

# BUSINESS TRANSFORMATION SMART TOURISM in the AI ROBOTS and METAVERSE ERA

© Professor Dimitrios Buhalis

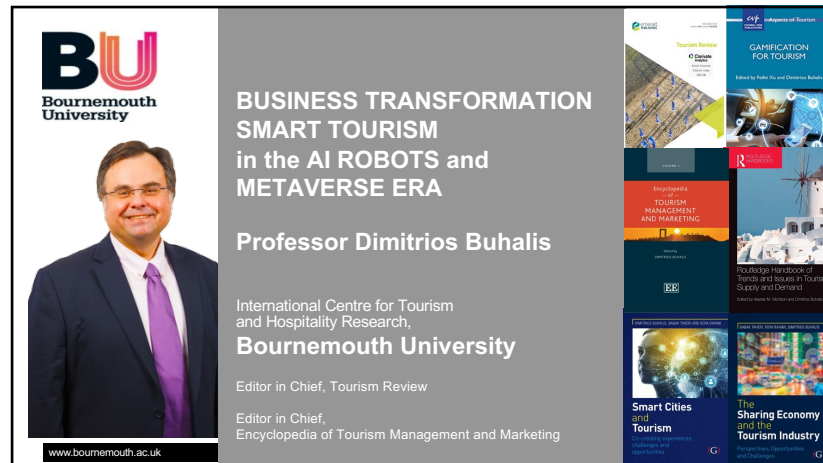
www.Buhalis.com

6/15/23

Google SCHOLAR <https://tinyurl.com/ScholarBuhalis> ORCHID <https://orcid.org/0000-0001-9148-6090>

LINKEDIN <https://www.linkedin.com/in/dimitriosbuhalis/> Facebook <https://www.facebook.com/ProfessorDimitriosBuhalis>

@buhalis Twitter <http://www.twitter.com/buhalis> YouTube: <https://www.youtube.com/ProfessorDimitriosBuhalis>



1



2



3



4

# BUSINESS TRANSFORMATION SMART TOURISM in the AI ROBOTS and METAVERSE ERA

© Professor Dimitrios Buhalis

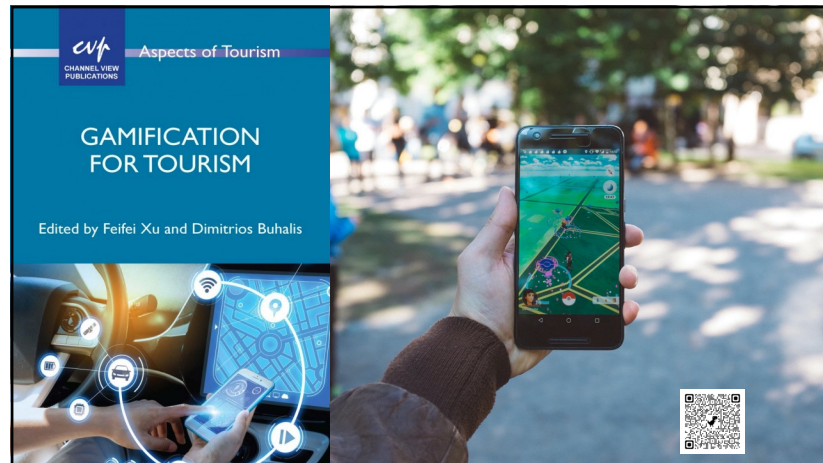
www.Buhalis.com

6/15/23

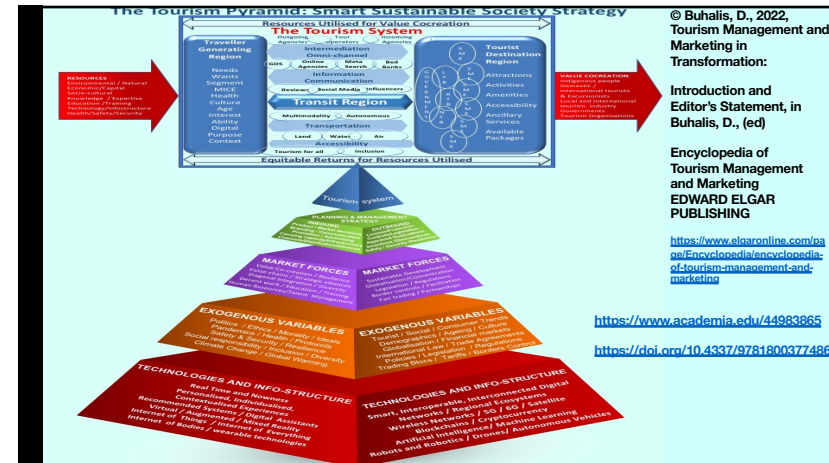
Google SCHOLAR <https://tinyurl.com/ScholarBuhalis> ORCHID <https://orcid.org/0000-0001-9148-6090>

LINKEDIN <https://www.linkedin.com/in/dimitriosbuhalis/> Facebook <https://www.facebook.com/ProfessorDimitriosBuhalis>

@buhalis Twitter <http://www.twitter.com/buhalis> YouTube: <https://www.youtube.com/ProfessorDimitriosBuhalis>



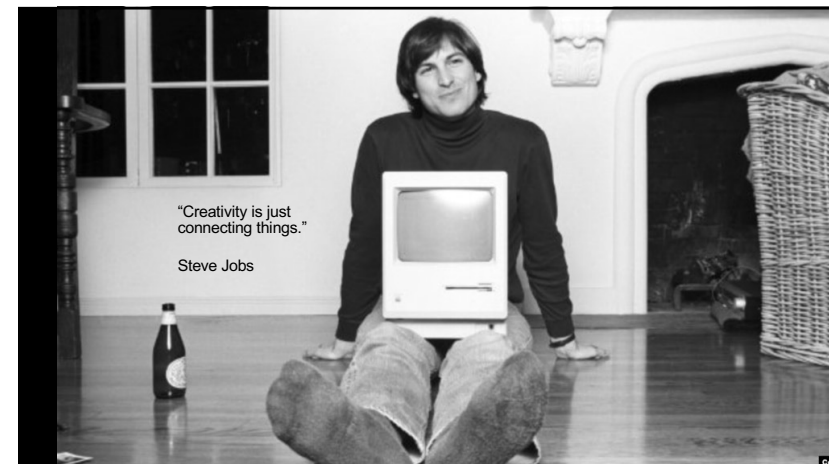
5



6

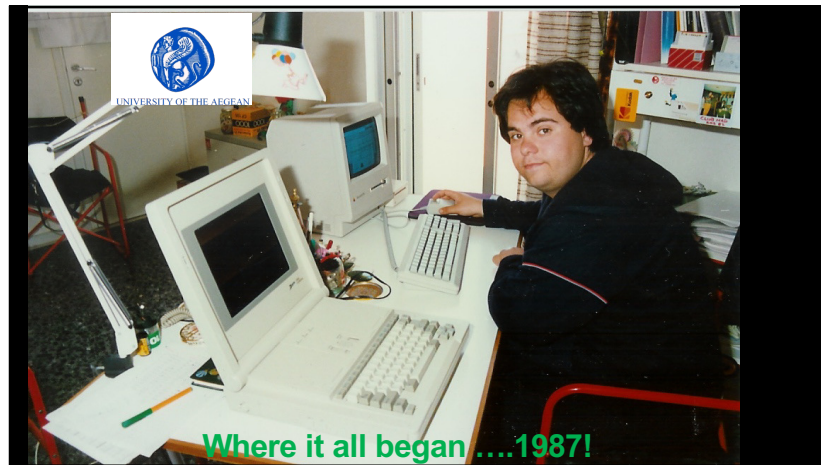


7



8

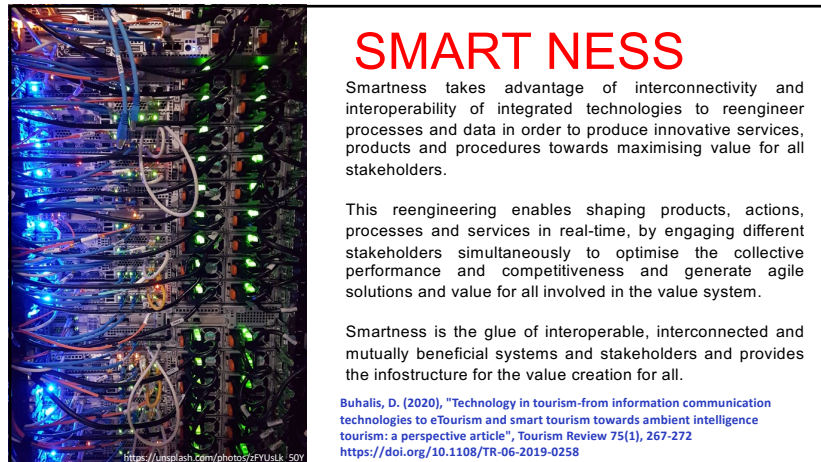




9



10



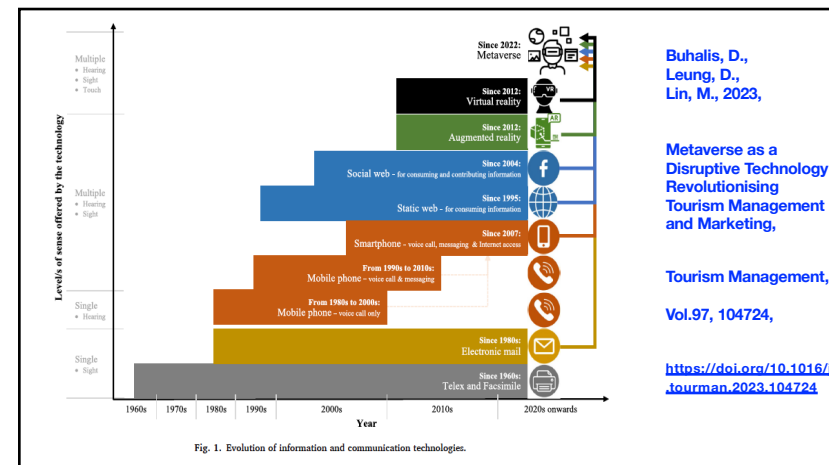
11



12



13



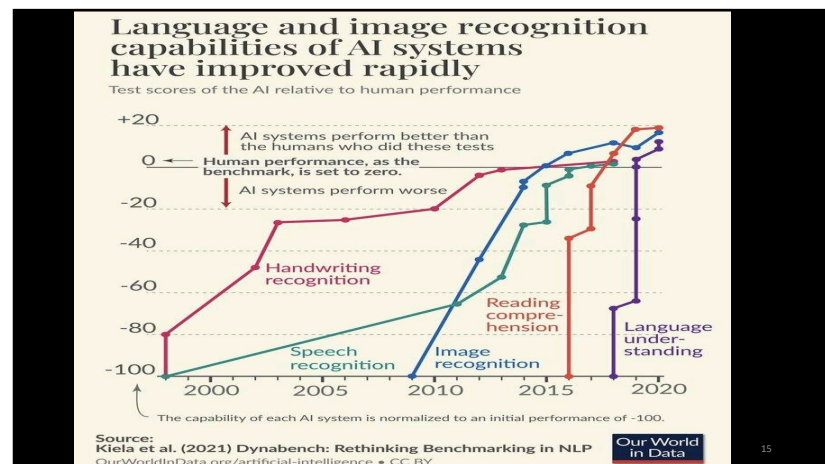
Buhalis, D.,  
Leung, D.,  
Lin, M., 2023,

Metaverse as a  
Disruptive Technology  
Revolutionising  
Tourism Management  
and Marketing,


Tourism Management,  
Vol.97, 104724,

<https://doi.org/10.1016/j.tourman.2023.104724>

14



15



**Ambient Intelligence (Aml)**

introduces smart systems to everyday environments propelling interconnectivity and interoperability of all systems, vehicles and devices through the Internet of Everything

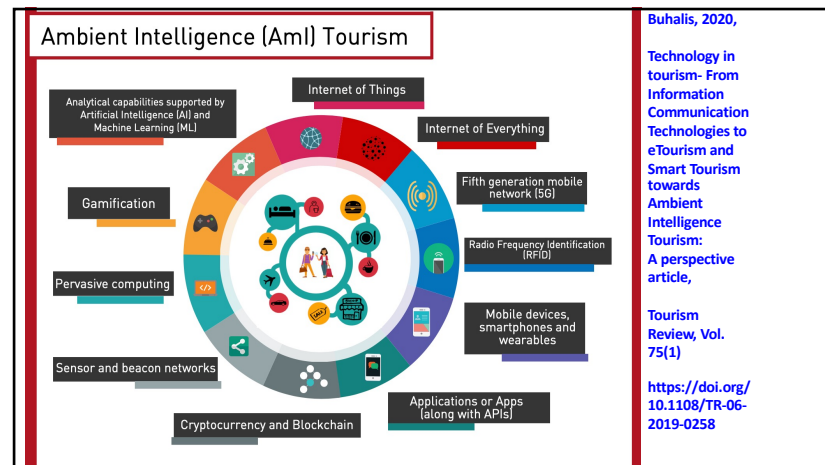
technical developments, including: artificial intelligence (AI), Machine Learning (ML), ambient connectivity through wide area wifi and 5G, autonomous vehicles and robotics

Aml pushes markets and activities towards smart, interconnected environments and marketplaces.

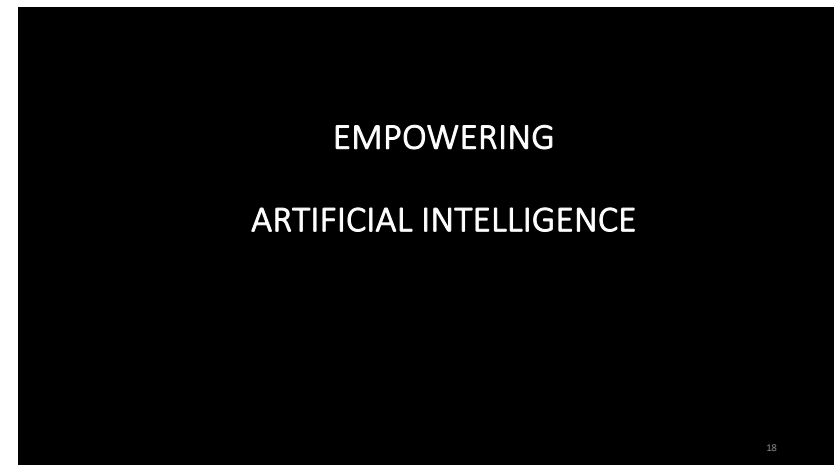
Buhalis, 2020, Technology in tourism- From Information Communication Technologies to eTourism and Smart Tourism towards Ambient Intelligence Tourism: A perspective article, Tourism Review, Vol. 75(1) <https://doi.org/10.1108/TR-06-2019-0258>.

16





17



18

Table 2: ChatGPT in marketing strategies

Marketing strategies	Indicative solutions	Reflective tactics
Building marketing campaigns	ChatGPT might be able to provide suggestions to develop a successful campaign. Example: "Suggest me an effective marketing campaign on Instagram"	ChatGPT is a generative tool which requires precise queries, such as: "Suggest me an effective marketing campaign on Instagram for a bouquet start-up."
Content marketing	ChatGPT can assist in providing appropriate and accurate content for the given query related to a campaign, product, sales page, email, and blog post	However, the preciseness of the query should be more accurate to get creative results.
Content designing	ChatGPT can offer ideas for designing and other improvements	DALL.E2 can be used to design the product creatively as instructed in the query
Chatbot based services	GPT-3 is the next-generation language generative AI which can be used in chatbots for effective query handling	The chatbot should be able to integrate GPT-3 and DALL.E2 to generate appropriate Avatar in the conversations

Dwivedi, Y., et al , 2023, "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy, International Journal of Information Management, Vol. 71, 102642, <https://doi.org/10.1016/j.jinfomgt.2023.102642>

19

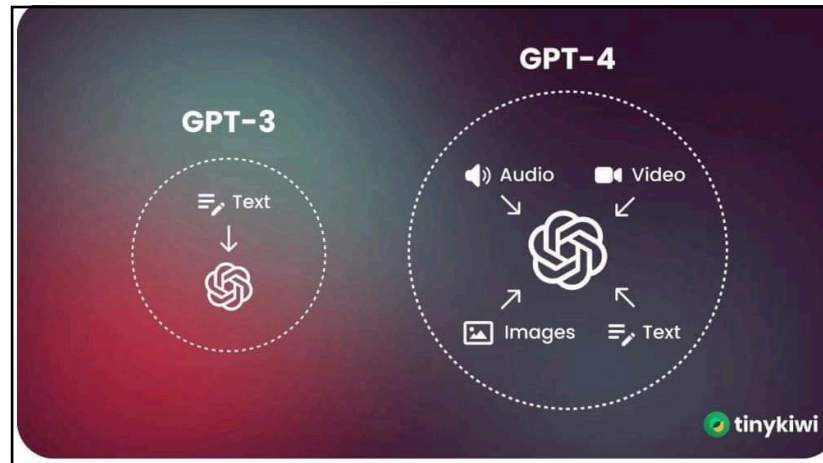
**Linas Beliūnas** @linas.beliunas

**OpenAI just released GPT-4. It:**

- Is multimodal (can see & listen)
- Passes basically every exam with flying colors
- Has advanced reasoning capabilities
- Will solve difficult problems with mind-blowing accuracy.

The world will never be the same again.

20



21

Table 3. ChatGPT use in the Tourism, Travel, Transport and Hospitality ecosystem

DEMAND/Tourists	SUPPLY/Tourism organisations and destinations
Information finding	Concierge services for consumers
Building itineraries	Marketing content text/pictures generation
Searching for specialised services	Menu engineering and recipe development
Eliminating Choice	Fact Finding
Dynamic Itineraries	Identification of resources
Content Sharing	Social media and organisations own web pages

Yogesh K. Dwivedi, Nir Kshetri, Laurie Hughes, Emma Louise Slade, Arand Jayaraj, Arpan Kumar Kar, Abdullah M. Baabdullah, Alex Kozhang, Vishnu Priya Raghavan, Manju Ahuja, Hessa Albarra, Mousa Ahmed Alshahravi, Adi S. Al-Busaidi, Jeyantharan Balakrishnan, Yves Berlette, Sipana Biau, Indrani Bose, Laurence Brooks, Dimitrios Buhalis, Lemuria Carter, Soumyadeb Chowdhury, Tom Crick, Scott W. Cunningham, Gareth H. Davies, Robert M. Davison, Fahul Dä, Denis Dineenhy, Yangqing Duan, Rameshwar Dubey, Rohita Dwivedi, John S. Edwards, Carlos Flavián, Robin Gauld, Varun Grover, Mei-Chih Hu, Marja Janssen, Paul Jones, Iris Junglas, Sangeeta Khorana, Sascha Kraus, Kai R. Larsen, Paul Latrelle, Sven Laumer, F. Tugay Malik, Abbas Mardani, Marcello Mariani, Suniti Mishra, Emmanuel Mosaj, Jereita Horn Nord, Siobhan O'Connor, Fezal Oluurus, Margherita Paganì, Neej Pandey, Stavros Papagiannidis, Ilias O. Pappas, Nabith Pathak, Jan Pries-Hies, Rameekrishnan Ramani, Nipendra P. Rana, Sien-Volker Rahn, Samuel Ribeiro-Navarrete, Alexander Richter, Frantz Rowe, Suprateek Sarker, Bernd Carsten Stahl, Manoj Kumar Tiwari, Wil van der Aalst, Viwarath Venkatesh, Giampaolo Viglia, Michael Wade, Paul Walton, Jochen Wirtz, Ryan Wright, 2023.

"So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. International Journal of Information Management, Vol. 71, 102642, <https://doi.org/10.1016/j.ijinfomgt.2023.102642>

22

**Demand side: TOURISTS**

<https://unsplash.com/photos/0dk3OAsdnHk>

- Traveller information is critical for their satisfaction.
- plan their trips and make the most of their travel experiences.
- search for information, construct itineraries
- search for specialised services,
- eliminate choice
- select suitable timetables
- evaluate alternative products and services.
- Context dependent dynamic Itineraries
- extensive information provided by several organisations
- Search engines, such as google, since early 2000
- lists of websites in order to then co-create their experience
- ChatGPT offers the opportunity to combine a range of different resources
- provides a comprehensive text answer enquiries
- quick and accurate information
- in natural and native language

23

**Supply side: INDUSTRY**

<https://unsplash.com/photos/q140HkxZY>

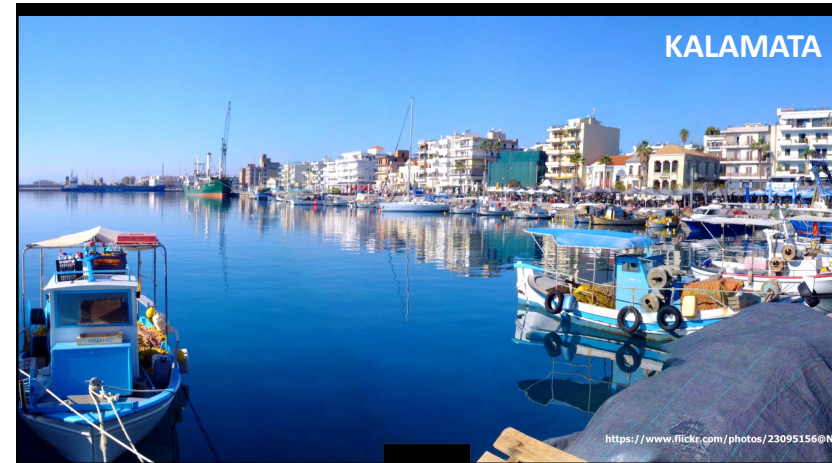
- ChatGPT can assist Tourism, Travel, Transport and Hospitality organisations with customer phasing and back-office functions.
- answer traveller enquiries by generating information and answers about destinations, and attractions.
- Providing travel recommendations for events, and activities, hotels,
- assist with booking and reservation inquiries
- provide guests with information about availability and pricing
- assist with the booking and reservation process.
- ChatGPT can personalise recommendations for guests based on their interests, abilities, disabilities and preferences.
- create alternative itineraries, routes and transportation options
- evaluate alternatives for travel planners, corporate travel companies and agencies and tour operators
- communicate with travellers in multiple languages
- generate marketing content and detailed descriptions for attractions, hotel rooms, facilities, and services
- develop destination content for use on websites and social media.
- Menu engineering and recipe development improve service
- enhance the travel experience, streamline operations and

24

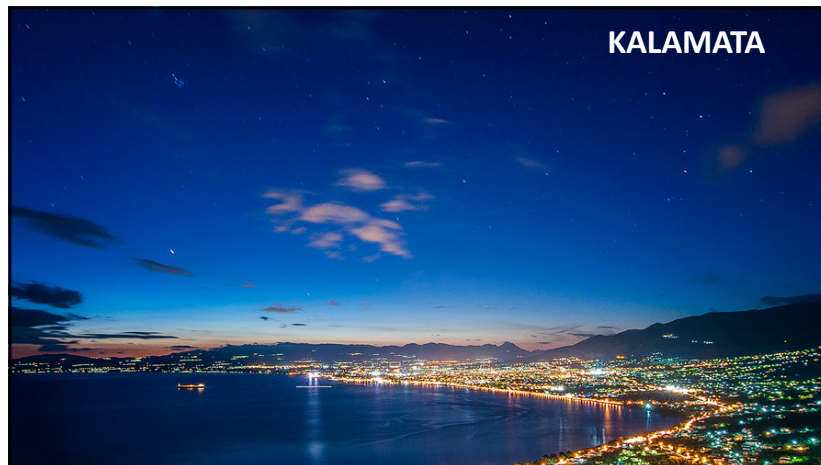




25



26



27



28

# BUSINESS TRANSFORMATION SMART TOURISM in the AI ROBOTS and METAVERSE ERA

© Professor Dimitrios Buhalis

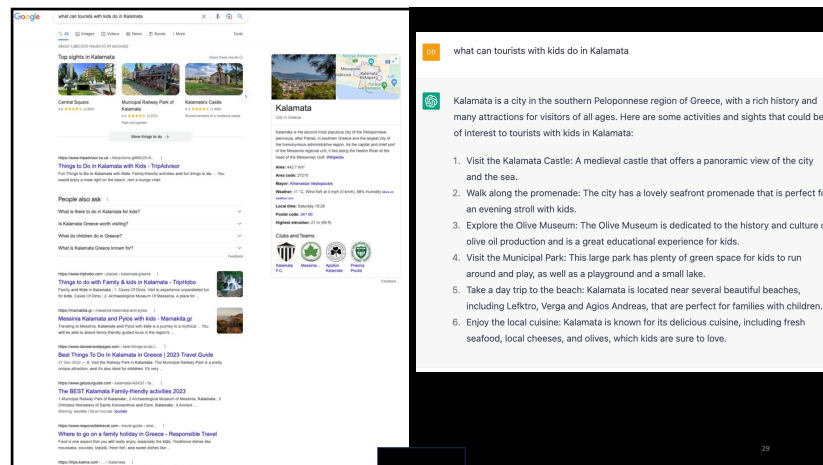
www.Buhalis.com

6/15/23

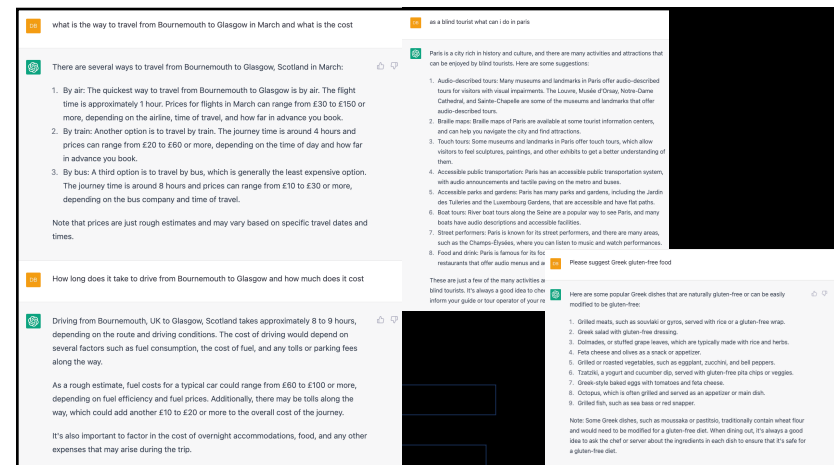
Google SCHOLAR <https://tinyurl.com/ScholarBuhalis> ORCHID <https://orcid.org/0000-0001-9148-6090>

LINKEDIN <https://www.linkedin.com/in/dimitriosbuhalis/> Facebook <https://www.facebook.com/ProfessorDimitriosBuhalis>

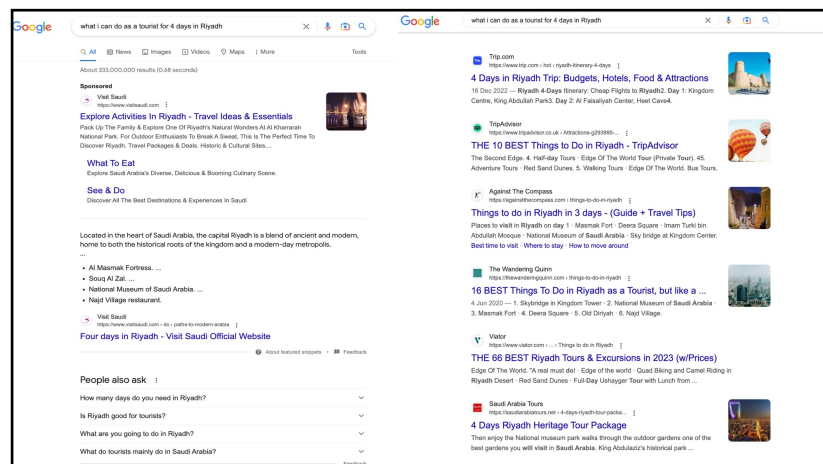
@buhalis Twitter <http://www.twitter.com/buhalis> YouTube: <https://www.youtube.com/ProfessorDimitriosBuhalis>



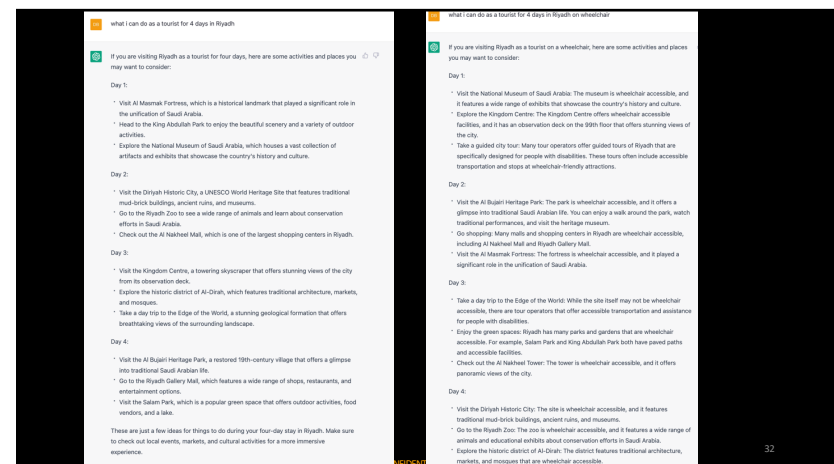
29



30



31



32



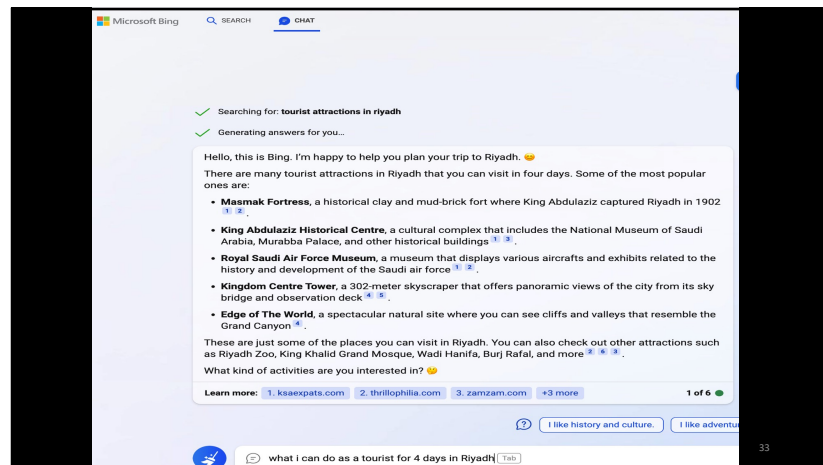
# BUSINESS TRANSFORMATION SMART TOURISM in the AI ROBOTS and METAVERSE ERA

© Professor Dimitrios Buhalis

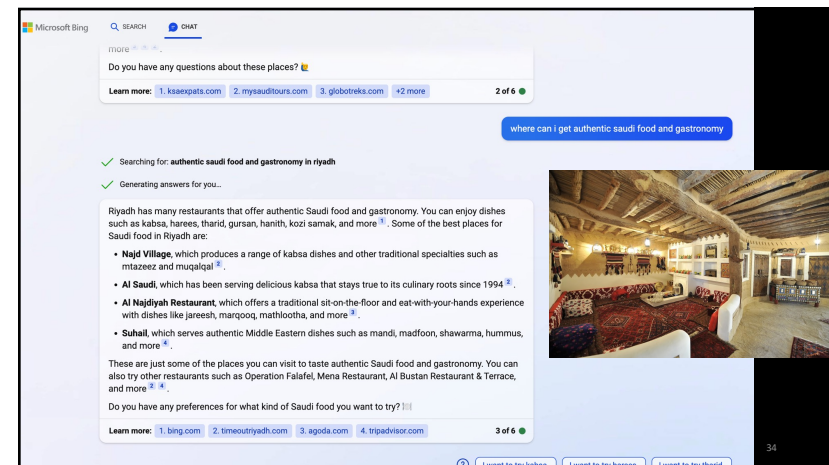
www.Buhalis.com

6/15/23

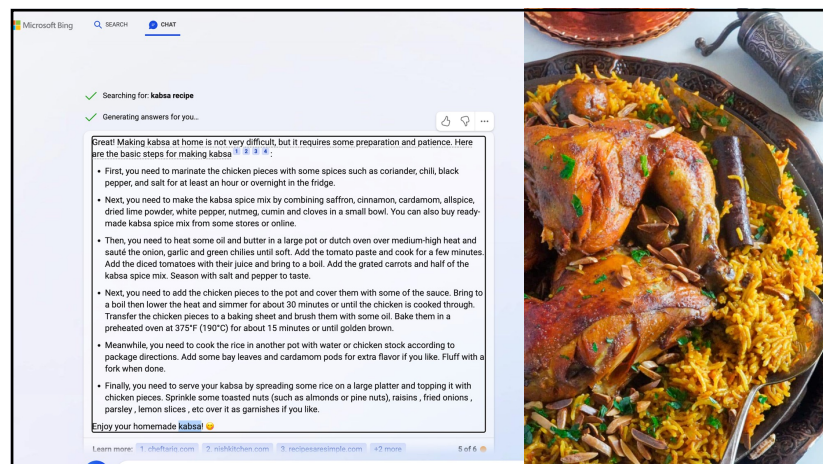
Google SCHOLAR <https://tinyurl.com/ScholarBuhalis> ORCHID <https://orcid.org/0000-0001-9148-6090>  
LINKEDIN <https://www.linkedin.com/in/dimitriosbuhalis/> Facebook <https://www.facebook.com/ProfessorDimitriosBuhalis>  
@buhalis Twitter <http://www.twitter.com/buhalis> YouTube: <https://www.youtube.com/ProfessorDimitriosBuhalis>



33



34



35



36



37



38



39



40