

## **E-Promotion, a platform for tourist products development**

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*Abstract:* - Networks expansion and Internet provide a good platform for tourism e-marketing in the idea of connecting consumer with the target segment supply. The systems that are already implemented consider the economic process as a presentation of the general offer from a company. In the process of selection the consumer has to evaluate a vast range of offers to decide which suits best. In general, two parties are involved: the consumer and the tourism organizations. Our approach introduces a third party, the mobile phone service, playing an important role in the advertising process allowing the consumer to make a choice from the selected offers that suit its needs. The service is based on arising technologies, mainly those on mobile devices, provided that mobile marketing will growingly use this kind of technology. Automatic natural language processing services represent an added important layer on our proposed client-server architecture for delivering personalized content for mobile clients.

*Key-Words:* - e-marketing, mobile services, distributed system

### **1 Introduction**

As technologies face a rapid development and the number of mobile users increases each year, tourism promotion should no longer be performed exclusively in traditional fashion with printed or web flyers and brochures. Promoting through a communication network has made e-marketing possible from anywhere at any time, using the Internet, wi-fi networks or local area networks. Specially, mobile devices allow people to buy on the move using portable devices, such as cell phones, personal digital assistants (PDAs) or laptops.

Technology-delivered e-marketing is where the consumers are never in physical proximity to the provider and may be delivered via a mix of asynchronous and synchronous technologies.

With the increased number of cell phone users in Europe and in the whole world, it is compelling that we build a relation between the consumer and tourism service provider through the most used communication means: cell phone. We propose an involvement of the mobile communication companies in the marketing process, especially in the target market identification and demand-supply correlation process by means of a mobile service. From the marketing point of view, the proposed system is seen as an innovative way to develop tourism industry and, in particular, as a differentiation tool for the tourist products.

In the last few years, the travel and tourism economy contribution to Romanian GDP increased slowly but constantly and the predictions are positive for the next period. This mean that on a competitive market, hospitality and tourism organizations must be customer orientated. Romanian communication industry increased exponentially in the last few years. Mobil phone market was a dynamic one and the trend is to become a mature market. Mobile services can add value to tourism experience and facilitate the suitable destination and services search. The full functionalities and architecture of the system will be explained.

### **2 E-tourism – an innovative tool in developing tourist products**

*Tourism* is the act of travel for the purpose of recreation and business, and the provision of services for this act. *Tourists* are people who are "travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited" (official UNWTO definition) [17].

At the global level, the tourism industry is one of the sectors with the highest development. The World

Tourism Organization (UNWTO) forecasts that international tourism will continue grow at the average annual rate of 4%. By 2020 Europe will remain the most popular destination, but its share will drop from 60% in 1995 to 46%. Since e-commerce has taken off on the Internet, tourism products have become one of the most traded items on the net. Tourism products and services have been made available on the Internet at bargain prices through intermediaries. Tourism providers (hotels, airlines etc.) have started to sell their services through the Internet. This has put pressure on intermediaries from both the virtual and the traditional brick and mortar stores [17].

According to a study, 39% of leisure American travellers (whether they use the Internet or not) think that the Internet is easier and faster to use for travel planning than a travel agent. This figure proves extremely important, not only for the future of the e-tourism sector but also on the behavioural point of view. The same study said that 66% of American Internet users think that the services provided by their travel agent are not as good as the ones provided by e-tourism web sites [14].

The definitions of tourism innovation (e.g. product, service and technological innovations) is not very clear, with the exception maybe of the Internet. New information and communication technologies can produce an important contribution to tourism development. For tourism businesses, networks offer the potential to make information and booking facilities available to large numbers of tourists at relatively low costs. It also provides a tool for communication between tourism suppliers, intermediaries, as well as end-consumers. Organization for Economic Co-operation and Development - OECD (2000) revealed that the advent of Internet-based electronic commerce offers considerable opportunities for firms to expand their customer base, enter new product markets and rationalise their business. UNWTO (2001) indicated that electronic business offers for small and medium enterprises the opportunity to undertake their business in new and more cost-effective ways. According to UNWTO, the Internet is revolutionising the distribution of tourism information and sales. An increasing proportion of Internet users are buying on-line and tourism will gain a larger and larger share of the online commerce market. Obviously, the Internet is having a major impact as a source of information for tourism. Part of the problem relates to the scale and affordability of information technology, as well as the facility of implementation within rapidly growing and changing organisations. In addition,

new solutions configured for large, stable, and internationally-oriented firms do not fit well for small, dynamic, and locally-based tourism firms. According to a United Nations report (2001), “it is not the cost of being there, on the on-line market place, which must be reckoned with, but the cost of not being there.” It is certain that adopting digital communication and information technology is no longer an option, but a necessity [13].

**2.1 Romanian tourism trends**

Romania has almost all the features to be one of the preferred tourist destinations: it is blessed with a beautiful landscape, it can offer different types of tourism (mountain tourism, heritage and cultural tourism, rural tourism, spa tourism, geo-tourism, MICE tourism – meeting, incentives, conferences and exhibitions –, seaside tourism) and it has a diversified supply of lodging capacities. Despite this, the travel and tourism economy contribution to Romanian GDP varied around 2 per cent. Probably this is the reason why in the last few years, travel and tourism sector has been identified by Romanian government as a priority in the National Development Plan. The WTTC has forecasted for 2006 that travel and tourism economy will contribute 4,8% of Romanian’s GDP. In 2016 the share will be 5,8 per cent said the same source [15]. The increasing in figures for Romania is relevant:

Table 1. Romanian tourism (000)

	2002	2003	2004
Tourism arrivals	4794	5595	6600
Tourism departure	5757	6497	6972
Hotels and restaurants	13,53	15,45	17,24
Tourism Intermediaries	2,3	2,8	3,3

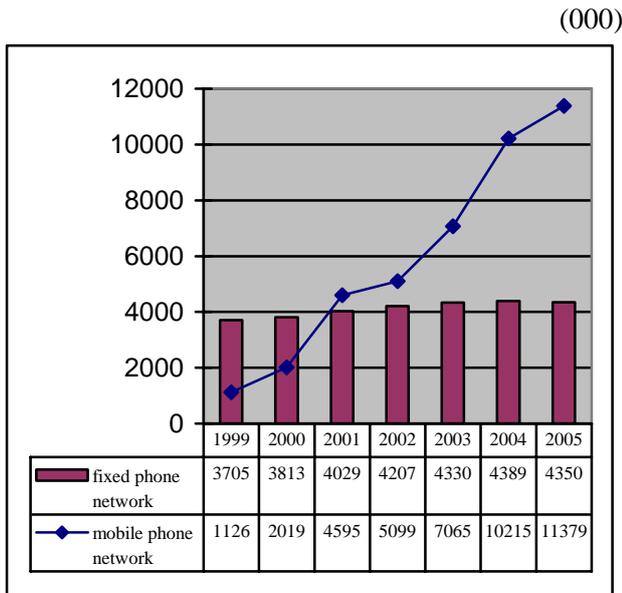
Source: Romanian Statistical Yearbook 2005

**2.2 Romanian mobile phone market**

For the Romanian economy, the main sector with a constant rate of growing in the last four year was communication. The development of this industry influenced many other domains from Romanian economy and became an important support for reinforcing them. The expansions of communication also has a positive influence on the export activity and for 2005 was estimated a contribution of 4% to Romanian’s GDP. In general, the Romanian communication market follows the European tendencies.

After three years from the total liberalization of electronic communications market in Romania the number of providers increasing significant. In 2005

there were 243 fixed phone operational providers from which only 64 were active, and for the mobile phone communication there were 60 authorized providers but only 4 active. The most important and remarkable increasing was identified in the consumer market. Comparing these two different types of phone communication, it results for Romanian market that the number of people which used mobile phone almost is triple then fixed phone communication in the end of 2005.



Source: Statistic data reported by ANRC in 2005

Fig. 1: The evolution of phone subscriptions

According to a study conducted by Graffiti BBDO and Mercury Research in September 2005 [11], [12], about the Romanian behavior regarding the mobile phone communication, 41% of the respondents indicate the mobile phone the most important gadget of communication before PC and TV. Evidence for this conclusion could be considered also the rate of penetration in Romanian market, which is higher then for the fixed phone network.

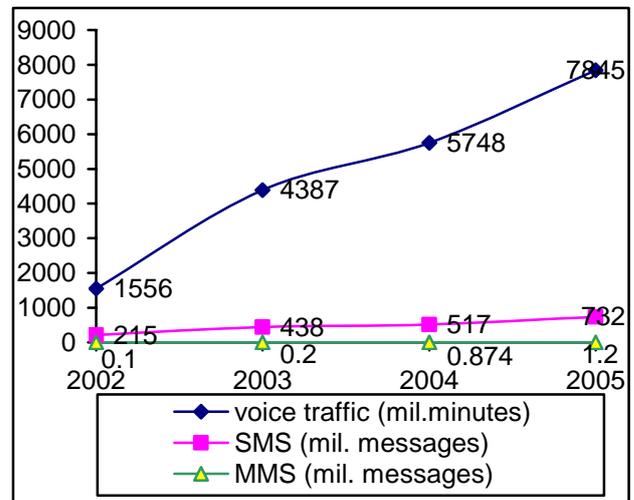
Table 2. The penetration rate of mobile phone in Romanian market

Mobile phone penetration rate per 100 households (%)	
2003	32.5
2004	47.1
2005	61.8

Source: Statistical data reported by ANRC in 2005

The Romanian people see mobile phone communication as a way of improving their lives

and work. Their interest in using more and more the entire group of facilities offered by mobile communication is indicated by the evolution of data and messages traffic in the last 4 four years.



Source: Statistical data reported by ANRC in 2005

Fig. 2: Evolution of mobile communication

Based on these we can affirm that mobile communication had a significant impact on the Romanian citizen life. If at the beginning only the traditional operational providers used this network to inform and send some promotional messages, now more and more companies became aware of the facility and efficiency of this tool. The perspective of mobile communication as a promotional tool for different types of companies it is promising. The study conducted by Graffiti BBDO reveals that 71% of the respondents declare that they want to receive promotional messages on the mobile phone. Even if only 27, 5% of the people questioned declare that they follow the message, an important part of 21% from the people which did not respond to the message indicated the lack of attractively as the main motive for this behavior.

Beside this, the Romanian companies became interested by having also an image on the Internet. In the last two years Romanian customers are willing to have easier and faster access to e-products. A recent research on the Romanian tourists indicates that in 2006 the number of visitors of 3 main web sites ([www.infotourism.ro](http://www.infotourism.ro), [www.romaniatourism.ro](http://www.romaniatourism.ro) and [www.infotravelromania.ro](http://www.infotravelromania.ro)) almost double comparing with previous year. If we take into account that mobile phone [08] have a greater penetration then PC in Romania, using this as a tool for promoting products and sending information for

clients will have a higher impact and could be more efficient [09].

**2.3 E-tourism – a potential source for tourism innovation**

New information and communication technologies are changing the economy and the way business is conducted [13]. These new technologies will force companies to find new ways to expand the markets in which they compete, to attract and retain customers by tailoring products and services to their needs.

In marketing, a product is anything that can be offered to a market that might satisfy a want or need. It is of two types: Tangible (physical) and Intangible (non-physical). Since services have been at the forefront of all modern marketing strategies, some intangibility has become essential part of marketing offers. It is therefore the complete bundle of benefits or satisfactions that buyers perceive they will obtain if they purchase the product. It is the sum of all physical, psychological, symbolic, and service attributes, not just the physical merchandise. All products offered in a market can be placed between tangible and intangible spectrum [17]. Tourist product is an example of combining pure products with pure services. In Kotler opinion, managers think about the product on four levels [16]:

- a) core product, which represents the reason of buying;
- b) facilitating products – those services and goods needed for using the core product;
- c) supporting products – extra products offered to add value to the core product and help to differentiate it from the competitors;
- d) augmented products, which combine what is offered with how it is delivered.

In our opinion, e-tourism can be a possibility to create added value for tourist products. In relation with Kotler opinion, the proposed system represents a supporting product.

The digital communication technologies and Internet are the main driving forces [1] for business development, by proving new and powerful tools and opportunities for tourism industry.

The increasing role of new information and communication technologies affects the suppliers of the tourism market in such a way that the structure, strategy and operation are subject to change. The tourism value chain consists of various links: travel agencies, tour operators, hotels and restaurants etc., which all together form a variety of very complex tourism products. Nowadays the customers for tourism industry became more mature, spontaneous, very heterogeneous, wanting different experiences

and motivations concerning traveling and cultural understanding. In these conditions, the key component in the process of offering the tourism products is flexibility. Suppliers cannot offer standardized products to well identified consumers, because clients expect products as well as services to be tailored according to individual preferences. Thus the use of new technologies of communication will revolutionize flexibility in both consumer choice and service delivery process.

**3 System architecture**

The term Mobile Marketing has become somewhat popular ever since the rise of SMS (Short Message Service) in the early 2000s in Europe and some parts of Asia when businesses started to collect mobile phone numbers and send off wanted (or unwanted) content [17].

Our e-marketing system is based on client/server architecture and Natural Language Processing. The client applications [2] can be run on cell phones, PDAs or laptops, and the server application will run on mobile service [4] provider’s servers.

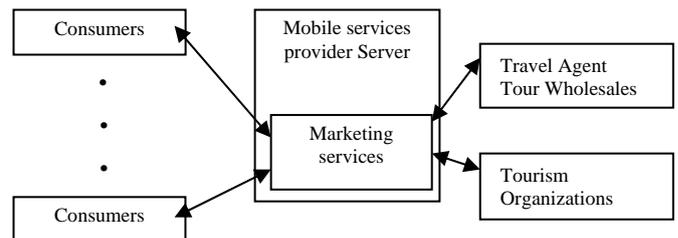


Fig. 3: An E-Promotion System

The communication media between the client and the server is Bluetooth, Wi-Fi, Internet, WAP, whatever media the mobile phone company uses. Fig. 3 shows the three tier [3] client/server architecture of the system. Usually, the tourism organization or travel operator provides package information by print materials (posters, flyers and brochure). This kind of approach attends to a large category of consumers. In comparison, the system proposed in this article will be able to track each mobile user tourism preference in order to advertise to him only the offers he could be interested in. The tracking process consists of performing a questionnaire by which the mobile service retains the mobile user’s preference in a database and, after performing this step on a sufficient amount of respondents provides the suitable tourism supply.

### 3.1 Marketing services

The marketing services provided by the mobile phone company are intended to connect with both consumer and the tourism offer provider.

- The consumer is invited to answer a questionnaire when a tourism provider initiates a campaign or he wants to receive personalized offers performing on request questionnaire.
- Tourism provider builds a questionnaire suited for the very specific offers he intends to promote at a time. He is allowed to upload a questionnaire, to modify an existing one he already built or to erase it when obsolete. After a campaign, when a number of respondents have been registered to the questionnaire, the tourism provider receives a potential customer database.

Table 3. Summary of functionalities

For consumer	Questionnaire
	Provide targeted offers
Mobile services	Connection for different platforms
	Natural Language Processing
Tourism Provider	Submit questions
	Receive potential customers database

To allow connections from different platforms for the tourism providers there is a middle-layer represented by the mobile service, in fact a web service [6]. The questions are submitted to the respondent as they were uploaded but the answers are processed to retrieve the information the tourism provider is interested in.

### 3.2 Natural Language Processing

The need for automatic text retrieval, also known as document retrieval has caught the attention of researchers in natural language processing (NLP). The relationship between data retrieval and knowledge retrieval, or “question-answering,” is especially interesting because knowledge retrieval is direct (like data retrieval) but uses less rigorous precoding.

Knowledge retrieval thus requires more powerful inference capabilities than data retrieval.

In our proposed architecture the questions are presented to a respondent and the answers are automatically stored in files use some voice recognition techniques and processed by a NLP Server Application in order to build a knowledge base with respondent’s preferences according to some predefined constraints.

The relationships between the answers stored in documents allows the system to automatically define

multiple groups of customer affinities for certain tourism services they were questioned about.

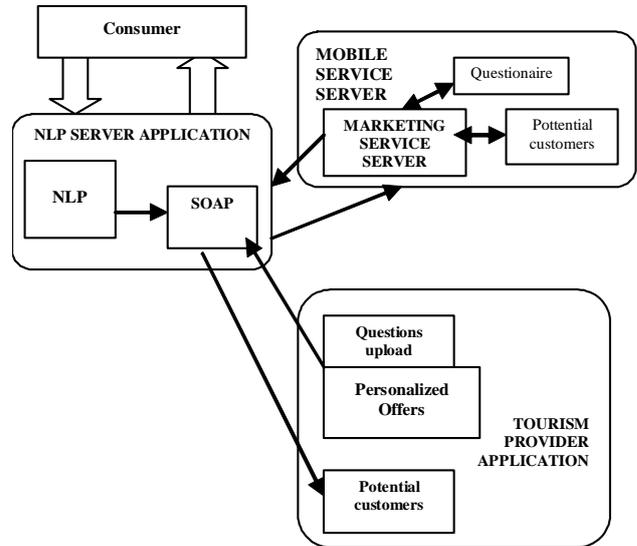


Fig. 4: Mobile Services for E-Promotion

## 4 Conclusions

The proposed system creates benefits for all the partners implicated in it. We divide the advantages in three parts: general benefits for the connected industry, advantages for the clients and for tourist organizations in particular.

General advantages of the system are: enormous market, similar products do not exist, minimum investments for the partners and good correlation between demand and supply.

In addition, for customer the benefits are multiples:

- more information without moving;
- minimum costs and maximum information;
- targeted and huge offer;
- easy access to information on tourism services;
- better information on tourism services;
- convenience for customers.

The system helps tourist organizations in improving economic activities, in correct and easy identification of the target segment, in differentiating their offer from the competitors and in supply positioning on the market. Other advantages for tourist organizations could be:

- promotion materials easy delivered;
- decrease of promotional expenses;
- personnel expenses economy;
- time economy;

- automate and complex report from processed data about customers.

We consider that e-promotion will be critical to the success of the tourism organizations. It is a strong belief that a Mobile services platform will improve economical results both to the tourist services provider and mobile services provider (i.e. mobile phone company), but increases consumer satisfaction too.

#### References:

- [01] Athanasios D. Styliadis, I. D. Karamitsos & D. I. Zachariou (2006). Personalized e-Learning Implementation - The GIS Case. *International Journal of Computers, Communications & Control*, Vol. I (2006), No. 1, pp. 57-64, ISSN 1841-9836, 2006
- [02] Mallick Martin - *Mobile and Wireless Design Essentials*, John Wiley & Sons 2003, ISBN: 0471214191
- [03] Michael Perry, president and consultant, Mallard Software Designs Inc. Intel Corp., *Designing a Web Service that Delights your Customers*
- [04] Hassan Artail and Elie Kahale - MAWS: A Platform-Independent Framework for Mobile Agents using Web Services, *Journal of Parallel and Distributed Computing*, Volume 66, Issue 3, March 2006, pp. 428-443
- [05] Erica Frandsen, Casey Kochmer - *Understanding Web Services*, 2002, <http://informit.com>
- [06] Thomas Erl - *Introduction to Web Services Technologies: SOA, SOAP, WSDL and UDDI*, 2004, <http://informit.com>
- [07] Adina Negrusa, Internetul un factor de succes în afaceri?, *Scientific and Technical Bulletin, Series Economic Sciences and Sociology, Universitatea Aurel Vlaicu Arad, Anul X, nr. 9*, pg. 65-73. ISSN – 1454-8321, 2004.
- [08] Cosmin Ghinea, Comunicatiile aproape 4% din PIB, *Revista eWeek*, no.150, Ianuarie 2006, Studii
- [09] Filip Mihaela, Romanii intra pe Internet de doua ori mai mult, *Revista eWeek*, no.137, Iulie 2005, studii.
- [10] Gratzner, M., Winiwarter, W.: *A Framework for Competitive Advantage in eTourism*. Proc. ENTER 2003, Helsinki, Springer-Verlag (2003) <http://citeseer.ist.psu.edu/gratzer03framework.html>
- [11] [www.graffiti.bbdo.ro/ro/centrudepresa/2005\\_11\\_23-mesaje-promotionale.html](http://www.graffiti.bbdo.ro/ro/centrudepresa/2005_11_23-mesaje-promotionale.html)
- [12] [www.insse.ro](http://www.insse.ro)
- [13] Chulwon Kim, *E-tourism: an innovative approach for the small and medium-sized tourism enterprises (SMTES) in Korea*, OECD, 2004
- [14] Yesawich, Pepperdine & Brown/Yankelovich Partners, [http://www.ypb.com/survey\\_biz.html](http://www.ypb.com/survey_biz.html)
- [15] Smaranda Cosma, Cornelia Pop, Adina Negrusa, Branding Strategy for Romania as a tourist destination, *Proceedings of International Conference Public Administration 2006*, pp. 56-60. ISBN 80-7194-882-9.
- [16] Philip Kotler, John Bowen, James Makens - *Marketing for Hospitality and Tourism*. Prentice Hall 1999, ISBN: 0-13-080795-8.
- [17] [www.wikipedia.org](http://www.wikipedia.org)