Virtual Tours and interactive learning resources;
- online learning platforms,
- webinars and tutorials;
- online Communities of Practice;
- mobile applications.



class activity

1. Follow the links to find examples of how augmented reality is applied to visitor experience.
2. Think about employee training: what set of skills will you embed into the training programme?


https://www.instagram.com/reel/CrygKGENqde/?utm_source=ig_web_copy_link

<https://youtu.be/gtpZEZLpv8A>





LEARNING ABOUT METAVERSE



*By using science fiction, the **metaverse** has been predicted as a natural progression and evolution of tourism based on the socio-economic and technological developments since long time*

(Yeoman et al., 2021)

Following the link, please read the Forbes article by [Alex Ledsom](#) (2022) named **2023—The Year That Tourism In The Metaverse Takes Off** where author is overviewing this latest digital trend in the industry.

<https://www.forbes.com/sites/alexledsom/2022/12/27/2023-the-year-that-tourism-in-the-metaverse-takes-off/>



Latest research of metaverse state that is still unknown how exactly tourism and hospitality will evolve and how metaverse will redefine and transform themselves, with many unanswered questions. (Dwivedi et al., 2022)

And it provides plenty of challenges for educational sector in tourism. A following part of the presentation states CHALLENGES that metaverse posed to education, as well as defines learning outcomes (skills and knowledge) that education will provide to overcome those CHALLENGES.



CHALLENGE: how to manage the quality of service, privacy, security, and other important issues of interactions and behaviours in digital space of metaverse?



Learning outcomes for educational programme may include:

- How to design the digital capabilities of their metaverse to facilitate avatars' interactions, responsiveness, and reliability.
- How to manage the avatars' behaviours and interactions to deliver personalized service that meets customers' expectations in the digital space.
- How to ensure privacy protection of avatars' personal information and manage interactions to prevent unauthorized access or misuse.
- How to ensure the digital capabilities of their metaverse are secure to protect avatars from digital threats.
- How to ensure fair and equal access, support ethical standards, and comply with regulations



CHALLENGE: how to manage online events in metaverse and provide personal service that meets customer expectations and ensures a positive experience.



Learning outcomes for educational programme may include:

- How to manage avatars do not invade guests' personal spaces and keep a proper social distance online to provide a comfortable and safe experience.
- How to understand what constitutes sexual harassment in the digital space and provide online personal service that is respectful and professional.
- How to control avatars' movements and interactions in the metaverse, including walking through, deleting, or making avatars invisible.
- How to communicate with artificial intelligence that can interact and engage with humans through natural language processing and other interactive technologies.



CHALLENGE: metaverse monetization business models



Learning outcomes for educational programme may include:

- How to create and manage virtual-to-virtual, virtual-to-physical, physical-to-virtual monetization business models.
- How to interact with new 'hospitality' players of the market (e.g., totally virtual hospitality operators).

On the other hand, research also alerts of us to the possibility of the metaverse creating addiction, loneliness and temporarily isolation (Merkx and Nawijn, 2021);

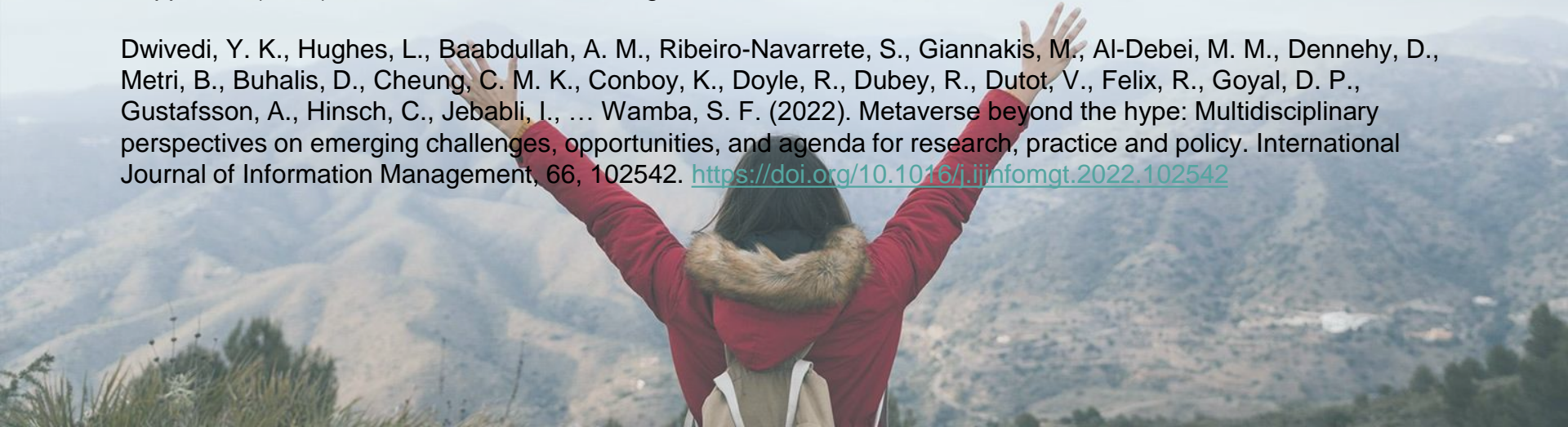
More research is needed to explore these aspects.

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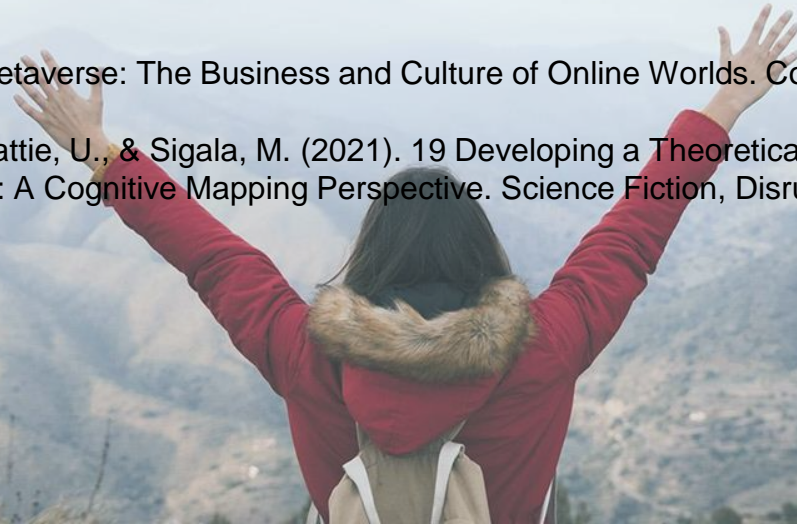
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THANKS!

Do you have any questions?



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