

Review of Benefit Using Gamification Element for Countryside Tourism

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Abstract— Gamification theory right now has drawn researchers in many areas. This is because gamification has many effects to improve engagement, motivation, learning outcome, entertainment, etc. Gamification in tourism has an effect on tourists, places of tourism and the economy around tourist attractions. In addition, gamification can also be applied to manage workers in tourism places. How gamification can improve tourism attraction to travel to the countryside tour and the benefit of using gamification element will be discussed in this literature review. This literature review collected data about gamification element and its effect from other researchers. Data about gamification of tourism, how that work and what gamification element can support this context will be collected too. The results of this study are that the application of gamification in the tourism sector can be beneficial, ranging from visitors, managers to communities around tourist attractions.

Keywords— *Gamification, tourism, countryside tour, gamify element.*

I. INTRODUCTION

Traveling is a hobby for some people. In addition to being a hobby, traveling is also often done by most people to escape from their daily routines. Traveling can also add to our knowledge depending on tourist attractions, such as adding historical insight if we travel to temples or other historical places. While the effects of other tours can be seen from tourists or travelers who are able to help the economy of the surrounding community, other impacts can also be felt in the social and environmental aspects[1]. However, what if these tourist attractions are located in the countryside or out-of-town areas, which are often rarely known by travelers even though they have high potential to be a pleasant place to travel.

One of the plausible approach to attract tourists is to apply the gamification technique. According to Skinner *et al.*, gamification using geocaching can improve tourist attractions, especially that tourism is located outside the city [2]. In this review literature, we will examine how and what the benefits of using gamification elements are for tourism objects in the countryside, especially for tourist objects in Indonesia. Based on[3], Indonesia is the 5th most visited country in South East Asia. In addition to occupying the fifth position, Indonesia also has a number of visitors from overseas which is increasing every year [4]. Based on these data a hypothesis can be drawn, it is probable that the objects of Indonesian tourism can continue to be improved by applying the gamification method.

In the next section, chapter 2 of this paper will discuss the literature review and the originality of this paper. Chapter 3 discusses the methodology carried out in the collection of data from the review literature, while in chapter 4 is the result of the literature review. The last

section, section 5 will discuss the conclusion and future work of this study.

II. LITERATURE REVIEW

In this second section, gamification in general to the application of gamification to the tourism sector will be discussed. Understanding gamification in general is the use of game element design in the non-game context [5]. According to Deterding, Khaled, gamification has several elements in it, including games, elements, non-game context, and design. Games in gamification will lead to assumptions for gamification users in terms of behavior and pleasant mindset in practice [8]. Games also have different meanings and elements with play. Game elements are the constituent parts of the game, which can be found in many games and are important as the meaning of the game itself. The use of elements in gamification should be adjusted to the amended context so that the influence of elements is more effective. Points, levels, leaderboard, prizes, badges, storylines, and feedback are examples of game elements[6]. Non-game context can be interpreted as using game elements for other purposes, which are different from those normally expected [7].

Gamification applied to tourism development can increase the added value of tourism products in a sustainable manner and be able to add the of a diversity of tourism products to maximize income[8]. In addition, there are several ways that can be verified in order to add to the ongoing effects/behavior of users according to Negrusa *et al* [1]. The method is by researching and measuring the reasons for tourists to continue traveling, giving games such as collecting points to get vouchers, displaying leaderboard with prizes if the best score, and the opportunity to compete with other tourists. According to Lounis, Pramadari, Theotokis[9], there are 2 types of delivery, namely the type of incentive and community collaboration. From the results of the study, it can be concluded that using the type of delivery of community collaboration the effects of gamification are more effective. This is evidenced by the results of the applications being tested more users are interested and motivated if in the gamification game involves many people or in a community.

Examining the impact of gamification, there are several methods that can be used to examine the effects of gamification. According to Creswell & Clark [10], there is a convergent parallel research method consisting of quantitative and qualitative research. The method is quantitatively conducted by distributing questionnaires to users, while the qualitative method of research is done by conducting semi-structured interviews.

In table 1 below, there are several papers relating to the basis of gamification, the general impact of gamification, the

impact of gamification on the tourism sector and the elements in gamification. This literature reviews will discuss examples of the application of gamification in tourism too. The following results of summaries of journals related to research can be seen in table 1.

TABLE 1. GAMIFICATION ELEMENT

Gamification Element	Application	Reference
Ranking	Common Gamification Element	[7][11][12]
Badges		
Points	Common Gamification Element + Education	[6][11]
Level		
Leaderboard	Education	[6]
Prizes		
Progress Bar		
Storyline		
Feedback		
Meaningful stories	Education	[13]
Teammates		
Avatar		
Achievement	Common Gamification Element	[7]
Reward		
Gifting		
Feedback and Reinforcement		
Pattern Recognition		
Collecting		

Based on data from table 1, we can know the gamification elements used by Hamari [11], the level, ranking and point scores gamification elements are very commonly used in applying gamification cases, whereas McDaniel, Fanfarelli[12] examined how to make badges to be more attractive by using psychological factors. In terms of education on the application of gamification elements, it is also needed, this is examined by Nah *et al* [6] in his paper. Point is used as a measure of success. The level is applied so that users feel the progress in the game. A badge as a sign of appreciation or a sign that the user has successfully completed the acquisition process. The leaderboard keeps users motivated to enter their names into the leaderboard. Progress bars, almost the same as the level, progress bars are used as a marker of the user's progress. The storyline is an element in gamification that provides a storyline or narrative. Feedback is used to keep users interested. Sailer[13] also adds several other gamification elements, namely meaningful stories, teammates and avatars. Similar to the storyline, meaningful stories focus more on the user's background so that the effects of stories are more pronounced. Avatars are used as representations of users in the game. Teammates are other users or non-player characters (NPCs) in the game.

In addition to what are the elements of the presentation, summarized also some of the effects of the application of gamification can be seen in table 2 below.

TABLE 2. GAMIFICATION IN TOURISM OUTPUT

Output	Reference
Raise brand awareness	[14]
Enhance tourist experiences	
Engagement	
Improve customer loyalty	
Entertainment	
Employee Management	
Sustainability	[1][8]
Behavioral changes	[1]

Environmental aware	[2]
Discover history	
The training environment become more engaging	
Tunneling	
Manipulating	
Distracting attention	
Synergy	
Responsible consumption	
Work or life balance	
Genuine fun	
Authenticity	
Attract new destination	
Destination experience for Milennial and generation Z	
Small entrepreneurial gain benefits	

Based on the research of Xu, Dimitrios, Buhalis, Weber[14] in table 2, the output that can be felt is raising brand awareness, this can occur because there are three factors that influence, specifically designed advergames, integrating the brand with a live game and on-site advertisement. The output of enhancing tourist experiences results from adding elements of immersion, fun, and fantasy. Engagement, in this case, is important to increase visitor competitiveness and attractiveness. Improve customer loyalty, using the gamification mechanism can respond to the customer's psychological behavior and needs. Entertainment aims to enhance fun, interactive and interesting experiences. Employee management can be increased by giving rewards to employees so that they improve their work.

Another impact of gamification is Sustainability. Sustainability can be obtained by using an application system that gives gifts to users. In this way, users will be more motivated and can also manipulate changes in user behavioral changes[8]. In addition, other effects are the emergence of sustainability impacts. These effects have a prolonged impact on tourists and tourism providers. The biggest sustainability impact is changing user behavior, awareness of the surrounding environment, finding history, and for managers, the training environment is more attractive[1]. In other research, there is a method called geocaching. Geocaching for gamification can make an impact like attracting new destination, destination experience for Millennial and generation Z and small entrepreneurial can gain some economic benefit [2]. All of that because of geocaching will make the user more interested in exploring the areas that provided in the system.

In addition to the impact of the application of gamification on the tourism area, some effects of gamification in other areas were also sought to obtain other possibilities of the impact of gamification. Impacts on other areas can be seen in table 3.

TABLE 3. GAMIFICATION OUTPUT

Output	Implementation	Reference
Immersion	Game	[15]
Perceived Learning		
Engagement	Game, Learning	[6][15]
Participation	Learning, Education	[6]
Motivation		
Enjoyment		
Productive learning experience		
Sense of achievement		
Status		

Sense of Accomplishment		
Performance		
Recognition		
Interest in course		

Based on the data in table 3, Juho Hamari, David *et al* [15], in his research on engagement, immersion, and perceived learning had a positive impact on its application. While research by Nah *et al* [6] obtained several outcomes from the references they collected based on the elements of the game under study.

After knowing the gamification elements used and the effects of gamification, several examples of their application are needed. Xu, Weber *et al.*[16] discussed the example of gamification for tourist in the case of the SPG major program. The impacts of implementing the program include increasing brand loyalty, increasing popularity on social networks, and reducing resource use. Gamification applications by forming applications such as Foursquare can empower local businesses, facilitate networking among local business entities[17].

Based on the example of the application of the previous gamification, gamification can be applied, one of which is using an application. However, so that the resulting application can have a maximum impact, hedonic (enjoyment, playfulness)[18][19] and utilitarian (usefulness, ease of use) are needed [20]. In addition to these factors, the application of tourist gamification by using the application must also consider the game mechanics so that the impact of motivation is conveyed. An example is giving discounts on accommodation or free drinks [21].

From the literature that has been collected, it is likely that the application of gamification elements has a long-term advantage for the tourism object itself and the surrounding environment. Things that are affected include attraction of visitors, increasing popularity of tourist attractions and increasing income in the tourist attractions themselves and around tourist attractions. The impact of gamification can also be felt by visitors, including engagement, fun, learning experience.

III. METHODOLOGY

The methodology used in this study is to collect qualitative data. The qualitative data referred to here are data regarding general gamification and gamification specifically for the tourism sector. The following are the stages of research.

A. Data collection

The methodology used in comparing the data from each review literature is to take a review literature, journals that discuss elements in gamification, overall gamification, and the effects of the use of gamification elements, as well as examples of the use of gamification in the tourism sector. The relevant journal and review literature are searched through the Scopus site, Springer Open, Elsevier and through Google Scholar.

B. Search terms

Search is done by using keywords gamification in tourism, gamification elements, and tourism. Search documents focused on the application of gamification to

tourism, then basic knowledge of gamification and examples of the application of gamification especially in the tourism sector.

C. Categorization data

After obtaining the required data, the next step is to categorize it into tables and explain the data regarding the elements of gamification, then the table on the impact of gamification based on its application. The application of gamification is also given an example, especially the application of tourism.

IV. RESULT AND ANALYSIS

After collecting various data on gamification and its application to the tourism sector, results were obtained which could support the research in this paper. The following is a summary of the influence of gamification and how it is applied, especially in the tourism sector. The application of gamification can be seen in table 4.

TABLE 4. HOW TO IMPLEMENT GAMIFICATION

Implementation	References
Virtual Reality (VR)	[22]
Augmented Reality (AR)	[23][24]
Geocaching	[2]
Geolocation Game	[25][26]
Multi-platform Application	[27]
Mobile Application	[9][28]
Desktop Application	[29]

From the data in table 4 above, we can find ways to implement gamification. Most researchers use applications, ranging from desktop applications to mobile. Gamification can also be applied using Virtual Reality, Augmented Reality, Geocaching, and Geolocation. For this research, the most suitable implementation for tourism places is a multi-platform application because it can be used for manager and workers. The suitable implementation for tourist are geocaching and augmented reality because that method is more interesting, good for enhance tourist experience and does not require a good internet connection.

While the impact caused by using gamification techniques especially in the tourism sector can be seen in the tables below. In table 5 the impact of gamification for managers of tourism sites.

TABLE 5. GAMIFICATION OUTPUT FOR TOURISM PLACES

Output	References
Raise brand awareness	[14]
Improve customer loyalty	
Employee Management	
Sustainability	[1][8]
The training environment become more engaging	[1]
Work or life balance	
Authenticity	

Based on data from table 5, the impact of gamification for tourist managers can increase the brand/name and authenticity of the tourist attractions. Customer loyalty can also be improved, so that sustainability can be realized. Impacts can also be felt for workers in these tourist sites, the impact of which is work or life balance, employee management, training environment become more engaging.

The expected output for this research are employee management, improve customer loyalty and tourism environment become more engaging.

In table 6 below, it is mentioned the impact of gamification for tourists.

TABLE 6. GAMIFICATION OUTPUT FOR TOURIST

Output	References
Enhance tourist experiences	[14]
Engagement	
Entertainment	
Reward system motivate user and manipulate behavioral change	[8]
Behavioral changes	
Environmental aware	
Discover history	
Genuine fun	
Attract new destination	
Destination experience for Millennial and generation Z	[2]

Based on data from table 6, the impact of gamification for tourists can enhance the travel experience, can add to tourism experience. Another impact is behavioral change, tourists are also more aware of the environment around tourism. In addition to the impact on tourists and tourism managers, the impact of gamification can also be felt for the community around the tourist attractions. The output that expected for this research are engagement, genuine fun, and enhance tourist experiences.

V. CONCLUSION

Based on the previous research on general gamification and gamification for tourism, as well as the impact and application. The application of gamification can be done in various ways, from using mobile applications, applying geocaching, or web applications. Different ways are different impacts. The targets are also varied. Gamification can be used for the management of workers in tourist locations and can be applied to tourist visitors.

From the overall data that has been collected, the conclusions of benefit gamification element for countryside tourism are:

- By using geocaching techniques/ applying geolocation in gamification applications and using augmented reality can attract more visitors and can help the economy of small businesses in the surrounding area, especially for countryside tourism.
- The use of gamification can cause sustained effects, increase visitor royalties, increase the name/brand of tourist attractions.
- The use of gamification for managers also has its own effect, namely employee management and tourism environment become more engaging.

The future work of this paper is to examine how to implement gamification and what gamification element that suitable to increase tourism attraction, income and improve the brand.

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