DIGITIZATION, A STEP TOWARDS SUSTAINABLE DEVELOPMENT OF TOURISM.

Adrian MATEIA
Cipriana SAVA

Abstract: The development of sustainable tourism is a modern-day necessity recognized worldwide by specialized organizations, by workers in the field, and by tourists.
This type of development has several stages and requires the involvement of national and local authorities, local population, employers and employees, tourists, all economic agents that are connected with tourism.
The emergence of a health crisis, such as the one we are experiencing now, imposes certain measures that affect the tourist circulation, and in fact, the tourism sector. The Covid-19 pandemic managed to interrupt the upward trend in the number of internationally registered tourists and in the income obtained from tourism, as well as their decrease to the level of 2010.
One of the measures that could contribute to the recovery of losses from tourism and the development of sustainable tourism would be digitization. Digitization is a process, a stage that must be achieved in the sustainable development of tourism. By implementing modern techniques, the work of the staff and the access of tourists to tourist services are facilitated, and that would lead to the recovery of the tourists' trust.
Keywords: tourism, pandemic, global crisis, sustainable development, digitization

INTRODUCTION

Information systems, as an integrated part of the information system of a travel agency, comprise both the manual and the automated phases of information collection and recording, information analysis and information processing.

There are three main categories of information systems that serve tourist services:

- front-office information systems: used in tourist accommodation facilities of different sizes but also in travel agencies, for tourist registration, management of rooms, marketing of tourist products or bookkeeping (Fidelio);

- information systems used for hotel reservations: they are made up of modules and allow the interconnection of ticketing, outgoing, incoming and domestic departments within the different tourist accommodation facilities or within the agencies with the financial-accounting departments and their management. Among other things, they allow data to be sent and received to and from Global Distribution Systems (GDS) such as Worldspan and Amadeus;
- Information systems that make use of the Internet: many companies in the tourism field have developed, in collaboration with other institutions (museums, ministries, non-profit organizations), within the portals they manage, public geographical information systems, where they introduce data, images, animations and even virtual reconstructions of tourist attractions, restaurants, hotels. These online systems combine the advantages of the systems themselves and those of the Internet; in tourism they are used as decision-making systems regarding the routes to be traveled and the points of interest or as information tools.

ASPECTS ON DIGITIZATION IN TOURISM

The year 2020 brought **digitization** as a discussion topic. Thus, digitization and technological development represent a priority for companies from all fields of activity. Perhaps more than most industries, tourism is constantly undergoing rapid and radical changes, so it is becoming increasingly dependent on the implementation of technologies that streamline business and provide easy and efficient interaction.

According to *valoria.ro*, in Romania, the industry has the following percentages of digitization (Figure no.1).
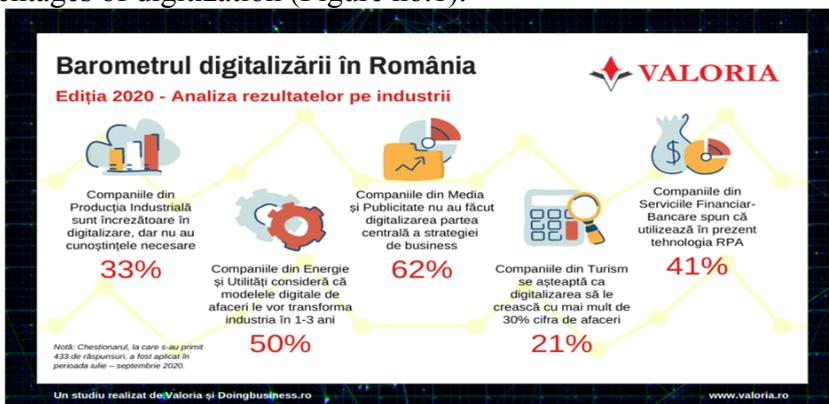

Figure no.1 *Digitization of industries in Romania*
Source: www.valoria.ro

Digitization Barometer in Romania

Edition 2020 – Analysis of results by industries

Companies from the Industrial Production field feel confident about digitization, but lack the necesary knowledge 33%

Companies from the Energy and Utilities field consider that digital business models will transform their industry within 1-3 years 50%

Companies from the Media and Publicity field do not place digitization at the core of their business strategy 62%

Companies from the Tourism field expect digitization to increase their turnover by more than 30% 21%

Companies from the Financial-Banking Services state that they are currently using RPA technology 41%

Note: The questionnaire, which received 433 answers, was applied between July-September 2020

A study carried out by Valoria and Doingbusiness.ro

From the point of view of digitization, every company expresses their interest, but in addition to trust, there is also concern, respectively pessimism. Despite these aspects, companies in different industries do not remain indifferent to this trend.

Digital transformation requires systemic changes of business processes, business models and economic relations at company, industry and government level. The fusion of various advanced technologies that integrate physical and digital systems with existing business models and processes leads to the emergence of new smart products and services to increase productivity. In this regard, the Valoria Study shows that, in 2020, within most industries, digitization is rather an intention.

Considering that an increasing number of people choose their destinations and plane tickets online or use reliable review sites in decision-making, we come to the conclusion that today, in tourism, almost everything is about digitization.

From the aspects studied and analyzed in the virtual environment, the classic travel agency is starting to lose more and more ground, because people prefer to choose their favorite vacation directly from their laptop or mobile device, as it is much more convenient, and faster. CORRECT! But…, there is a problem from our point of view: TOURISM is based on PHYSICAL customers, not only on the presentation of tourist attractions, accommodation facilities, catering facilities, specific dishes, leisure areas, events, etc.

This PANDEMIC highlighted a simple fact: the decrease in figures (indicators such as the number of registered tourists, average stay, occupancy rate, income) related to global tourism! For Romania, the following graph (Figure no. 2) shows the contribution of tourism to GDP for the period 2013-2025.

***Figure no. 2**. Contribution of tourism to GDP, 2013-2025*
Source: https://incomingromania.org/industry/solutii-organizare-sustinere-turismului-romanesc-alianta-pentru-turism/

The forecast of the contribution of Romanian tourism to the GDP for the period 2021-2025 is an optimistic one, in which only the first year of this period will be at the level of 2015, a partial recovery compared to 2019, while in the following years it will have values that Romanian tourism has never registered.

The evolution of the number of tourists over the years shows a continuous increase, followed by the sudden decrease registered in 2020. There is a worldwide decrease in the number of registered tourists up to the value of the 1990s (Figure no. 4). In Romania, the decrease was up to the value of 2010 (figures seen in the following table, as well as Figure no.3), our country not having a highly developed tourism.

Table no.1 Evolution of the number of tourists worldwide and in Romania

Year	No. of tourists (millions of persons) worldwide	No. of tourists (millions of persons) in Romania
1990	439,4	12,3
2000	682,1	4,9
2010	950,8	6,1
2019	1461	13,4
2020	381	6,3

Source: insse.ro/Tempo online and insse.ro and https://www.e-unwto.org/doi/pdf/10.18111/wtobarometereng.2020.18.1.7 - Tuesday, January 26, 2021, - processed data

Table no. 2 Evolution of main indicators of travel agencies between 2008-2020

Year	Number of companies	Turnover	Number of employees
2008	3258	3,53	11704
2009	3273	2,87	10674
2017	3739	3,76	10423
2018	3622	3,82	10216
2019	3500	4,00	10100
2020	3200	2,50	9000

Source: https://www.zf.ro/companii/agentiile-turism-ar-putea-pierde-2020-peste-jumatate-venituri-cauza-19084650

The turnover (Table no.2) is expressed in billions of euros, and the decrease is observed from 2020, the year of the pandemic.

Change in nights spent in EU tourist accommodation by origin of the guest, EU-27*, Jan-Jul 2020 compared to Jan-Jul 2019, (%)
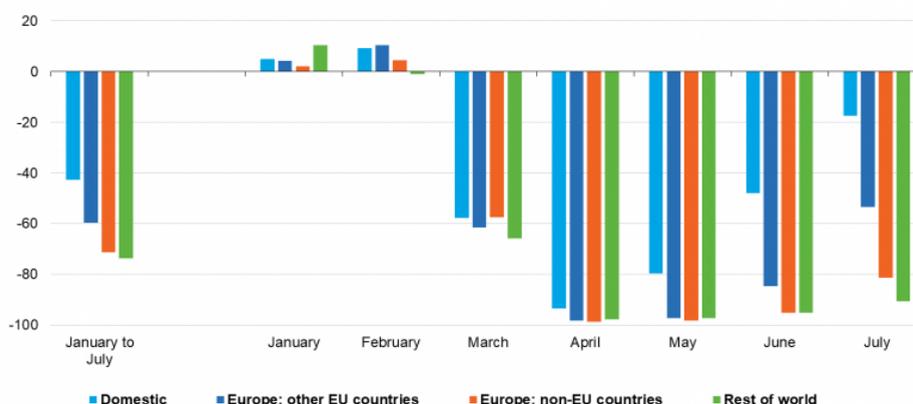
Figure no. 3. Numbers of tourism worldwide between January –July 2020
Source:https://ec.europa.eu/eurostat/statistics-explained/index.php

When there are restrictions, the problem of TOURISM is complex… WHY? Because there is the matter of people travelling from their residence to a chosen destination for a certain period of time and benefiting from some services. Tourist services involve a high consumption of "living" work, so the services are related to the provider in most cases.

We return to Romania, a European country with a temperate climate, where we are faced with another problem, for example the winter vacation, which lasts about a month. How can the ski slopes be divided? They have tried to propose a holiday period for pupils and another one for students, but the situation is much more complex! No matter how hard we try to DIGITALIZE, we cannot ski online, we cannot go sledding, we cannot have a snowball fight online, we cannot go to the seaside in summer, we cannot swim online, and the examples can go on. There are tourist attractions that can be viewed in the digital environment (virtual tours of museums, castles, cities), but ACCOMMODATION AT A HOTEL involves a trip, a contact with the hotel staff and with other tourists. In case there are restrictions, the HOTEL is penalized because of them, either it is completely closed or it operates at low capacity (maximum 70%). DIGITIZATION helps us find locations, but restrictions can cancel our vacation, or at best postpone it, or change our destination. From this point of view, we consider that DIGITIZATION is useful, but it does not help TOURISM much, unless all areas of public interest are REORGANIZED and RESTRUCTURED.

Currently, all the problems presented are real, and solving them is neither easy nor fast, that is why people talk about a "more distant horizon".

What does "more distant horizon" mean? How is the low occupancy rate still profitable?… are simple questions that do not benefit from a concrete answer right now; at this moment they are merely discussions. More than a year into the pandemic, no solutions are found in tourism, only ASSUMPTIONS, which will continue to affect tourism indicators.

Possible technological solutions in tourism, on different sectors

Some possible solutions that will improve the activity in the field of tourism and help to keep some companies on the market could be related to technological development (table no. 3)

Table no.3 Possible technological solutions in tourism

Sector	Possible technological solutions
Travel agencies	- Implementation of a Travel and TravelOS CRM to streamline sales and promote travel packages;
Accommodation facilities	- the establishment of a PMS (property management system) capable to: a) make check-in automatically from the client's phone; b) provide access to rooms based on access codes also generated from the guests' phones; c) make plans for the types of meals included in the accommodation package; d) give access to the spa and gyms within the accommodation facilities; - listing them at online travel agencies; - scanners for verifying temperature; - the possibility to pay by card, online or at POS at the reception of the accommodation facility.
Restaurants	- menus directly on the customers' phones; - automation of the table reservation process through applications on mobile phones and chatbots; - automation of placing an order, such as the fastOrder app; - LiveTouch interactive tables;
Airoports and airliners	- boarding devices based on facial recognition; - automatic boarding gates; - automatic baggage counters; - check-in devices - automated control points; - scanners for checking passenger temperature;
Asociations for the promotion of tourism and tourist destinations	- Questo mobile app (exploration game of a city or museum), a Romanian app; - the possibility of selling tickets online for access to museums; - placing QR code plates (Quick Response) on monuments and historic buildings for mobile phones.

CONCLUSIONS

From our point of view, the tourism industry can only be partially digitized: the services offered by the travel agencies, but not the services offered by the accommodation facilities. A very important role will be played by the accommodation facility, which must find accommodation solutions in case of various restrictions that arise related to the security space offered.

References

https://www.turism20.ro/category/tehnologie/trenduri/
https://www.toubik.com/digitalizarea-strategiei-de-export-a-serviciilor-de-turism/Home
https://www.1asig.ro/Pana-unde-a-ajuns-digitalizarea-industriilor-din-Romania-articol-3,102-64976.htm https://agora.md/stiri/75136/cum-mentii-afacerea-in-turism-pe-linie-de-plutire-in-vreme-de-covid-expertii-recomanda-digitalizarea
https://www.managerexpress.ro/idei-resurse/pana-unde-a-ajuns-digitalizarea-industriilor-din-romania.html/3
https://www.wall-street.ro/articol/Turism/204928/turism-fara-frontiere-cum-te-ajuta-tehnologia-sa-fii-prima-alegere-a-clientilor.html#gref
https://www.imperatortravel.ro/2020/10/agentia-de-turism-secolului-xxi-va-fi-digitala-sau-nu-va-fi-deloc.html

NOTES ON THE AUTHORS
CIPRIANA SAVA is Associate Professor at the Faculty of Management in Tourism and Commerce Timişoara, „Dimitrie Cantemir" Christian University. E-mail: cipriana.sava@gmail.com
She holds a PhD. in Management and is the author of a large number of books, articles and studies in the field of tourism, regional and rural development. Cipriana Sava is also a member in „Asociaţia Româna de Ştiinţe Regionale" (ARSR), in the „European Regional Science Association" (E.R.S.A.), in the „Science Association International" (RSAI) and in the "Romanian Association of Tourism Journalists" (AJIR).
ADRIAN NICOLAE MATEIA, PhD., anmateia@yahoo.com, Universitatea Iosif Constantin Dragan, Lugoj.