

#12. Pandemics and digital



University of Bergamo
Master Course in Project and
Management of Tourism Systems
Academic Year 2021-2022
IT for Tourism Services

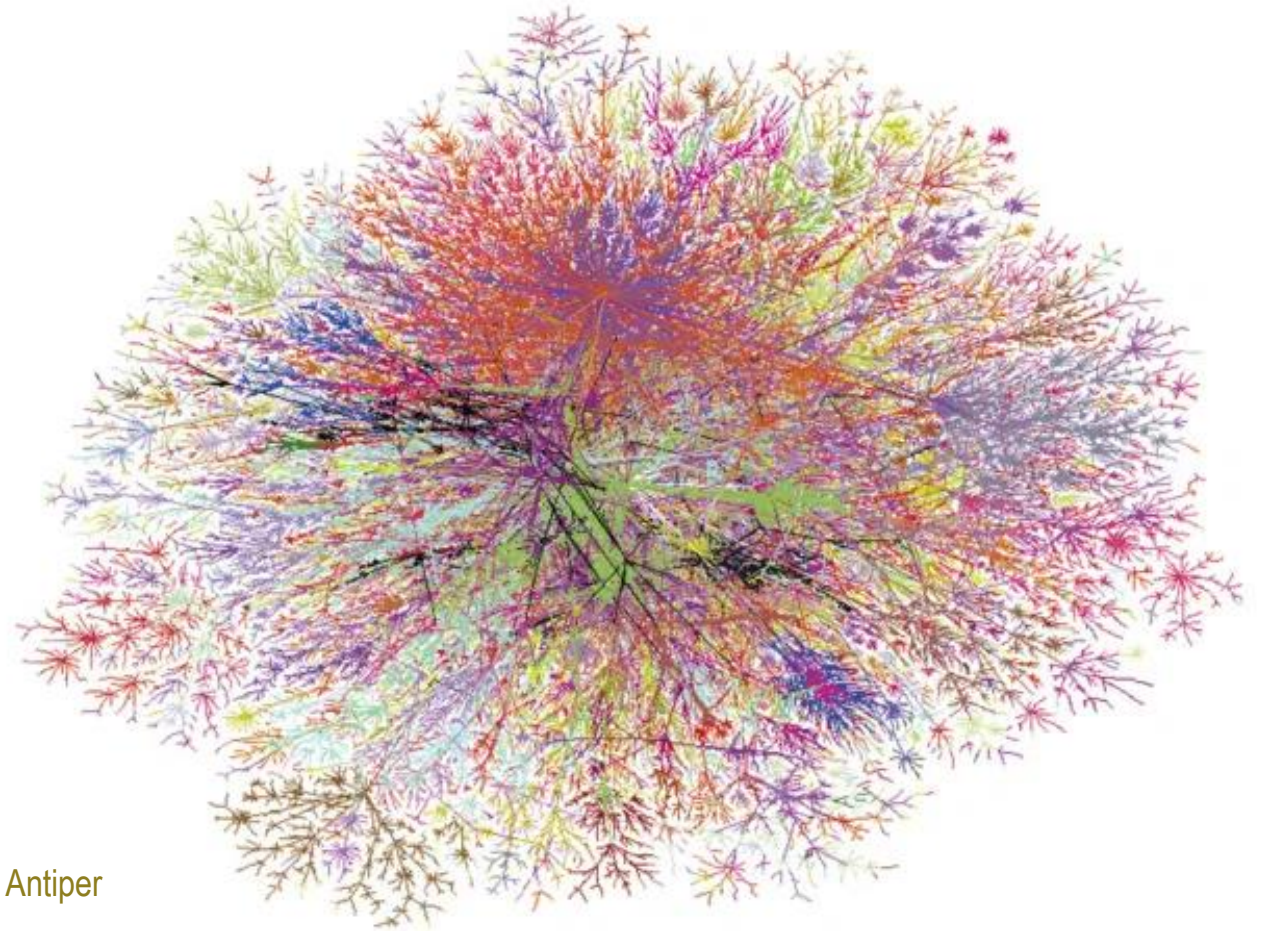


image credit to [Antiper](#)

What are we talking about this time?



1. Covid-19
2. A complete hybridization
3. Pandemic data
4. Data and models
5. Worth mentioning
6. Recommendation systems
7. Responsibility

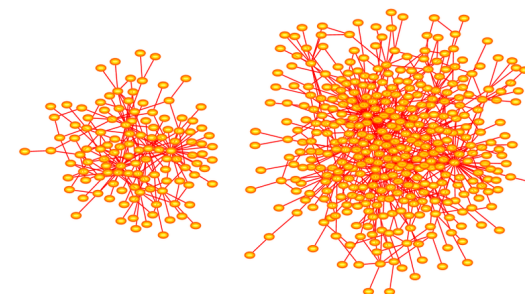
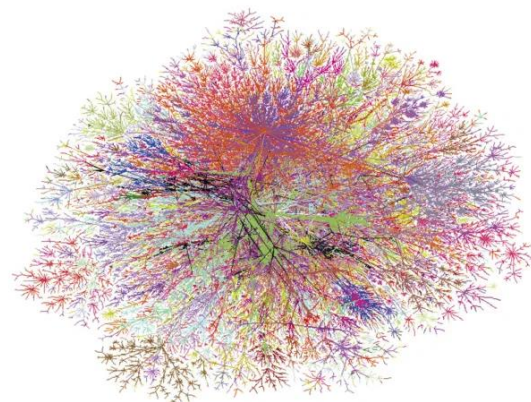


image credit to Antiper



A chapter in our book by Barabási



A chapter in our textbook by Albert-László Barabási, “The Tenth Link: Viruses and Fads”, introduces the spread of epidemics as a network phenomenon.

“The Tenth Link” is not included in the reading list of this course. Yet, it is there.

The “we are all connected” model explains – unfortunately, one could say – the phenomenon of Covid-19 that is gripping the Planet.

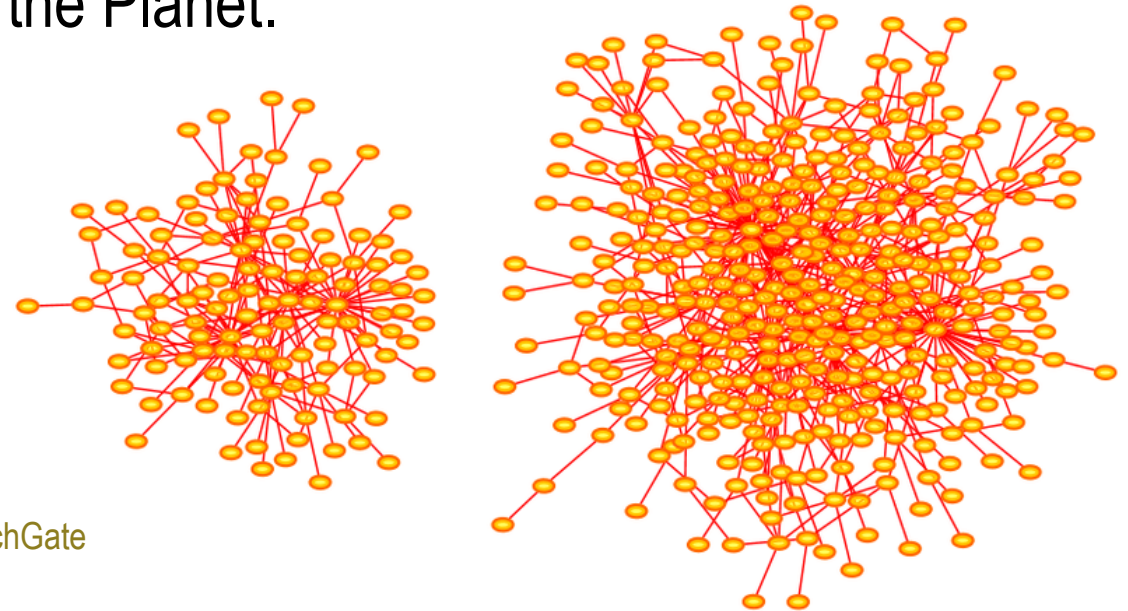


immagine da ResearchGate

Covid-19: life has become digital

One of the consequences of Covid-19 has been – and is – confinement, what in global language is called lockdown. Along with vaccines, the lockdown has proved to be the most effective prevention measure against the spread of the Sars-Cov-2 virus.

In turn, one of the consequences of the lockdown was the need to use digital as a surrogate for reality. If we can't meet, we can at least use Zoom or Meet.

Obviously, digital platforms are not the same thing as reality. Yet, no other choice was available.

Digital has become real.

Or has “real” become digital?

Even before the pandemic...



Il turismo sarà sempre più «Onlife» Clip slide



Human technology e sostenibilità ambientale

Dove gestire e integrare una vita ed esperienze reali con quelle virtuali.

Ormai facciamo esperienze concrete vissute ogni giorno mentre si rimane attaccati a dispositivi e ambienti digitali interattivi.

È una condizione esistenziale di non distinzione tra reale e virtuale.

Essere umani in un'era di iperconnessione e sovrabbondanza di informazioni.

Aspetti approfonditi nel dettaglio da "[The Onlife Manifesto](#)" di Luciano Floridi

SILVIA BADRIOTTO
WEB MARKETING E TURISMO LENTO
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... and more now

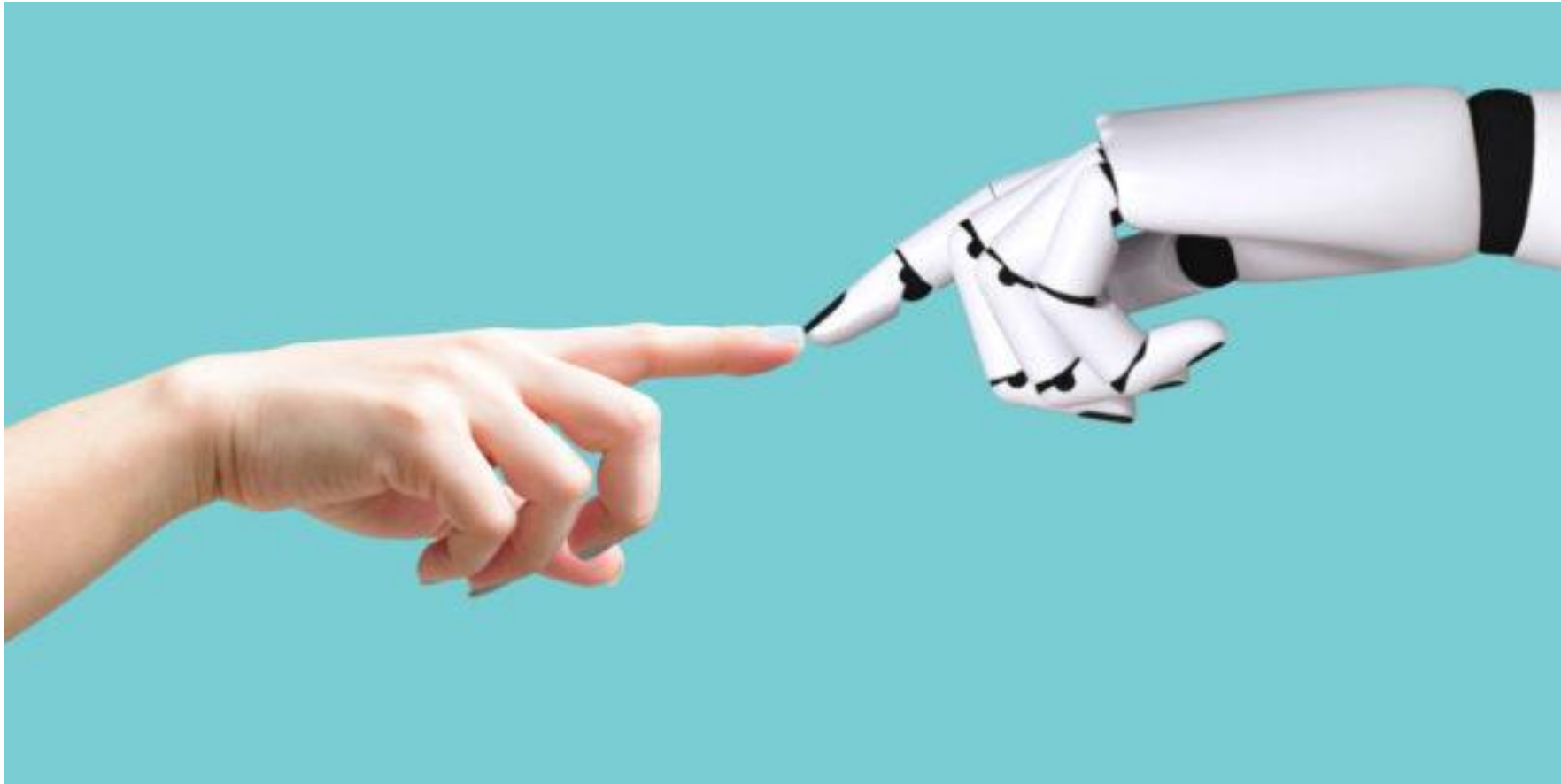


image credit to [Roba da Donne](#)

From the Politecnico di Milano



MyHome Ricerche Prodotti **Eventi** Community Chi siamo Cerca ROBERTO Carrello

Sei registrato Scarica

Il Journey si fa sempre più digitale e contactless

Osservatorio Innovazione Digitale nel Turismo e Business Travel

27/01/2020

5

La necessità di **DISTANZIAMENTO** ha **ACCELERATO** il processo di **DIGITALIZZAZIONE** già avviato

Fonte: Indagine alle strutture ricettive 2020

Più strutture offrono servizi digitali

Servizio	2020	2019
Check-in online o da mobile	31%	8% nel 2019
Opzioni di pagamento da mobile (Apple Pay, Google Pay, ...) o da remoto (Pay-by-link, ...)	30%	15% nel 2019
Chat, assistente virtuale o device per fornire informazioni o prenotare	14%	2% nel 2019
Chiave virtuale per aprire la camera tramite smartphone	4%	3% nel 2019

Base: 595 strutture ricettive

L'evento viene trasmesso in streaming all'interno di questa pagina. Per poter visualizzare il video è necessario iscriversi. La finestra del video compare circa 30 minuti prima dell'inizio del convegno. Nel caso non compaia il video, provare ad aggiornare la pagina

Descrizione Domande chiave Programma

Aggiungi ai preferiti Condividi

Aggiungi in Agenda

Informazioni

TIPLOGIA

Hai qualche domanda? Scrivi, sarò felice di aiutarti.

Epidemic curve and data



The **mixture** – or hybridization, whatever we call it – **between what we used to called “real” and digital** has been enhanced by the pandemic in yet another dimension. **Data** have become substantial in allowing or prohibiting our **social behaviours**.



Source: Google

Foreseeing



More generally, Covid-19 has imposed the use of mathematical models managed by digital technologies to hypothesise what may happen in the future.

Not future in the long run – because, as Keynes joked, “In the long run we are all dead” – but future next week.



image credit to [corriere.it](https://www.corriere.it)

Communicating the pandemic



A field where Covid-19 has **not necessarily transformed** social behaviours has been, and is, **communication**. Much less tourist communication.

Too many destinations throughout 2020 and 2021 continued to publish web pages in which the local **attractions** were **magnified**, at most warning that – “at the moment”, “provisionally”, “until further notice”... – arrivals on the spot were not advisable.

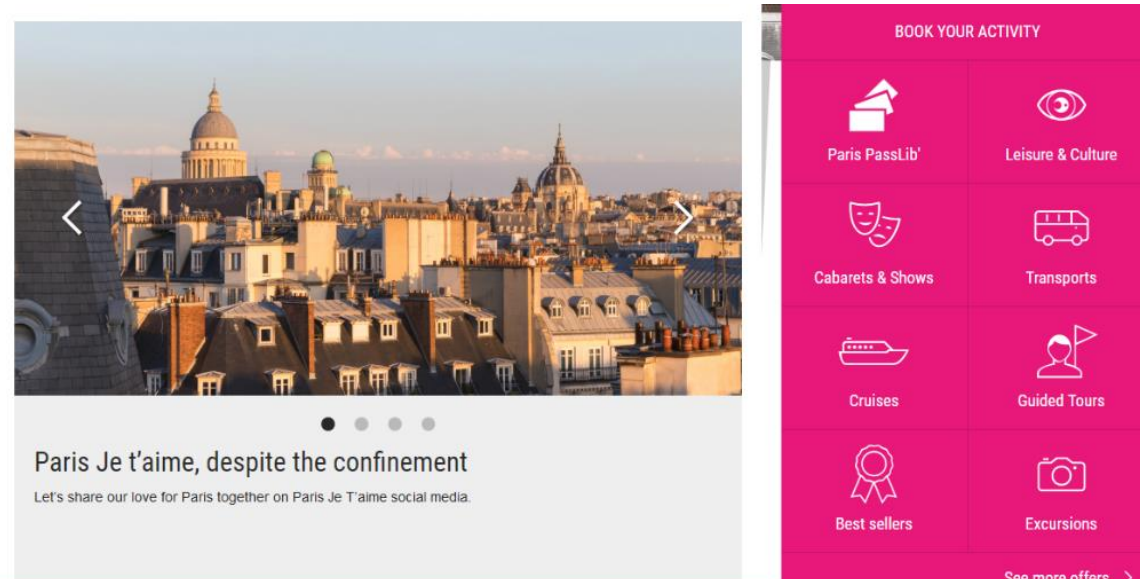


image credit to paris.info

March 18, 2020

An example.

“Welcome to London”?

Are we joking or what?!?

The screenshot shows the 'VISIT LONDON OFFICIAL VISITOR GUIDE' website. At the top left, there is a language selector set to 'English'. At the top right, there is a search bar and a fingerprint icon. A large white popup box with a red 'X' in the top right corner is centered on the page. The popup contains the heading 'Latest information on COVID-19' and the text: 'Find official guidance and the latest information for travelling safely while visiting London during the coronavirus (COVID-19) outbreak.' Below this text is a yellow button labeled 'COVID-19 information'. The background of the website is a scenic view of the Tower Bridge in London. Below the popup, the main heading 'Welcome to London' is displayed in large white letters. Underneath this heading are four navigation buttons: 'Top 10 attractions', 'Tickets & offers', 'Day trips', and 'Things to do', each with a right-pointing arrow. Below these buttons are three featured cards: 'THE LONDON PASS' with the tagline 'Access Amazing™', 'Hop-on hop-off bus' featuring a double-decker bus, and 'Tours' featuring a woman sitting on a boat.

Recommendation systems



Managing the relationship between tourism destinations or businesses and potential guests **in a time of pandemic** is not easy. A very interesting case was presented at the most recent international congress of the **Ifitt** (International Federation for Information Technologies and Travel & Tourism).

In the area of Munich, **proximity tourism** to natural areas caused **overcrowding**, which was harmful to the integrity of the territory and a potential harbinger of further contagion.

When the natural area was too saturated to guarantee sustainable conditions, a **recommendation system** managed by the Outdooractive platform made it possible to redirect potential guests somewhere else.



Overtourism



„Lassen sich nicht abhalten“: Ausflugs-Chaos an Bayerns Seen - App könnte jetzt helfen

Etwa 150 Verstöße wegen Wildparken im Ostallgäu

Wandern im Stau

Masterplan gegen Staus u wildes Parken

„Das ist eine Invasion“

Vateritag im Allgäu: Dutzende Parkverbote und noch mehr Ausflugsverkehr

Das Allgäuer Sommerfest

Amberburg auf deutsche Schneegebiete: Corona und das Wildpinkeln

Image Source: Collection of Screenshots from different News Websites

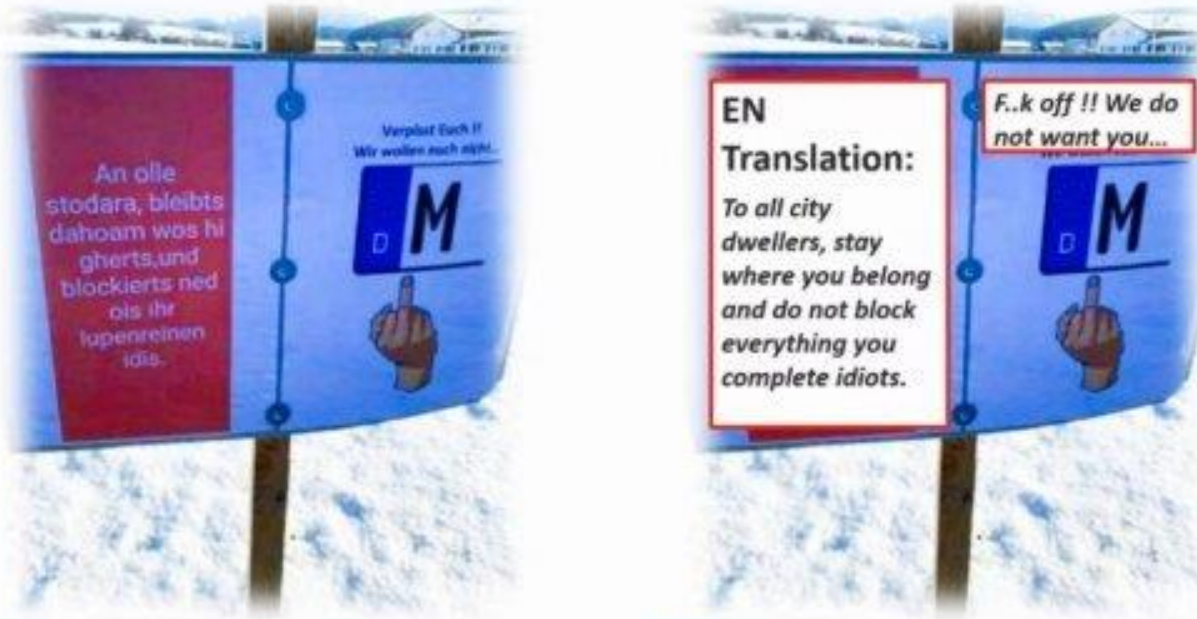
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Anti-tourism



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Offensive Sign, put up in the Miesbia
(Image source: Friso Jelle Seltje-Schierens, posted on Facebook 2 Jan 2021)

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A digital platform



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outdooractive

„How can the Outdooractive platform use opportunities to address Corona challenges and provide solutions and add value for better visitor management?“

1. [Watch video](#) | [Log in](#) | [Help](#)

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Participation

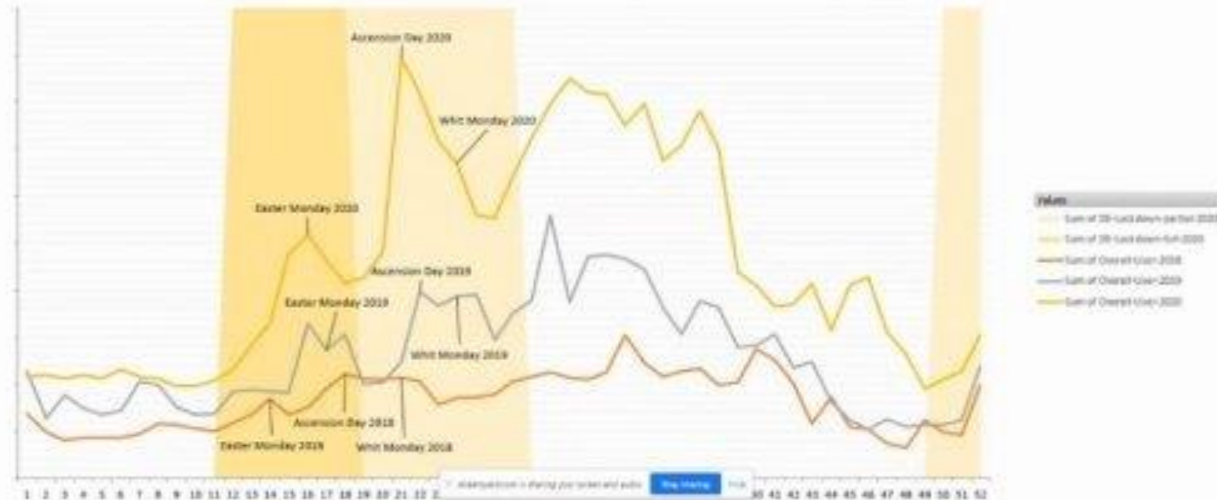


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Outdooractive Observations – Platform Growth

Increase of created users - weekly



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Data from Outdooractive

Outdooractive Recorded Tracks

- Heatmaps to identify visitor movements (11-17 Jan 2021)
- Various data sources (tour planning, web tracking, platform tracing, etc.)
- Additional data needed for effective visitor management



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Public-private infrastructure

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Importance of Data Infrastructure: The AIR Project

- Public funded research project (Federal Ministry of the Environment, Nature Conservation and Nuclear Safety)
- Application of AI technology to create ecological impact
- Objective: Conceptualization of an AI based recommender system for sustainable tourism



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Send a message

Advising guests

Digital Solutions: Digital Ranger

- Planning tool, providing information on sustainable behavior in protected areas
- Data from "Digitize the Planet",
- Collect, consolidate and create open data for rules & regulations in protected areas



Image Source: Julia Münch, ITS Oberwallau



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Nudging

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Digital solutions: Listings & Capacity Utilisation

- Rankings of tour lists are calculated by algorithms based on content quality.
- Manipulating rankings to nudge users to less crowded places.



Image Source: Screenshots Outdooractive Research App



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- Stage Manager_Shin 4:29 PM We will ask the speakers whether they can share the slides.

LIVE

HD



Send a message

Gamification

Gamification Visitor Management Approach



Video Source: Isabel Schittenkath, Laura Kötter, Simona Dell'Aquila, IS-Seminar. <https://drive.google.com/drive/folders/1T16tM5wKbT16M3dWd2N6dX6w>



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Data availability

Real-Time Data Flows for Visitor Management

- Sophisticated data infrastructures that include visitor and traffic flows already exist...
- ... but that does not mean that they are accessible for anyone to innovate and develop solutions for sustainable visitor management...



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- Kirsi Hyvaerinen 4:34 PM Also if possible Martin & Dominik kindly include the link to the video on the PPT or PDF that you share later.

Data

BayernCloud – Digital Data Infrastructure for Tourism

The screenshot shows the BayernCloud website. At the top, there is a navigation bar with 'Über uns', 'Tourismus', and a search bar. Below the navigation bar is the 'bayerncloud TOURISMUS' logo. The main content area features a map of Bavaria with a network of nodes and lines overlaid on it. To the right of the map is a text box titled 'BayernCloud im Tourismus' with a 'mehr erfahren...' button. At the bottom of the page, there are logos for various partners including fortiss, Bayerische Staatsoper, Bayer, outdooractive, Bayer Tourism Marketing GmbH, Fraunhofer AISEC, and others.



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Covid-19 as a catalyst

Corona as a Catalyst for the Digital Transformation

„The Corona crisis could be considered as a catalyst for the digital transformation of destinations’ visitor management strategies and the development of smart recommender systems”



Prof. Dr. Dirk Schmäcker (NIT, FH Westküste)



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Cooperation is essential

Our Key Learnings from the Corona Pandemic II



2

We need to increase the collaboration of all tourism industry stakeholders to better balance economic, environmental and social needs

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Open data

Our Key Learnings from the Corona Pandemic III



3

We need to **provide open data streams** to foster innovation in products & services and **improve the convenience** to access, use and combine data

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Strategies for resilience

Our Key Learnings from the Corona Pandemic IV



4

We need to **develop holistic strategies** for visitor management strategies and invest in **high quality physical tourism infrastructures** and **digital data infrastructures** to become more resilient in the future

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Companies + universities

Our Key Learnings from the Corona Pandemic V



5

We should utilize untapped opportunities for a close collaboration between business and research and administration to develop AI technologies for better visitor management

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Sustainability and responsibility



Not only a responsible management of tourism must provide sanitization and personal distancing – as long as they are required – during the pandemic. It also has to maintain a dialogue with the guests.

Abbiamo infine parlato con gli albergatori

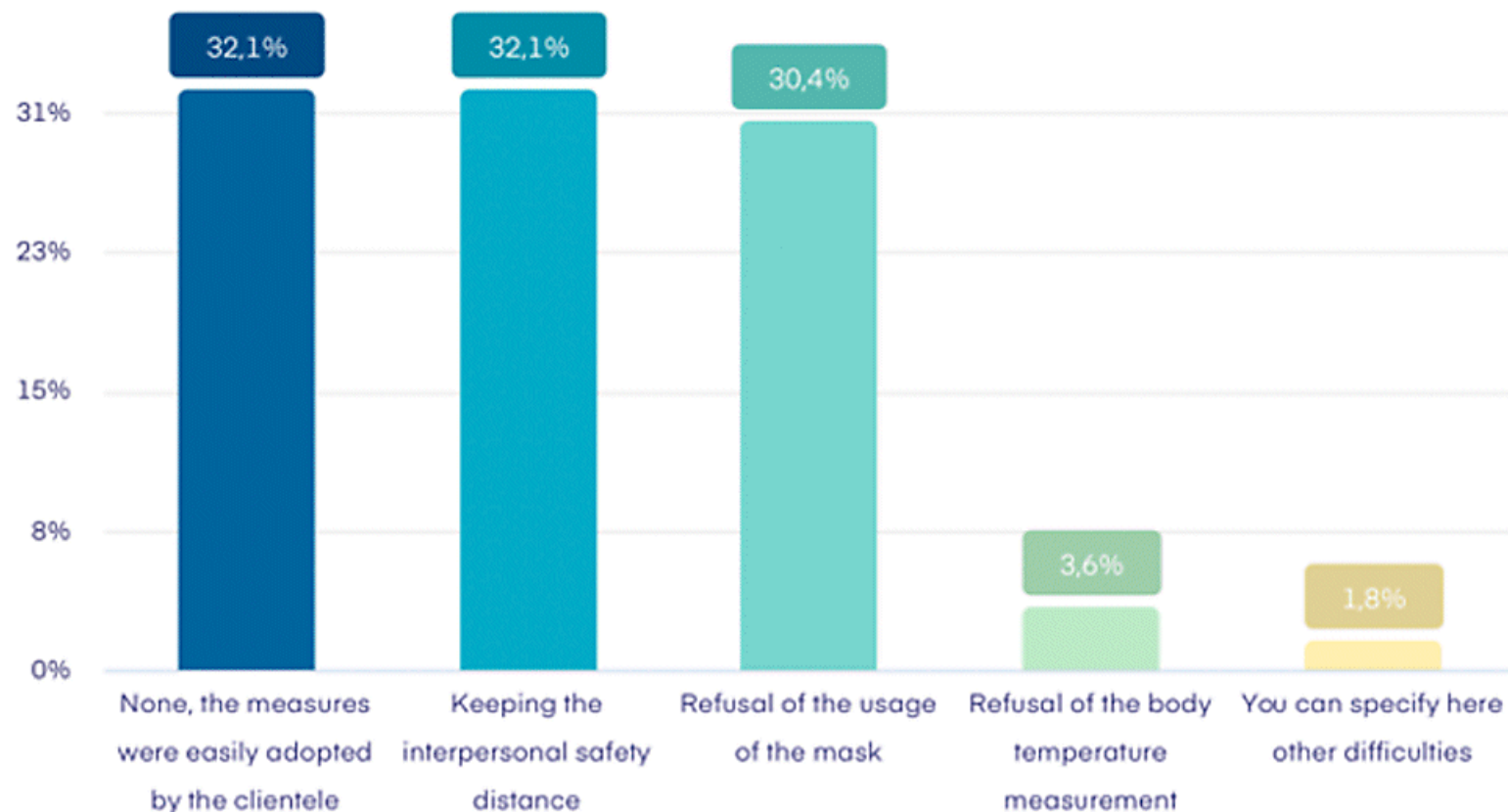
- Il **52%** degli albergatori ha bisogno di più informazioni sui potenziali viaggiatori
- Il **40%** ritiene di non avere competenze sufficienti per implementare strategie di online marketing efficaci.

In Italia, **1 su 5** non sa da dove iniziare.

Google

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Potential problems



2020-2021 data on tourists' behaviour were collected by a colleague of yours along the western coast of Lake Garda.

Key points

1. Pandemics as networks
2. Has “real” become digital?
3. Figures for future
4. Models to foresee
5. “Hiding” the pandemic is silly
6. Advising is better
7. A future is thinkable

