GAMIFICATION. SOLUTIONS DEDICATED TO TOURISM INDUSTRY AND THEIR USE IN ROMANIA

Associate Professor PhD **Mihaela Filofteia S. TUTUNEA**
Faculty of Business, Babeş-Bolyai University of Cluj-Napoca, Romania
mihaela.tutunea@tbs.ubbcluj.ro

Abstract:

Mobile technologies, applications and solutions in continuous development allowed the creation of a real individual mobile infrastructure and the generation of a new mobile-based client profile to whom companies must continuously adapt. Tourism is one of the most adaptive industries to the tendencies of experiential interactions of the potential client. In case of users of mobile devices, mobile apps and mobile games were easily associated with a background of leisure and entertainment offered by tourism services. For tourism companies the new challenge was to identify new and innovative solutions that offer the advantage of differentiation on the concerned market; thus they conceived adaptive marketing strategies centred on mix of tools that include mobile and travel games and that have brought positive results generating the possibility of integrating and extending them through new gamification solutions. During the last years, the gamification market has recorded an important increase, companies specialised in the development of these solutions extending their offer to cover all types of activities. Starting from these aspects, we considered useful the implementation of a study covering two facets: on one hand, identifying the offer of gamification solutions dedicated to the tourism industry, on the other hand, identifying the Romanian tourists' demand in their quality of users of these solutions. We consider that the results obtained from the study can offer important sets of information to tourism companies, companies developing gamification solutions and to users of mobile devices in their role as tourists.

Key words: gamification, tourism, mobile apps

JEL classification: L86, L83, M15

1. INTRODUCTION AND LITERATURE REVIEW

Mobile technologies and their sustained development have visibly influenced the transformation of an increasing number of people into mobile device users that on one hand, generated a high level of mobility of individuals, on the other hand, importantly influenced their behaviour depending on the mobility features offered by the technologies used. The changes determined by the mobile technologies were perceived not only at individual level; also companies, regardless of their field of activity, were obliged to adapt, extend or even move their activities towards the new business environment, that of mobile business. Among the pioneers of the most adaptive industries to the new technologies and the offer of the software industry was the tourism industry. Tourism companies were obliged to follow and adapt their services offer to the tourists' continuous increase in mobility, using mobile devices and technologies as well as mobile applications dedicated to the category travel&local/tourism.

Taking into consideration these facts of the tourism market, companies in this field developed adaptive marketing strategies for engaging clients and increasing their loyalty for the tourism services and products offered by them. The majority of these strategies are focused on mixes of tools also including mobile and travel games that have brought positive results, thus generating the possibility for integrating and extending them through new platforms and concepts, specific to gamification solutions.

In relation to the adoption of gamification solutions in tourism, Badgeville's chief strategy officer pointed out that "travel is a natural fit for gamification; the industry has been gamified for years with frequent flier and hotel points programmes; all of the major travel players are looking for ways to secure customer loyalty. Gamification helps them to create unique customer programmes to drive long-term loyalty." [3].

GAMIFICATION – A GENERAL IMAGE

Gamification, from general point of view, can be considered as being "the use, design, elements, charateristics for games, in non-game context" [1].

In a more complex approach to gamification, the president of Octalysis Group, Yu-kai Chou, identified a set of "8 core drives of gamification", namely: "epic meaning & calling, development & accomplishment, empowerment of creativity & feedback, ownership & possession, ownership & possession, ownership & possession, unpredictability & curiosity, unpredictability & curiosity" [7].

According to Badgeville company gamification solutions were adopted by all industries and fields of activities but the quickest adapters of these solutions were communities, education, environment, enterprise, government, health, marketing, news, social good, work [9].

From this perspective, in case of gamification two aspects can be identified: "the creation or use of a game for any non-entertainment context and/or goal, and the transformation of an existing system into a game" [12].

Based on the context of gamification, nine specific categories were identifies: "commerce, education/learning, health/exercise, intra-organizational systems, sharing, sustainable consumption, work, innovation/ideation, data gathering"; the highest weight among these categories belongs to "contextual education/learning, followed by intra-organizational systems and Work" [2].

From point of view of game design, the most frequently used solution in analysing the interaction elements of the game was the triad MDA (Mechanics, Dynamics, Aesthetics) Framework. According to the same author, "mechanics, are made up the functioning components of the game, using primary elements: points, levels, leaderboards, badges, challenges/quests, onboarding, and engagement loops"; Dynamics are defined as the "player's interactions with those mechanics", while Aesthetics are "how the game makes the player feel during interaction" [16].

In case of gamification platforms some specific types were identified depending on the mechanics and elements used, namely "general, schedules, socializer, free spirit, achiever, philanthropist, disruptor, player"[11].

According to Badgeville company, the companies adopting gamification ensure the following benefits "that would have direct contributions to the increase of the classes of gamification parametric, namely: gamification metrics ("engagement, influence, loyalty, user generated content, time spent, and virality") and gamification non-metrics ("fun, revenue, SEO")" [8].

In case of gamification solutions implemented by *companies from tourism* and hospitality industry we can find a quite comprising set, namely: "location-based augmented reality games, gamified tour guides, adventure parks, cultural heritage and restaurant experience, gamification in hospitality, in transmedia storytelling and in the aviation industry" [13].

Adopting gamification as a new concept in tourism was carried out by mixing two important categories of gaming elements: "social games and location-based mobile games" [14].

Using gamification in tourism involved ensuring a set of important benefits to adopting companies, that is to "encourage tourist engagement, enhance tourist experiences, improve tourist loyalty, increase tourism brand awareness" [15].

Many times, gamification is seen as a form of engagement of mobile device users, in general, in entertaining and educative activities facing them with various challenges or tasks to be carried out, scores, leaderboards and different virtual and real recompenses; according to the experts from Ojoo.com, the implementation of gamification solutions in tourism can generate three important benefits, that are visitor engagement, visitor loyalty and promotion [6].

From point of view of clients/tourists, users of gamification solutions, Badgeville company identifies two categories of benefits:
- economic - resulting from the rewards won by the users of gamification platform;

- social benefits - networking with other clients / tourists, belonging to a community, achieving fun activities/time [8].

Gartner Inc., in the report entitled "Gamification 2020" underlined the importance of mixing gamification with other technologies with the aim of obtaining positive effects in some important fields such as " innovation, the design of employee performance, globalisation of higher education, emergence of customer engagement platforms, gamification of personal development" [4].

According to the report prepared by MarketWatch on the global market of gamification solutions, its value will be increasing to 11.10 billion dollars by 2020 from 1.65 billion dollars in 2015; up to 2020, the adoption of BYOD solutions in companies will increase considerably and companies from Asia-Pacific will become one of the major adopters of gamification; for the same time horizon, enterprise driven solutions will have the highest share in the gamification market [5].

Starting from the previously identified aspects and the existing tendency of tourism companies to adopt gamification as innovative solutions for attracting and engaging tourists, as well as increasing their loyalty, we considered useful to carry out a study covering two aspects: on one hand, the identification of the offer of gamification solutions dedicated to the tourism industry, on the other hand, the identification of the demand from Romanian tourists. We consider that the results obtained from the study carried out can offer a useful base of information to providers of specific services in the tourism industry, providers of gamification solutions and platforms from the software industry as well as for actual users of these services, the tourists.

2. MATERIALS AND METHODS

a. GAMIFICATION SOLUTIONS - STUDY OF THE OFFER DEDICATED TO THE TOURISM INDUSTRY

In order to obtain a more complete picture of the offer of gamification solutions, secondary data sources were also taken into consideration available in reports prepared by specialised companies; thus, according to the results of the study made by G2 Crowd, the world's leading business software review platform, concerning the category "The Gamification & Loyalty Software", based on customer satisfaction and scale (based on market share, vendor size, and social impact) vendors were classified in four categories, namely: leaders, high performers, contenders, niche products; there were identified mostly high performers: Tango Card (https://www.tangocard.com/), LevelUp (https://www.thelevelup.com), and GetBadges (https://getbadges.io/) and just one Niche product: Klout (http://www.klout.com/) [10].

On the other hand, well-known players also such as Badgeville (www.badgeville.com), Bamboo (www.manumatix.com), Bigdoor (www. bigdoor.com), Bunchball (www.bunchball.com/) , Gigya (www.gigya.com), Keas (www.keas.com), Lithium Technologies (www.lithium.com/), MindTickle (www.mindtickle.com/) , Pluck (www.demandmedia.com), PunchTab (www.punchtab.com/), Spigit (www.spigit.com/) also have to be taken into account on the gamification market. We must underline that these companies offer gamification solutions for several industries that are not dedicated directly to tourism. Under this aspect, the study carried out was focused on gamification solutions dedicated to companies from the tourism industry and aimed the identification of a set of solutions that complement the offer of the big players on the gamification market and could be considered suitable to small and medium companies.

The study was carried out online and in the process of identification of the most used solutions in this field as product-vendor sets we analysed important characteristics of integration with other types of specific IT solutions used by companies such as dashboards, CRM integration, mobile applications, social media, API (application program interface), analytics, leaderboards, website widgets, e-commerce integration, Point-of-Sale Systems integration, cloud platforms, social media integration, collaboration tools, mini games, etc.. The price range of solutions was also taken into account, namely from the low-end to average pricing range. We must stress the impossibility to

clearly separate the offer dedicated exclusively to the tourism industry and for this reason solutions offered to the hospitality industry were also included and analysed.

The analysis of the offer of gamification solution providers to the tourism industry from point of view of their characteristics led to the identification of 17 product-vendor sets, listed in alphabetical order in Table no. 1.

Table no. 1. Gamification solutions and platforms for the tourism industry

Product name	Vendor
1. All Digital Rewards	http://alldigitalrewards.com/
2. Belly	https://www.bellycard.com/
3. Bunchball	http://www.bunchball.com/
4. FiveStars	http://www.fivestars.com/
5. Funifier	http://www.funifier.com/
6. GamEffective	http://www.gameffective.com/
7. LaunchFire	http://www.launchfire.com/
8. LevelUp	https://www.thelevelup.com
9. Mass Mobile	http://www.massmobileapps.com/
10. Playful Shark	http://playfulshark.com/
11. Preferred Patron	http://www.preferredpatron.com/
12. Pug Pharm	http://www.pugpharm.com/
13. Social Rewards	https://socialrewards.com
14. SoInteractive	http://www.sointeractive.co/
15. Splick-it	https://www.splickit.com/
16. The Brand Club	http://hooptap.com/
17. VY Engagement Platform	http://www.vyify.com/

We consider that the set of products resulting from the study can provide reliable information to tourism companies that intend to adopt gamification solutions with the aim of obtaining a major benefit for differentiation on the relevant market.

b. GAMIFICATION SOLUTION FOR TOURISM - STUDY CONCERNING THEIR USE BY ROMANIANS

The study considered important aspects related to the mobile device users' behavioural adaption to the permanent challenges brought in by the mobile technologies and applications that appear continuously as a support of daily activities; it focused on Romanian users in their role of tourists and experimenters of tourism services as well as on their adoption and use of innovative solutions, namely gamification.

From structural point of view, the study concerned the following aspects:

- Identification of the level of knowledge and usage by the Romanian tourists of the mobile solutions innovatively used by tourism companies, comparing the use of gamification solutions and mobile applications specific to travel/tourism;
- Drawing the profile of Romanian tourist, user of these solutions as well as the identification of their preferences, experiences and their assessment.

For the implementation of the study two time periods were chosen to include two different touristic seasons in order to open future possibilities to comparing the results obtained.

The two periods were 15th June – 15th September 2015 and 15th December 2015 – 15th March 2016. The mobile survey method was used, thus the questionnaire was administered only on mobile social networks; the studied population was represented by Romanian users of mobile devices in their quality of tourists; the sampling was carried out using simple random sampling. At the end of the two periods the final sample consisted of 979 respondents; data coming from 948 valid questionnaires were analysed.

The questionnaire was structured in three modules comprising a total of 13 questions; each module of the questionnaire was dedicated to the identification of a specific profile of the respondents, namely:

- socio-demographical;
- users of mobile devices and applications from the travel&local/tourism category;
- users of gamification solutions in tourism vs. mobile apps for travel&local.

3.   RESULTS AND DISCUSSIONS

The analysis of collected data provided the following results:
- The first module allowed the identification of the respondents' *socio-demographic structure* showing approximately equal segments of female and male respondents, with a larger representation, over 20%, of the age group between 25 and 54 years, a larger group (over 30%) of respondents with college and university education (Table no. 2.).

Table no. 2. Socio-demographic structure of the pool of respondents (%)

| Gender	
Women	49.93
Men	50,07
Age	
18-24 years	19.17
25-34 years	25.60
35-44 years	23.78
45-54 years	20.16
55-64 years	8.12
65+	3.17
Education	
Basic	0.21
High school	21.13
College	30.76
University	41.89
Post university	6.01

- Based on data from the second module, *the profile of the user of mobile devices and applications dedicated to tourism* was identified:
  - A segment of smartphone owners clearly differentiated itself (90.20%), while smart device users had a very low proportion (5.14%); 67.65% of the respondents own more than two mobile devices, while the segment of owners of wearables was very small (7.34%) (figure 1);
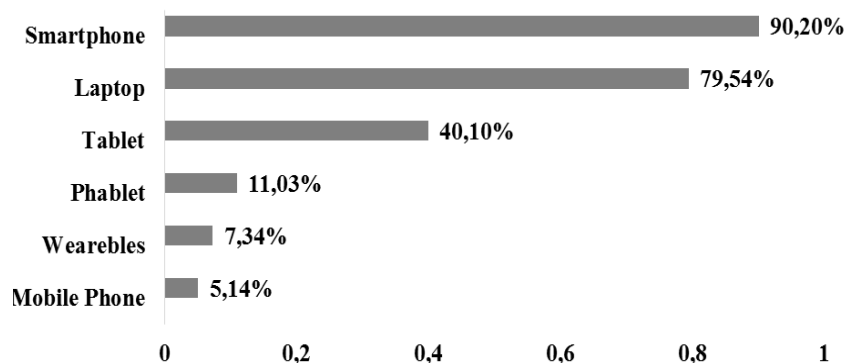
Figure 1 - Mobile devices used (%)

  - The declared users of mobile apps from tavel&local/tourism category represented only 30.12%, of which the most used mobile application sub-

categories were: finding information (28.45%), booking (24.89%) and guidance/maps (24.23%) (figure 2).
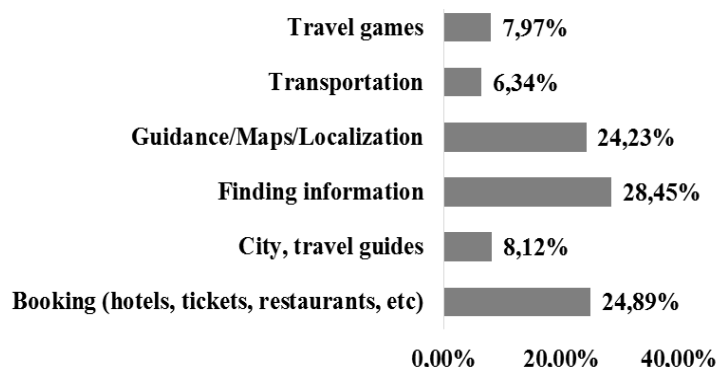
Figure 2 - Mobile tourism apps category used (%)

- Based on the data from the third module, three important results were identified:
  - *User/non-user segments of gamification solutions* (Table no. 3.)
    The profile of the non-user of gamification solutions is clearly identified (79.87%); these solutions were used exclusively from abroad, as tourists (94.11%); most frequently used in Restaurant/pizzeria/eating facilities (28.98%), followed by Club/bar (27.18%) and Museums/exhibitions (19.24%);

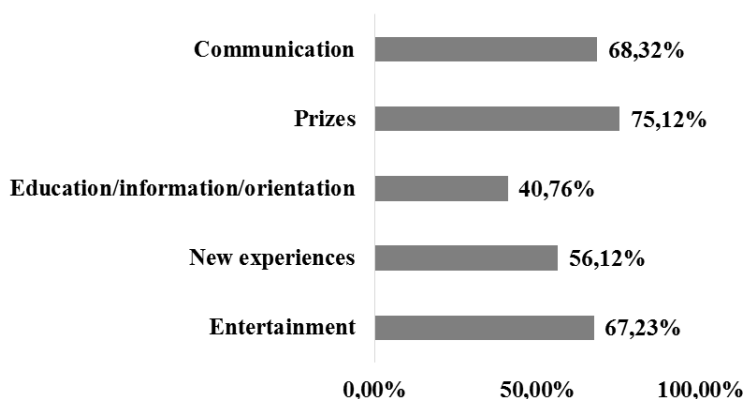**Table no. 3. Use of gamification solutions (%)**

The use of gamification in travel	
Yes	20.13
No	79.87
The country where gamification was used	
In the country	5.89
Abroad	94.11
The location	
Hotel/other accommodation	12.11
Club/bar	27.18
Restaurant/pizzeria/other restauration locations	28.98
Museums/exhibitions	19.24
Events/concerts	6.12
Locations for entertainment/trips/amusement parks	6.37

  - *The experiences and benefits perceived* by the users of gamification solutions
    - Over 92.34% of users of gamification solutions declared that they had a pleasant experience; in the list of mechanics the first three indicated were points (78.12%), badges (73.34%) and coupons (70.23%) (figure 3);
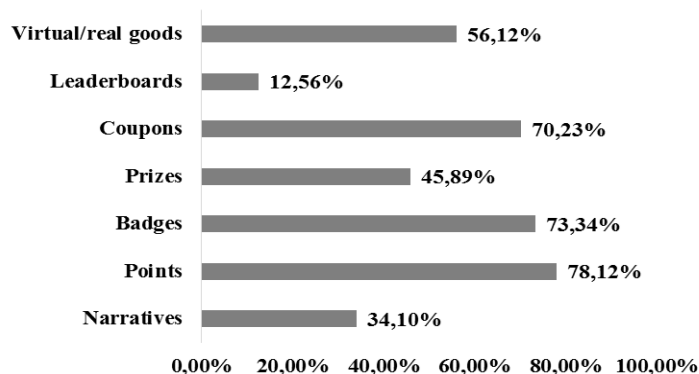
Figure 3 - The mechanics used (%)

- Prizes (75.12%), Communication (68.32%) and Entertainment (67.23%) were the most appreciated benefits, while Education/information/orientation (40.76%) was named as the less important benefit (figure 4)

Figure 4 - Final benefits for the users (%)

o *The responding tourists' preference* in the comparative use of gamification vs. mobile apps and games for travel (Table no. 4.)
Comparing the use of mobile apps for tourism vs travel games vs gamification, mobile apps were situated on the first place (50.7%), followed by gamification (36.78%).

Table no. 4. Potential preferences for apps and games

Mobile apps	50.77
Travel games	12.45
Gamification	36.78

4. CONCLUSIONS

The results obtained from the study carried out allowed the identification of the Romanian tourist's profile as a user of gamification solutions. The Romanian tourist, experimenter of gamification solutions, belongs to an extremely narrow segment of users; the solutions were experimented only abroad and mostly in locations for having meals; s/he used gamification solutions using mostly points, badges and coupons as mechanics and perceived the Prizes category as the main benefit of using gamification solutions; s/he also declared the preference for using mobile apps for travel/tourism versus gamification.

The development of the mobile infrastructure used by present day individuals and the change in behaviour generated by the infusion of new mobile technologies, applications and

solutions that increase their experiential attraction, generated the profile of a new mobile-based client that has to be taken into account by service providers and to whom they must continuously adapt.

Among the industries that must adapt to this tendency to experimental interaction of the potential client are the tourism services; these services being perceived by the tourist clients as providers of leisure and entertainment activities, were easily and automatically associated with other types of activities from these categories; thus, for the mobile device, mobile game and gamification users they have become the perfect match. The adoption of these innovative solutions starting as a first level with the mobile applications and then adopting gamification solutions, brought positive results to tourism companies.

Starting, on one hand, from the statistical data that outline a global market of gamification solutions in full development, on the other hand, from the increasing trend in the number of companies from the tourism industry adopting these solutions, we consider that the identification of a set of gamification solution providers dedicated to the tourism industry can provide an informational base and support in making the decision to adopt gamification in specific activities; we also consider the solutions offered by the providers revealed in the study, especially those dedicated to small and medium companies can offer the adopters from the tourism industry an advantageous alternative from financial and integrational point of view in comparison to the offers of large companies on the gamification market.

From another perspective, the results of the study regarding the use of gamification solutions in tourism by Romanians, offers useful information to a few important categories, namely:

- Tourism companies
  - Highlighting a large segment of non-users of gamification solutions in our country and experimenting these solutions only abroad shows a very low level of adoption of gamification solutions by the tourism companies from Romania in order to attract, engage and increase the level of loyalty of clients;
  - The existence of a narrow category of gamification solution providers, namely public restauration locations, points out again the lack of interest in approaching gamification solutions by the other tourism service providers from Romania, such as accommodation, transport, events, entertainment, etc.
- Companies developing gamification solutions
  - The choice of the design of gamification solutions must be adapted to the users' profile and the industry they are dedicated to; thus, through gamification solutions the level of perception of benefits can also be increased from the material level to that of communication and education;
  - The preference of Romanian tourists for gamification can also be exploited, even if this comes second after mobile applications in the tavel&local category; a better information and promotion of gamification solutions for tourism would increase the tourists' level of attraction to these solutions;
- The tourists, users of mobile devices
  - The very high level of non-use of gamification solutions might indicate, on one hand, lack of knowledge of these solutions, on the other hand, lack of concern from the part of Romanian companies in promoting these solutions among tourists.

Limitations

We consider that the results obtained from this study have a few limitations related to the impossibility to fully identify all gamification solutions and providers as well as the lack of a very high representativeness of the studied population; but, starting from the set of results obtained, the study can be extended to other samples of population, geographical regions and variables analysed and a comparative study can be carried out in relation to the respondents of the two periods covered by the study.

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