

Master in Planning and
Management of Tourism Systems



Applications of AI to Tourism

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PERSONALIZED TRAVEL ITINERARIES

The tradition search of the hotel, restaurant, museums, flights, etc. is going to be replaced by a simple conversation with your AI. It replaces many traditional guides and travel agents too

Examples: Mindtrip, Wanderlog, Vacay, Layla, AI Trip Planner

PERSONALIZED TRAVEL ITINERARIES

LLM prompt example:

“I'd like to visit Barcelona for a week and see the Sagrada Familia. I'm on a budget. I'd spend most time visiting at least 4 locations or shops per day related to escape rooms or to the architect Gaudi”

REAL-TIME INFORMATION

Examples:

- You see a monument, take your smartphone and asks Gemini or Claude to tell you something about this monument
- Which line of the metro I should take to go there
- Which areas of the city are better to avoid because they are dangerous
- Which dishes in the menu written in a foreign language are vegetarian or for celiacs

“If you like adventure and culture, you might want to go to Alicante.”

Smart travel assistants as Roadtrippers are app that have access to the user's data (i.e., his/her location, preferences, interests, availability) and are able to provide suggestions on-demand anticipating the user's needs!

AI BOOKING

While an AI chatbot can just talk to you, AI Agents can also do tasks for you using API, including booking tickets or restaurants.

Example:

“Find the best Mexican restaurant nearby me and book for tonight at 20 for two people”

At present only available using OpenAI Operator (200\$/month) and Google Gemini (free but only for Android users)

WHAT IS AN API?

An API (Application Programming Interface) is just a set of rules and protocols that allow different apps to communicate with each other

Examples:

- Operator can call the API of "TheFork" app , i.e: to "Book a table for 4 people at the "Boss del Taco" restaurant tonight at 20:30 using TheFork
- the "Log in with Google" button on a website
- when a travel site aggregates flight prices from different airlines

TheFork logo, featuring a stylized white fork with three tines inside a white circle, set against a green background.

thefork



HubSpot

CRM REPLACEMENT



pipedrive

CRM stands for Customer Relationship Management. It's a complex software that manages all company's relationship with customers (newsletters, marketing, etc):



holded

- Contact Management: Storing names, emails, and phone numbers.
- Interaction Tracking: Logging every email, call, or meeting.
- Sales Management: Tracking "leads" (potential clients) through the sales funnel.
- Workflow Automation: Automating repetitive tasks like follow-up reminders.

Bitrix24

Kommo














winCRM

THE SAAS-APOCALYPSE

SaaS stands for Software-as-a-Service. It is the dominant business model for software.

It is a cloud-based method of providing software to users over the internet, so you don't need to install or maintain software on your local hardware. You simply access it via a web browser, but you pay a monthly or annual fee.

This was the dominant software business model and now it is going to disappear due to AI Agents

Company	Administrative Function
 Avalera	Tax
 Bill.com	Invoicing
 Coupa	Procurement
 Dropbox	Collaboration
 HubSpot	Marketing
 Slack	Collaboration
 Smartsheet	Project Management
 Workday	Human Resources
 Xero	Accounting
 Zendesk	Customer Service
 Zoom	Collaboration

FROM SEO TO AEO

Answer Engines as the *AI Overview* of google now dominate web searches ("Zero-Click Search").

Optimizing you web site to be cited within an AI-generated answer (AEO) is more difficult than optimize it for search engines (SEO):

AI models also look at your brand's footprint across social media, podcasts, news mentions, and reviews to decide if you are a "trusted authority" worth recommending.

SEO

VS.

AEO

AI VIDEO DUBBING

<https://www.youtube.com/watch?v=cD3cDZLoxks>

ING



“Hello!”



“Hola!”



Recent Youtube videos are now instantly dubbed in 14+ languages for free



REAL-TIME TRANSLATION

LLMs help tourists with language and cultural barriers that prevent them from exploring the local culture: they will become an additional attraction instead

Example: Google Translate app now brings you real-time audio translation that captures the nuance of human speech

(<https://x.com/GoogleAI/status/1999560839679082507>)

TICKET PRICES PREDICTION

Hopper is an app based on AI to predict optimal flight and hotel prices that provides recommendations on whether to buy it now or wait for a better price

The Hopper logo, featuring a white silhouette of a rabbit jumping to the left, followed by the word "hopper" in a white, lowercase, rounded font.

hopper

KNOW WHEN TO FLY AND BUY

HOSPITALITY MANAGEMENT

AI also facilitates the use of robots in the front desk, for room delivery, stock management and to simplify the back office



HOSPITALITY MANAGEMENT

However, the biggest disruption in the hospitality sector until now was not AI but the relatively simple technology of the **self check-in**



NEW NOTEBOOKLM VIDEOS

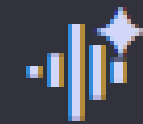
It was recently updated to generate not only reports and podcasts and quiz but also nice videos, graphs and slides, not only from classic web searches but also from deep researches

Example: you are not sure which are the recent advancements of AI on tourism sales and marketing? You prompt "impact of AI in tourism sales and marketing" in NotebookLM selecting "Deep Research" option and then generate a video/infographic/presentation in any language you want!

Studio



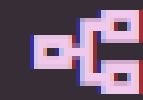
Create an Audio Overview in: हिन्दी , बाश्ला , गुजराती ,
ಕನ್ನಡ , മലയാളം , मराठी , ਪੰਜਾਬੀ , தமிழ் , తెలుగు



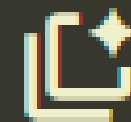
Audio Overview



Video Overview



Mind Map



Reports



Flashcards



Quiz



Sources

+ Add sources

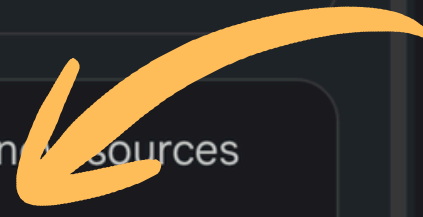
Search the web for new sources

Web Fast research

Select all sources

- Deep Research report: The Intelligence...
- (PDF) Challenges and Opportunitie...
- A Busy Week in Online Travel: Expe...
- AI and Machine Learning in travel: ...
- AI and tech investment ROI | Deloitt...
- AI in Travel & Tourism: Use Cases, B...
- ARTIFICIAL INTELLIGENCE ETHICS ...
- Agentic AI adventures | McKinsey &...
- Artificial Intelligence in Tourism: A ...
- Case Studies: AI in Revenue Mana...

select Deep research instead of Fast research



Chat

Impact of AI on tourism

33 sources

These sources provide a comprehensive analysis of **artificial intelligence (AI)** as a transformative force in the global **tourism and hospitality** sectors. Academic research highlights how technologies like **generative AI, service robots, and predictive analytics** are being integrated into **Destination Management Organisations (DMOs)** to improve **operational efficiency** and **visitor personalisation**. Industry data reflects this shift, noting a **3,500% surge** in AI-driven traffic to travel websites as consumers increasingly use **chatbots** for itinerary planning and budgeting. Beyond convenience, the texts examine the alignment of these technologies with **United Nations Sustainable Development Goals (SDGs)**, addressing environmental impacts and the necessity for **ethical governance**. Collectively, the authors argue for a transition from fragmented digital tools toward **integrated, data-driven ecosystems** that balance automation with human-centric service. Future growth in this field is expected to involve **digital twins** and **carbon-aware routing** to foster a more resilient and sustainable tourism industry.

Save to note

Studio

- Audio Overview
- Slide deck
- Video Overview
- Mind Map
- Reports
- Flashcards
- Quiz
- Infographic
- Data table

Generating Video Overview...
This may take a while

- Intelligent Destination...
33 sources · 3m ago
- Educational Guide: Demystifying...
Methodological Overview · 33 sources · 24d ago
- Strategic Implementation...
Strategic Implementation Roadmap · 33 sources ·

Add note

This example can be accessed here:
<https://notebooklm.google.com/notebook/3904bbd1-e2dc-40c8-a78d-da1a0a0cd9ac>

MAIN TOURISM BRANCHES AND SUB-BRANCHES

1. Tourism Economics

- Tourism microeconomics and macroeconomics
- Analysis of tourism demand and supply
- Regional economic impact analysis (multipliers, Tourism Satellite Account – TSA)
- Tourism development economics
- Revenue management and dynamic pricing

2. Tourism Management and Organization

- Hospitality management
- Destination management
- Event management
- Tour operating and intermediation
- Tourism marketing (traditional and digital)
- Place branding
- Human resource management in tourism

3. Tourism Geography

- Economic geography of tourism
- Cultural geography
- Spatial analysis of tourism flows
- Tourism spatial planning
- Cartography and GIS applied to tourism

4. Tourism Sociology

- Tourism and social transformations
- Tourism and host communities
- Mass tourism vs. alternative tourism
- Collective behavior and mobility
- Tourism and globalization

5. Tourism Anthropology

- Intercultural encounters
- Authenticity and identity construction
- Ethnographic tourism
- Cultural impacts and heritagization processes

6. Tourism Psychology

- Travel motivations
- Tourist experience and satisfaction
- Tourist consumer behavior
- Decision-making and risk perception

7. Tourism Law

- Regulation of tourism enterprises
- Tourism contract law
- Civil liability in tourism
- Transport law
- International tourism legislation

8. History of Tourism

- Evolution of travel (Grand Tour, mass tourism)
- History of tourism infrastructures
- History of hospitality

9. Cultural Heritage Economics and Management

- Heritage valorization
- Museology and museography
- Cultural tourism
- Heritage management

10. Sustainable Tourism and Environmental Sciences

- Responsible tourism
- Ecotourism
- Tourism carrying capacity
- Climate change and tourism
- Environmental certifications

11. Transport and Tourism Mobility Studies

- Transport economics
- Airport planning
- Cruise tourism
- Smart mobility

12. Tourism Technologies (E-Tourism and Digital Tourism)

- E-tourism
- Reservation systems (CRS, GDS)
- Artificial intelligence applied to tourism
- Big data and predictive analytics of tourism flows
- Augmented and virtual reality for tourism experiences

13. Statistics and Quantitative Methods for Tourism

- Tourism flow analysis
- Forecasting models
- Key performance indicators (KPIs)
- Econometric analysis of tourism

14. Communication and Media Tourism Studies

- Place storytelling
- Social media marketing
- Film-induced tourism
- Tourism and digital media

MAIN TOURISM BRANCHES AND SUB-BRANCHES

15. Health Tourism

- Medical tourism
- Thermal tourism
- Wellness tourism

16. Sports Tourism

- Sporting events
- Territorial impact of sports events
- Sports tourism management

17. Food and Wine Tourism (Gastronomy Tourism)

- Food and wine tourism
- Agri-food supply chain and tourism
- Gastronomic place marketing

18. Religious Tourism

- Pilgrimages
- Shrine management
- Economic and cultural impacts

19. Rural Tourism and Agritourism

- Local development
- Agricultural multifunctionality
- Tourism in inner and marginal areas

20. Critical Tourism Studies

- Postcolonialism and tourism
- Global inequalities
- Tourism and power
- Overtourism

21. Roots Tourism (Ancestry / Diaspora Tourism)

- Identity, memory, and belonging
- Diaspora and transnational networks
- Revitalization of inner areas and small towns
- Archives and intangible heritage valorization
- Diaspora market segmentation
- Local regeneration and depopulation counteraction

22. Workation (Work and Vacation Tourism)

- New demand segmentation and extended stays
- Destination strategies for remote workers
- Center–periphery spatial rebalancing
- Blurring of work–leisure boundaries
- Digital infrastructure and coworking ecosystems
- Temporary residency planning and sustainability

TASK FOR NEXT WEEK

- Choose one **tourism branch or sub-branch** and perform a **deep research** with NotebookLM on “the impact of AI on <chosen tourism branch>”
- Then, generate **all types** of outputs available: audio overview, video overview, slide deck, infographic, reports, data table, quiz, mind map
- in case of the reports, generate a **briefing doc**
- In case of the video overview, generate the **three types** available
- in case of the audio overview, generate the **four types** available
- in case of the slide deck, generate the **two types** available
- in case of the infographic, **choose one** of the many visual styles available
- finally, share the link of your NotebookLM project in **column T** of our google sheet

Suggested video: “the 5 ways to use AI models while travelling” by Raffaele Gaito
(https://www.youtube.com/watch?v=lfGaZZN_VfA)



MASTER THESIS ON THE IMPACT OF AI ON TOURISM

Thesis of PMTS already published and available in the moodle:

- Advancing tourism research with Artificial Intelligence: integrating Large Language Models for searching and extracting textual data from PNRR documentation
- Artificial intelligence and accessibility: creating opportunities for tourists with disabilities
- Smart Hospitality: AI-Driven Innovation in the Hotel Industry
- Artificial Intelligence and guest experiences on digital hospitality platforms
- Artificial Intelligence in tourism guidance: analyzing QR codes, mobile applications and smart tools
- AI and Sustainable Tourism: a comparative study of Lofotr Viking Museum and Bergamo Museums'
- AI in Cultural Heritage Tourism: a comparative study of India and Italy
- Sustainability in Museum Management: Exploring the Impact of Artificial Intelligence
- The impact of AI on Art: Exploring the birth of new art styles
- Artificial Intelligence in Tourism Management: mitigating overtourism through smart technologies flows and preventing overtourism
- Large Language Models and Artificial Intelligence for Tourism: application of Generative AI to Digital Marketing
- Large Language Models and Artificial Intelligence for Tourism: bridging the Gap Between Heritage Conservation and Visitor Engagement in Italy and Pakistan
- Large Language Models and Generative AI for Tourism: the case study of the smart tourism destination of Singapore
- Artificial Intelligence in Tourism: A Comparative Analysis of AI Agents' Strategic Capabilities in Sales and Marketing
- Smart Hospitality: the Role of AI in Enhancing Small Businesses

AI MOVIE

- remember to [cancel your Google AI Pro](#) subscription before it expires
- once you [upload your Scene](#) in the moodle ,your work is finished. I am currently editing all your Scenes to generate the final cut of the movie
- last week Elevenlabs made the voice of [Iramamowe](#) (Metthew Schmitz - Ancient Sage Dragon Wizard) available to Premium users only; luckily, there is a similar voice called "Cornelius" that is available for free: use this one instead
- last week, Google Flow finally introduced [voice selection](#) feature that allow you to avoid using Elevenlabs: now you can associate to each character a specific voice. However, this feature is only available to google AI Ultra users and is limited to a set of 20 basic voices, so at present it is not very useful to us
- last week I wrote you that there is a new video model available in Google Flow called [Veo 3.1 Lite](#) that only costs 5 credits. However, I later realized that this cost is only for Google AI Ultra users. For other users it still costs 10 credits, so it's still better to use VEO 3.1 Fast instead
- Next lesson we will assign the [bonus points](#) to the 5 best Scenes
- The lesson after next one (28th of April) is also the [last one](#) of the course. It will be the "[premiere](#)" of our movie: we will watch it together and then we will have a [big party](#) afterwards to celebrate your first movie, so bring pop corns and champagne!