
The Impact of Gamification in Loyalty Programmes on Increasing E-Customer Loyalty: The Mediating Role of Perceived Value Evidence from Hotels and OTAs

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Abstract

The aim of the research is to define the impact of adopting gamification in loyalty programmes on increasing e-customer loyalty, in addition to investigating how perceived value could act as a mediator in the relationship between gamification in loyalty programmes and e-customer loyalty, based on evidence from a sample of customers from OTAs and hotels in Egypt. The descriptive analytical approach was used as a research methodology. A simple random sample representative of the study population was surveyed (397). The structural equation modelling (SEM) results indicated that gamification in loyalty programmes significantly and positively affects e-customer loyalty and perceived value. Considering the mediating role of perceived value, findings revealed that perceived value significantly partially mediates the relationship between gamification in loyalty programmes and e-customer loyalty. The study recommends that hotels and OTAs should enhance their efforts, aiming to utilise and then take up new and cutting-edge e-marketing tools and applications.

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Keywords: Gamification, Loyalty Programmes, Gamified Loyalty Programmes, Customer Loyalty, E- Customer Loyalty, Perceived Value, Online Travel Agencies (OTAs).

1. Introduction

Depending on the benefits of games, the idea of gamification has been inspired as an effective technology that exploits these benefits in non-game contexts like the tourism and hospitality industries (Lee, 2019). Humans like playing games from different ages and cultures, humans have always played games and mostly always will (Miller, 2013). Game and fun in work and life become essential by entering the conceptual age, as gamification could be an effective and innovative method to encourage customers to participate (Sever et al., 2015). Technological progress and the transition to an interactive economy have resulted in changing conditions for businesses (Jain et al., 2020); hence, these technological advances have influenced people's lifestyles and behaviour (Bachr and Ada, 2020). The efficiency of current techniques and methods used by businesses is decreasing as individuals become eager for more experimentation, concerning mainly younger generations who are more familiar with all technological innovations, including the mechanics of games (Bajdor and Dragolea, 2011), as the loyalty customers is strongly influenced by customers' experiences and their feelings of satisfaction (Bachr and Ada, 2020). Technology motivates individuals and changes their behavior, as ways and methods of engagement have changed significantly. One such mechanism that has grown rapidly is gamification (Behl and Pereira, 2021). The evolution of digital games and their success in the commercial entertainment industry

has induced researchers to examine their effects and importance in the digital age (Seaborn and Felds, 2015).

However, the gamification concept and its utilisation in the tourism and hospitality industries are still at an early stage (Hamed, 2017; Lee, 2019; Worimegbe et al., 2020; Abou-Shouk & Soliman, 2021). The core of the utilisation of gaming elements in businesses is to achieve the necessity to incentivize behaviour through motivating as well as encouraging competitive behaviour in the enjoyment domain (Worimegbe et al., 2020). Fortune Business Insights (2020) indicated that the market portion of gamification worldwide is predicted to be 37.00 billion USD by 2027, indicating a CAGR of 24.8% from 2020 to 2027. Many businesses are utilising gaming elements to promote their products and reinforce consumer relations. According to a report, about one-third of all participants and 40 percent of millennials assumed that loyalty programmes should be accompanied by games (Fathian et al., 2019).

Gamification is known as a new trend in marketing and promotional tools that activate positive customers' feelings and emotions. However, research that has examined the relationship between gamification and customer loyalty is rare (Alzyoud, 2021; Torres et al., 2022). As well, Hollebeek et al. (2021) refer to the fact that many researchers have examined loyalty programmes; however, their gamified subset is still ambiguous. Utilising social media, for example, to achieve customer engagement can be an effective method of enhancing the performance of loyalty programmes and altering customer behaviour, but depending on that experience, it should be enjoyable and entertaining (Rehnen et al., 2017). Although the tourism and hospitality sector has suitable potentialities for applying gamification, the adoption of gamification in this sector is rare (Pasca et al., 2021).

According to Panjaitan (2021), as we are in the digital era, it is found that products or services that are technologically innovative, such as gamification systems, will increase customer loyalty among rapid changes in digital business innovation, resulting in discouraging customers from turning to competitors and retaining them. Despite the availability of all potentials to apply this new technique, known as "gamification" in the tourism and hospitality industries, which can in turn enhance customer loyalty, the level of its application is weak (Abou-Shouk & Soliman, 2021; Pasca et al., 2021; Shi et al., 2022) Hence, the research problem can be formulated into two questions:

- Is there an interest in integrating gamification into loyalty programmes?
- Is there an impact of applying gamification to loyalty programmes on enhancing customer loyalty?

Therefore, the objectives of this research are to identify the gamification concept and the difference between gamification and games, to examine the contribution of gamification in the industry of tourism and hospitality, to highlight the effects of adopting gamification in loyalty programmes to formulate attractive and innovative loyalty programmes, in addition to determining how gamification in loyalty programmes affects e-customer loyalty, and investigate the possible mediation function of perceived value in the relationship between gamification in loyalty programmes and e-customer loyalty in OTAs and hotels.

2. Theoretical Background and Hypothesis Development

2.1.The Idea of Gamification

The first usage of the gamification term goes back to 2008; thereafter, this term gained the attention of researchers in 2010, when gamification was seen in scientific research and started to acquire widespread adoption in different fields (Xu et al., 2013; Sever et al., 2015; Çeker and Özdaml, 2017; Jefimovs and Koeck, 2021). The evolution of gamification comes from the rapid growth of modern technologies along with customers' characteristics today (Harwood and Garry, 2015). Gamification is an accelerating technology trend in service businesses that employs the core of games and integrates them into the real world for business purposes (Conaway and Garay, 2014). Gamification is known for changing customers' interactions into games that achieve a company's business goals (Milanesi et al., 2022). It is considered a behavioural approach to enhance customer interaction, enthusiasm, and entertainment in a non-gaming context, concerning creating a game experience with overall customer interest that confirms its potential for beneficial effects (Jain et al., 2020).

Like games, gamification utilises many elements of game features like collecting points, badges, leaderboards, rewards, competitions, team battles, challenges, progression metrics, avatars as visual representations of players, and certainly social interaction through cooperation frameworks, praise, etc. (Jang et al., 2018; Dreimane, 2019; Xi and Hamari, 2019; Zhang et al., 2021). Gamification is not the same as games, but there are differences between them, as games are basically made for entertainment, while gamification could be used in non-game contexts for business purposes, including encouraging people's engagement (Caponetto et al., 2014; Urh et al., 2015; Dreimane, 2019; Liu et al., 2019; Sailer & Homner, 2020; Tobon et al., 2020). Using game elements could be used in non-game contexts as an effective method for making technology more appealing by affecting customer behaviour (Maan, 2013). Gamification can employ game mechanics with some elected

functionalities of a business's website, downloadable application, or content for well-engaging users (Rehnen et al., 2017).

2.2 Gamification in the Tourism and Hospitality Sector

Rapid changes and technological progress in the world today are characterised by smart individuals who can be able to use the recent technological innovations to increase their welfare, resulting in the necessity to consider these rapid developments and search for the adoption of new approaches and methods (Dreimane, 2019). Game is considered one of the entertainment media concepts that drives tourism, recently adopting this innovative promotion strategy called gamification, especially in the digital era (Nurrahmania and Grahita, 2021). It is considered one of the most important marketing strategies today, as it can distinguish businesses in the market and alter consumer behaviour (Torres et al., 2022). Unlike other online strategies, gamification introduces a competition component as a challenge motivator for inducing emotional and attitudinal responses (Rehnen et al., 2017). Integrating game features into the tourism industry was already existing, but it was not known as this concept (Xu et al., 2013).

Gamification has been studied in various contexts. Regarding the tourism and hospitality context, Xu et al. (2013) have found that gamification is a considerable and emerging trend for the future because of its benefits for organizations. Negruşa et al. (2015) have found the advantages of integrating gamification in tourism and hospitality for sustainability. While Sever et al. (2015) have revealed that gamification, by offering a more funny experience and boosting data driving, could be an effective tool for the success of online advertising activities, As well, Sigala (2015) has shown that gamification could be utilised in practices for marketing crowdsourcing in tourism, affecting the behaviour of consumers. Hamed (2017) has found that gamification could not be a successful method for attracting clients to tourism websites due to the low awareness of gamification's existence on tourism websites from the perspective of customers in the US market, resulting in a decrease in

participation in gamification activities on these sites. Moreover, Al-Azab & Abdelmonem (2019) have concluded that there is a correlation between the elements of effective gamification and the advantages of utilising it as a marketing tool. While Lee (2019) has found that gamification has a strong impact on gaining information in the context of cultural heritage sites, this study has also found that gamification has an indirect, passive effect on loyalty to cultural heritage sites. Liu et al. (2019) have found a five-dimensional scale FGS that has enriched studies in gamification, from the usage of gamification in non-gaming contexts to measuring the level of gamification. As well, Hwang and Choi (2020) have confirmed the significance of integrating gamification in increasing consumer loyalty towards loyalty programmes from the perspective of US consumers at coffee shops. Worimegbe et al. (2020) have revealed the effective role of integrating gamification in customers' experiences in the sector of Nigerian hospitality. While Abou-Shouk & Soliman (2021) have concluded the favourable intentions of organisations in tourism to adopt gamification for increasing brand awareness, customer engagement, and loyalty, Nurrahmania and Grahita (2021) have found the influence of gamification as a promotional method to develop the tourism industry in Indonesia by enhancing marketing communications and spreading tourism awareness widely. Pasca et al. (2021) have revealed the significance of integrating gamification in the field of tourism and hospitality based on a systematic literature review by analysing thirty-six research studies published between 2011 and 2019. And Shi et al. (2022) have found that gamification contributed to enhancing various value perceptions of tourists on the online travel agent platforms, which in turn had an impact on their purchase intention through online shopping carnivals.

Depending on the importance of gamification, several popular firms have integrated this technique to improve customers' loyalty, reinforce customers' engagement, enhance employees' performance, or obtain competitive advantages (Negruşa et al., 2015). There are some patterns of gamification application in the tourism sector, including hospitality, airlines, and destination sectors such as Games with a location component could encourage visitor interactions through the use of augmented reality. DMOs use a storytelling strategy to induce tourists to visit destinations (Abou-Shouk and Soliman, 2021). As well, international hotels like InterContinental Hotels Group have adopted gamification for retaining clients and attracting new market segments, and OTAs have achieved great success in utilising gamification, like Expedia's gamified "Around the World in 100 Days" programme, which has achieved significant success and popularity (Hamed, 2017). Consequently, several platforms of OTAs have integrated gaming elements to incentivize consumers to participate (Shi et al., 2022).

2.2.1. Impact of Gamified Loyalty Programmes on E-Customer Loyalty

❖ Gamification in Loyalty Programmes and Increasing E-Customer Loyalty

Recently, applying gamification in e-businesses has developed widely, as consumers' satisfaction with gamified services can lead them to gain trust and thus gain loyalty to these services, as loyalty is considered the most significant factor in businesses (Hosseini & Rezvani, 2021; Panjaitan, 2021). Depending on the evidence, recent research refers to the impact of gamification as a critical element in shaping customer loyalty (e.g., Behl and Pereira, 2021; Hosseini & Rezvani, 2021). In this context, gamification is growingly used for enhancing customers' engagement, interaction, and motivation by orienting their

behaviour towards a desired or favourable attitude via the design and potentials of positive and radically motivating gamified experiences (Sigala, 2015).

Loyalty programmes enable firms to get more repeat business by collecting customer data that can be analysed for targeted marketing activities (Sukmaningsih et al., 2019). Firms draw attention to gamification adoption primarily to enhance customer loyalty, engagement, and positive word-of-mouth. Gamified loyalty programmes draw attention as an effective method to enhance the efficiency of loyalty programmes (Hwang and Choi, 2020). Gamification is considered an innovative and effective marketing method that can encourage customers to participate in the virtual environment in an entertaining and rewarding way, which consequently fosters their sharing of comments and travel recommendations and boosts their loyalty (Hamed, 2017). Defining dimensions of measuring loyalty is still unclear but essential for the service sector, enabling the measurement of the best variables to identify loyal customers (Jones & Taylor, 2007). According to Worthington et al. (2010), loyalty contains three essential dimensions, namely cognitive loyalty, behavioural loyalty, and emotional loyalty. Cognitive loyalty is previous knowledge or recent information based on experiences; this loyalty arises through comparisons between customers' preferred products and alternatives that depend on the whole judgement of the usefulness of this item or service (Han et al., 2011). While behavioural loyalty refers to clients preferring the same brand systematically over time (Odin et al., 2001), behavioural loyalty provides a realistic picture of the competitive position of a specific brand compared to other competitors (DuWors & Haines, 1990). Furthermore, emotional loyalty is defined as the psychological preference—which involves both pleasant feelings and an affective attachment—for a

particular brand with the intention of consistently buying it (Härtel & Russell-Bennett, 2010). Based on the previous discussion, the study proposes the following hypothesis:

H.1: Gamification in e-loyalty programmes significantly affects e-customer loyalty of OTAs and hotels' customers.

❖ Gamification in loyalty programmes and the perceived value

Recent research recommends that gamification could have a positive effect on loyalty programme systems. Due to the fact that contemporary gamification offers users a gaming experience outside of the setting of conventional games, client participation in loyalty programmes has expanded (Jefimovs and Koeck, 2021). There is a need to integrate gamification features into loyalty programmes, including reward, competition, and fun, to engage more customers, as it has been found that customer motivation is decreasing for loyalty programmes based on economic or monetary benefits (Sukmaningsih et al., 2019). While monetary or economic benefit is easily imitated, psychological benefit, including a sense of fun and enjoyment, is predicted to have a powerful attraction for retaining clients within loyalty programmes (Tanford et al., 2016).

Perceived value is considered a powerful evaluation indicator, given the prevalence of this methodology in service and tourism research (Naqviet al., 2021). According to Torres et al. (2022), perceived values of gamification were categorised according to user motivation into utilitarian, hedonic, and social values. Utilitarian value includes usefulness and ease of use; hedonic value relates to entertainment and playfulness; and social value relates to recognition and social impact, revealing the significance that customers might attribute to establishing relationships with others.

The value derived from a product or service's ability to improve users' social relationships is known as social value. Gamification features, for example,

reward users, increase user engagement, facilitate communication among various online users, encourage the sharing of ideas, and improve social interaction (Yu and Huang, 2022). Several studies have shown that social value influences customer satisfaction, which in turn influences customer loyalty (Zainurrafiqi et al., 2022). Torres et al. (2022) discussed the effects of gamification's social value on altering customer behaviour, such as customer loyalty.

Hedonic value is thought to be more subjective in comparison with utilitarian value; thus, it's referred to as happiness and the pleasure, thrills, sensory stimulation, and entertainment that customers feel through playing games (Yu and Huang, 2022). It is created from experiences that are appreciated for their own sake; individuals play games as playing is enjoyable, separate from the outcome or result of those experiences (Wolf, 2019). Emotions are the touching psychological states resulting from gamification, with favourable states foremost being a sense of enjoyment and entertainment. Hence, the experience itself is so entertaining that individuals will do it for the sheer desire of doing it (Harwood & Garry, 2015). Hedonic value can be realised when customers' emotional needs can be met (Sari and Ardiansari, 2019), which can have a significant influence on customer loyalty (El-Adly, 2019; Sari and Ardiansari, 2019).

While utilitarian value is defined as getting something done that originates from experiencing instrumental or functional support to achieve that (Wolf, 2019), it is instantly perceived by users through its usefulness and ease of use (Hsu and Chen, 2021). Utilitarian value is a latent function in a service or product that can enhance customers' satisfaction (Sari and Ardiansari, 2019); e.g., utilising a gamified service has hedonic value since it provides amusement

through competition with others, and utilitarian value since it provides feedback on an individual's progress towards a self-set goal. In other words, utilitarian value is determined by the extent to which a service is useful for achieving the desired results (Wolf, 2019) that can make a significant impact on customer loyalty (Sari and Ardiansari, 2019). Therefore, concerning the above-mentioned, it can be assumed that:

H.2: Gamification in e-loyalty programmes significantly affects the perceived value of OTAs and hotels' customers.

❖ E-customer loyalty and perceived value

Some contributions (e.g., Xie & Chen, 2014; Torres et al., 2022; Zhang & Wang, 2022) have emphasised the effect of the perceived value of loyalty programmes, especially the psychological benefit, including hedonic and social value, on active loyalty.

Intrinsic motivation plays an important role in achieving customer loyalty better than extrinsic motivation, depending on evidence that many attempts at marketing to engage customers, e.g., loyalty programmes and point-based administration that merely rely on tangible and financial gain, are less successful in creating loyal customers over time than marketing strategies that incorporate innate motivation, like gamification (Milanesi et al., 2022). Briefly, altering customer behaviour for desirable activities is the essential core of gamified systems, as motivation is a central matter in gaming (Xu et al., 2013).

Customer loyalty is defined as making recurrent purchases over a predetermined length of time, followed by a number of indicators, such as the ability to make additional purchases and recommend pleasant experiences to others. Gamification can be beneficial in gaining customer loyalty (Mustikasari et al., 2022). Some previous studies have found that customer loyalty is directly positively impacted by the perceived value of the customer

(El-Adly, 2019). Consequently, it is possible to infer the third and fourth hypotheses:

H.3: The perceived value significantly affects E-Customer loyalty of OTAs and hotels' customers.

❖ **The Mediating Role of the perceived value on the Relationship Between Gamification in E-loyalty programs and E-Customer Loyalty**

H.4: The perceived value significantly mediates the relationship between Gamification in E-loyalty programs and E-Customer Loyalty.

Figure 1 displays the research conceptual model.

3. Materials and Methods

3.1.Measures and instrument Development

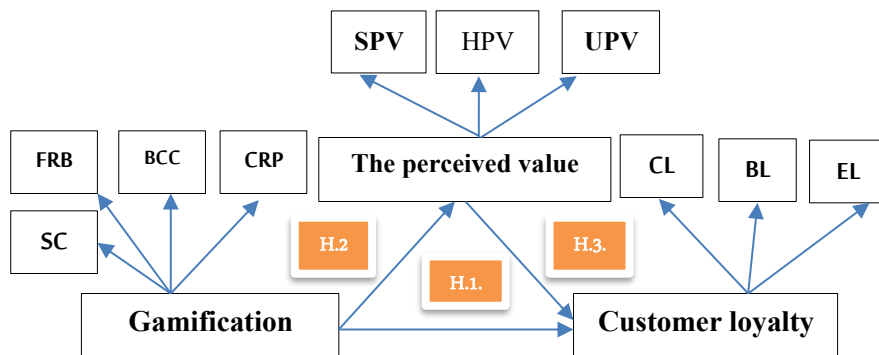
After defining a framework for the study population, a quantitative tool was used to distribute the survey to the study sample online. Recently, it has become more popular to use online surveys and other data collection methods based on the internet, mainly in quantitative research techniques (Van Selm & Jankowski, 2006). The development of the questionnaire was predicated upon an exhaustive assessment of the research literature in order to ascertain reliable and commonly employed metrics. There are three sections of the questionnaire. Depending on Worimegbe et al. (2020) the first section of the Gamification in Loyalty Programme includes "Service Customisation, Feedback and Relationship Building, Competitive Reward Programme, and Building Communication with Customers." According to Torres et al. (2022), "Social Perceived Value, Hedonic Perceived Value, and Utilitarian Perceived Value" constitutes the second section on perceived value. While regarding Worthington et al. (2010) "Cognitive loyalty, behavioural loyalty, and emotional loyalty" constitute the third section of E-Customer Loyalty.

Regarding the Physical Environment Scale, the Cronbach's alpha for internal consistency reliability was 0.906.

3.2. Research Methodology

▪ Suggested Framework of the Study

The development of the model was predicated upon an exhaustive assessment of the research literature, as according to Behl and Pereira (2021); Hosseini & Rezvani (2021); Panjaitan (2021) there is an effect of gamification in shaping customer loyalty that constitute the first hypothesis, while depending on Torres et al. (2022), there is an effect of gamification on perceived value that constitute the second hypothesis. And depending on Xie & Chen (2014); Torres et al. (2022); Zhang & Wang, (2022) have referred to the effect of perceived value on customer loyalty that constitute the third hypothesis.



Note: (SV; Social value; HV= Hedonic value; UV= Utilitarian value; Cog.L= Cognitive loyalty; Beh.L= Behavioral loyalty; Emo. L= Emotional Loyalty

Figure 1: The study conceptual model

After being first written in English, the questionnaire was translated into the respondents' native Arabic. Two professionals who are fluent in both Arabic and English translated the questionnaire twice to make sure the two versions are identical. In both the original and updated translations, it was exactly the same. In addition, five hospitality scientists with backgrounds in the travel and hotel sectors were asked to thoroughly examine the questionnaire, offer input

to guarantee that the questions are pertinent, and evaluate the tool's accuracy in order to verify the validity of the questionnaire's content. Furthermore, to guarantee that the questions were comprehensible to the participants, an adequate number of response alternatives were provided, and the queries were not excessively lengthy or ambiguous. Thirty-three participants participated in a pilot study, and the questionnaire's phrasing was modified in response to their input.

3.3. Data collection and sampling

The research's study population was limited to customers and guests who use various booking platforms and booking sites used by hotel establishments and OTAs. The survey was conducted by sending the link of the questionnaire to different categories of customers, a simple random sample was used to obtain a representative sample of the study population after defining a clear framework for the population so that we could generalize the results to the study population. To gather information, a self-administered survey was employed. Sampling was done by distributing questionnaires to customers at different time intervals. The aim of the research was to illustrate it to customers. The standards put out by Nunnally (1994), which represent a 1:10 item-to-sample ratio, were employed to choose the suitable sample. Therefore, for the 21-item question set, 210 participants were considered appropriate. Moreover, this number ($N = 397$) is consistent with the suggestion of Hair et al. (2019), who followed Boomsma's (1992) guideline of using at least 200 samples for structural equation modelling and 100–150 samples for maximum likelihood estimation.

The survey was conducted using an online Google form by email and WhatsApp, a number of 500 surveys were sent to a representative sample of the study population, 412 participants responded, representing 91.5% of the study sample, 397 were eligible for analysis after sorting and excluding those that were invalid. A greeting card and comprehensive details regarding the goal of the study have been forwarded. Participants were told that they could decide not to participate in the study. Responses ranged from 1 to 5, where 5 represents strong agreement and 1 represents extreme disagreement. Ultimately, they were asked to submit the survey once they had finished it. Approximately two months were spent gathering the data (November–December 2023).

In order to mitigate the risk of common method variance or bias (CMV), the study participants were given the assurance that the information gathered would be kept private, anonymous, and used exclusively for research purposes. They were instructed to answer all questions honestly, with no distinction between right or wrong answers. Furthermore, Rodriguez-Ardura and Meseguer-Artola (2020) employed Harman's single-factor test, a popular and straightforward statistical approach for identifying CMV.

3.4. Analysis of Data

Amos V.28 and SPSS v.28 were utilised in this study's data analysis. Frequencies and percentages were calculated to present an overview of the participants' demographic attributes, including gender, age, and level of education. The construct items were evaluated for validity and reliability using both Cronbach's alpha and confirmatory factor analysis (CFA). The construct items were evaluated for validity and reliability using to identify common method variance, the Harman single-factor test was used (CMV). In order to assess the convergent validity of the study, composite reliability (CR) and an average variance extracted (AVE) were calculated. The constructed items were

evaluated for validity and reliability using. In addition, the heterotrait-monotrait ratio (HTMT) and the cross-loading of indicators were employed, along with the Fornell-Larcker criterion, to evaluate the discriminant validity. The coefficient of determination (R^2). The end result is that the direction and relationships between the study hypotheses were determined by using the tool of structural equation modelling (SEM).

4. Results

4.1.Descriptive Statistics

The actual sample size for data analysis was 397 individuals, of which 65% were males ($N = 258$) and the others (35%, $N = 139$) were females. Regarding their ages, Less than 20 years: 50.6%, $N = 201$; 20–30 years: 41.6%, $N = 165$; more than 30 years – Less than 50 years 3.0%, $N = 12$; 50 years and over (4.8%, $N = 19$). In terms of educational attainment, the majority of participants had a bachelor's degree (59.9%, $N = 238$), followed by those who went to vocational or technical school (34.0%, $N = 135$).

4.2.Common Method Variance (CMV)

As was previously noted, a web-based questionnaire was used to collect study data. Thus, utilising Harman's single component test, a common technique of variance/bias (CMV) was initially discovered (Podsakoff et al., 2003). Consequently, it was discovered that one component accounted for only 38.7% (less than 50%) of the total variance, indicating that CMV is not a cause for concern.

4.3.Results of the Measurement Model Assessment

Max Likelihood Confirmatory factor analysis was utilised to investigate the validity and reliability of the research constructs. As illustrated in Table 1, 2 all latent variables' composite reliability (CR) and Cronbach's alpha values

surpass the suggested cutoff point of 0.80 (Hair et al., 2013), defining the acceptable level of internal reliability. Utilising discriminant and convergent validities, construct validity was also investigated (Chin et al., 1997). Factor loading of at least 0.50 and average variance extracted (AVE) of more than 0.50 are required for convergent validity (Duckworth and Kern, 2011). All research objects have a factor loading that is greater than 0.50 and the AVE of the first variable, "Loyalty Programme Gamification," "583," was above 0.50; the mediating variable, "Per Perceived Value" (0.449); and the dependent variable, (0.356), was less than 0.50. It shows the achievement of convergent validity in the independent variable and partially in the mediator and dependent variables. The square root of each dimension's AVE must be higher than its correlation with another construct in order for the constructs to have discriminant validity, according to the Fornell-Larcker criterion. Table 1 data showed that all dimensions have greater AVE square roots than their correlations with other dimensions. SQRT AVE of the independent variable "0.763" was higher than the correlation" 0.738". The SQTR AVE of the mediating variable, "0.670," was higher than the correlation," 0.501". The SQTR AVE of the dependent variable, "0.597," was higher than the correlation, "0.0103." Additionally, each construct's AVE was higher than the maximum shared value (MSV) values (Hair et al., 2010). The findings presented in Table 1 verify that the research constructs' discriminant validity is sufficient (Henseler et al., 2015).

Table 1. Validity and reliability of the study factors

Variables		Sup-Variables	Code s in Fig.3	Code	Attributes	Factor Loadin g	Estimate ^	Thet a	Sum (estimat e)	Sum (estimate) 2	CR ⁴	AVE ⁵	MSV ⁶	SQR T (AVE)	SQR T (MSV)
Independent variable	Gamificatio n in Loyalty Programme s	Competitive reward programs	A11	CRP 1	Earn points or rewards.	0.777	0.570	0.429	6.851	46.936	0.92 5	0.58 3	0.251	0.763	0.501
			A12	CRP 2	Get discounts	0.803	0.544	0.455							
			A13	CRP 3	Get more complimentary services while travelling.	0.785	0.389	0.610							
		Building communicati on with customers	A21	BCC 1	Enhance my travel and fun experience	0.754	0.753	0.246							
			A22	BCC 2	Express opinion	0.747	0.558	0.441							
		Feedback and Relationship Building	A31	FRB 1	Share reviews and news with peers.	0.868	0.568	0.431							
			A32	FRB 2	Recommend the trip or website to peers.	0.624	0.616	0.383							

⁴ CR = Composite Reliability

⁵ AVE = Average Variance Extracted,

⁶ MSV7 = Maximum shared variance

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		Service Customization	A41	SC1	Gather information	0.738	0.644	0.355							
			A42	SC2	Explore trips/destinations	0.755	0.603	0.396							
Mediating variable	Perceived Value	Social Perceived Value	B11	SPV 1	Pre/post treatment provided to you is satisfactory	0.607	0.368	0.631	3.992	15.936	0.828	0.449	0.544	0.670	0.738
			B12	SPV 2	Suitable recommendations and advice are always given to you.	0.539	0.290	0.709							
		Hedonic Perceived Value	B21	HPV 1	The application or website provides you with a personal connection with it.	0.621	0.385	0.614							
			B22	HPV 2	The application or website makes it a pleasure to participate in the challenges.	0.774	0.599	0.400							
		Utilitarian Perceived Value	B31	UPV 1	The service quality makes you feel that you are getting your money's worth.	0.713	0.508	0.491							
			B32	UPV 2	You are getting good services at a reasonable price.	0.738	0.5446	0.455							
D		Cognitive loyalty	C11	CL1	I prefer the treatment with	0.766	0.5867	0.413							

	E- Customer Loyalty		C12	CL2	the brand to the others. I find the service quality and performance superior to others.	0.857	0.734	0.265	2.942	8.6553	0.69 1	0.35 6	0.010	0.597	0.103
		Behavioral loyalty	C21	BL	I speak positively about my e-treatment experience.	0.852	0.7259	0.274							
			C22	BL	I recommend my friends and relatives try e-treatment.	0.251	0.063	0.936							
		Emotional Loyalty	C31	EL1	I consider myself a loyal customer.	0.161	0.025	0.974							
			C32	EL2	The service provided exactly reflected my needs.	0.055	0.003	0.996							

Note: *** p < 0.001.

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Table 2. Fornell-Larcker test, discriminant validity.

Construct	1	2	3
1.Gamification in Loyalty Programs	0.763		
2.Perceived Value	0.501	0.670	
3.E-Customer Loyalty	0.103	0.738	0.597

Note: The square root of the research constructs used by AVE is shown by bold diagonal numbers.

4.4.Model quality according to structural equation modeling

The research model fit was acceptable. The values of $\chi^2 = 407.530$ ($df = 178$) $p < 0.001$, $\chi^2/df = 2.289$, and the following values are reported: 0.049 is the root mean square residual (RMR). Incremental Fit Index (IFI) = 0.959, Relative Fit Index (RFI) = 0.907, Root-Mean Square Error of Approximation (RMSEA) = 0.057, Goodness of Fit Index (GFI) = 0.914, Comparative Fit Index (CFI) = 0.954, and Normed Fit Index (NFI) = 0.922.

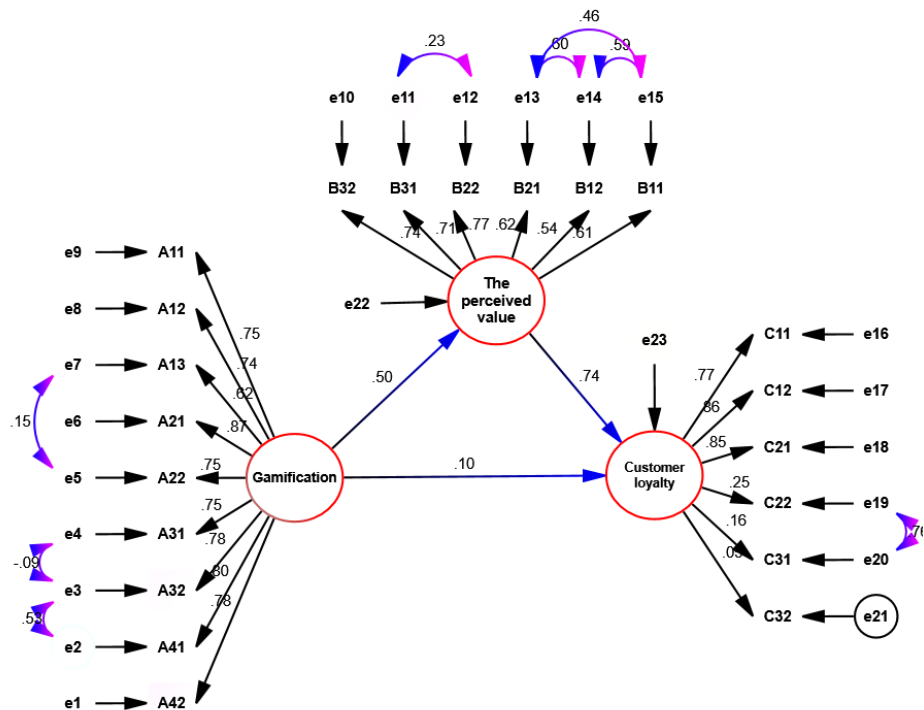


FIGURE 2 : The structural model for the main variables and statements for each variable.

4.5. Testing the Study Hypotheses

Table 3 and Figure 2 present the direct effect of gamification in loyalty programmes on perceived value and e-customer loyalty. Additionally, the indirect effect of gamification in loyalty programmes on e-customer loyalty is demonstrated by the mediating role of perceived value. The first hypothesis suggests that gamification in e-loyalty programmes has significant effects on e-customer loyalty ($\beta = 0.086$, $t\text{-value} = 1.983$, $P > 0.001$). Moreover, gamification of loyalty programmes has a positive and significant effect on

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perceived value ($\beta = 0.414$, $t\text{-value} = 8.240$, $P < 0.001$). H2 is therefore supported. Additionally validated is Hypothesis 3, which states that E-Customer loyalty is highly impacted by perceived value ($\beta = 0.744$, $t\text{-value} = 10.208$, $P < 0.001$). Results showed that perceived value significantly partially mediates the association between components in the context of its mediating role in the relationship between gamified loyalty programmes and E-Customer loyalty ($\beta = 0.394$, $t\text{-value} = 5.340$, $P < 0.001$). H4 is therefore supported.

Table 7: Estimated results for structural parameters

Path hypothesized		Parameters of the standardized path	C.R	P	Findings
H1	Gamification→E-Customer Loyalty	0.086	1.983	047	Not Supported
H2	Gamification → Perceived value	0.414	8.240	***	Supported
H3	Perceived value → E-Customer Loyalty	0.744	10.208	***	Supported
H4	Gamification→ Perceived value→ E-Customer Loyalty	0.394	5.340	***	Supported

Goodness of fit statistics:

- χ^2 equals 407.530.
- $\chi^2/df = 2.289$, $df = 178$, $p < 0.001$.
- GFI is equal to 0.914.
- CFI is equal to 0.954.
- NFI is equal to 0.922.
- RMR is equal to 0.049.
- IFI is equal to 0.959.
- RFI is equal to 0.907.
- RMSEA is equal to 0.057.

Additionally, the Sobel test is used to confirm that perceived value has a mediating role in the relationship between gamification and e-customer

loyalty. The research's table 4 results showed that the association between gamification and e-customer loyalty had a raw (unstandardized) regression coefficient of 0.277 and a standard error of 0.031.

Table 4: Sobel test results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.278	.127		25.767	.000
	Gamification	.277	.031	.410	8.941	.000

a. Dependent Variable: Perceived value

Table 5's findings demonstrated that, in the scenario where gamification is also a predictor of e-customer loyalty, the correlation between perceived value and e-customer loyalty had a raw coefficient of 0.460 with a standard error of 0.041. These numbers are used to construct the test statistic for the Sobel test, which yields an 11.179 ($p < 0.001$) result. This indicates that Perceived Value strongly mediates the association between E-Customer Loyalty and Gamification of Loyalty Programmes.

Table 5: Sobel test results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.648	.170		9.675	.000
	Gamification	.121	.028	.193	4.357	.000
	Perceived value	.460	.041	.494	11.179	.000

a. Dependent Variable: E-Customer Loyalty

5. Discussion

The current research was to find out the impact of integrating gamification in loyalty programs on increasing e-customer loyalty, analysing data from a sample of customers from hotels and online travel agencies in Egypt to investigate the potential mediating role of perceived value in the relationship

between gamification in loyalty programmes and e-customer loyalty. The practical findings indicate that four key antecedents—gamification's ease of use, social influence, ease of adoption, and facilitating conditions—have a significant impact on customers' loyalty towards gamification applications used for marketing that is consistent with results of Hwang and Choi (2020) that have confirmed the significance of integrating gamification in increasing consumer loyalty towards loyalty programmes. Interestingly, the factors that most influence the perceived value of gamification adoption are those that facilitate adoption. The findings of structural equation modelling (SEM) illustrated that gamification in loyalty programmes significantly and positively affects E-Customer loyalty and perceived value which is consistent with Milanese et al.(2022) that loyalty programmes that merely rely on tangible and financial gain, are less successful in creating loyal customers over time than marketing strategies that incorporate innate motivation, like gamification. The findings regarding perceived value's mediating role showed that it very partially mediates the relationship between e-customer loyalty and gamification in loyalty programmes.

6. Theoretical and Practical Implications

6.1. Theoretical Implications

Upon the study findings, the next implications can be provided. The academic implications are as follows: First, it is significant that the depth of the research was added by the construction of five factors like reward schemes that are competitive, enhancing client feedback, relationship-building and communication, and service customisation through theoretical consideration of the gamifications of loyalty programmes that was verified as a single dimension in the research area for hotels and OTAs. In the existing research area targeting hotels and OTAs, perceived value has been essentially

investigated as a single dimension, more precisely as a mediate-factor between gamifications of loyalty programmes and e-customer loyalty.

6.2. Practical Implications

The current study offers a number of management implications that take into consideration the advantages, facilitators, and outcomes of gamification adoption for successful marketing initiatives in the travel and hospitality industries (e.g., hotels and OTAs). The empirical implications are as follows: First, it was assured that only accuracy, timeliness, and usefulness for the gamifications of loyalty programmes had an effect on improving the perceived value and e-customer loyalty, followed by the continuous loyalty programme usage intention of the hotels and OTAs. It can be concluded that the more a consumer perceived that the gamifications of loyalty programmes provided by the hotels and OTAs were accurate, up-to-date, and worth using, the more reliable the hotels and OTAs appeared, resulting in an increase in continuous usage intention. Consequently, the hotels and OTAs should be planning the resources needed to build and develop websites and loyalty programmes that better meet the needs of online transactions and increase customer trust and success in a dynamic, competitive environment.

6. Research Limitations and Future Directions

This study had several limitations. Even if the research has made a contribution, there are still areas that warrant investigation. First, once the response rate was low, the sample's dimension was low; therefore, extrapolating the results should be done carefully. Due to insufficient data for relevant and trustworthy research, we were unable to look at how customer behaviour varied across OTAs and hotels in relation to the analysis's influence

factors. To compare the conclusions drawn from the current study with information gathered from users of other OTAs, more research ought to be done. Furthermore, more investigation is required to confirm and expand on the results of this study. Improvements should be made utilising more representative samples, both in terms of dimension and by including users of different OTAs and other target locations, in order to get over the present limits.

Recommendations

- Enhancing customer loyalty by offering several benefits through gamification when consumers check in every day and play consistently by getting for example rewards in the form of coins and points.
- Providing more support and financial resources necessary to increase the use and adoption of new e-marketing tools and applications in order to adopt appropriate gaming platforms and applications for their marketing campaigns.
- Providing technical support for the ease of use of electronic loyalty programs, while providing various visual means to clarify the mechanism of dealing with the possibility of errors occurring in use. And updating the different versions of the gaming software to accommodate different demographics, and provide quick and effective solutions to online problems”.
- The usage of game mechanics in loyalty programmes should be fun, informative, and challenging.

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تأثير التلعيب في برامج الولاء على تعزيز الولاء الإلكتروني للعميل: الدور الوسيط للقيمة المدركة من منظور الفنادق ووكالات السفر عبر الإنترنت

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الملخص

يهدف البحث إلى تحديد البحث إلى تحديد أثر تبني استخدام التلعيب في برامج الولاء على زيادة الولاء الإلكتروني للعملاء ، بالإضافة إلى التحقق من كيف يمكن للقيمة المدركة أن تعمل كوسيط في العلاقة بين التلعيب في برامج الولاء والولاء الإلكتروني للعميل، استناداً إلى بناءً على أدلة من عينة من العملاء من وكالات السفر عبر الإنترنت والفنادق في مصر. وتم استخدام المنهج الوصفي التحليلي كمنهجية للبحث. تم استطلاع عينة عشوائية بسيطة ممثلة لمجتمع الدراسة (٣٩٧). وقد أشارت نتائج نمذجة المعادلة الهيكلية (SEM) إلى أن التلعيب في برامج الولاء يؤثر بشكل كبير وإيجابي على الولاء الإلكتروني للعملاء والقيمة المدركة. وبالنظر إلى الدور الوسيط للقيمة المدركة، أظهرت النتائج أن القيمة المدركة تتوسط بشكل كبير العلاقة بين التلعيب في برامج الولاء والولاء الإلكتروني للعملاء. ووفقاً لهذه النتائج ، توصي الدراسة بأن تقوم الفنادق/وكالات السفر عبر الإنترنت بتعزيز الجهود الهادفة إلى الاستفادة من أدوات وتطبيقات التسويق الإلكتروني الجديدة والمتطورة (مثل التلعيب)

الكلمات الدالة: التلعيب، برامج الولاء، تلعيب برامج الولاء ، ولاء العميل، الولاء الإلكتروني للعميل، القيمة المدركة، وكالات السفر عبر الإنترنت.