

AN ANALYSIS OF THE IMPACT OF NEW COMMUNICATION TECHNOLOGIES ON TOURISM

Cipriana SAVA
Adrian Nicolae MATEIA

***Abstract:** The development of tourism is correlated with new means of communication, and information that reaches any destination around the world instantaneously. Travel agencies that represent an intermediate agent between tourist services and potential tourists are threatened by continuous development of communication technologies as they are constraint to keep up with the new trends. Thus, applications must be developed for smartphones to become more attractive and useful for potential tourists who must be informed in real time about destinations.*

***Keywords:** IT applications, new technology, smartphones, tourism, travel agency*

Introduction

Humankind has always wanted to get knowledge, to discover new people, things and places to spend his free time more pleasantly. A result of these desires was the development of tourism, which is currently part of most people's lives.

Through tourism we understand a set of activities that are related to the movement and residing of people in a location, other than your home, for a determined period of time, without the provision of paid work.

The characteristic elements of tourism are: the journey; the destination; Time; the absence of paid work.

The emergence and development of tourism in an area depends on the existence of a natural or manmade attractive tourist potential.

Taking into account the topic discussed, the main types of tourism are considered: Recreational tourism; Curative or health care tourism; Cultural tourism; polyvalent tourism.

While in theory these types are strictly limited in practice they interfere giving tourist the opportunity to spend a pleasant stay.

The development in time of tourism was influenced by a number of factors, either endogenous or exogenous. In the first category we have factors that emerge from tourism, act from inside it and boost its development, factors

such as the launch of new tourism products, the diversification of services and the increase in staff training. The factors that are included in the second category generally act outside of tourism, factors such as the increasing urbanization, the natural growth of population, the rising incomes and population mobility. Taking into account their social-economic nature we can delineate several categories of factors:

- the increase in the number of population in the world;
- the increase of people’s life average ;
- the structure of the population by gender, age and socio-professional category;

Table 1. Categories of factors that influence tourism

Category of factors	Influence factors
- Economic	- household incomes and their changes; - Touristic offers; - prices and tariffs for tour packages;
- Social	- urbanization; - paid leisure time (week-end, free national days, annual leave);
- Technical	- the performance of transport; - new technologies in construction; - technical parameters of the facilities and equipment;
- Demographic	- the increase in the number of population in the world; - the increase of people’s life average ; -the structure of the population by gender, age and socio-professional category;
- Psychological, educational and civilization	- desire of knowledge; - level of training; - temper; - fashion;
- Political and organizational	- border formalities; - visa regime; - facilities offered for organized tourism.

Source: Sava, Cipriana, *Economia turismului*, Ed. Eurostampa, Timișoara, 2010, pag.27

These factors act together and intervene in different ways, depending on the area, period, and the results of their influence on the development of tourism can be positive or negative.

Travel agencies

The main "actors" of tourism are transportation, accommodation, catering, therapy, recreation, and entertainment providers complementary for tourists.

Travel agencies are intermediaries in tourism, specialized units that develop and sell tour packages. The first travel agency in the world was

"Thomas Cook and Son", a travel agency that was founded by Thomas Cook in 1861 which laid the legal basis of travel agencies.

According to the current legislation (Ordinance nr.107/1999 regarding the trading of travel packages) the tourist package is pre-arranged combination of at least two of the following groups of services, transport, accommodation and other services, provided that their periods exceeds 24 hours or include an overnight.

On the worldwide level, as recommended by the World Tourism Organization, tourism agencies are classified as tour – operator agencies and retailer agencies. The bigger agencies, tour operators agencies, are those who design, show and sell their packages through own companies or through retailer agencies. We should note that retailer agencies that offer for sale travel packages from tour operator agencies and are practically mere intermediaries.

Presently (1st January 2014), in Romania, 3384 travel agencies are registered according to the data provided by the National Tourism Agency from Romania.

Taking into account the turnover of travel agencies in the country in 2012 we can make a top ten of the agencies.

Table 2 Top 10 travel agencies in Romania, according to the turnover

Place	Agency	Turnover (million lei)
1	Happy Tour	180
2	Eximtur	157
3	Christian Tour	155,8
4	Perfect Tour	110
5	Vola.ro	92,8
6	Accent Travel & Events	75
7	Hotel Air	74,2
8	Business Travel	66,4
9	Mareea	64
10	Prompt Service	63,8

Source: www.ziare.com.

In the first place, in the past decade, the same firm has remained, Happy Tour, currently owned by Spanish investment fund GED. In this top we can find on the fifth place, an online travel agency, which shows that there are enough internet users that choose their holidays from the internet.

The evolution of mobile communication technology

The evolution of mobile communications is confused in a large extent with the evolution of radio communications. In order to create a large network with many users, only having available a limited frequency band, cell coverage started being used.

Cellular communication systems have been developed so far, in different generations:

- Generation 1(1G), designed to provide single service, the voice. They were analog signal processing systems (1980).
- Generation 2 (2G), was originally intended to provide voice services, while having a limited capacity for data transmission services with a relatively low speed. They are digital signal processing systems. The first GSM systems were placed in service in 1991. Among the stages of development we find the special procedures of HSCSD and GPRS. Thus, by using the packet data transmission through the GPRS process, the data transmission speed can be up to 172kbit/ s(compared to the rate of 14.4kbit/ suffered Phase 1 development). This enables the development of multimedia transmissions.
- Generation 3 (3G) offers an increased transmission speed of up to 2Mbit/s (in some versions to 8Mbit/ s) and present multiple opportunities for quality multimedia services and the possibility to operate in different environments. They are digital signal processing systems that operate in the 2 GHzband. The introduction into service of the first 3G systems was performed in 2001-2002.
- Generation 4 (4G): offer speeds of four to ten times higher than those offered by 3G networks. There are two main technologies behind: Wi Max and Long Term Evolution (LTE). WiMax is a standard developed by the IEEE(Institute of Electrical and Electronics Engineers). The development of the LTE standard lies to the 3GPP (3rd Generation Partnership Project), the industry that supports providers that use GSM technology or current cellular communication. Both WiMax and LTE are based on advanced antenna technologies for the improvement of signal reception and performance, relying on different types of wireless spectrum.

The explosion of the mobile (table 3, 4) and social media channels and the emergence of the new tablet channel have created not only new user behavior but also new information needs in each device category, requiring hoteliers to create and manage digital content across three distinct distribution and marketing channels (desktop, mobile, tablet).

Most travel traffic comes from PC (88%), followed by mobile (8%), and tablet (4%) [11].

Internet users exhibit different behavioral patterns when using the desktop, mobile and tablet devices; each device category address different needs at different times of the day and week.

Table 3. Smartphone penetration

Country	Q1 2011	Q1 2012	Q1 2013
<i>Norway</i>	33%	54%	68%
<i>Sweden</i>	30%	51%	63%
<i>United Kingdom</i>	30%	51%	62%
<i>USA</i>	31%	44%	56%
<i>Spain</i>	33%	44%	55%
<i>France</i>	27%	38%	42%
<i>Germany</i>	18%	29%	40%
<i>Austria</i>	21%	36%	48%
<i>Italy</i>	24%	28%	41%
<i>Romania</i>	-	12%	28%

Source: <http://think.withgoogle.com/mobileplanet/>

New communication technologies and tourism

The growing popularity of mobile devices suggests (fig. nr 1. Table 5) the tourist market has to develop innovative, practical and especially optimized applications for mobile devices. In other words, travel agencies should have websites as well as user-friendly mobile applications, enabling easy access to information, and updated database.

Table 4. Information accessed by smartphones

Country	Travel	Restaurants, Pubs & Bars	Job Offers	Apartments, Housing Info
<i>Norway</i>	50%	45%	34%	39%
<i>Sweden</i>	50%	53%	27%	37%
<i>United Kingdom</i>	38%	46%	24%	23%
<i>USA</i>	40%	58%	32%	28%
<i>Spain</i>	41%	44%	31%	25%
<i>France</i>	35%	48%	20%	21%
<i>Germany</i>	34%	47%	20%	23%
<i>Austria</i>	41%	50%	27%	24%
<i>Italy</i>	45%	48%	31%	23%
<i>Romania</i>	35%	33%	34%	20%

Source: <http://think.withgoogle.com/mobileplanet/>

Table 5. Number of connections and Internet users in Romania

Year	Fixed Internet Connections	Mobile Internet Connections	Users of mobile phones with internet (million)	Facebook (million)
2011	3,3	7,5		
2012	3,5	10,1	2,5	1,5
2013	3,8	13,6	5,5	2,5
2014	4	16,2	7,5	4,6
2015			10,5	6,5

Source: BreezeMobile.ro

Mobile applications for tourism made by local market (which is in development, Table 3) are:

- **Rediscover Romania** is an application developed in Bucharest, designed to locate the most beautiful sights in Romania. The app uses Google Maps
- **Tourist-Informator-Romania**, is a mobile guide information in real time about 1322 destinations in Romania
- **Paradise Travel** is a simple application about the latest travel news, offers and promotions
- **J'Info Tours Bonus**, is trying to differentiate itself from rest of the market by adopting mobile application a typical for Romanian market.

Besides these applications, we find two agents tour operators, who developed their own applications: **Paralela45** and **Mareea**.

The first European tour guide, is based on the Discover platform, and integrates technologies like **NFCTag** (NearFieldCommunication), **QRcodes** or bi-dimensional, and **GSMVoice**. On the Discover project 36 people from 7 companies work Constanta is the first pilot city, and later on the program will be developed in Bucharest, Iasi, Cluj, Timisoara, Sibiu, Brasov. In Europe, the Discover project will be launched in mid-2014 after an investment of 550,000 Euros. With this guide, visitors can directly read on the information panel, a brief overview of tourist attraction, both in Romanian and in English, being able to access the mobile webapp Discover. This project informs tourist about attractions, hotels, bars, cafes, and the most important events on the calendar.

Globally, the multitude of applications and the specific of mobile devices make it difficult to choose the best applications. Thus, by category, we can specify:

Book: Skyscanner, Hostelworld, Worldmate, Blackberry Travel, AirBnB, Tripping, Hotel Tonight

Plan: To Do, TripAdvisor,

Fly: Kayak, Hipmunk, FlightTrack Pro, Flight+,

PayByPhone and **ChargeAnywhere** are applications that allow various payments using mobile devices. As one of the benefits of mobile devices is that they have GPS, they can be easily traced and can find different locations by using applications such as **WhatsNear?** And **Geolover**. They find different locations but they need data traffic, which in terms of roaming, implies supplementary costs and the searched location to be found in the GeoNames databases.

In the table below the current trend is observed, meaning the predominant use of mobile devices at the expense of traditional computer (PC). This is due to the portability of mobile devices and the fact that these can be connected to both the classic service (Wi-Fi) and the 3G and 4G network.

Table 6. Q1 2013 vs. Q1 2012 Percentage Increase/Decrease by Device Category

<i>Source</i>	<i>Pageviews</i>	<i>Visits</i>	<i>Bookings</i>	<i>Nights</i>	<i>Revenue</i>
Mobile	83,9%	133,6%	44,4%	54,8	57,7%
Tablet	73,5%	121,1%	100,1%	112,1%	94,8%
iPad	68,9%	115,5%	100,1%	107,5	91,6%
Desktop	-14,4%	-26,9%	-5,5%	-5,5%	-5,04%

Source: <http://www.hebsdigital.com/blog/the-truth-is-in-the-numbers-2013-is-undoubtedly-the-year-of-the-three-screens-in-hospitality/>

Beside these mobile applications, the web is semantic and many interconnected data are used. Thus, this has an obvious advantage over mobile applications, as there is a good network among personal opinions (FOAF), geographic locations (GeoNames) and different databases such as dpedia. The increasing trend of mobile devices market, with web 3.0 access leads to mobile applications for tourism which can be based on the following architecture:

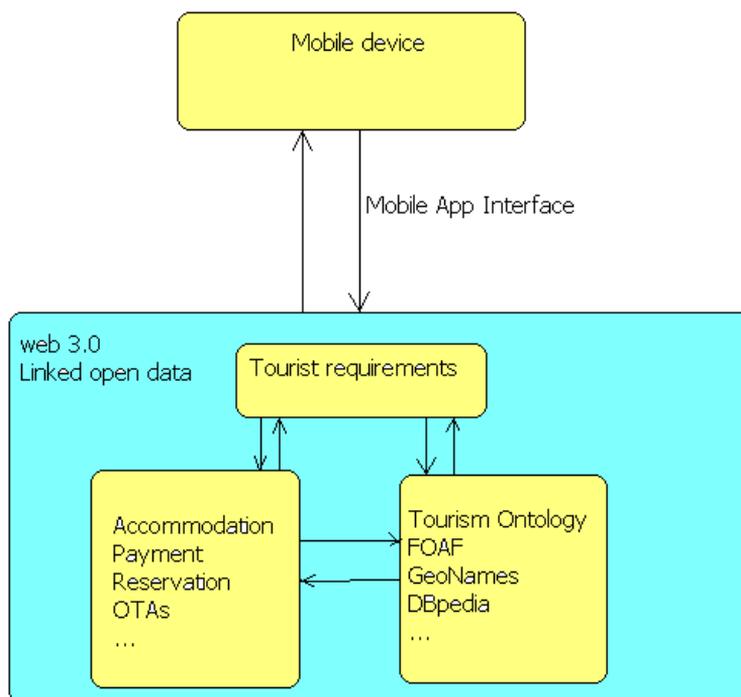


Figure 1. Project of a mobile application based on semantic web

The main problem of implementing mobile technology is that most companies develop solutions for clients without requesting their feedback. Thus, after the implementation of a mobile technology, it must react quickly to changes. Applications need to be constantly updated in order to accommodate new products or limited offers in order to be adapted to the different devices but also to the changes in the market and the social trends.

These technologies represent a challenge for two main reasons:

- Their life cycle is extremely short
- Access to multiple communication channels on a single device

Conclusions

Tourism has seen a continuous growth worldwide, not being majorly influenced by the negative events in recent years. The number of tourists has increased annually, as well as that of providers and intermediaries. Travel agencies provide, in Romania, complex packages and try to give as much information as possible for clients by using modern technology.

The market will continue to grow at a rapid pace and the stakes of immediate gains will cause some participants to take the first step towards more risks (tax, legal, financial). But in a relatively short time, these risks will materialize and only the skilled, agile, and especially better informed agencies will remain.

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NOTES ON THE AUTHORS

CIPRIANA SAVA is Associate Professor at the Faculty of Management in Tourism and Commerce Timișoara, „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 „Asociația Română de Științe 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., “Dimitrie Cantemir” Christian University, Faculty of Management in Tourism and Commerce Timișoara, Romania. anmateia@yahoo.com

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