

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/344831740>

Digital Gamification in the Tourism Industry

Chapter · October 2020

CITATIONS

0

READS

1,200

3 authors:



Emrah Ozkul

Kocaeli University

44 PUBLICATIONS 284 CITATIONS

SEE PROFILE



Emre Uygun

Kocaeli University

12 PUBLICATIONS 14 CITATIONS

SEE PROFILE



Selen Levent Küçükaydın

Kocaeli University

6 PUBLICATIONS 15 CITATIONS

SEE PROFILE

Chapter 9

Digital Gamification in the Tourism Industry

Emrah Özkul

 <https://orcid.org/0000-0002-2204-1378>


Kocaeli University, Turkey

Emre Uygun

 <https://orcid.org/0000-0002-2204-1378>

Kocaeli University, Turkey

Selen Levent

 <https://orcid.org/0000-0001-7980-4332>

Kocaeli University, Turkey

ABSTRACT

In today's world where digital technology has become an indispensable part of human life, the use of digital platforms allows people to play various types of games to not only meet their personal needs, but also to keep people's minds away from the strenuous work tempo of daily life. The game is an action that allows people to socialize and gain different experiences and to have a pleasant time. It is limited by certain fixed rules for a purpose, including the outcome of winning and losing as a result of these rules. This action led to the emergence of a concept called gamification along with digitalizing technology. Gamification is the use of game elements, game design, and mechanics in the game environment that enable users to socialize and have fun in non-game environments. This chapter defines the concepts of game, gamification, and gamification in tourism, and examines the digital gamification applications in the tourism industry with certain parameters. Authors emphasize the relationship between tourism and gamification.

INTRODUCTION

Gamification activities make the process of introducing, marketing and teaching an idea, product or a

DOI: 10.4018/978-1-7998-1989-9.ch009

service interactive, enabling people to enjoy this process. The main purpose of gamification is to ensure user's commitment to businesses by contributing to the creation of the impression that they are part of the story designed to attract the user's attention through the right content and stories. Gamification is a model that makes it possible to apply by adjusting regarding to the characteristics of the sectors in which the companies operate. Although it has been functional for many years in the fields of marketing, services and finance, it is frequently seen in the tourism industry mainly in recent years. The confirmation of this statement can be seen especially from the use and creation of gamification designs in various forms by airline companies, tourism agencies and accommodation enterprises.

Companies in tourism industry (airline companies, tourism agencies, accommodation businesses, etc.), have started to transfer their reservation systems to digital platforms. The mobile applications used by the companies that continue to provide services on these digital platforms have enabled the touristic consumers to access to the businesses and services these companies offer without the limitations of the time and the place. Companies use gamification models to provide a more convenient and fun way to reach their services for consumers. Allowing tourist consumers to collect points for each flight, accommodation choice or mobile check-in transaction through mobile application and earning various gifts that they can use in later transactions can be mentioned as one of the exemplary gamification models that businesses have applied.

The use of gamification model in tourism is not limited to touristic organizations. Gamification models are also utilized for the promotion and marketing of touristic destinations. Especially, augmented reality (AR) and virtual reality (VR) applications are used to create a gamification model by transferring digital environments with various animations and modeling the historical, cultural and natural features in the destinations can help the tourists to fully experience the destination. To comprehend the idea better, a tourist visiting Berlin Wall visualizing the state of the wall before it was demolished on the screen of their smartphone, having instant access to information and videos about the story off the wall can be given as the example of the digitalization of destinations.

In this study; literature on game, gamification, gamification theories, elements and models, player's types, tourism and game, gamification in tourism marketing have been reviewed. As a result of the literature review, the relationship between tourism and gamification has been explained and sample gamification models in tourism industry have been included. In the last part of the study, based on literature review and sample gamification applications, a new model has been designed and suggestions for digital gamification studies in tourism have been presented.

BACKGROUND

Game

The concept of Game is a leisure activity that has taken place in our daily lives from the beginning of humanity to the present day and will continue as long as human beings exist. According to the information obtained from the archaeological excavations the people of Ancient Egypt, approximately 5000 years ago, played a game called "Senet" (Piccione, 1980). In another excavation, it was found that people living in Central Asia developed a game using bones of certain animals in 800 BC (Lovett et al., 1901: 280). Based on the findings of various excavations made through the history, it can be understood that games emerge in a different way in every culture and society (Akbulut, 2018: 96). Since the concept

of play is an ongoing process from past to present, it makes it difficult to make a full definition in the literature. According to the definition made by Avedon and Sutton-Smith (1971), a game is a voluntary activity that is limited by certain rules to ensure an unequal outcome between the parties as a result of certain conflicts from equal conditions offered to players. In another definition, the game is a voluntary entertainment activity performed outside the real world (Caillois, 2001), where an artificial conflict is concluded with a measurable result (Salen & Zimmerman, 2004: 80).

The increase in digitalization has brought the traditional game culture to digital environments and has enabled the digitalization of games (Özkan, 2018: 13). With computers, smartphones and other smart devices, the increase in the use of the internet network makes it easier for people to access digital games (Kunduracioğlu, 2018: 13). Digital games make the game more immersive and fun by creating a real-time interaction experience with other players (Gentes, Guyot-Mbodji & Demeure, 2010). The fact that digital games are more attractive to individuals than traditional games increases the number of digital game players. In an international survey in United States of America, it has been determined that the number of people playing digital games continuously has a higher ratio in countries like Germany (66%), Mexico (57%), Russia (53%), England (52%) comparing to the other countries (Herger, 2014). According to an international study made by Superdata research company, one out of every three people in the world (approximately 2.5 billion people) play free digital games on computers and mobile platforms, and the companies have earned approximately \$ 82 billion in revenue (Superdata, 2017).

Game Culture From Traditional to Digital

In the world we live in, with the rapid change of technology in the last 3 decades, countless changes have happened in our work life, communication and games (McLaughlin, 2012). With these changes, the number of academic studies on popular culture and digital games has increased in the last fifteen years (Seaborn & Fels, 2015: 14). Digital games quickly replacing traditional games have become an indispensable element of life (Mayra, 2008). In the traditional game culture, the children being the only ones playing games is the dominant idea throughout the society, whereas nowadays, it is seen that individuals in every age group of the society spend their free time by playing digital games (Kunduracioğlu, 2018: 13). According to a study that was led in the United States, it is concluded that 70% of the gaming population is 18 years old and older and the average age for the gamers is thirty-four (Entertainment Software Association, 2018). With this research, it can be accepted that there is current concrete evidence that traditional game culture has changed with technology over time.

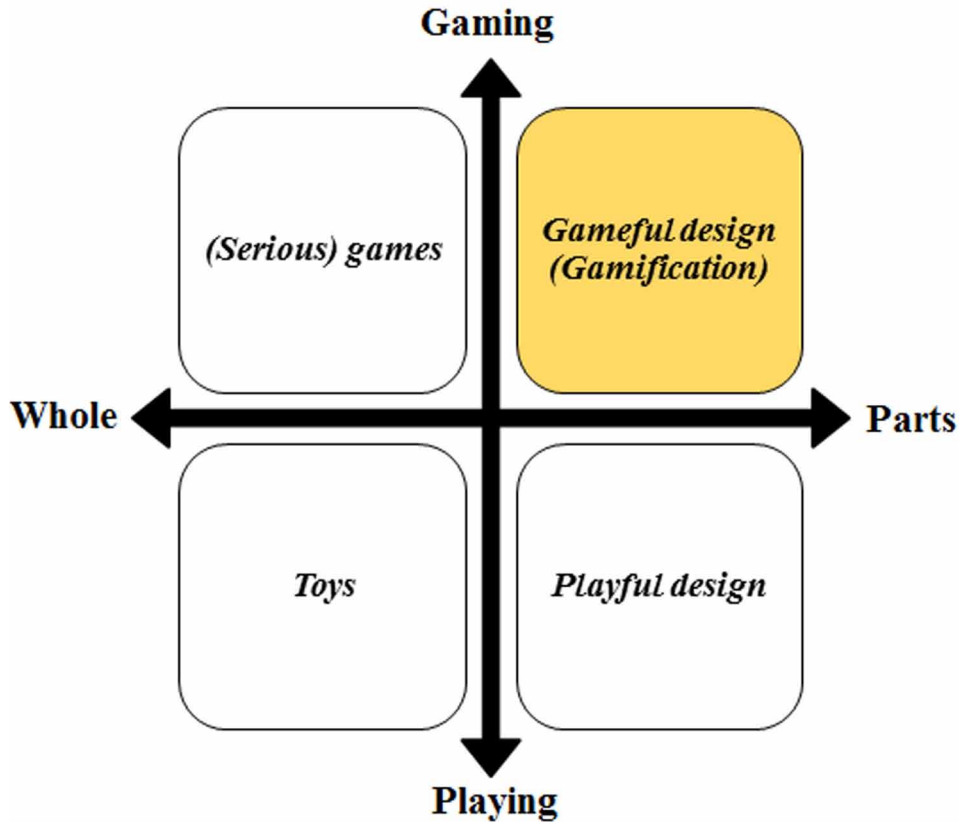
The report prepared by Entertainment Software Association (2018) includes findings on which platforms, people in America play digital games. Accordingly, it can be said that people who want to play digital games, mostly use their personal computers to access the games. The digital games that are played via computers create a higher sense of pleasure and relief on people compared to traditional games (Özkan, 2018:13). The fact that people who play digital games see themselves as part of the games they play, and that traditional games are replaced by digital games, is an indication of the digitalization of the game culture (Binark & Bayraktutan, 2011: 3).

Gamification

Gamification concept has been created with the combination of the words “game” and “add/adding” (ication) (Lim, Kim & Kim, 2018:23). This impression was used first in 2002 by computer program-

Figure 1. Gamification between Serious Game, Toys and Playful Design

Source: Deterding, Dixon, Khaled, & Naele, 2011



mer Nick Pelling (Marczewski, 2013: 3; Bayraktar, 2014: 5). Although the first definition of academic gamification was seen in the literature in 2008, this concept had not become popular until 2010 (Deterding et al., 2011: 9; Xu et al., 2014: 525). There are many definitions of the concept of gamification in the literature. Deterding et al. (2011) defines gamification as the use of game elements in non-game environments by making games more interesting, increasing the motivation of players. According to another definition, gamification is defined as communicating in order to solve the problems of users by using game and game mechanics (Zimmermann & Cunningham, 2011) and the use of game elements in non-game environments (Werbach, 2015).

Although nowadays some statements like productivity games, surveillance entertainment, fun ware, game layer and applied gaming are used for the gamification concept, the term “gamification” is commonly used in literature (Deterding et al., 2011). The relationship with the gamification concept and similar concepts are shown in Figure 1. The concepts indicated in the Figure 1 create the game concept altogether.

While the serious game concept shown in the figure expresses the usage of games with a serious aim, the toy concept expresses the simplification of rules of games with the aim of spending time in an enjoyable way. The ‘gameful design’ and ‘playful design’ concepts in the figure are the concepts that are evaluated in detail in literature. The difference in the roots of these two concepts is the main division

separating the concepts of ‘play’ and ‘game’. Calliois (2001) states that ‘play’ originates from the word ‘Paidia’, which constitutes an arbitrary combination of behaviors that are freer, improvised, and ‘game’ originates from the word ‘Ludus’ which indicates the existence of a competitive struggle for purposes based on certain regular rules. Due to this scope, the graceful design concept can be expressed as a combative game design created with regular rules with specific aims, and playful design concept can be expressed as game designs that make leisure times more entertaining and addictive for the gamer. Gamification can differ from other concepts in the literature due to its use of game elements without having to incorporate all of the other expressions in the figure (Matallaoui, Hanner & Zarnekow, 2017: 6).

Gamification Theories

Many theories related to the scope, practicality, development of the gamification and the motivation of gamers as a part of it have been asserted by experts along with the emergence of the gamification concept.

Flow Theory

The flow theory, created by Csikszentmihalyi (1990), states that on condition that the balance between the competition among the players and the size of the prize which can be obtained with a sense of competition is in parallel, it can make players happy by creating an element of motivation in the them. In the theory, gamers can gain experience by being motivated to achieve in game goals. Csikszentmihalyi (1990) has mentioned that this experience is possible with the combination of a balance between the personal skills of the players and the difficulty of the game tasks.

According to Nakamura and Csikszentmihalyi (2009) flow experience consists of the combination of six elements, the elements that make up the flow experience are expressed as follows:

- The intense and focused concentration of a person to a point during the experience
- The combination of behavioral awareness and behavior of the person
- Loss of self-awareness
- A sense of self-control over an action or activity
- Change in one’s perception of temporal experience
- Experience of the situation or activities as a rewarding activity in itself.

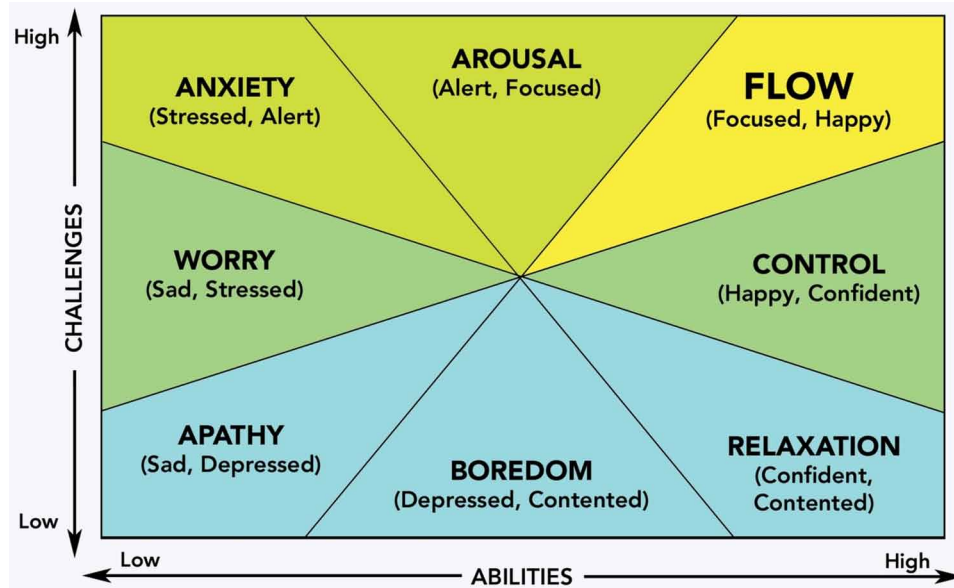
The main purpose of using flow theory in games is to increase the intrinsic motivation of the players and to enable them to enjoy themselves by playing games (Kasa & Hassan, 2015). Figure 2 shows the emotions that players feel in the flow theory, depending on the variation between the abilities of the players and the difficulty levels of the tasks they face. It was stated that the player’s ability to play increased with the difficulty level of the game, players played the games in a more focused manner and as a result they were happier. In the gamification efforts, it is possible to make the gamification activity successful if the masses of the players ‘flow’ so that they can be happy by focusing.

Self Determination Theory

Deci, Connell & Ryan (1989: 580) describes self-determination theory as having a sense of choice by choosing behavioral preferences that meet the innate psychological needs of individuals and enable them

Figure 2. Flow Theory

Source: Csikszentmihalyi, 1990



to create their own intrinsic motivation. Intrinsic motivation is defined as the motivation element that the individuals create within themselves, in order to achieve a satisfactory result for a specific purpose, regardless of external factors (Özkan, 2018: 27; Kunduracioğlu, 2018: 32).

Ryan and Deci (2000: 68) emphasized that three personal needs, innate “competence, relatedness and autonomy”, are important in choosing the appropriate motivation among the internal and external motivations. These three personal needs can be seen in the Figure 3. Competence is the ability of individuals to be able to control their behaviors in a way that affects their surroundings (Kowal & Fortier, 1999). Competence in games can be seen as; completed tasks and gained points. Relatedness is one’s need to establish a relationship with others to interact, to share with the need to socialize (Deci, Connell & Ryan, 1989). Relation inside games can be seen as; clans/teams chat rooms and inter-player messages. Autonomy is the desire of the person to act in accordance with his / her own control and wishes without being influenced by others, and not being completely independent (Andersen, Chen & Carter, 2000). Autonomy inside the games can be seen as; images, user characters (avatars), personalized options.

Hook Theory

In order to provide a continuity of the behaviors by directing people to certain actions, a four-stage theory called “hook” was developed by Nir Eyal. In the scope of this staged theory developed, a habit can be formed on users with specific features (Eyal & Hoover, 2014). Four stages of hook theory are shown in Figure 4.

These stages are briefly explained below (Eyal & Hoover, 2014; Özkan, 2018: 23):

1. **The Trigger:** It is defined as the elements that trigger the person to carry out the actions with the expectation of a reward. These triggering elements which enable the person to act are divided

Figure 3. Self Determination Theory

Source: Ryan & Deci, 2000

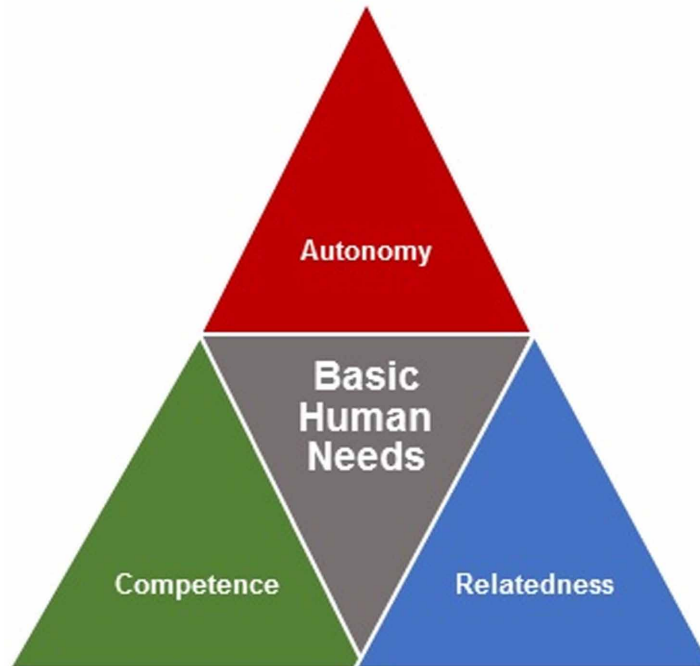
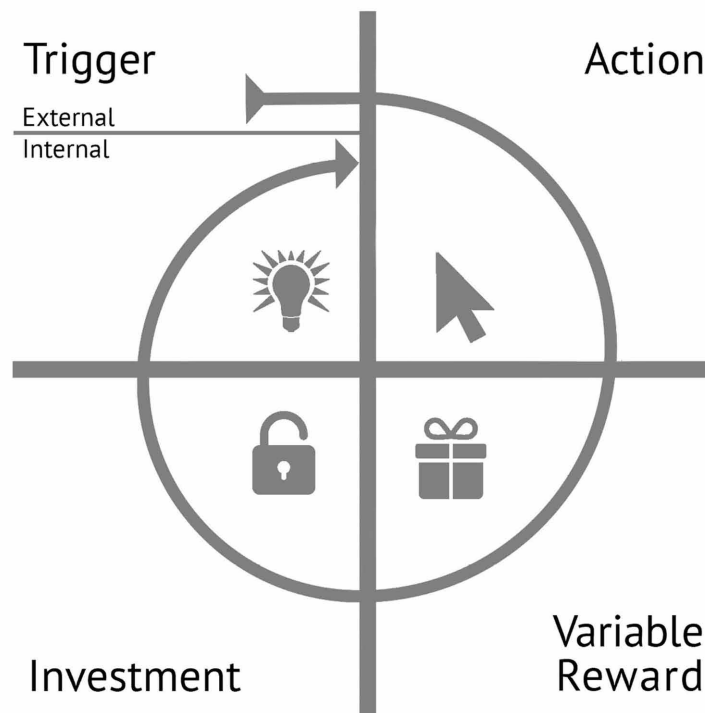


Figure 4. Hook theory

Source: Eyal & Hoover, 2014



into two as internal and external triggers. While the internal triggering element is an automated motivation that exists in the minds of individuals coherent with a goal, the external triggering element consists of instructions and commands that trigger people. With various rewards, companies wanting to create a sense of expectation in the users, utilize different triggers. The creation of a clicking urge in users with the link to a website of the companies or the icons of mobile applications on smart phones can be shown as examples of the triggers that companies use to activate users.

2. **Action:** It may be insufficient for the users to be stimulated by internal and external triggers for a specific target with the expectation of a reward. In this context, users need to take a behavioral action in order to achieve the goals. Users who wish to benefit from promotion coupons or discount codes sent by companies can use the corporate websites and mobile applications of the companies can be evaluated in this context.
3. **Variable Rewards:** It is one of the most important tools that companies prefer to create brand loyalty and ensure that they become long-lasting consumers. The companies should meet the expectations of users that they have created with triggers for their purposes. Because, the expectation of a reward leads to an increase in the levels of dopamine hormones in the brain, thus making people happy. Therefore, the rewarded user can become a happy user and a loyal consumer. Chances of people winning prizes from scratch cards, lottery or other lottery applications organized by companies can be given as examples of variable prizes.
4. **Investment:** The aim of the investment phase, which is the final stage of the hook theory, is to ensure the loyalty of people by encouraging to act again with different triggers and to continue their loyalty to the company. The investment phase is also defined as the process in which users who are committed to the company make time and personal effort to influence the people in their social circles ensure that they become new users of the company.

Fogg Behavior Theory

Another theory asserted by Professor BJ Fogg in 2009 is called 'Fogg Behavior Theory'. This theory includes three elements which are motivation, ability and triggers that determine the behaviors of people (Fogg, 2009). Fogg (2009) expressing the factors that affect the behaviors that people will show for certain purposes explains these three elements as follows:

1. **Motivation:** These are the factors that lead to a certain behavior. There is a parallel relationship between the existing motivation of the person and the actions towards the goal. Individuals with low motivation are less likely to take actions.
2. **Ability:** These are the capabilities and potential that individuals have in order to achieve their goals. The element of motivation influences the effort of the person by enabling them to reveal their existing abilities to reach the target goal. Ability, which is directly related to motivation, may increase or decrease depending on the motivation of the person.
3. **Triggers:** It is the actual factor that triggers the behavior of a person directed at the target. Although the person has sufficient motivation and ability to achieve the goal, if there is no triggering element, the behavior does not occur. Triggers can appear in multiple ways. With the external triggers such as the corporate SMS messages, advertisements or announcements, there can also be internal triggers such as the feeling of hunger, the need for feeling satisfaction and the like. Evaluating Fogg's theory of behavior in the context of gamification. Wu (2017) describes the application of Fogg's

theory of behavior in gamification as the interest in games could be sustained by motivating the players' game points, badges, achievements towards their game tasks and making the games more attractive with the right prizes for the players.

First Gamification Examples

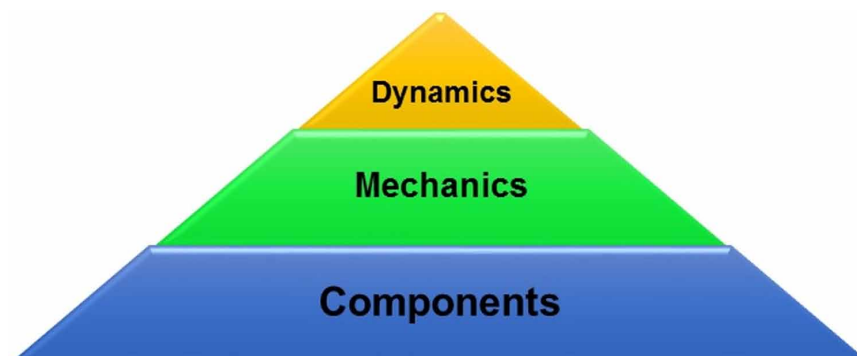
Although studies on gamification have been found in the 2000s, it is a concept that took its place in the literature in 2010. It is seen that the concept of gamification has been used in some fields prior to its definition in the literature and gamification efforts have been made with the applications in some fields. Gamification efforts by companies began in 1910 by Kellogg's, a cereal brand. The Kellogg's brand presented the book 'Funny Junhleland Moving-Pictures' as a reward to consumers who brought two cereal boxes. Following this implementation of the Kellogg's brand, Cracker Jack, a popcorn producer, began to place various surprise toys in each corn box produced in 1912 (Mccormick, 2013).

Although these cases are not accepted as a modern gamification application, giving toys to consumers as a reward has been a basis to the existence of gamification (Lloyd, 2014). The postage stamp manufacturer S&H Green Stamps, which has been active in the US since 1896 to 1970s, has encouraged people to collect postage stamps to increase the use of it. In this context, the company showed that postage stamps and postage stamp books produced by the company in 1975 can be used by people for entertainment purposes rather than solely on messaging cards (Lowbrow, 2014; Bayraktar, 2014: 15).

Gamification Elements

It is possible to make the people behave by making use of the gamification elements in the process of creating loyalty by directing people to specific behaviors and entertaining (Zichermann & Linder, 2010). In this context, although the concept of gamification is considered as a stand-alone concept, it is actually a combination of multiple elements. As one of these elements lacking or being absent may cause the collapse of gamification, gamification should be prepared correctly for the purpose. The elements that create gamification have been evaluated under three branches as mechanics, dynamics and components by. The three elements that make up gamification as a basis to a rising pyramid, these components form the foundation and there are mechanics on it with the dynamics on top (Werbach & Hunter, 2015).

Figure 5. The game element hierarchy
Source: Werbach & Hunter, 2015



1. **Dynamics:** Among the components of gamification, the element of dynamics is at the top of the gamification pyramid. In the gamification that will be made, it is the element that directs the design of the structure that does not visibly exist but is intended to be created (Werbach & Hunter, 2015; Öztürk, 2015: 9; Tunga & İnceoğlu, 2016: 273) The dynamic element is divided into five sub-elements (Werbach & Hunter, 2012: 78; Werbach & Hunter, 2015; Matallaoui, Hanner & Zarnekow, 2017: 10). These sub-elements:
 - **Constraints:** The limitation of the behaviors that the players can exhibit and implement within the game in the designed games. It is the area that the players are free to move within the game with defined restrictions.
 - **Emotions:** The theme of the game is that the characters, music and stories create emotions like excitement, happiness, joy, surprise and anger on the players. Emotions are a set of emotional feelings that can affect player's enjoyment and motivation games and enable them to continue playing.
 - **Narratives:** Fictional stories that get the players to continue the games by creating a perception of reality. The consistency between the fictional story and the game makes the time spent in the game more effective.
 - **Progression:** It is the situation they face during gamers time in the game where players can unlock new tasks by allowing them to level up their in-game characters with various tasks and rewards. These situations can motivate players to make progress in-game quests by ensuring their dependence on games.
 - **Relationships:** These are the social interactions that gamers can establish with other players in the game. It is the element that provides socializing of gamers by providing the existence of feelings of friendship, competition and empathy with in-game tasks with team friends or rivals, in-game exchange and daily chats.
2. **Mechanics:** It is the element that takes place at the second stage of the pyramid that creates gamification and enables the gamers to interact with games. Mechanics are the fundamental rules of the game that has a supplementary feature of dynamic elements with increasing the motivations and loyalties of gamers to games (Werbach & Hunter, 2012: 79; Werbach & Hunter, 2015; Tunga & İnceoğlu, 2016: 273; Kunduracioğlu, 2018: 21). The sub elements that constitute the mechanic element are classified into ten (Werbach & Hunter, 2012: 79; Karaarslan & Altuntaş, 2016: 437; Özkan, 2018: 36). These sub elements are;
 - **Challenges:** They are the challenges that gamers show towards the duties they face in order to reach in-game duties and rival gamers. These challenges are the hardships like solving a problem of gamers, finding or collecting the objects in order to gain the game.
 - **Chance:** It is the coincidental element that gamers can experience in the game such as excess of rival, duty numbers or hardship level and the reward number that they gain.
 - **Competition:** It is the situation in which players face the challenge of opposing players or computer players for in-game purposes and the result of winning or losing.
 - **Cooperation:** It is the state of the players working together to help other players to play the game in order to achieve an in-game task or to overcome a task.
 - **Feedback:** It is the state that the player is informed as a result of the system's evaluation of the behaviors of the players in the game. With the success statistics, systematic reports, current updates, screen notifications conveyed to the player by the game system, the players are informed about the game and motivated to continue playing.

- **Resource Acquisition:** It is the process of collecting the resources in the game in order to develop and strengthen the characteristics of the characters that the players have in order to complete the game tasks successfully and to reach new tasks.
 - **Rewards:** These are in-game objects that are presented to the players by the game in return for the efforts of the players when the in-game missions are completed.
 - **Transactions:** It is the commercial activity that players engage with other players who play the game in order to have objects that they do not have to complete the tasks they face. Swap behavior with other players in order to supply the missing objects and providing certain virtual/real money objects to the players by the virtual market in the game can be evaluated within the scope of in-game shopping.
 - **Turns:** This is a limited period of time for players to collect resources and complete tasks to create equal opportunities. The player's required moves are made to each player in order to make their choices in order and the gameplay is presented equally.
 - **Win States:** It is the win or lose situation that players will face depending on whether they have succeeded in the tasks they have completed individually or as a team in order to accomplish in-game goals.
3. **Components:** Components that make up gamification are located at the bottom of the gamification pyramid. The components that add a complementary feature to dynamic and mechanic elements are the elements that was taken into consideration with the interaction that gamers make with the envisaged game (Werbach & Hunter, 2012: 80; Werbach & Hunter, 2015; Tunga & İnceoğlu, 2016: 273; Karaarslan & Altuntaş, 2016: 437; Kunduracioğlu, 2018: 22). Werbach and Hunter (2012: 71) have gathered the components of the games into fifteen sub-elements within the scope of gamification. These are;
- **Points:** It is the numerical equivalent of the efforts of the players in the tasks they encounter in the process of achieving in-game goals. This numerical response to the player by the game is an indication of how close the targets are as a result of players finding in-game objects and completing tasks. The need for players to score more points in order to improve the strength and characteristics of game characters by achieving success in the designed games can lead to increase in-game competition (Sobocinski, 2017: 136), encouraging players to show more active behavior in games.
 - **Badges:** It is a visual representation of the in-game achievements of the players with the tasks they have completed and the points they have gained. The badges earned by the players are a symbol of their mastery in playing tasks against their opponents. The need of proving their mastery by collecting more badges than competing players is one of the factors that contribute to motivating player's in-game.
 - **Leaderboards:** They are the tables that the points, objects and badges of the players and the in-game statistical status in which the players rank in comparison to the other players who play the game. The leaderboard helps a player to see himself and his opponents to see how well he is in winning the game, which can motivate players more than others to achieve success in the game.
 - **Achievements:** These are the prizes given to reach the next quests as a result of the successful completion of each of the tasks within the designed in-game goal.

- **Avatars:** They are virtual game characters that represent each player in the games played. Avatars are visual elements that can be personalized with various objects in the game to reflect the personal characters of the players.
- **Boss Fights:** In in-game quests, players are challenged with high-level opponents to achieve a rare object or subsequent quests compared to their opponents.
- **Collections:** The collection or gathering of subjects or badges in the designed game by the gamer.
- **Combat:** Short-time battles with other players or computer controlled players during in-game missions.
- **Unlocking Content:** Unlocking and accessing the task elements, locked objects, maps as a result of completing certain tasks and collecting in-game objects.
- **Gifting:** These are the gifts that are given with specific time spaces to the gamers who play the game regularly by the designed game system. It is also called in-game gifting when players share the resources they have acquired in the game with each other.
- **Levels:** These are the experience points given to players in order to achieve other tasks at the end of each game task.
- **Quests:** Pre-determined challenges for achieving in-game rewards or goals.
- **Social Graphs:** It is a graph that shows the features of the players in their friend lists and their interaction with these players by connecting to the social networks in the game.
- **Teams:** These are the gamer communities that gamers ensemble to help each other with a mutual goal or a task.
- **Virtual Goods:** These are all the virtual objects that players use as they have certain meanings and functions within the game.

Gamification Models

There are different studies in the literature regarding the effective use of gamification and various models created in these studies. The most important and the most remarkable studies among the examined are the D6 model of Werbach and Hunter and the Octalysis model developed by Yu- Kai Chou that is known mostly in gamification sector (Yılmaz, 2017: 216).

Model of D6

In order to create the gamification design, it is necessary to create a large system in its infrastructure. It is important that each stage and step to be performed within this system is examined and planned in detail so that the objectives of the model can be expressed clearly. According to Werbach and Hunter, in order to establish an effective gamification design, six basic parameters must first be determined. Based on these parameters, Werbach and Hunter call their gamification model 'D6 Gamification Design Model'. The six basic parameters indicated according to this model are given in Figure 6 (Werbach & Hunter, 2015: 86).

Setting Goals: The first thing to be done in gamification is to determine the business goals. Therefore, the first stage of the model is to set a business objective. Business objectives are related to specific performance objectives within the gamification design. Some examples like creating brand loyalty, increasing efficiency of the workers and consumer loyalty can be given as business objectives (Werbach

Figure 6. D6 gamification design

Source: Werbach & Hunter, 2015



& Hunter, 2015: 86). Such objectives are referred to as SMART targets. The initials of the word SMART are created from the codes of the creation of the objectives and the word expansions; Specific (accurate, clear, open), Measurable (can be expressed with unit of measure that are accepted as measurable and standard), Attainable (visible and accessible), Realistic (Realistic and appropriate to company resources), Time-bound (Periodical, starting and ending within a certain time period) (Yılmaz, 2017: 86).

Describing Target Behaviors: The targeted behavior should be tangible and specific. After the desired target behaviors are listed, various metrics are designed to turn behaviors into measurable results. The applications that are used for gamification work with software applications. So, besides the seen actions the activities behind the scenes are converted to certain numbers to create feedback process. Scores are preferred as the most useful tools to measure behavioral changes. It is possible to monitor changes in target behaviors with a scoring system that can quantitatively measure any progress and change that will occur (Werbach & Hunter, 2015: 90).

Setting Player Types: Yılmaz (2017: 87) states that the most common mistake that is made during gamification design is that designs are designed for monotype players assuming that all players have the same characteristics and this design also is expected to have an effect on other types of players. The most common and biggest mistake is to think that gamification techniques are suitable for all player types and to design accordingly. Werbach and Hunter (2012: 93) suggest further elaboration of the segmentation of player types in order to manage the design process better and make it effective. The most effective way to understand the target audience better is to classify player types according to their distinct character traits. The best-known model for determining player types is the Bartle Player Model. In this model, player types are divided into 4; as achievers, explorers, socializers and killers. While achievers aim to raise levels or earn badges, the explorers want to discover new contents. Socializers want to make new friends, while the killers want to impose what they want and defeat other players (Werbach & Hunter, 2012: 92). Approximately 80 per cent of the player types are socializers, 50 per cent are explorers, 40 per cent are achievers and 20 per cent are killers (Zichermann & Cunningham, 2011: 23).

Designing the Business Cycle: Games always have a beginning and an end. Each end must have another beginning and games must be developed in a way which such a cycle exists. Thus, players can be kept in the system for a longer time. Social media applications are the most convenient and preferred systems for planning activity cycles. For example, while sharing photos on Facebook, one of the social

media applications, tagging other people in the photo contributes to the formation of a new cycle. Other people also interact with specific actions. The cycle thus continues and contributes to the formation of new cycles. There are two types of operating cycles. These are loyalty cycles and progress steps. The loyalty cycle consists of 3 steps: motivation, action and feedback. In addition, the loyalty cycle is a micro-plane depiction of the overall picture of what the player does, why he does it, and how the system responds to it. This cycle constitutes the basic operations of the gamification system and progress steps are introduced when the next steps cannot provide users with different experiences. The progress steps reflect the change in player experience when playing the game. The loyalty cycle and progress steps form the basis of gamification design. The loyalty cycle gives the player awareness of the goals and the game, while the progressive steps give the player a journey into his world (Werbach & Hunter, 2015: 94).

Adding Entertainment Items: While creating gamification designs, there are some questions that the creators of the design should ask themselves. These questions are: Do players participate in the system voluntarily? If there is no external prize offered, will players still be able to continue playing? If the answer to these questions is no, the elements that can make game design more fun should be considered and worked on. Thus, players will participate voluntarily in games that become more fun. There are 4 different types of entertainment factor in gamification design. These are hard entertainment, easy entertainment, variable situations and social entertainment. Hard fun is the kind of fun that gives players the feeling of overcoming something by forcing them, while easy fun is the kind of fun that allows the player to discharge without forcing him too much. In changing situations, players recognize different characters and experience new experiences, while interacting with other players with social entertainment is defined as a competitive environment (Özkan, 2018: 45).

Identifying Appropriate Tools: After completing the other stages precisely, the last stage is to use the right tools. At this stage, the right tools to use are decided, and the decision-making phase and action process begins. It is recommended that this stage should be performed by many experts rather than by a single person. In order to implement gamification design correctly (Werbach & Hunter, 2012: 103);

- In the gamification process, the business objectives of the project are formed by experts.
- To have a good understanding of the target audience and to have the basic knowledge of psychology to guide this audience to the desired behavior.
- Choosing a game designer with sufficient technical knowledge.
- Finding a competent person to analyze and interpret the data provided by gamification system
- It is recommended to have technology experts to ensure the applicability of the project.

Octalysis Model

According to Yu Kai Chou, gamification is a design process that is based on human motivation. Many other systems are based on the assumption of that the work is done in a short time and the employees will only do the work they need to do. Human-centered design reveals that people in a system have insecurities, emotions and reasons for whether they want to do certain things. Therefore, they take into account that they optimize their motivation, emotions and loyalty. In this context, Yu Kai Chou considers gamification as a human-oriented design and states that there are 8 main effects of gamification. Chou states that these basic elements are located in different positions according to left and right brain functions of human (Chou, 2016: 7).

Figure 7. Left Brain vs Right Brain Core Drives

Source: Chou & Yu-Kai, 2016



According to the factors in the octagon of Chou, by ascribing a meaning indicates that the player feels that he is chosen for this job and he is doing a great job, and he assigns a meaning to the task. Even if they do not have any financial gain during the game, their inner satisfaction that they feel enables them to concentrate on the game. The empowerment factor is related to the completion of the task. Unless there is a struggle in the game, awards or badges have no significant impact on players. There is an important bond between the concepts of success and struggle. It is not always sufficient for individuals to reveal their creativity in activity by itself. In addition, individuals will want to see the result of their creativity. Therefore, different ways should be provided to players through feedback. The feeling of ownership is related to player's sense of belonging to the game. The more individuals feel belonging to the game, the easier it will be to identify with the game. The social pressure factor is related to the relations of the player with other players. When strong relations are established, people's loyalty to the game increase. The scarcity effect, which is a basic human impetus, is related to the desire of a person to want because he does not have that thing. In order to have the treasures, badges and rewards that he does not possess, he stays in the game and spends time. Unpredictability, not having an idea of what he can encounter in the next step of the game, will arouse more curiosity and loyalty to the game. The last factor, avoidance, refers to the state of eschewal and avoidance of any scenario that is negative in the game (Chou, 2016: 9; Özkan, 2018: 48). Yu Kai Chou grouped these factors according to left and right brain functions. The left brain part of the octagon in Figure 7 is related to extrinsic motivation, while the right brain part is related to intrinsic motivation. Chou considered the negative motivation at the bottom of the octagonal scheme he designed as the black hat (the dark side of gamification) and the positive motivation at the top as the white hat. It emphasizes that success can be achieved if both parts of the gamification design scheme are used proportionately (Chou, 2016: 9; Şahin & Samur, 2017: 7).

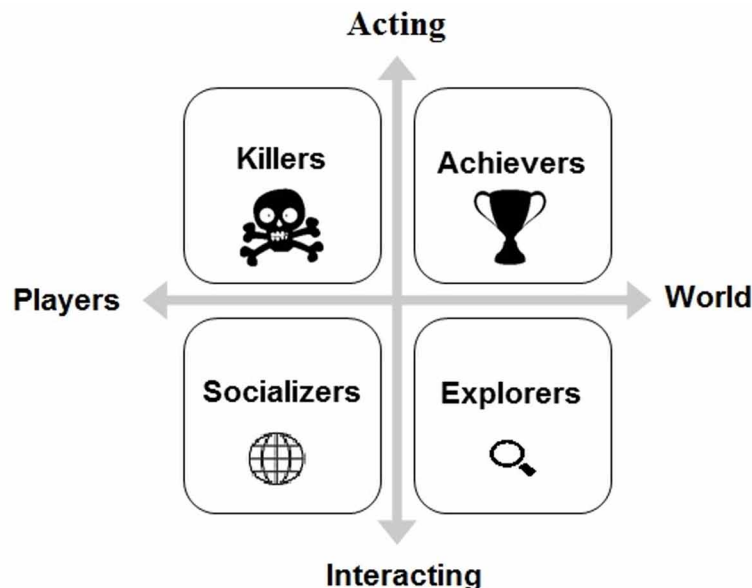
Player Types

Player types are one of the most important factors that influence players during the game. Each of the players in the game behaves differently. Therefore, one player may like the game while the other player may not like the game at all. There are different factors in determining the game preference of the people. Their own personalities and styles are important in individual's game preference (Yee, 2006: 773).

The model that Bartle created in his study is shown in the figure 8. In his study, he examined multi-player games and determined four basic player types. In this study, expressed with X and Y axes, while the game world is seen on the right part of the X-axis, on the left side is the players. In the Y axis, there is interaction at the bottom and the game is at the top part. While the player that is near to top part in the Y-axis plays a game-focused game, the player that is near to below part plays an interaction-focused game. While a player who is close to the left part of X-axis plays a game focused on other players, the focal point begins to form the game world as he moves to the right. These player types located between X and Y axes are; achievers, explorers, killers, socializers (Bartle, 1996; Kunderacioğlu, 2018: 23):

- **Achievers:** This player type is game-focused and tries to achieve in-game goals. The achievements of the game are gamers' priorities such as collecting badges, collecting points and gaining experience. Although, they feel the need of socializing in a duty that they cannot do on their own. Scouting is a tool for them in order to obtain new resources and information. They prefer the games that they can gain a lot of achievements and badges rather than game type.
- **Explorers:** This player type is interaction-focused and tries to explore new ways and methods. The mystery in the game and the urge of wonder that they feel is more important than earning

Figure 8. Player Types
Source: Bartle, 1996



points. They do actions like killing in order to collect point just to enable them to continue the game and make new discoveries. These type players mostly prefer adventure games.

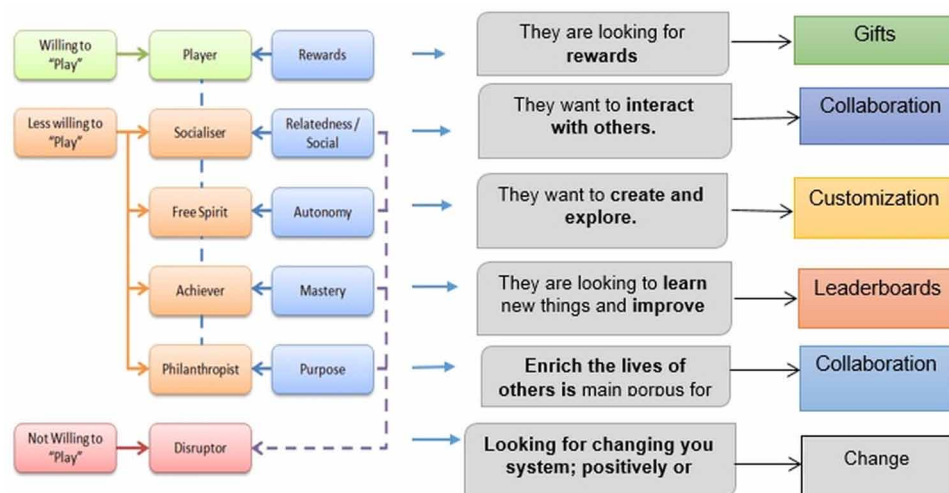
- **Killers:** For these player types that are focused on other players, in other words, their rivals, the only aim is to beat them. One of the main goals is to ensure that other players lose and prevent them from winning. What is important for them is not to win but to defeat their opponent. Therefore, games without losers do not attract their attention. They usually prefer race and battle games.
- **Socializers:** For this interaction-oriented player type, the game is a tool for socializing. They do not have aims like defeating opponents, collecting points or making discoveries. The thing that is truly important for them is to have a good time with other people. These types of players prefer easy-to-play, low-competition games. An example of this is Rummikub, which is a multi-user game where they can have a chat.

Although player types are covered in 4 main headings it is not possible to make certain distinctions. Every player can be a little achiever, a little explorer and a little social. While some players may mainly tend to a single type, while others may have several. It can be easily understood with observation during the game which player type the players belong to, from the type of game they play, their in-game goals and their behaviors during the game.

Bartle's classification is based on the game, but gamification is not exactly the same with the game as mentioned. Therefore, it is seen that Bartle's typology needs to be revised in the field of gamification. With Marczewski's work, more detailed and specific gamification types have emerged for gamified systems. In addition, contrary to the most common beliefs, apart from rewards such as money, motivating autonomy, mastery and goal factors have been shown to motivate users more in the game. He considered motivation 3.0 as the root of the typology of player types as it is shown in model 9. However, using the term player suggests that external motivation is important in gamification (Sever et al., 2015: 193).

Figure 9. Gamification user types

Source: Marczewski, 2015



MAIN FOCUS OF THE CHAPTER

Tourism and Game

The use of games in tourism marketing can potentially offer great marketing opportunities. Tourism is an experience industry that can be created and personalized. In order to develop these types of experiences, some technology tools such as social media, smartphones and games are needed. Among the first companies to benefit from technological developments are the travel industries (Buhalis & Law, 2008). The current use of games by the tourism industry is divided into two major groups as social media and location-based platforms (Xu et al., 2014);

1. Social media, such as Facebook, based social games used to attract potential customers, create a target or company image, and promote brand awareness.
2. Location-based mobile games are informative games that provide tourists with more detailed information about travel destinations (Waltz & Ballagas, 2007). Furthermore, it is a very rich source of information for tourists in a tourism centre thanks to images, sounds and emotions that cannot be continuously fully simulated with computers (Linaza et al., 2014: 498). Most of the existing tourism destination games are based on the game principles of the classic treasure hunt. For example; The Amazing City Game was developed in Trondheim, Norway, in order to encourage tourists to take part in a quiz tour by solving tasks at different locations (Wu & Wang, 2011).

However, these gaming applications are not always successful. Some tourists are not interested in games and sometimes destitute of fun and facts about touristic places. When Çeltek's (2010) study was examined, it was concluded that the games other than VeGame and Geocaching did not provide any information about the country and the destination. However, this result is limited to the games examined in the study. Not all games made in the field of tourism can be generalized in this context. Game developers with technical backgrounds may sometimes not be fully aware of the tourist's need to play and motivation. That's why it should be designed with a user-centered approach to game design (Yovcheva et al., 2014: 15). The game experiences of tourist gamers can be benefited for the design of these games. Although games have theories on player motivation, they cannot address tourists in particular. Therefore, they are inadequate to determine the needs of tourists. While designing these games, you should look for answers of some questions, such as "why tourists play games, when do they play, what types of games they prefer". In addition, considering that tourists have limited time, the games that will be designed should be less ambiguous and less compelling than other games (Fernandes et al., 2013).

Gamification in Tourism Marketing

With the development of digital technology, marketing communication studies have begun to be reshaped. Mobile marketing and socializing are among the future trends of marketing. Gamification offers opportunities as a new marketing potential in the tourism industry. Gamification provides virtual experiences to individuals in terms of marketing (Xu et al., 2014). Games are about pleasure and there is a strong impact of marketing the pleasure. Therefore, games can offer a powerful way of interacting in a fun and useful way. It has been proved by many studies that promotion of tourism marketing is an important issue (Huang et al., 2013: 492). The use of the immersive virtual environment, which is one of the cutting-edge

approaches for the promotion of tourism sites, will contribute to the successful interaction with the target audience (Bogdanovych et al., 2007). The use of gamification in the tourism industry offers a variety of opportunities such as tour marketing and new generation awareness, attracting potential customers, improving tourist's on-site experiences and increasing interaction (Hay, 2008: 346). In gamification, game design can be based on real environments such as tourist attractions (such as Thailand and China). Gamification activities present an informative and entertaining atmosphere, providing potential visitors a variety of experiences. Games are often offered with virtual reality or AR 3-D technology, providing an immersive and engaging experience of virtual and real targets (Huang et al., 2013: 495).

The tourism industry offers multidimensional and versatile experiences (Kim, Ritchie & McCormick, 2012: 15). There are different types of emotions, such as hope, fear and excitement, which arise from the pleasure of playing and the desire to continue playing to challenge their own abilities. With these emotion types, the participation and the dependence on playing play an important role in the marketing of tourism organizations and destinations. As a result of the studies, it was revealed that games are the main forms of entertainment for mobile and social generations born after 1996 and it was concluded that future marketing activities should be developed gamification oriented (Xu et al., 2014). Gamification is approached in three parts according to behaviors of buying based on the place and importance of gamification in tourism experience. These are evaluated as; before the purchasing and consuming of tourism experience / during its consumption/ after purchasing and consuming of tourism experience (Sigala, 2015):

Firstly, when the purchasing/consumption of tourism experience part is evaluated, given the tourists' desire to travel, the presentation of travel information is an important consideration in determining the needs of tourists. Therefore, at this stage, tourism companies are responsible for providing information to travelers in order to reveal and trigger their travel needs, curiosities and preferences, and to ensure that customers know what products and services are available to customers. Lufthansa developed "www.snapshottraveler.gr" which is an interactive online entertainment game that allows its users to virtually experience three destinations in Canada, Thailand and Brazil. While navigating the destinations virtually in this game, users are asked to search and photograph the animals they find. Users learn about the destination's tourist resources, the interesting places, existing travelling experiences and options by exploring and interacting with virtual words. As a result, they find the opportunity of compete for performance achievement by winning prizes and badges. While the game is linked to social media (Facebook and Twitter), in addition to its impact on external motivation, other game elements are also used to provide user's motivation and experience. Thus, it provides an opportunity to decide whether they prefer these destinations or not, having the knowledge and experience about the destination before going to that destination.

While utilizing gamification during the purchasing/consumption of tourism experience that is the second part, the aim of companies and destinations is to encourage tourists to increase their consumption levels and increase their product / service use while creating pleasant and memorable experiences. At this stage, gamification is utilized to implement crowd-sourced effects and motivation. For example; a game was developed that allows tourists in India to guess where they are, giving players points and various rewards for right answers (<http://www.ixigo.com/yoindia>). There are millions of photos of the places in the game. Players have the opportunity to learn and explore their location with these photos. For their goal of becoming a Traveling God, they share the badge they earn and the points they get via Facebook.

In the last part, it takes place after the purchase/consumption of tourism experience. Gamification applications in the tourism industry aim to help create customer databases and increase customer loyalty.

The JetBlue gamification application was developed with the loyalty program (TrueBlue) to improve customer loyalty and connection with businesses and to build a customer database. TrueBlue members that register on JetBlue's Facebook page earn 25 TrueBlue points when they check in with their mobile device at a JetBlue airport. They also earn Jetblue badges for each interaction they create by tagging their friends. Jetblue, a location-based social media application, is also known as Go Places. Apart from the Jetblue badges and points, they can take advantage of status privileges such as free services - updates and earn loyalty points by checking Jetblue locations.

Gamified Restaurant Experience

McDonald's, which is one of the Fast-Food chains, benefits from gamification. McDonald's uses mobile phones to let users get free food from the nearest restaurant and interact with digital billboards. This game called Pick N'Play had a great success in Sweden. In order to be sure that gamers are on the playing area, they only need to use their GPS and do not need to download an application. The goal of McDonald's is to increase sales with this application. Consumers are happy to get free burgers. Also, McDonald's have started a campaign in Canada asking customers to create a burger as a movie star. The best stories are shown in a film, using the restaurant chain as an ad. Participants receive free cinema tickets as awards for their participation (Digital Tourism Think Tank, 2013).

Gamification at the Airlines

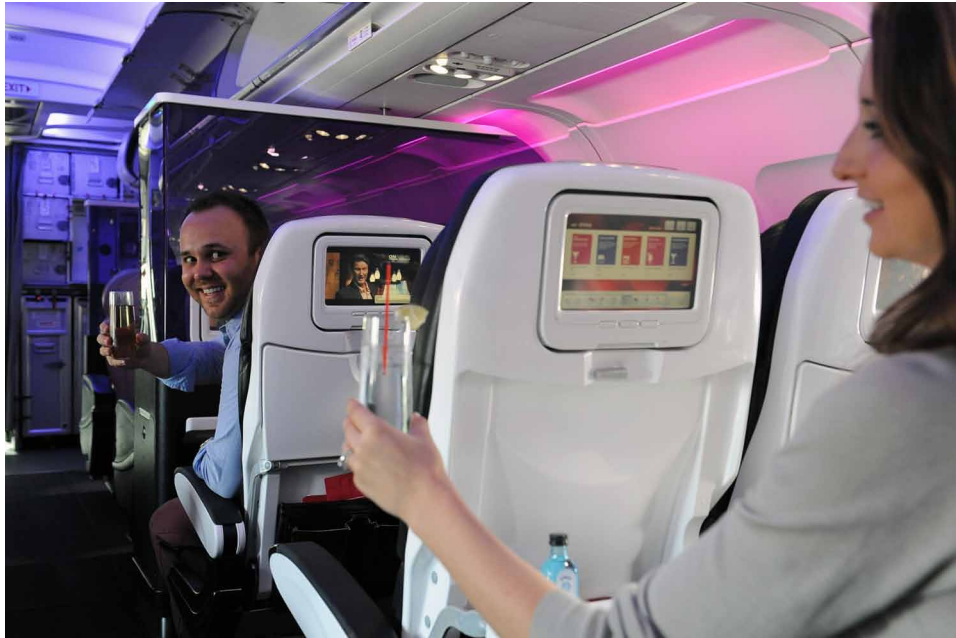
In the early 1980s, American Airlines launched specific programs to increase brand loyalty. The prevalence of smartphones, the big data that are obtained and new forms of communication determine our travel style and preferences and will continue to do so in the future. Airline companies such as KLM and Virgin America continue to renew their long-term loyalty programs by integrating social networks. KLM developed the Meet & Seat feature to help passengers find out who they are and connect through social networks like Facebook, Google+ or LinkedIn. When passengers share their personal information with other customers, they are allowed to interact with other passengers. Virgin America developed an application using social networking to deliver an experience above the clouds with the 'seat-to-seat delivery' feature. The application works on the aircraft's built-in touch screen entertainment system. It offers opportunities like interacting with other passengers, communicating, sending drinks/food (Digital Tourism Think Tank, 2013).

Gamified Virtual Travel Experience

The potential tourists that are hesitant about their destinations, tourism-based games were developed that provides the opportunity of experiencing world tourism destinations even from their homes easily. For example, as one of the largest online travel agencies in the world, by Expedia.com is developed a travelling application in 2012 that is travel in 100 days around the world. The game was developed to increase Expedia's loyalty awareness and to connect with customers. Players learn more about destinations around the world and earn points. Users can redeem their points for travel bookings (Digital Tourism Think Tank, 2013).

Figure 10. Virgin America seat-to-seat delivery feature

Source: Retrieved from <https://edition.cnn.com/travel/article/virgin-seat-to-seat-service/index.html>



Methodology

Digital gamification in tourism is the activity of introducing and marketing enterprises or tourist destinations in the tourism industry to tourists through mobile applications (Xu et al., 2014). Gamification, which is considered as a new approach for the tourism industry, offers tourists the opportunity to explore and experience new places with fun. In this section, the concept of gamification and the elements that make up the concept of gamification are explained and their relationship. Descriptive research is a research aiming to describe a subject or activity of interest with a description. Descriptive research, in which no cause and effect relationship is sought between the subjects, can have a single aim or can have both descriptive and explanatory purposes. If the only purpose of the research is to describe a subject, the researcher examines them observing the facts in detail and depicts the subject without developing any theoretical problems. Qualitative research methods such as case studies, ethnographic studies or similar qualitative data collection techniques are used in the studies conducted with this purpose. (Lin, 1976). Table 1 (adapted from Çeltek, 2010) was created to examine exemplary gamification practices used in the tourism industry. Table 1, which was formed by using secondary data obtained by using purposive sampling technique, was examined by using document analysis technique. Purposive sampling technique is the selection of a source that is suitable for the purpose of the study from a source of information with a certain consciousness (Tongco, 2007). The document analysis technique is the process of evaluating the materials in printed and electronic media in a systematic way (Corbin & Strauss, 2008). In the creation of Table 1, (game, gamification, gamification in tourism, mobile applications) keywords and articles published in national and international journals; papers presented / published in congresses and symposiums; national and international master theses; related books and websites; 'Google Play Store and

Apple Store' mobile applications have been utilized. Within the scope of this study, which is limited to tourism, a total of twenty-five gamification practices have been reached. These accessible gamification applications are evaluated separately in terms of the benefits they provide in terms of tourism sector applied, the platform played, the stage in which tourism is applied, self-determination theory, Hook theory, Fogg behavior theory, player types and tourism marketing.

Findings

In line with the information obtained from the articles, papers and books examined at national and international level, gamification practices used in the tourism industry have been reached through the document analysis technique. Table 1 was created by researching the gamification applications in tourism through web sites and by accessing the gamification applications in tourism from secondary data sources. As a result, the achieved gamification practices have been examined by using the parameters in Table 1. When gamification practices in tourism are evaluated in terms of the area they are applied in tourism industry, it is observed that the games are mostly designed for destinations / cities, while they are applied in transportation enterprises, museums, food and beverage enterprises, accommodation enterprises and travel agencies respectively. When the games are examined in terms of the platform that they are played, it is seen that location-based mobile applications are more than social media-based games. While it has been determined that 25 games reached during the stage of gamification in tourism are applied during the journey, a certain number of games can be applied before and after the travel. Also, as a result of findings, it was found that a significant number of games can be applied before travelling, during travelling and after travelling as in three stages. According to the theory of self-determination, when the characteristics of the games are examined, competence is seen in games handled outside of Air British Airways / Trivia Quizzes and Games, while the games that are few in number have relevance and autonomy. According to the Hook theory, it is observed that the most intense features in the games are the triggering feature, and that the action and variable rewards exist in some games, while the investment feature is found in very few games. When the Fogg Behavior Theory is considered, it is seen that even though motivation and trigger features are found in numerous games, ability feature exists in a few games. In the features of player type determination, it is seen that achiever and socializer types are target market numerously; explorers are the target market only in specific games. VR Games Zone Game is found to be the only game that determines the killers' type, which is one of the player types, as a target market. Also, it is seen that some games in the table do not appeal to a single type player; they have set more than one player type as a target market. When the benefits of gamification in tourism to tourism marketing are examined; while it has been observed that city/country promotion, sharing on social media/sharing with friends, giving information about the business, giving discount/promotion and product information take place in numerous games, the opportunity to purchase products in the game and interactive communication features with other players take place in only a few games.

Ghosts Games Wartburg

“Ghost Games” mobile application can be considered as an example of digital gamification efforts in tourism. The mobile application company called Ghosts Games can provide an experience to the tourists visiting the region by making use of gamification and augmented reality applications of the works in

Digital Gamification in the Tourism Industry

Table 1. Gamification Applications in Tourism Industry

	Foundation Name or Game Name	Pizza Hut / Beanbag Blitz	EpicMix	4foods	Starbucks	Tripventure	Drallo	Efteling	Ghost Game / Warburg Castle	TravelPlot Porto	Virtual Romans Leicester	Tourism Ireland	British Airways /Trivia Quizzes and Games	Virgin Games	VR Games Zone	Ixigo Game	JetBlue	Pick 'n Play	Expedia	American Airlines / Travel Games	Turkish Airlines	Foursquare / Swarm	Stray Boots	Pocket Ranger	My Marriott Hotel	La Quinta's Play & Stay game
The Tourism Sector That It is Applied	Food Beverage Foundation	X		X	X													X								
	Destination / Town		X			X	X		X	X	X	X										X	X	X		
	Accomodation Foundation																								X	X
	Travelling Agency															X			X							
	Transportation Business												X			X	X		X	X	X					
	Museum								X	X	X	X				X										
The Platform That The Game Is Played	The Games That Are Based On Social Media		X	X									X	X		X	X			X	X	X		X	X	X
	Mobil Games Based On Place	X	X		X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X		
The Stage That Gamification Is Applied In Tourism	Before Travelling	X	X	X									X	X		X	X								X	X
	During Travelling	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	After Travelling	X	X							X			X	X		X	X	X							X	X
Game Features According To Self Determination Theory	Sufficiency	X	X	X	X	X	X	X	X				X	X	X	X	X	X	X	X	X			X	X	X
	Related		X											X						X			X	X		
	Autonomy														X			X				X		X	X	X

continued on next page

Table 1 Continued

	Foundation Name or Game Name	Pizza Hut / Beanbag Blitz	EpicMix	4foods	Starbucks	Tripventure	Drallo	Efteling	Ghost Game /Wartburg Castle	TravelPlot Porto	Virtual Romans Leicester	Tourism Ireland	British Airways /Trivia Quizzes and Games	Virgin Games	VR Games Zone	Isigo Game	JetBlue	Pick'in Play	Expedia	American Airlines / Travel Games	Turkish Airlines	Foursquare /Swarm	Stray Boots	Pocket Ranger	My Marriott Hotel	La Quinta's Play & Stay game
Game Features According To Hook Theory	Trigger	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
	Action	X			X		X							X		X	X		X	X	X				X	X
	Changeable Rewards	X	X		X		X	X						X			X	X	X	X		X				X
	Investment		X		X	X	X							X												
Game Features According To Fogg Behaviour Theory	Motivation	X	X	X	X	X	X		X	X	X			X	X		X	X	X	X	X	X	X	X	X	X
	Ability		X			X							X	X	X	X								X		
	Triggers	X	X	X	X			X				X		X	X	X	X	X	X	X	X	X			X	X
The Targeting Features of Player Types	Achievers	X	X	X	X	X	X	X		X			X	X		X	X	X	X	X	X	X		X	X	X
	Explorers	X				X	X		X	X	X	X				X			X				X	X		
	Killers														X											
	Socializers	X	X		X		X			X				X	X	X	X	X	X	X	X	X	X	X	X	X

continued on next page

Table 1 Continued

	Foundation Name or Game Name	Pizza Hut / Beanbag Blitz	EpicMix	4foods	Starbucks	Tripventure	Drallo	Efteling	Ghost Game / Wartburg Castle	TravelPlot Porto	Virtual Romans Leicester	Tourism Ireland	British Airways /Trivia Quizzes and Games	Virgin Games	VR Games Zone	Isigo Game	JetBlue	Pick'in Play	Expedia	American Airlines / Travel Games	Turkish Airlines	Foursquare / Swarm	Stray Boots	Pocket Ranger	My Marriott Hotel	La Quinta's Play & Stay game
The Benefit Features That Are Provided In Terms of Marketing Tourism	Sharing on Social Media / Sharing With Friends		X	X	X		X			X		X	X	X		X	X		X	X	X	X	X	X	X	X
	The Opportunity of Purchasing in Game				X			X					X				X		X				X	X	X	
	Information of City / Country	X	X			X	X	X	X	X	X	X	X			X	X		X		X	X	X	X	X	X
	Giving Promotion / Sale	X	X		X		X	X					X			X	X	X	X	X	X			X	X	
	Giving Information About Foundation	X	X	X	X	X	X	X	X		X		X	X	X	X	X	X		X	X	X	X	X	X	X
	Giving Information About The Product	X	X	X	X		X	X	X				X	X	X	X	X	X		X	X	X		X	X	X
	Interactive Communication With Other Players		X							X				X	X		X	X		X		X	X			

certain destinations. It takes tourists to a journey through the history using different techniques, objects and the information about the daily lives of the people living in that destination (Falke, 2012).

The castle of Wartburg is located in Eisenach which is a part of the Thuringa state of Germany. This medieval castle, which has a thousand-year history, has an important place in German history besides being the first German castle in the UNESCO World Heritage List (Wartburg Castle, 2019). Different than other museums, this castle functions as a museum and conducts a gamification activity in which the visiting tourists can interact. “Ghost Game Wartburg” helps tourists explore the castle by providing interaction with the virtual ghosts living in the castle. The ghosts created by gamification, meet the tourists that use the application on their smartphones (Falke, 2012). This application, suitable for the use of all age groups, can make the tourists satisfied especially the ones who seek cultural pleasure by making sightseeing fun and entertaining.

A Gamification Model for Tourism

A gamification model was created based on the conceptual studies and sample applications regarding the use of digital gamification activities in Turkish tourism. Istanbul, which is a destination known throughout the world and visited every year by millions of local and foreign tourists, was preferred while fictionalizing the gamification model that has been created. The model illustrated in the figure 12 was created by benefiting from D6 gamification model that had been created by Werbach and Hunter (2015). The game was developed with an aim to contribute to an unforgettable destination experience by the tourists that use the application will satisfy especially the tourists included in the “explorers” group since the

Figure 11. Ghost Game Wartburg
Source: Falke, 2012



sense of wonder is one of the principles that the tourists in this group look for in a game. The sense of wonder can create an urge to visit the places that have never been explored. In the created model, the entertainment element that will make the tourists continue the gamification game consists of the type of hard entertainment in which the players are challenged to overcome some difficulties.

It is possible to prepare a mobile application interactive with social media applications. Using the application with GPS locations on, tourists visiting Istanbul will have access to historical and cultural information of the tourist spots in their area or in the nearest neighborhood and they are supposed to play games such as question-answer and puzzle to reach more information or any potential interesting information about an important person or story belonging to that area. The application includes popular destinations such as Topkapı Palace, Dolmabahçe Palace, Basilica Cistern, Galata Tower, Maiden's Tower, Egyptian Bazaar, Grand Bazaar, Blue Mosque, Hagia Sophia Museum, Chora Museum visited by local and foreign tourists from all ages.

Figure 12. Created gamification model

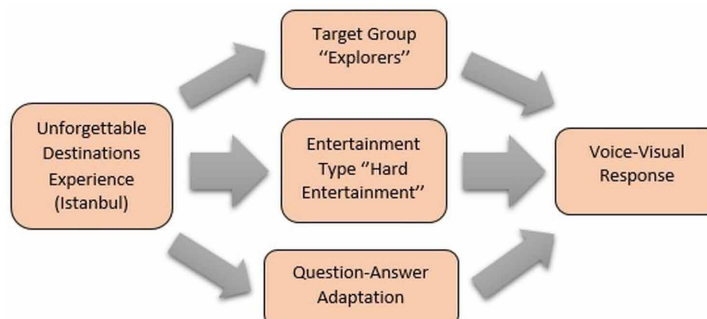
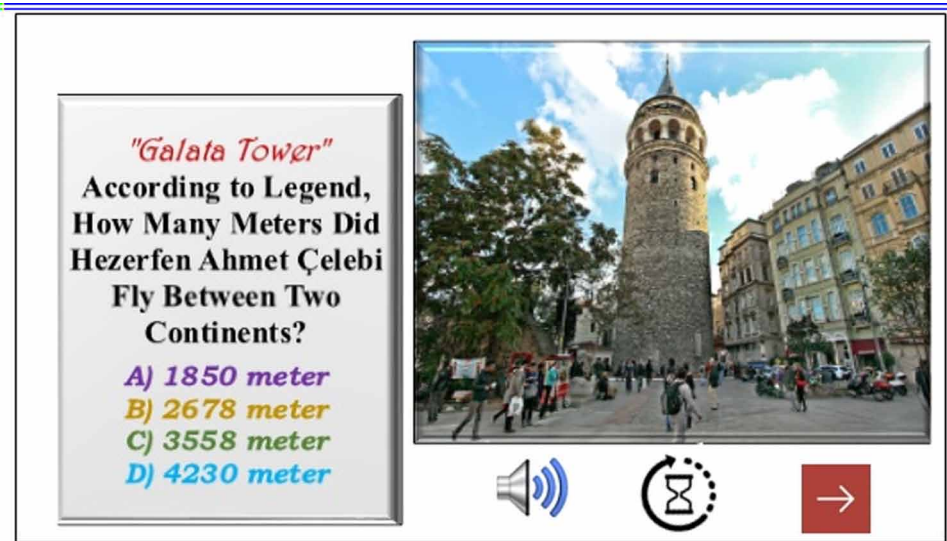


Figure 13. Example application question



Tourists who visit these and similar locations via the application will receive a screen similar to the one shown in the Figure 13 on their phones if they participate in the question and answer game in accordance with the notifications received. On the screen, they can reach questions and answers with written and audible warnings in English or Turkish language according to their preference. Buttons that provide access to an audible question, answer time for the question, and access to the next question are displayed on the screen.

The user who chooses an answer from the options, will receive a second screen depending on the answer being true or false. The second screen that users will see takes place in the Figure 14. Depending on the answer, a person from the history and present, who lived at the tourist spot about which the question was asked, will provide users a vocal or visual explanation related to the answer. There will also be internet links on the page where users can reach more information about the touristic destination. If they answer every one of the questions belonging to each touristic destination and share the photograph of the touristic destination on social media accounts via the application, users will have the chance to win specific badges. That these badges indicate the fact that the destination has been visited and the very user has answered more questions correctly than the other users, provides a competition among the tourists.

In theory, introduction of the cultural and historical sites in Istanbul through gamification with the help of the model created may especially be preferred by the explorer tourists using this game model. Therefore, the target market of the designed game consists of the users in explorer tourists group.

Figure 14. Example application answer



SOLUTIONS AND RECOMMENDATIONS

Digital gamification in tourism facilitates the move of the touristic business operations to the mobile platforms and strengthens the corporate brand image perceived by tourists providing faster, informative and entertaining products/services for tourists. The tourists who have experienced the gamification activities that tourism companies apply via digital platforms may have an increasing loyalty and want more products/services or might feel an urge to spend more money providing that they are motivated by being satisfied with the presented product or service by. Digital gamification activities for destinations are directly proportional to the success of turning the natural, cultural and historical beauties of the destination into an interactive entertainment activity due to its influence on tourist's destination preferences, duration of the stay, expenditures and their tendency to visit the destination again. Main aims of digital gamification applications in the tourism industry are:

- To satisfy tourists by creating an interactive experience during their holiday.
- Providing entertaining contents and services to targeted tourist group on the internet through digital platforms.
- Outclassing the rival companies and creating a higher preferability by the tourists.

The responsible ministries or municipal authorities of the destinations wishing to bring more tourists to the region by introducing and marketing the destinations can benefit from the following suggestions:

- Creating correct informational contents and game designs for the target tourist group expected to visit the destination.
- In the tourist spots, the scores obtained from the gamification activities should be usable in the social facilities such as the restaurants and museums in the region by the tourists.

- It is important to increase the recognition of destinations on social media platforms through tourists via digital gamification applications and to reach more masses by encouraging electronic word of mouth marketing activities.

FUTURE RESEARCH DIRECTIONS

This study has been restricted with academic studies reached by benefiting from the purposive sampling technique and digital gamification applications in the tourism industry. Therefore; although the findings have a feature of representing the universe, they do not represent the entire universe. A gamification model has been developed benefiting from document analysis techniques and literature scanning aimed at digital gamification applications to a destination in the existing study. In the future studies, this model can be improved and applied on a destination. In order to learn the expectations and satisfaction of tourists about this gamification model to be created for the destination, a study on digital gamification applications can be performed using semi-structured interview or survey techniques in the future tourism.

CONCLUSION

Gamification is a concept whose use by companies has been continuously increasing. Because of the fact that individual's needs have been met on digital platforms through technological devices such as smartphones, tablets and computers in a more efficient way in terms of time and cost comparing to their common daily life, it has been inevitable for the companies to use digital gamification applications. Businesses, who want to satisfy their expectations and needs by satisfying the consumers, aim to increase the consumer's loyalty increasing their motivation by making the process of providing the right products / services to the right target audience faster and more entertaining via gamification applications on digital platforms.

Accordingly, the enterprises within the tourism industry think that with the gamification activities they launch on various digital platforms, tourists may increase their perceptions and motivations about the enterprises or destinations and increase their demands for more products or services. The literature on digital gamification activities supports this opinion. Digital gameplay applications used in the tourism industry, especially in combination with augmented reality (AR) and virtual reality (VR) applications may enable tourists to interact more about the company and the destination, to gain experience, to be satisfied and helps them to share their real or virtual experiences which they had with their friends.

As a result of this study, it is seen that comparing to enterprises in the tourism industry, digital gamification activities are mostly used as a contribution to promote and market the destinations. It has been found that digital games prepared for destinations are designed to be location-based mobile applications in general and the usage stages of gamification applications developed for the tourism industry are not only limited to the service purchasing stage, but also designed to include the pre- and post-service stages. When the target markets of digital games developed for the tourism industry are examined, it is noteworthy that the players in the achievers group and the players in the socializers group are observed to be the main target. Besides promoting cities and countries in particular; gamification applications utilized in the tourism industry contribute to tourism marketing through various factors such as providing information about businesses, providing discounts and promotional activities for enterprises.

REFERENCES

- Akbulut, D. (2018). *The use of “Gamification” approach in public relations*. International Symposium on Communication in the Digital Age Proceeding E-Book. Oct. 18-19, Mersin, Turkey. Academic Press.
- Andersen, S., Chen, S., & Carter, C. (2000). Fundamental Human Needs: Making Social Cognition Relevant. *Psychological Inquiry*, 11(4), 269–276.
- Avedeon, E. M., & Sutton Smith, B. (1971). *The study of games*. New York: John Wiley & Sons.
- Bartle, R. (1996). Hearts, clubs, diamonds, spades: Players who suit MUDs. *Journal of MUD Research*, 1(1).
- Bayraktar, Ö. (2014). *Gamification as a communication model* (Master dissertation). University of Maltepe, Turkey.
- Binark, M., & Bayraktutan, G. (2011). “E-status” of participation: The virtual World of youth. Aslı Telli Aydemir (Ed.), *Digital game culture map players: Digital player’s habitus and career derivatives* (pp. 303-330). Turkey: Alternative Information Publishing.
- Bogdanovych, A., Esteva, N., Gu, M., Simoff, S., Maher, M. L., & Smith, G. (2007). The role of online travel agents in the experience economy. In *Proceedings of the 14th international conference on information technology in tourism ENTER*, Ljubljana, Slovenia. Academic Press.
- Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research. *Tourism Management*, 29(4), 609–623. doi:10.1016/j.tourman.2008.01.005
- Caillois, R. (2001). *Man, play, and games*. Chicago, IL: University of Illinois Press.
- Castle W. (2019). Retrieved from <https://www.wartburg.de/en/wartburg-castle.html>
- Çeltek, E. (2010). Mobile advergames in tourism marketing. *Journal of Vacation Marketing*, 16(4), 267–281. doi:10.1177/1356766710380882
- Chou, Y.-K. (2016). *Actionable gamification beyond points, badges, and leaderboards*. Japan: Octalysis Media.
- CNN. (2019). Retrieved from <https://edition.cnn.com/travel/article/virgin-seat-to-seat-service/index.html>
- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). Thousand Oaks, CA: Sage. doi:10.4135/9781452230153
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper Perennial.
- Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self determination in a work organization. *The Journal of Applied Psychology*, 74(4), 580–590. doi:10.1037/0021-9010.74.4.580
- Deterding, S., Dixon, D., Khaled, R., & Nacle, L. (2011). From game design elements to gamefulness: Defining “Gamification”. In *Proceedings of the 15th International Academic MindTrek Conference on Envisioning Future Media Environments*, Tampere, Finland. 10.1145/2181037.2181040
- Digital Tourism Think Tank. (2013). Retrieved from <https://www.thinkdigital.travel/tag/2013/>

Entertainment Software Association. (2018). *Essential facts about the computer and video game industry*. Retrieved from www.thesa.com/wp-content/uploads/2018/05/EF2018_FINAL.pdf

Eyal, N., & Hoover, R. (2014). *Hooked: How to build habit forming products*. Wood Dale, Illinois: Penguin Group.

FalkeC. (2012). Retrieved from http://www.uni-weimar.de/kunst-und-gestaltung/wiki/images/IFD_mobile-culture_2.01_ChristopherFalke_GhostsGames.pdf

Fernandes, R. P. A., Almeida, J. E., & Rosseti, R. J. F. (2013). A collaborative tourist system using serious games. *Advances in Intelligent Systems and Computing*, 206, 725–734. doi:10.1007/978-3-642-36981-0_67

Fogg, B. (2009). A behavior model for persuasive design. In *Proceedings of the 4th International Conference of Persuasive Technology*, Claremont, CA. 10.1145/1541948.1541999

Gentes, A., Guyot Mbodji, A., & Demeure, I. (2010). Gaming on the move: Urban experience as a new paradigm for mobile pervasive game design. *Multimedia Systems*, 16(1), 43–55. doi:10.1007/00530-009-0172-2

Hay, B. (2008). Fantasy Tourism and Second Life. In S. Richardson, L. Fredline, A. Patiar, & M. Ternel (Eds.), *CAUTHE 2008: Tourism and hospitality research, training, and practice*; “Where the ‘Bloody hell’ are we?” (pp. 345–348). Retrieved from <https://search.informit.com.au/documentSummary;dn=970132315896676;res=IELBUS>

Herger, M. (2014). *Enterprise gamification engaging people by letting them have fun*. USA: CreateSpace Independent Publishing Platform.

Huang, Y., Backman, S. J., Backman, K. F., & Moore, D. (2013). Exploring user acceptance of 3d virtual worlds in travel and tourism marketing. *Tourism Management*, 36, 490–501. doi:10.1016/j.tourman.2012.09.009

Ixigo. (2019). Retrieved from <https://www.ixigo.com/%20yoindia>

Karaarslan, M. H., & Altuntaş, B. (2016). Investigation of the selected marketing cases in Turkey within the concept of gamification. *Mehmet Akif Ersoy University Journal of Social Sciences Institute*, 8(17), 433–447.

Kasa, M., & Hassan, Z. (2015). The role of flow between burnout and organizational citizenship behavior (OCB) among hotel employees in Malaysia. *Procedia: Social and Behavioral Sciences*, 211, 199–206. doi:10.1016/j.sbspro.2015.11.084

Kim, H., Ritchie, J. R., & McCormick, B. (2012). Development of a scale to measure memorable tourism experiences. *Journal of Travel Research*, 51(1), 12–25. doi:10.1177/0047287510385467

Kowal, J., & Fortier, M. S. (1999). Motivational determinants of flow: Contributions from self-determination theory. *The Journal of Social Psychology*, 139(3), 355–368. doi:10.1080/00224549909598391

Kunduracioğlu, İ. (2018). *A content analysis on gamification concept* (Master dissertation). University of Balıkesir, Turkey.

Lim, C., Kim, M., & Kim, S. B. (2018, January). *A Q & A application using the concept gamification*. ISER 98th International Conference, January 8-9, 2018, Osaka, Japan. Academic Press.

Lin, N. (1976). *Foundations of social research*. USA: McGraw-Hill.

Linaza, M. T., Gutierrez, A., & Garcia, A. (2014). Pervasive augmented reality games to experience tourism destinations. In Z. Xiang, & I. Tussyadiah (Eds.), *Information and Communication Technologies in Tourism* (pp. 497–509). Switzerland: Springer International Publishing.

Lloyd, V. (2014). *A brief history of gamification*. Retrieved from <https://www.thehrdirector.com/features/gamification/a-brief-history-of-gamification/>

Lovett, E., & Longworth Dames, M. (1901). The ancient and modern game of astragals. *Folklore*, 12(3), 280–293. doi:10.1080/0015587X.1901.9719634

Lowbrow, Y. (2014). *Living the dream with green stamps: A 1975 catalog*. Retrieved from <https://flashbak.com/livin-the-dream-with-green-stamps-a-1975-catalog-26187/>

Marczewski, A. (2013). *A simple introduction tips, advice and thoughts on gamification, United State of America*. Lulu Press.

Marczewski, M. (2015). *Gamification user types*. Retrieved from <http://www.gamified.uk/user-types/>

Matallaoui, A., Hanner, N., & Zarnekow, R. (2017). Introduction to gamification: Foundation and underlying theories. In S. Stieglitz, C. Lattemann, S. Robra-Bissantz, R. Zarnekow, & T. Brockmann (Eds.), *Gamification using game elements in serious contexts* (pp. 3-18) Switzerland: Springer International Publishing.

Mayra, F. (2008). *Play in the mobile Internet: Towards contextual gaming*. Paper presented at Internet Research 9.0 Conference, October 15-18, Copenhagen, Denmark.

Mccormick, T. (2013). *Gamification: A short history*. Retrieved from <https://foreignpolicy.com/2013/06/24/gamification-a-short-history/>

Mclaughlin, D. (2012). *Game on! How video games and game design principles can help to make adult education more engaging for the learner* (Master dissertation). University of Ireland Maynooth, Ireland.

Nakamura, J., & Csikszentmihalyi, M. (2009). The concept of flow. In C. R. Snyder, & S. J. Lopez (Eds.), *Oxford handbook of positive psychology* (pp. 89–105). USA: Oxford University Press.

Özkan, Ç. (2018). *Gamification use in the context of corporate communication strategies: A research on the banking industry* (Master dissertation). University of Istanbul, Turkey.

Öztürk, S. (2015). *Using gamification in effective team planning and team activity* (Master dissertation). University of Bahçeşehir, Turkey.

Piccione, P. A. (1980). In search of the meaning of Senet. *Archaeological Institute of America*, 33(4), 55–58.

- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist*, 55(1), 68–78. doi:10.1037/0003-066X.55.1.68 PMID:11392867
- Şahin, M., & Samur, Y. (2017). Instructional method of digital age: Gamification. *Journal of Ege Education Technologies*, 1(1), 1–27.
- Salen, K., & Zimmerman, E. (2004). *Rules of play: Gaming Design Fundamentals*. Cambridge, MA: MIT Press.
- Seaborn, K., & Fels, D. I. (2015). Gamification in theory and action: A survey. *International Journal of Human-Computer Studies*, 74, 14–31. doi:10.1016/j.ijhcs.2014.09.006
- Sever, N. S., Sever, G. N., & Kuhzady, S. (2015). The evaluation of potentials of gamification in tourism marketing communication. *International Journal of Academic Research in Business and Social Sciences*, 5(10), 188–202. doi:10.6007/IJARBS/v5-i10/1867
- Sigala, M. (2015). Applying gamification and assessing its effectiveness in a tourism context: Behavioral and psychological outcomes of the TripAdvisor's gamification users. *Asia Pacific Journal of Information Systems*, 25(1), 179–210. doi:10.14329/apjis.2015.25.1.179
- Sobocinski, M. (2017). I gamified my courses and I hate that. *World Journal of Science, Technology, and Sustainable Development*, 14(2/3), 135–142.
- Superdata Games & Interactive Media Intelligence. (2017). *2017 year in review, digital games, and interactive media*. Retrieved from <https://www.superdataresearch.com/market-data/market-brief-year-in-review/>
- Tongco, M. D. C. (2007). Purposive sampling as a tool for informant selection. *Ethnobotany Research and Applications*, 5, 147–158. doi:10.17348/era.5.0.147-158
- Tunga, Y., & İnçeoğlu, M. M. (2016). Gamification design. In *Proceedings of the 3rd International Conference on New Trends in Education*. April 26-29, 2016.
- Vardarlier, P., & İnan, K. (2017). Gamification model proposal for the improvement of sales personnel performance. *Journal of Behavior at Work*, 2(1), 8–19.
- Waltz, S. P., & Ballagas, R. (2007). *Pervasive persuasive: A rhetorical design approach to a location-based spell-casting game for tourists in proceedings of situated play*. DiGRA 2007 - The 3rd International Digital Games Research Conference. Sept. 24-28, 2007, Tokyo.
- Werbach, K. (2015). *Gamification online via Wharton University of Pennsylvania*. Retrieved from <https://www.coursera.org/learn/gamification>
- Werbach, K., & Hunter, D. (2012). *For the win how game thinking can revolutionize your business*. Pennsylvania: Wharton Digital Press.
- Werbach, K., & Hunter, D. (2015). *The gamification toolkit dynamics, mechanics and components for the win*. Pennsylvania: Wharton Digital Press.

- Wu, B., & Wang, A. I. (2011). A pervasive game to know your city better. In *Proceedings of the 2011 IEEE International Games Innovation Conference*. Washington, DC: IEEE Computer Society. 10.1109/IGIC.2011.6115111
- Wu, M. (2017). *The magic potion of game dynamics*. Retrieved from <https://community.khoros.com/t5/Science-of-Social-Blog/The-Magic-Potion-of-Game-Dynamics/ba-p/19260>
- Xu, F., Weber, J., & Buhalis, D. (2014). Gamification in tourism. *Information and Communication Technologies in Tourism, 2014*, 525–537.
- Yen, B. T. H., Mulley, C., & Burke, M. (2019). Gamification in transport interventions: Another way to improve travel behavioral change. *Cities (London, England)*, 85, 140–149. doi:10.1016/j.cities.2018.09.002
- Yılmaz, E. A. (2017). *Gamification*. Istanbul, Turkey: Abaküs Publishing.
- Yovcheva, Z., Buhalis, D., Gatzidis, C., & Van Elzakker, C. (2014). Empirical evaluation of smartphone augmented reality browsers in an urban tourism destination context. *International Journal of Mobile Human Computer Interaction*, 6(2), 10–31. doi:10.4018/ijmhci.2014040102
- Zichermann, G., & Cunningham, C. (2011). *Gamification by design: Implementing game mechanics in web and mobile apps*. Canada: O'Reilly Media.
- Zichermann, G., & Linder, J. (2010). *Game-Based marketing inspire customer loyalty through rewards, challenges and contests*. Hoboken, NJ: John Wiley & Sons.

ADDITIONAL READING

- Garcia, A., Linaza, M. T., Gutierrez, A., & Garcia, E. (2019). Gamified mobile experiences: Smart technologies for tourism destinations. *Tourism Review*, 74(1), 30–49. doi:10.1108/TR-08-2017-0131
- Mantouka, E. G., Barmounakis, E. N., Milioti, C. P., & Vlahogianni, E. I. (2018). Gamification in mobile applications: The case of airports. *Journal of Intelligent Transport Systems*, 23(5), 417–426. doi:10.1080/15472450.2018.1473157
- Negrușă, A. L., Toader, V., Sofica, A., Tutunea, M. F., & Rus, R. V. (2015). Exploring gamification techniques and applications for sustainable tourism. *Sustainability*, 7(8), 11160–11189. doi:10.3390/s70811160
- Pamfilie, R., Vasilcovschi, A., & Bumbac, R. (2016). A new possible way of promoting tourist packages: Gamification. *Cactus Tourism Journal*, 13(1), 5–10.
- Robson, K., Plangger, K., Kietzmann, J. H., McCarthy, I., & Pitt, L. (2015). Is it all a game? Understanding the principles of gamification. *Business Horizons*, 58(4), 411–420. doi:10.1016/j.bushor.2015.03.006
- Sigala, M. (2015). The application and impact on gamification funware on trip planning and experiences: The case of TripAdvisor's funware. *Electronic Markets*, 25(3), 189–209. doi:10.1007/12525-014-0179-1

Swacha, J., & Ittermann, R. (2017). Enhancing the tourist attraction visiting process with gamification: Key concepts. *Engineering Management in Production and Services*, 9(4), 59–66. doi:10.1515/emj-2017-0031

KEY TERMS AND DEFINITIONS

Achievers: A name given to players whose goal is to collect points, badges and prizes in the games and the players who enjoy collecting them while playing individually or in groups depending on the tasks they encounter.

Components: They are the elements that increase the game experience and pleasure as a result of the interaction of players via points, badges, tasks, virtual objects in the games that they play.

Dynamics: They are the basic fictional and invisible features during the gamification process that make up a game and increase the quality and practicability of the game such as game tasks and game story. Creating Dynamics wrongly or faultily can harm the loyalties of gamers to the game by causing the collapse of the game in terms of fiction.

Flow Theory: It is a theory stating that the size of the prize that can be obtained from the game depending on the level of the games and the player's abilities have an effect on the gamer's motivation.

Game: It is an activity that includes rules for a purpose and provides people with the opportunity to enjoy themselves and socialize by taking them away from the tiredness of daily hustle and bustle.

Gamification: The activities that make the process of introducing a product, service or idea to the people in order to be marketed by making use of game elements to make it fun.

Mechanics: They are the In-game elements that motivate players to spend more time in games by encouraging them to engage in more activities.