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# The effect of gamification in the field of tourism and social media

## Gamification, tourism and social media

Maria Klouvidaki, Nikos Antonopoulos, Stelios Tsafarakis\*

### Abstract

The current study investigates the impact of gamification on social media and in the field of tourism and the intercultural communication. It aims to present and analyze the theories that have been formulated around gamification and provide answers regarding its contribution to tourism and social media. It is noted that the elements of gamification have been used more in education and health and less in the tourism industry. It also highlights all the opportunities that gamification offers when tourists visit places for holidays and businesses. At the same time, through the research, it is established that with the use of elements of gamification, the loyalty of users on social media increases while tourism is promoted more directly and efficiently. Additionally, this research is trying to tackle the need for innovative strategies to enhance user engagement and interaction within the tourism industry through the integration of gamification elements. The specifications of this problem may include the lack of personalized experiences for tourists, limited user participation in social media platforms related to tourism, and the need for increased customer loyalty and satisfaction. The challenges that we are aiming to address in this manuscript involve identifying effective gamification techniques that resonate with tourists, understanding the impact of gamified experiences on user behavior and decision-making in the tourism sector, and exploring the potential benefits and drawbacks of incorporating gamification in social media marketing strategies for tourism businesses. By addressing these challenges, our research aims to contribute valuable insights to the field and offer practical recommendations for industry stakeholders. Furthermore, gamification provides new opportunities to promote tourist destinations and improve interaction with people on social media in various regions. The present study is a theoretical and descriptive approach. It is also explanatory research. In particular, every research related to or with the topic was researched and evaluated through Scopus and Google Scholar. Found 12 scientific articles that were published between 2020 and 2022.

**Keywords:** Gamification, Tourism, Social Media, Digital Marketing, Intercultural Communication, Human Computer Interaction

### Introduction

Gamification has a significant impact on the tourism sector as it enhances engagement, interactivity, and personalization, while also contributing to data collection (Abou - Sho and Soliman, 2021). When implemented correctly it can create immersive travel experiences,

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benefiting both tourists and tourism businesses. However, it is vital to strike a balance between the benefits of the moral part and possible challenges.

At the same time, one-way gamification can impact the tourism sector is by encouraging tourists to visit lesser-known destinations or engage in sustainable practices. For example, a gamified app could offer rewards or badges to tourists who visit eco-friendly attractions or use public transport instead of private vehicles.

At the same time, gamification can be used to promote local businesses and increase tourism spending. By offering incentives or discounts through platforms that use gamification, tourists are encouraged to explore local shops, restaurants, and services, thereby boosting the local economy.

Overall, gamification has the potential to positively impact the tourism sector by increasing tourist engagement, promoting sustainable practices, enhancing the overall experience, and driving economic development in local communities ( Abou - Sho and Soliman, 2021).

Gamification can be a powerful tool for marketing and promoting tourist destinations. Interactive games and challenges can attract visitors. Social media campaigns with gamified elements can go viral and reach a wider audience. It is also noted that tourism businesses can collect valuable data through gamified applications and platforms, including user preferences, behavior patterns, and feedback. (Abou - Sho and Soliman , 2021).

This data can be used to improve services, adjust marketing strategies, and improve the overall tourist experience. Of course, it can be used to promote responsible and sustainable tourism. Tourists are rewarded for environmentally friendly actions such as using public transport or reducing waste. However, both destinations and businesses that embrace gamification often gain a competitive advantage. Gamification can have many advantages, it is important to consider possible disadvantages, such as addiction to applications or excessive tourism in certain areas. Also, data privacy and security issues must be addressed to protect tourist information.

### **Community tourism in emerging cities using gamification**

Nuanmeesri 's research (2022) aims to develop community tourism in emerging cities by applying the gamification approach to improve the level of products and services in offline and online operations. Mobile app and website development focuses on promoting and advertising tourist attractions, accommodations, restaurants, hotels, and local businesses. The algorithm was developed based on data collected from tourists, staff of tourist attractions, and local businessmen as a whole. Selected local businesses that met the application standards were showcased by reward pin icons displayed on Google Maps. Reward pin icons representing businesses provide valuable information to tourists. The app created by Nuanmeesri (2022), predicted the practicality and convenience of a new mobile app that integrated social gaming with technology. B is location-based, measuring tourist satisfaction levels and recycling

behavior. The research focuses on the development of applications for both players, especially allowing local entrepreneurs to play a key role in updating information in systems for application in adaptive tourism recommendations. Tourists act as seekers of community tourism and create the impetus for entrepreneurs to develop their enthusiasm and build the standard of products and services in cities to be on par with big cities. This research magnifies Thailand's tourism business opportunities in the new normal under the COVID19 pandemic. This application can boost Thailand's economy with the development of digital technology. Many Thai businesses benefit from its exploitation, such as accommodation, restaurants, local shops and souvenir shops. In terms of methodology, gamification was applied to offline and online activities to promote goal achievement through which rewards or pins were presented on Google maps in the developed applications. There are also rewards such as freebies or extra discounts for tourists who used the app and recorded the locations they visited or were endorsed by local businesses. Both the content and design features of the apps were evaluated by five experts who had expertise in information technology or tourism development. Then, the developed applications were presented to the forty-five samples consisting of tourists, local businesses, and tourism development officials who were interested in the application (Nuanmeesri, 2022). Their learning outcomes were assessed with a pre-training test and a post-training test. The results showed that their learning outcomes after the training were better than before the training. The result showed that users rated the app's overall effectiveness in raising community tourism standards at the highest level. The proposed algorithm was used to improve the suggested travel packages based on the historical travel log and visit locations obtained from the system. It appeared that both rates were consistent, referring to visits from the eighty-five tourists who used the app. As a result, an indirect adaptive tourism recommendation was made for tourists about current tourism. The development of mobile games and web applications has helped the public sector to boost the tourism industry in emerging cities, especially local businesses or entrepreneurs. The tourism development agency had recorded and updated information about local businesses and how they regularly improved their business standards. Gamification has motivated many local businesses to have a goal and achieve it by having pins as rewards displayed in the app. It also helped users to identify standard local businesses and brought more profits for them. Gamification has also been applied to offline activities conducted by the public sector, for example, training, evaluation, research, brainstorming, and discussion with tourists. These were integrated with electronic technology, which was low-cost and simple, to record income and show expenses (Nuanmeesri, 2022).

### **The effect of gamification on tourist engagement**

Gamification can have a positive impact on customer loyalty in the tourism industry and the intercultural communication. By incorporating gamification elements such as rewards, challenges, and leaderboards into the customer experience, businesses can boost engagement and encourage repeat visits. Gamification can create a sense of fun and excitement, making customers stay loyal to a particular tourism brand or destination. Additionally, it can foster a

sense of achievement and satisfaction when customers complete tasks or earn rewards, further enhancing their loyalty. However, it is important to note that the effectiveness of gamification in increasing customer loyalty may vary depending on the specific application and the preferences of individual customers (Abou - Shouk and Soliman, 2021). The Abou - Shouk study and Soliman (2021), relate to the adoption of gamification by travel agencies. At the early stage of gamification adoption in tourism, this study investigates the traditional factors influencing adoption intention and the impact of gamification on customer loyalty and brand awareness and loyalty. Travel agencies are an important component of the travel and tourism industry and most tour packages are sold and operated by them. Thus, the study provides important insights to travel marketers and travel planners in travel agencies to understand the factors that predict customer engagement, the growth of brand awareness and loyalty, and the progress of marketing efforts. Researchers examining actual or intended technology adoption in tourism and the human computer interaction, typically use the Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Unified Theory of Technology Acceptance and Use (UTAUT), or the extended versions of these models for predicting adoption behavior (Abou - Shouk and Soliman, 2021). UTAUT is an integrated model that incorporates the important common variables born from previous theories to predict technology adoption intention. UTAUT has four dimensions that predict technology adoption intention: performance expectancy, effort expectancy, social influence, and facilitating factors. The research uses UTAUT to predict the factors influencing the intention to adopt gamification. One outcome of gamification adoption is engagement, and it acts as an antecedent of brand awareness and brand loyalty. Therefore, the current study integrates previous research on gamification adoption, customer engagement, brand awareness, and brand loyalty to predict the antecedents and consequences of gamification adoption in the tourism sector. Using UTAUT, this study examined the antecedents and outcomes of gamification adoption intention in the category 'A' travel agencies in Egypt. Overall, according to the findings, all hypotheses were confirmed. The empirical findings showed that performance expectancy has a positive effect on the behavioral intention to adopt gamification applications in Egyptian travel agencies. The use of game applications has a substantial impact on company performance in terms of improving marketing activities and competitiveness. These benefits could then improve the intention to use gamification applications for effective tourism marketing in these businesses. It is also revealed that behavioral intention to adopt gamification applications in travel agencies was significantly influenced by effort expectancy, which in turn positively affects performance expectancy. Furthermore, the results showed that there is a significant and positive relationship between social influence and game adoption intention in travel agencies in Egypt. In addition, the findings of the study demonstrated that there is a positive association between facilitating conditions and behavioral intention to use game applications and gamified websites. To adopt gamification for tourism marketing purposes, tourism businesses (e.g. travel agencies) in Egypt need to pay more attention to provide all the requirements of financial and skilled human

resources, as well as substantial support that helps create platforms and gamification applications to be effective.

### **The effects of gamification on the psychology of tourists**

The study by Kim et al., (2021) examined the impact of two game features, a) letterboxing (i.e., winning stamps from hidden places) and b) extrinsic rewards (gifts), to capture the effect of gamification on tourists' psychological outcomes in a park maze. A total of 1,203 participants were divided into four conditions using an experimental field, resulting from the factorial combination of letterbox and extrinsic rewards. The main effects of letterbox inducing intrinsic motivation. The results show that there are significant interaction effects between letterboxes and rewards on tourist flow. Overall, it appeared that gamification is an innovative practice for offering unique experiences to users by enhancing psychological outcomes. A growing number of hospitality and tourism organizations are adopting game-based design arrangements to deliver their products and services. Gamification has become an inevitable component of space design and marketing strategies. Based on the phenomenon, this study aimed to evaluate the effectiveness of gamification in the tourist attraction of the maze park with a field experiment of 1,203 visitors (Kim et al., 2021). Examining two elements of gamification, letterbox, and extrinsic rewards, this study investigated its effects on tourism attraction related to intrinsic and extrinsic motivation and the psychological effect of fun, flow, enjoyment, and satisfaction (Kim et al., 2021).

The field experiment was run to estimate the effect of creating a mailbox by obtaining six stamps from hidden places and the extrinsic rewards of obtaining a bottle of water and chocolate. The findings show that the presence of mailboxes in attractions stimulates the intrinsic motivation of visitors, enhancing their psychological outcomes such as fun, enjoyment, and satisfaction. In contrast, rewards were only significant for fun, while other psychological effects of flow, enjoyment, and satisfaction were not as effective. Therefore, it is concluded that providing intrinsic motivation better facilitates higher engagement in activities that cause more fun and enjoyment. This result is relevant to previous literature that intrinsic motivation plays a key role for pure pleasure game users, regardless of the presence of rewards (Kim et al., 2021).

Regarding the marginal effect of the existence of extrinsic rewards in increasing positive psychological outcomes, it is due to the lack of psychological attachment to the rewards in the context of the game. Results show that using mailboxes and extrinsic rewards has lower positive psychological outcomes (eg, fun, satisfaction) compared to those without extrinsic rewards. Another explanation is that the mission to achieve the rewards could cause psychological stress on visitors. The opposite of rewards is that visitors are under pressure to complete the mission to earn rewards (reference). In other words, visitors will not be fully engaged in the game mechanics as they lose the rewards if they fail to complete the mission. In particular, if visitors start to feel any pressure, the rewards will only feel like a task to complete, and consequently, the positive expectations from the implementation of gamification will be significantly reduced.

Kim's findings et al., (2021), confirm that simply adopting gamification elements is not always practical.

In addition, the results show a significant interaction between mailbox and participant flow rewards. Extrinsic rewards are shown to supersede the positive impact of the letterbox along with participant flow. This finding reveals that the use of extrinsic rewards can undermine positive letterbox effects. In other words, such rewards dampen tourists' positive emotions induced by other elements of the game, designed to enhance their intrinsic motivation. It is explained by the term, overjustification effect, as consumers' intrinsic motivation to perform a task is reduced due to expected extrinsic incentives. These findings are in line with previous literature. If participants understand that recognition will be obtained from external sources and/or rewards, their intrinsic motivation is transformed into extrinsic motivation. Ideally, people should be interested in a particular task first, regardless of the prize, and earn rewards based on their achievement. However, this expectation will be subverted if they obsess only about the reward and not the task. As mentioned earlier, it appears that intrinsic motivation is reduced by rewards. Offering a reward is a well-known game element for attracting people. However, the reward system is not the desired response to elicit visitor motivation, commitment, and satisfaction for the tourist attraction experience (Kim et al., 2021).

### **Gamification and visitor engagement**

La Cuadra et al., (2020), in their research, dealt with gamification and visitor engagement. Experiences are the basis of the tourism sector and the creation of unique and unforgettable moments allows differentiation from the competition. Their research aimed to analyze the effects of the experience of visiting a zoo, the emotions experienced by visitors, and how they influence (positive and/or negative) behaviors. At the same time, the aim was to investigate whether an innovation could be used to contribute to user engagement. To test the psychometric properties of their constructs, univariate and multivariate normality of the observed variables were tested based on the skewness and kurtosis of the observed variables using SPSS software. Then, a confirmatory factor analysis was performed on the eight measurement scales under study using the robust maximum likelihood method. Several changes were introduced following various criteria to improve the original measurement model.

Once the psychometric properties of the first-order model were verified, a structural equation model was completed with the ultimate goal of contrasting the eight hypotheses that ultimately formed the model (La Cuadra et al., 2020).

As presented, out of the five experiential modules, two of them are very important to excite tourists during the visit. Sensory experiences go a long way in enhancing emotions, as this is an animal park that offers visitors the chance to see wild animals coexisting with other compatible species, just like in nature. In addition, the experiences of emotions contribute significantly to the improvement of sensation. The intensity of the relationship is even greater

since the emotions during the visit are allowed to enhance the feelings of the visitors (entertainment, mood, etc.). In contrast, three experiential modules do not seem to contribute to making the tourist experience more emotional: cognitive experiences (the visitor's curiosity is not sufficiently awakened), functional experiences (since everyone could take pictures, no functional advantages were perceived), and relational experiences (significant interest in purchasing souvenirs or interacting with others has not been demonstrated); With the effects of emotions, a positive and significant relationship with loyalty (positive attitudes) is observed. More excited tourists will engage more positively with the park than less excited tourists. In contrast, emotions do not significantly affect the negative behaviors of claims and complaints (negative involvement). Both excited and unenthusiastic tourists would express their non-conformities and complaints without canceling each other out. This may be because tourists tend to deal with the negative aspects more than the positive ones. Instead, the results lead to the conclusion that more and less excited tourists can complain equally. Both faithful and non-faithful tourists air grievances and claims without negating each other (La Cuadra et al., 2020).

### **Review platforms and gamification**

Bravos et al., (2021) surveyed platforms related to tourism reviews that use game elements. Tourism and hospitality review platforms use gamification to motivate people to create content that other users make. The Bravo et al., study (2021) propose and test a model based on RAMP. (Relationship-Autonomy-Principle-Purpose) framework for analyzing the impact of gamification on individuals' psychological need satisfaction, motivation, and intention to create user-constructed content. Using data from a sample of 266 US-based registered TripAdvisor reviewers, findings showed that interacting with gamified elements promotes psychological need satisfaction and controllable motivation. In parallel, feelings of mastery and purpose promote autonomous motivation from both types of motivation, only autonomous has a significant impact on the intention to create content on the evaluation platform. Lately, tourism and hospitality review platforms have started implementing gamification features to motivate reviewers to create content. This empirically demonstrates the driving force of gamification. As expected, interacting with motivational features causes reviewers to develop feelings of relatedness, autonomy, mastery, and purpose. However, only craft and purpose significantly increased autonomous motivation to create content on the platform. It is also important to note that the findings showed that the length of time reviewers have been registered with TripAdvisor, and the number of points they have accumulated on TripCollective, do not significantly affect the intention to create user-generated content. This is an interesting finding given that some previous studies have suggested that gamification suffers from a “novelty effect”. The Bravo et al., study (2021), showed that both experienced and inexperienced reviewers are equally susceptible to creating user-generated content on the gaming platform.



## **AR and its contribution to tourism and gamification**

Lent and Marciniak (2020), carried out research regarding the gamification technology and augmented reality (AR) in the tourism industry. The city of Bydgoszcz in Poland was chosen as the target object, which does not have the most popular characteristics of sun, sand, and sea. Gamification and AR technology demonstrate educational and motivational properties, the goal of Lent's research and Marciniak's (2020) was to analyze the potential of increasing the tourism of the city by creating a special tourism game based on the location. The researchers focused on investigating whether such a game would have a chance to be an unforgettable tourist experience and whether tourists would return to the city.

The survey was conducted between 16.06 and 30.06.2019 through an online survey as this tool allowed access to a larger number of foreign tourists. Ultimately, 123 questionnaires were collected, but only 115 of them contained all the data needed to perform the analysis. The selection of the sample was made at the level of 227 valid questionnaires, for this reason, the research carried out can be considered indicative but not representative.

The criteria that determined the adequacy of the questionnaires for the study were age and ethnicity.

The research found that foreign tourists are interested in experiencing different tourism resources of the city, so a mobile game could be a useful tool for them, as gamification and augmented reality are considered to have strong motivational and educational properties. The majority of respondents preferred to travel in groups, which is important for planning a game.

The survey also revealed that many of the tourists would stay overnight in the city due to their preference for a game that would last more than one day (85.1% of all respondents and 82.35% of sample group members). . At the same time, the sample group shows a strong positive attitude towards the application of AR in a mobile game. 80.9% of respondents believe it would have a positive impact on the game's appeal. The described augmented reality tourism game would rather encourage or encourage the return of 90.2% of them. However, for 48.8% of the sample group the game has the opportunity to be an unforgettable tourist experience and 46.3% answered "probably yes".

The insights provided by the research lead to the conclusion that a location-based mobile game (using gamification and AR techniques) is an unforgettable experience. In addition, the development of such a game and its introduction to the market would increase the potential of foreign tourism in the destination, encouraging tourists to return to the place (78% answered "probably yes" and 12.2% "definitely yes").

Foreign tourists tend to show a positive attitude towards mobile tourism games that apply gaming techniques and use augmented reality technology. In addition, the characteristics of an ideal mobile tourism game could enhance the tourism attractiveness of Bydgoszcz (Lent and Marciniak, 2020).

### **Significant gamification trends in the tourism industry**

Several trends have emerged in the application of gamification within the fields of tourism and social media. One of the most significant trends is the increasing emphasis on personalization and customization. Gamified applications are now leveraging user data to tailor challenges, rewards, and content to individual preferences, significantly enhancing user engagement and satisfaction. Another important trend is the integration of augmented reality (AR) and virtual reality (VR) to create immersive gamified experiences. These advanced technologies provide users with interactive and engaging ways to explore tourist destinations and share experiences on social media, transforming how users interact with digital content. Social interaction and community building have also become focal points in gamification strategies. Social media platforms and tourism apps are incorporating features that encourage collaboration, competition, and community engagement (Lent and Marciniak, 2020). This focus on fostering social connections enhances user interaction and loyalty, making the platforms more attractive and vibrant. The use of data-driven insights and analytics to refine gamification strategies is another crucial trend. By leveraging big data and analytics, tourism and social media platforms can understand user behavior better, optimize gamified elements, and continuously improve the overall user experience. There is also a growing awareness of sustainability and ethical considerations in gamification (Bravo et al., 2021). Gamification is increasingly being used to promote sustainable tourism practices and responsible behavior on social media. Furthermore, ensuring the ethical use of gamification is becoming paramount to avoid manipulative tactics and ensure user trust. The demand for cross-platform and omnichannel experiences is on the rise. Users expect seamless and connected experiences across multiple platforms, such as mobile apps, websites, and social media platforms, driving the need for integrated gamification strategies that provide a consistent user experience (La Cuadra et al., 2020).

The emergence of blockchain technology and cryptocurrencies is also influencing gamification. Blockchain offers transparency and security for rewards and incentives, while cryptocurrencies provide new avenues for rewarding users, such as through digital tokens. Enhanced user feedback mechanisms are being utilized to gather valuable insights and improve services. Gamified surveys, feedback loops, and user-generated content mechanisms help organizations continuously refine their offerings based on user input. There is also a trend towards promoting health and well-being through gamified experiences. Tourism apps are encouraging physical activity and exploration, while social media platforms are using gamification to support mental well-being initiatives. Collaborations and partnerships between tourism boards, tech companies, and social media platforms are becoming more common (Kim et al., 2021). These collaborative efforts lead to innovative gamified experiences that benefit from combined expertise and resources, ultimately enhancing user engagement and satisfaction. Additionally, gamification is being used to manage and respond to crises. During crises such as pandemics or natural disasters, gamification can provide timely information, promote safe practices, and maintain user engagement even in challenging times. Lastly, there is a trend

towards cultural and localized gamification. Customizing gamified elements to reflect local cultures and traditions can deeply engage users and promote cultural understanding, making gamified experiences more relevant and impactful. Incorporating these trends into the review of gamification's effect in tourism and social media provides a comprehensive overview of the current state and future directions of this dynamic field, highlighting both the opportunities and challenges that lie ahead (Abou - Shouk and Soliman, 2021).

### **Gamification in tourist guide applications**

The Tourist app Guide is a mobile application which is useful for everyone who goes on vacation. Through the app, visitors easily discover the most attractive places using the maps as the app suggests the top destinations for visitors to visit. Hence, visitors mustn't have to waste their time searching for information about the place and location details. Researchers Yong et al., (2021), who created the app, implemented the following game elements, point, reward, and challenge. The challenge or mini-game, such as quizzes, will make visitors visit a location to find the answers. Visitors can also get some reward based on the points they collect for each of the correct answers they give. Therefore, the application is developed to provide information about the attractions to the users and to encourage and motivate the users to visit the various places. The methodology used to develop the Tourist application Guide is prototyping. The software was developed in phases including initial requirement, design, prototyping, customer evaluation, review, update, and final system development. As a result of the engagement evaluation of the developed application, the challenges of the developed Tourist Guide application are not very attractive to the user. Therefore, in the future, the app should improve its performance and store big data for more challenges to improve the travel and entertainment experience. Adding more gamification elements, such as leaderboards, badges, and levels, would be helpful to make the app more competitive and able to capture the attention of potential users (Yong et al., 2021).

### **The challenges of eco gamification for tourism**

When it comes to the potential of gamification, the tourism industry relies on some good and bad cases. As a successful case, it is the example of the Costa Cruise Company where gamification was used to inform travel agents, retailers, and sales staff about existing offers in tourist destinations. To achieve this, the company used an e-learning platform with game mechanics to engage its target audience through a game. The Marriott Hotel also successfully used the recruitment strategy to reach younger candidates for the hospitality industry. On the other hand, Disneyland is cited as a failed case of games entering the tourism context. The company developed a score tracking system to rank and display, on a panel, the work speed of the cleaning crew, in which those who organized sheets, towels, and pillows the fastest were named with their performance ranking (Souza et al., 2020). However, the system did not live up to the expected objective of creating healthy competition among workers. Instead, it was the

cause of creating negative effects on the team. It is noted that gamification does not always use the moral part and this has been a reason for criticism from researchers and game developers, mainly due to the careless use of game mechanics and elements. For example, the term "pointsification" relates to the reduction of gamification in a points system, without taking into account more effective functions, such as intrinsic and extrinsic motivation, aimed at engaging users in long-term gamified actions. From a different perspective, "gamipulation" refers to the malicious use of game design elements to manipulate user behavior without their consent (Souza et al.,2020). These terms show the ambiguity between the ideas of a constructive tool for users and a source of tension, with dangerous effects on a person's mental and social well-being. Interviews with technology company providers, and current and potential buyers shed light on some of the benefits that eco-gamification can bring to the tourism sector, as well as the challenges that both buyers and providers must face to implement it. From their research Souza et al., (2020), identified six main benefits of eco-gamification: the promotion of "green" behavior and sustainable tourism, the easier transmission of complex information through entertainment, rewarding users for good practices, improving engagement and the tourist experience, reaching new target groups to avoid over-tourism. On the other hand, respondents pointed out that lack of investment, resistance to new technologies/ideas, low eco-consciousness of tourists, and distraction from issues that matter are the main obstacles they face when planning to sell or adopt the eco-gamified tools.

Eco-gamification can be used as a strategic tool to overcome the challenges that tourism brings to destinations and companies. Its application for environmental purposes serves tourism activities well, especially in terms of strategic planning and management towards the SDGs. Regarding the benefits and challenges of eco-gamification, empirical evidence shows that eco-gamification takes on different roles for buyers and providers. Buyers see eco-gamification as an alternative solution to overcome challenges, such as involving tourists in environmental actions, while having the opportunity to reach new customers. Meanwhile, providers are more concerned about the superiority of buyers' technological resistance and perceive eco-gamification as a facilitator to address sustainability issues in tourism.

Challenges such as lack of investment and distraction from the issues that really matter have been identified and show diverging and converging views. Regarding the lack of investment, the perspectives are different: although buyers cite the high value of the technology and the fact that it can quickly become obsolete, providers cite pressure from buyers, who demand low prices, even in extremely customized solutions.

Effective eco-gamification depends on supply and demand and, at the same time, on the responsibility of different stakeholders (providers, buyers, players) throughout the value chain, through a broad business-to-business logic. At the same time, the results suggest that young people may be more concerned and prone to action, while also being more receptive to eco-gaming and technology. Moreover, as the interviewees argued, eco-gamification is a powerful

tool for combining fun and seriousness, but, again, care is needed so that people do not forget the real purpose (Souza et al., 2020).

Furthermore, the research findings indicate several benefits and potentials of (ecological) gamification on the tourism experience and tourists' engagement with the destination, citizens, and host community. Sustainable destinations are good for tourists as well as locals. A smart eco-gamification strategy will help to avoid hypertourism, for example, the dispersal of tourists from crowded attractions. This can promote collective thinking, based not only on competition but also on cooperation. In this context, the results of the study have practical implications for tourist destinations, game companies, tourism organizations, and the local community. Therefore, a deeper understanding of the challenges and benefits presented by developers and buyers can help design customized eco-gamified tools for destinations, increasing the likelihood of environmental actions being used by different audiences (Souza et al., 2020).

### **The use of gamification as a strategy to improve tourist behavior and support sustainable tourism**

The research of Frías-Jamilena et al., (2022) aims to determine whether gamification can contribute to improving the sustainability of tourism destinations. It seeks to determine whether gamified environmental interpretation has a greater effect on tourists, in terms of their pro-environmental knowledge, attitude, and behavior than a non-gamified version, whether these variables are influenced by psychological distance, and whether psychological distance moderates the effect of environmental interpretation. The results show that the effect of environmental interpretation on tourists differs according to psychological distance. This effect is more pronounced when the participant perceives that the destination is close. However, in the case of gamified environmental construal, regulatory interpretive adaptation is found, which intensifies the effect on pro-environmental knowledge, attitude, and behavior among those for whom psychological distance is greater. Analytically, the main objective of tourism managers is to maximize the competitiveness of their destinations and environmental sustainability is a key factor mainly because it is necessary for the development of long-term tourism activities. Moreover, it has been proven as reported by Frías-Jamilena et al., (2022), that tourists damage the environment in many different ways even to the extent that they may lead the local population to completely reject the tourist activity. The paper also sought to determine whether this effect can be moderated by the tourist's psychological distance.

Overall, the results indicate that a) the type of environmental interpretation design exerts a significant effect on pro-environmental learning, attitude, and behavior (as also found in previous studies). That is, the form of the interpretation experience affects the outcomes of that experience, and the gamified environmental interpretation yields better results than the non-gamified version in terms of pro-environmental knowledge, attitude, and behavior. This finding is consistent with other studies that demonstrated the positive effect of gamification on pro-environmental behaviors such as recycling, using less polluting transportation methods, etc.

From the results of Frías-Jamilena 's et al., (2022), research, it emerged that the emotional connection between gamification and tourists is demonstrated through their gamified experience or more specifically, through enjoyment and intrinsic motivation. Enjoyment is an emotional outcome of gamification, and numerous studies demonstrate the importance of emotions in influencing environmental interpretation. When a person performs an activity for the simple satisfaction of performing the activity itself and no external forces are influencing their will intrinsically motivated behaviors tend to lead to deep commitment. At the same time, if gamification is successful in inducing intrinsic motivation, then pro-environmental behavior will be sustained and will not decrease even in the absence of extrinsic stimuli such as fines, rewards, or legal regulations. At the same time, the results show that tourists for whom the destination is distant show inferior results in terms of pro-environmental learning, attitude, and behavior. For this tourist profile, the environmental interpretation experience will be less effective, regardless of the design type. Additionally, psychological distance exerts a moderating effect on the relationship between gamification and pro-environmental learning, attitude, and behavior. When the individual exhibits greater psychological distance, a gamified environmental interpretation experience produces a significantly greater effect on pro-environmental learning, attitude, and behavior than the non-gamified version. However, when they present psychological closeness, there are no significant differences between the gamified and non-gamified versions in terms of their respective effects on pro-environmental learning, attitude, and behavior. This can be explained by the fact that both types of environmental interpretation provide the same basic service (Frías-Jamilena et al., 2022).

## **Conclusions**

Gamification can have a positive impact on tourism and social media by enhancing engagement, promoting experiences, and enhancing loyalty among users. When used carefully and ethically, gaming strategies can create win-win situations for tourists, businesses, and social media platforms. Gamification can contribute to user engagement. Game techniques such as challenges, badges, and rewards encourage tourists and social media users to actively participate and interact with the content. This engagement can lead to longer app or website sessions and increased social media interactions (Yong et al., 2021). At the same time, as emerged from the literature review, customer-user loyalty is increasing. Game elements such as rewards programs and points can foster a sense of loyalty among tourists and social media followers. Users are more likely to return to destinations or social media platforms that offer rewards and incentives. It is noted that through gamification, the experiences of tourists are also improved. Gamification can be used to promote and enhance tourism experiences. For example, tourists can participate in location-based games that encourage exploration and discovery of new places. Gamification has not only improved tourist engagement but also provided innovative ways to explore destinations, learn about cultural heritage, and share experiences. By transforming traditional tourism activities into interactive and immersive experiences,

gamification has the potential to attract a broader audience, travelers who seek unique and interactive experiences. On social media, gamified challenges can encourage users to share their travel experiences by creating user-generated content. At the same time, as our research showed, the user-generated content itself is significantly affected by gamification. Gamification in social media can encourage users to create and share content related to tourism experiences. Social media platforms that employ gamification techniques have observed increased user activity, content creation, and community building. The sense of community and social interaction fostered by gamified elements encourages users to remain active and engaged, contributing to the platform's growth and vibrancy (Frías-Jamilena et al., 2022). Hashtags, challenges, and contests can encourage users to share photos, videos, and reviews, which can serve as valuable promotional material. In addition, tourism businesses and social media platforms can collect valuable user data through gamified interactions. This data can be used to personalize recommendations, advertisements, and content, providing users with more relevant information and experiences. Gamification contributes to educational and cultural engagement (Souza et al., 2020). Gamification can be used to educate tourists about the history, culture, and attractions of a destination. Interactive quizzes, augmented reality apps, and virtual tours can make learning about a place more engaging and enjoyable. Furthermore, the sustainability of tourism is based on gamification. Gamification can promote responsible and sustainable tourism practices. Tourists and social media users can be rewarded for environmentally friendly actions such as using public transport or supporting local businesses, thus encouraging more sustainable travel and lifestyle choices. There are also, challenges and ethical issues (Lent and Marciniak, 2020). Moreover, the findings of this research suggest that the success of gamification in tourism and social media is largely dependent on the thoughtful design and implementation of gamified elements. It is essential for tourism and social media marketers to understand their audience's preferences and behaviors to create engaging and meaningful gamified experiences. The balance between fun and functionality is crucial to ensure that gamification enhances rather than detracts from the user experience (Yong et al., 2021).

Future research should continue to investigate the long-term effects of gamification in these fields and explore new and emerging gamification techniques. Additionally, examining the ethical implications of gamification and its impact on user behavior will be critical as the use of these strategies becomes more prevalent (Souza et al., 2020). Ultimately, gamification presents a powerful tool for transforming the tourism and social media landscapes, offering innovative ways to engage users, enhance experiences, and foster a sense of community. As technology continues to evolve, so too will the opportunities for gamification, promising exciting possibilities for the future of tourism and social media interaction.

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