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Gamification in Tourism

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Abstract

Gamification, as a new topic, is a future trend which can be applied in tourism in many ways to elicit motivation and behaviour change. This paper is a conceptual work on gamification in tourism discussing the concept on how game design elements and game thinking can be applied in a tourism context. Based on that, it defines tourism gamification and identifies intrinsic and extrinsic motivation elements that can be used in gamification in order to influence consumer engagement, customer loyalty, brand awareness and user experience in tourism areas. Best practice examples show where this innovative concept of gamification is already applied in tourism. The paper also outlines limitations of gamification and makes suggestions for future research.

Keywords: gamification, customer engagement, loyalty, motivation, tourism

1 Introduction

The term gamification first appeared in 2008 (Deterding 2011) and gained popularity since 2010 (Epstein 2013). The concept of gamification is defined as the *use of game design elements and game thinking in a non-gaming context* (Deterding et al. 2011) ranging from increase brand awareness to encourage consumer engagement. Due to its impact on consumer loyalty, it is seen as a revolutionary change in business (Ng 2011). It is estimated that 50 % of the global organisations looking for innovative approaches will be using gamification by 2015 (Gartner 2011). Gamification has already been successfully used in marketing, business, health and education.

The application of game design elements in tourism is already present but it might not have been recognised or been named as the concept of gamification. Every loyalty card or frequently flying program is a gamification approach as points are collected to be redeemed for a bonus. Examples can also be found in restaurants giving free cupcakes to game player's virtual game achievements such as Foursquare (Frey 2012) or Lufthansa and American Airlines' social media channels to generate brand awareness (WTM 2011). Gamification is a major trend for the coming years in tourism, which will appeal to consumers across all age demographics (WTM 2011). However, gamification is still a huge buzzword (Frey 2012) that lacks the discussion on how its concept can be best implemented into real business life (Ng 2011). The application of gamification in tourism is still in its infancy which is mostly affiliated to the limited academic research discussing game design patterns and game design mechanism for services and marketing (Huotari and Hamari 2012).

This paper provides a conceptual work of gamification in tourism and identifies the concept of gamification in tourism by discussing game mechanisms that are

applicable in the tourism industry. It also explores the benefits of gamification for different stakeholders in tourism and gives examples where gamification in the tourism industry has already been applied. Finally, the paper suggests further research on tourism gamification.

2 Games and the Gaming Concept

Juul (2003 p. 36) defines games as "rule-based formal system[s] with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable." Players are the crucial objects interacting with the game system to create artificial experiences, which are different from everyday life. Conflict involves competition and collaboration between the players as well as fighting against the game system. Rules establish the limitations and liberties of gameplay within the system. The quantifiable outcome results at the end of the game in winning, losing or numerical scores (Salen and Zimmerman 2004). Feedback systems provide players information about the gained achievements in form of points, levels and scores and give a preview of the proximity to the next goal with the creation of constant player motivation. Voluntary participation requires that players willingly accept the previous traits for the gameplay. Voluntary play opens the ground for multiple players to join into the game and ensures that challenging and stressful gameplay activities are experienced in a safe and pleasurably environment (McGonigal 2011).

3 Gamification draws on the Concept of Gaming

Gamification is using game thinking and game mechanics to engage audience and to solve problems in a non-game context (Zichermann and Cunningham 2011). It is widely used in training programs (inward) and marketing campaigns (outward) to change behaviour and solve problems (Barata et al. 2013). Although gamification uses game mechanics, it is not creating whole games.

Game researchers (Juul 2003, Salen & Zimmerman 2004) suggest that are games should be understood as systems in game design. According to Deterding et al. (2011), gamification distinguishes from other concepts such as games via a two-dimensional chart of playing/gaming and part/whole games. Gamification can be differentiated from whole games as it just uses game design elements in a different context and for a different purpose than games.

4 Motivational Essentials of Gamification

Motivation is a central topic in gamification as gamified systems are implemented to change encourage for wanted and desirable activities. Motivation in gamification uses a two-folded approach. First, *extrinsic motivation* focuses on applying gamified elements into a non-gaming context to stimulate external motivation. Second, game thinking and motivational design has a positive influence on *intrinsic motivation* (Groh 2012, Nicholson 2012, Ryan and Deci 2000).

4.1 Game Design Elements

Extrinsic motivation refers to activities which are only done in order to achieve some distinct outcome in forms of rewards (Ryan and Deci 2000). Game designers draw upon a huge variety of rewards to create the optimal game experience for players, thus the question arises which elements belong to the set of 'game elements' useful for gamification. There are vast variations in identifying important game elements depending on the game genre, digital and non-digital games. A strict interpretation would only accept elements, which can exclusively be found in games, whereas a more liberal interpretation accepts any game element. Deterding et al. (2011) suggest a restriction of game design elements for gamification to those which are characteristic to games, have a significant role in gameplay and can be found in most games. Their research (Deterding et al. 2011) revealed five levels of game design elements (see Table 1) which should be included in gamification.

Tab. 1. Levels of Game Design Elements

Level	Description	Example	
Game interface design patterns	Common, successful interaction design components and design solutions for a known problem in a context, including prototypical implantations	Badges Leader boards Levels	
Game design patterns and mechanics	Commonly reoccurring parts of the design of a fame that concern gameplay	Time constraint Limited resources Turns	
Game design principles and heuristics	Evaluative gameplay to approach a design problem or analyse a given design solution	Enduring play Clear goals Variety of game styles	
Game models	Conceptual models of the components of games or game experience	Challenge Fantasy Curiosity Game design atoms	
Game design methods	Game design-specific practices and processes	Play testing Play-centric design Value conscious game design	

Source: Deterding et al. (2011)

Gamified systems in business, marketing and education make use of more specific game design patterns and mechanics which are prescribed by Hunicke et al. (2004) in the MDA model. The MDA model proposes that game design is approached from the game designer's perspective using game design tools (mechanics) to create a player experience (aesthetics). The interactions between these two perspectives result in the interactive gameplay (dynamics) which should meet the expectations and abilities of the player.

Game components are game tools and the basis for every gameplay. Depending on the individual game, these components include achievements, avatars, badges, boss fights, collections, combat, content, unlocking, gifting, leaderboards, levels, points, quests, social graph, teams and virtual goods. Some game components are more common than others because of their influence on the game system and their characteristics (Werbach and Hunter 2012).

Game mechanics describe the specific components, which are responsible for the function of the game, and give designers the facility to guide the player's behaviour. Game mechanics comprise of challenges, chances, competition, cooperation, feedback, resource acquisition, rewards, transactions, turns and win states. These mechanics describe actions, behaviours and control mechanisms and create with game components good gameplay dynamics (Hunicke et al. 2004, Werbach and Hunter 2012, Zichermann and Cunningham 2011).

Interactions of the player with game mechanics and components are the hidden structure of the game, named *game dynamics*, which evoke from meaningful choices, progression of gameplay and interaction between players (relationship/fellowship). These dynamics work towards the creation of different game experiences (aesthetics) (Werbach and Hunter 2012).

Aesthetics reveal in game experiences of feelings, emotions, and fun. These experiences are the composite combination of the game elements, which define the gameplay and lead to an optimal player experience (Werbach and Hunter 2012). Hunicke et al. (2004) provide a taxonomy to describe the dimensions of fun provoked from gameplay ranging from sensation, fantasy to fellowship and narrative, to name a few. The combination of game components, mechanics and dynamics can be mixed in any possible way to create the spectrum of experiences.

However, the combination of game elements will neither make a good gamified system nor create a fun and engaging experience. Instead, rewards can cause the opposite and let people feel de-motivated. Rewards are extrinsic motivators and, applied in the wrong way, can easily crowd out intrinsic motivation as the player might think the only aim of the game is collecting rewards which leads to an overjustification effect (Werbach and Hunter 2012). A recent study by Hamari (2013) analyses the implementation of 'badges' into a gamified utilitarian trading service which confirms that the mere addition of game elements does not necessarily has an impact on usage frequency or the increase of customer activities. Indeed, motivating people needs a deeper approach to be successful and to encourage people into an activity, which is engaging and meaningful.

4.2 Meaningful Gamification

The aim of creating meaningful and effective gamified systems is to introduce games as the opposite of scoring elements. To encourage users, it needs more than a numerical core system or badges attached to an activity (Nicholson 2012). People want to be mentally and emotionally affected, therefore the intrinsic motivation of

people needs to be addressed (Deterding et al. 2011; Schell 2008). Intrinsic motivation is defined as the doing of an activity for the pure enjoyment of the activity per se, rather than of its rewarding value, pressure or external stimulates (Ryan and Deci 2000). Gamification tries to address this intrinsic motivation by applying game design thinking in order to engage people into meaningful and effective activities.

Hence, companies need to have an understanding of the activity, which is aimed to be designed as a gamified system in order to employ game mechanics in the right way and for the intended purpose. Nicholson (2012) suggests the integration of a user-centred design (UCD) approach to identify player's interests, social boundaries and competences. The UCD should result in a positive change of the system, which is perceived as a benefit to the user supporting her individual interests, but also working towards a behavioural change of the players in order to benefit the company. Implementing a standardised gamified system will rather cause negative feelings among the players as it is perceived as a surveillance of behaviour (Nicholson 2012).

Adopted from self-determination theory (Ryan and Deci 2000), Schell (2008), Deterding (2011) and McGonigal (2011) created a taxonomy of intrinsic rewards which draw on the creation of meaningful choices and therefore are meaningful to the user per se.

Intrinsic rewards fall into the following major categories:

- Relatedness is the need to interact and connect with other players within the same interest group, such as friends linked to the same gamified system or related social systems, to share achievements and to be recognised among peers. Therefore, it is important to connect and to customise personal goals to a meaningful story such as a brand story or customer experience stories in order to embed the right game elements supporting the story visually and actively. McGonigal (2011) defined this category as 'social connection' which has a major impact on one's happiness as social contacts are a fruitful source to share experiences, build bonds and create memories.
- Competence gives the player the feeling to have the abilities in mastering the system and achieving goals. These goals should be clear, visual, varying and well-structured to provide motivation and optimism about one's own chances and possibilities. A satisfying and flowing activity arises from the division of long-term goals into smaller achievable goals. The challenge for system designers is to create a flow experience (Csikszentmihalyi 2008) and vary the difficulty within the flow-channel to neither under- nor over-challenge the player. Even though failures are required to improve the game experience, the player needs to have enough positive feedback to be encouraged for gameplay.
- Autonomy is the freedom of the player to voluntarily join a gamified system and drop out at any time. If the player realises himself losing autonomy and being controlled by the gamified system it will lead to a de-motivating

experience and not inspire further gameplay (Deterding et al. 2011; McGonigal 2011; Schell 2008).

Addressing the intrinsic motivation of a person is the most powerful motivator of gamification, as it leads to deep engagement into activities and with other people. Intrinsic rewards beat extrinsic rewards. A company's ability to create a meaningful and effective gamified system will open the prospect of happy customers and committed employees. A well-designed gaming mechanics refers to both intrinsic and extrinsic motivation through gaming elements.

5 Application of Gamification in Tourism

5.1 Gamification in the Tourism Context

Tourism industry is a service industry, which emphasises very much on experiences co-created by tourists and service providers (Vargo & Lusch 2008). The level of consumer integration in the value creation depends on how tourism organisations empower tourist to play a role in new product development. Within service systems, tourists interact with tourism companies for the experience co-creation. Gamification can be applied in two ways in these systems. The concept can be used either to encourage customer engagement and enhance the experience or to improve employee engagement within an organisation (Huotari and Hamari 2012).

The aim of applying gamification in tourism falls into two groups. First, gamification shall increase the motivation of tourists and employees to in order to gain a behaviour change (buying products, work efficiently). Second, gamification shall enable tourists and employees for a value co-creation and thus provoke an intrinsic motivation

5.2 Best Practises of Gamification in Tourism

Gamification can be used by tourism organisations for marketing, sales and customer engagement (external application) or in human resources, training, productivity enhancement and crowd sourcing (internal application). The wide use of gamification is in the areas of health and well-being, motivation for sports, sustainability awareness and personal finance. Table 2 gives some examples of where gamification is applied in different tourism industries.

Tab. 2. Best Practices of Gamification in Tourism

Industry	Company	Case Description	Gaming Elements
Airlines & Transportation	American Airlines	Gamified mobile app represents current elite status qualification visually.	Progress bar Points Levels (Gold, Platinum, Executive Platinum)
	Turkish Airlines	QR-coded national flags have been placed on 100 digital bus shelters for London 2012. Users who read the code can win a ticket to Australia. Goal is to have most check-ins in one place or individual places.	Physical Rewards Badges
Retail & Hospitality	Shopkick	Users are engaged with products by applying game mechanics for incentivising offers prior to shop visits. The gamification also involves a geo-targeted approach to drive local engagement. The aim is to influence buyers' behaviour via game mechanics.	Virtual Currency Rewards Contests
	Check Points	Customers scan products to exchange for checkpoints which than can be exchanged for virtual currency or gift cards.	Virtual Currency Rewards
	Starwood SPG program	Partnership with Foursquare to provide customers 250 bonus points per check-in and chances to unlock a hidden Free Resort Night Award.	Point System Badges
	Marriott My Hotel	Aim of the social media game is to recruit new staff for job vacancies and familiarise players with various parts of a hotel.	Point System Levels Virtual Goods
Destination	Four- square	Users can claim mayor ships, unlock badges, receive special offers & rewards such as discounts to specific retailers while also tracking against friends via a leaderboard while checking-in at a restaurant etc	Badges Leaderboard Reward with real world offers

5.3 Benefits of Gamification in Tourism

Encourage tourist engagement: Game design researchers (Brown and Cairns 2004, Ermi and Mäyrä 2005, Jennett et al. 2008) outline engagement as one dimension of

game experience, which can be related to multiple concepts such as flow, motivation, pleasure, immersion, enjoyment and presence. The enjoyment of playing games (Klimmt 2003) and the desire to continue playing to test one's own abilities (Brown and Vaughn 2009) result in the addiction of game play. Game loops are critical in game play as they provide the feedback in form of achieved points, badges and levels on the player's abilities. These engagement loops involve the player more and more into gameplay elicit different types of emotions (hope, fear, excitement) and evoke a social call to action that the player becomes re-engaged into the gameplay (Zichermann and Cunningham 2011).

Enhance tourist experiences: Tourism, as an experience economy, provides a multidimensional and multifaceted offer of experiences (Kim et al., 2012, Neuhofer et al. 2012, Ritchie and Hudson 2009). However, tourism experience literature does not cover essential dimensions of intrinsically interactive motivation, social play, challenge, fantasy and fun, which is provoked by using game design elements and game thinking (Deterding et al. 2011).

Improve tourist loyalty: Loyalty programmes can support strategic objectives in tourism relationship marketing (Campon et al. 2013) based on quality, value and satisfaction (Oh 1999; Petric 2004; Salegna and Goodwin 2005). However, researchers argue a more dynamic model of building customer loyalty is needed (Cronin 2003; Donnell et al. 2008). Gamification can transform customer's loyalty to a new level by developing interactions between the customer and the system (Crawford 1982, Clanton 1998) but also between different users of the same system (Schiano and White 1998). One of the most known gamified systems is probably frequent flyer programs and destination loyalty cards (Zichermann and Linder 2011).

Increase tourism brand awareness: many companies (e.g. Pizza Hut, KFC, McDonald's, 7UP and Diesel) use games for placing their advertisements (gamerlimit.com). According to Çeltek (2010) games are used in three ways for advertisements. First, advergames are branded games or sponsors for a game. A game is especially been produced for the purpose of branding and advertisement to aim for a strong recall of the game. An example of such an advergame is "Ireland Town" form the National Tourism Development Authority or "Holmenkollen Ski Jump" from Visit Norway. Second, in-game placements are a placed logo or brand's name inside an existing game, which creates many opportunities to interact with the player. A good example from hospitality is the integration of Starwood's loyalty programme into Foursquare, which now gives the tourist the opportunity to take advantage of special promotion or share check-ins and travel tips with their social network. Third, on-site advertisements are the placement of banners and other media on gaming websites.

6 Challenges of Gamification

With the implementation of gamified systems into business and society, companies have to be aware of challenges initiated by the over-gamification of life. As discussed, gamification is not all about giving out badges and points to incentivise

behaviour, but needs to apply game thinking to encourage and motivate for further activities.

Pointsification is the implementation of scoring systems into real life, which might lead to a fatigue of collecting badges, points and trophies for its own sake. The conflation of game elements neither reflects the essence of games nor real life. Instead, game systems need to offer meaningful choices, which involve loss and gain that are the source of the real game experience driven by mastery, learning and challenges. Besides, pointsification may cause an 'overjustification' effect (Lepper et al. 1973) for voluntary activities.

The implementation of gamification into a healthy business system, named as *exploitationware*, might also harm the system and lead to a polar-effect. The overenthusiasm of tourism decision makers following a trend that promises easy, cheap and replicable success and is therefore tempting but bears risks triggering annoyance among customers and employees. The implementation of scoring systems will not allow the user to fully understand the meaning and motive behind, but instead be perceived as a control and monitor tool (Bogost 2011; Werbach and Hunter 2012).

Designing meaningful gamified systems is challenging and needs the knowhow of game designers to decide which activities in tourism and hospitality are suitable for being 'gamified', (Nicholson 2012). Thus, the prerequisite of implementing gamified system is a transparent communication of the purpose to support a voluntary participation of players.

7 Conclusion and Further Research

This paper critically reviews the gamification trend, the concept of gaming and gamification, intrinsic and extrinsic motivation of gamification elements and benefits of gamification. It also provides some examples of the wide use of gamification in tourism industry. Through the literature review, a conclusion can be made that gamification is a significant, emerging trend for the coming years. More and more organizations are adopting gamification elements into their day to day business. Organisations are increasingly using gamification to motivate their employees for better results and engage current and future customers into their business. The benefits of gamification include increased user engagement, improved customer loyalty, expanded brand awareness and enhanced customer experience.

The widely used gamification includes the application of extrinsic elements, such as points, badges, leaderboard, virtual goods and levels. However, intrinsic elements, such as interaction, socialization (relatedness), competence and challenge are more effective than extrinsic elements. Currently there is very limited academic research in gamification in general, it is a under researched area in tourism specifically. Future research could include: 1) the implication of gamification in different sectors in tourism; 2) the inward (employee training) and outward (customer engagement) implication of gamification; 3) empirical studies on the effectiveness of how gamification contributing to tourist experiences and customer loyalty.

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