Investigating Gamification Effect of Frequent Flyer Program on Brand Loyalty in the Aviation Industry

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Abstract

The frequent-flyer program is a loyalty program offered by airlines, also credited as the pioneer of gamification in services. This study empirically investigated the gamification effect of frequent-flyer programs on air passengers' brand loyalty. A conceptual model based on the gamification theory was suggested. A questionnaire-based survey method was used for data collection from domestic air passengers in India. Data were collected from 418 respondents selected using convenient purposive sampling, and 356 filled questionnaires were used for analysis. Covariance-based structural equation modeling was used for data analysis. The path analysis and mediation test supported that the FFP game-element was positively associated with the air passengers' loyalty. The psychological and behavioral outcomes of the game element fully mediated the relationship between the game element and the loyalty of air passengers towards aviation companies. This research would be helpful to the aviation managers to plan policies for enhancing loyalty.

Keywords : **aviation, brand loyalty, frequent-flyer program, gamification, mediation, motivation**

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Airlines are credited to be the first industry to incorporate gamification successfully in the form of frequent - flyer miles (Dale, 2014; Zuo et al., 2019). FFP is a reward system measured on points (miles) based on the distance traveled by the passenger or the value of the ticket purchased on their trips (Martín et al., 2011). FFP was invented to improve the airlines' revenue by increasing air passenger retention (Suzuki, 2003).

Gamification historically evolved to attract and engage customers (Gupta & Mathad, 2017; Helender, 2014); it was intended to either change or continue certain consumption-related behavior (Hamari et al., 2014). Further, gamification gained momentum after users accepted digital space (Hamari & Koivisto, 2014). Subsequently, the application of gamification proliferated into marketing (Hamari, 2017). For example, brand promotion, customer engagement, and understanding customer loyalty (Eisingerich et al., 2019; Hwang & Choi, 2020) as well as in other non-marketing areas such as health (Pyky et al., 2017) and education (Landers & Landers, 2014). However, being the limitless application of gamification, researchers explicitly ignored conceptualizing and theorizing for the world's oldest gamified service, 'FFP.'

Contextually, the FFP is characterized as a loyalty programme that reduces air passenger switching tendencies by increasing their recognition by airlines (De Boer & Gudmundsson, 2012). FFP is all about actively engaging airlines passenger through points and reward programs. The FFP accumulates the points (miles) and redeems them to receive enhanced service and status. It keeps air passengers motivated, ensuring engagement, and continuously retaining their loyalty to the airline brands (Zuo et al., 2019).

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The literature review by Hamari et al. (2014) on gamification indicated a significant gap in understanding gamification by applying theory. Also, in the extant marketing literature, FFP is referred to as a 'loyalty programme' (De Boer & Gudmundsson, 2012; Zuo et al., 2019), and mostly, its application as a gamified programme is ignored (Zuo et al., 2019). Thus, there is a need to understand and theorize gamification in the aviation context using a new and advanced methodology.

This study aims to provide a comprehensive analysis of the underlying mechanism of gamification in FFP. The study poses the following research questions: (a) what type of motivations are associated with gamification? (b) how do these motivations (intrinsic and extrinsic) influence the loyalty of air passengers?

To answer these research questions, gamification and its underlying conceptual constructs are conceptualized in the aviation domain based on consumer behavior and gamification theories; further, the empirical investigation of the relationship between the constructs is done to identify the gamification effect on passenger loyalty. This study contributes a significant input to the literature and aviation industry managers. This study is the first to explore the underlying motivation in gamification and examine the gamification effect of FFP on air passengers using structural equation modeling.

Literature Review

Frequent Flyer Programme

As the name suggests, the 'Frequent Flyer Program' (FFP) is a service quality attribute of airline companies (Martin et al., 2011). FFP initially started as rewarding flight miles to frequent passengers based on their air travel miles, then redemption on attaining a certain level (based on accumulated points) by offering subsidized tickets, seat upgrades, or special membership (elite) programs to affiliated clubs (De Boer & Gudmundsson, 2012). Motivated with such incentives, passengers are expected to stick to a single carrier (Lederman, 2007).

Gamification

Gamification in common parlance is described as applying game mechanics to non-game contexts for the gameful experience (Deterding et al., 2011; Huotari & Hamari, 2012). Gamification applies game elements to make non-game assignments more interesting (Landers et al., 2018).

In extant literature, much support is found for gamification and how advantageously it shapes people's behavior (Landers et al., 2018). The game elements involved in gamified applications positively influence people's behavior while experiencing gameplay (Deterding, 2015). Various game elements practically identified in various gamified applications in the business space are points, achievements, levels, missions (unlock specific rewards), contests, badges, leaderboards, etc. (Dale, 2014). These game elements are designed to provide a gameful experience that influences human psychology and behavior (Hamari et al., 2014; Huotari & Hamari, 2012; Landers, 2019).

In aviation, most commonly, the game element is the point system. A player (passenger) has to earn bonus points, that is, virtual currency, based on travel time and distance or ticket price, which can be later redeemed for future air travel, seat upgrades, or access to other elite services (Zuo et al., 2019).

The excitement in the game element is the accumulation and redemption of miles point when airlines announce some exciting incentives for passengers against accumulated points (Suzuki, 2003). The passenger feels the game experience due to the desire and possibility to get free travel or to experience the enjoyment associated with other superior or allied services without extra payments. These incentives compel passengers to earn more points and be in the game (Zuo et al., 2019).

Conceptual Framework and Hypotheses

It has been identified that there is a significant gap in literature understanding the effect of gamification on air passengers. Drawing knowledge from behavioral and psychological literature and taking contemporary research into account, this section attempts to explain the underlying motivation in gamification and develop a research framework and hypotheses.

According to Hamari et al. (2014), the operationalization of gamification differs contextually; thus, motivational affordance (game - element) associated with the game differs in the game design context. Hamari et al. (2014), after conducting a literature review on 24 empirical studies on gamification, promulgated that gamification has three sequential parts: motivational affordances, psychological outcomes, and behavioral outcomes. According to Zuo et al. (2019), in aviation, motivational affordance is the game element that psychologically associates the target consumers' behavior towards availing the service of the aviation firm (Deterding et al., 2011; Mekler et al., 2017).

The prominent theories to understand the motivational pull of the consumer in gamification context are the self-determination theory (Ryan & Deci, 2000), cognitive evaluation theory (Deci & Ryan, 1985), and organismic integration theory (Deci & Ryan, 1985). These theories are attributed to explain underlying psychology and behavioral outcomes. Also, the magnitude of the pull of consumers towards the product and service is explained due to the intrinsic and extrinsic motivation towards the object. In their study, Ryan et al. (2006) applied self-determination theory to understand the motivation affordance for video games and their effect on the psychological and behavioral outcomes. They found that perceived in-game autonomy and competence were associated with game enjoyment and wellbeing. Shi et al. (2022) studied the influence of gamification on online travel agencies for improving tourists' online shopping experience and revealed that the game affordance contributed positively and influenced the purchase intention during the e-shopping festival.

Similarly, in their literature review, Azouz et al. (2021), to understand the role motivations played in engaging user experience, found that the gamified design increased the adoption of gamified products. Furthermore, Landers (2014), in the theory of gamified learning, posited that in the non-game context, the game attribute affected the player's attitude. This attitude influences the distal outcome, that is, attitude mediates the relationship between the game elements and distal outcome. Thus, in the aviation context, the freedom and ability to earn points (miles), with an assured reward like seat upgrade or promotion to special membership (elite) programs evokes interest, enjoyment, and playfulness in passengers, thereby manifesting in psychological outcomes. Based on the above argument, it can be conjectured that game elements are the motivational affordances and influence psychological outcomes (motivation, attitude, and enjoyment). Hence, it is hypothesized that in the aviation context:

↳ **Ha1 :** Game elements are positively related to psychological outcomes.

According to Hamari et al.'s (2014) conceptualization of gamification, the intended outcome of gamification is also the behavioural outcome. The behavioural outcome is the activities or the behavior an organization is trying to encourage through gamification. Hamari et al. (2014) suggested that behavioral outcomes succeed psychological outcomes. Also, the classical psychological model supports that attitude and motivations stimulate action (Lavidge & Steiner, 1961). A study by Sabari Shankar (2020) identified that the behavioral outcome in repeat future travel is more for travelers experiencing excitement, happiness, and pleasantness with the current tour. Another study by Gadhiya and Panchal (2021) identified the continuance intention of social media app users and found that perceived usefulness, satisfaction, and enjoyment influenced continuance usage.

Furthermore, in their study on consumers' intention to continue using mobile wallets, Reddy and Rao (2019)

found that perceived usefulness, enjoyment, and satisfaction positively influenced future use. Thus, in the aviation context, when passengers enjoy receiving the reward or feel satisfied on receiving appreciation of people, or feeling pride for receiving a priority service, or experience mental peace when avoiding long check-in queues, or feeling esteemed when offered the membership of the elite club, or perceived benefit of points accumulation, or feel accomplished sophistication and elegance, such psychological outcomes directly influence the passengers' propensity to continue with the service, that is, the behavioral outcome. Hence, it is hypothesized that:

↳ **Ha2 :** Psychological outcomes are positively related to behavioral outcomes.

Theoretically, the frequent-flyer program is considered a relationship program in marketing literature; it is directed towards increasing passengers' engagement with the airlines. Development, maintenance, and enhancement of air passenger loyalty are the outcomes of all the marketing efforts (Dick & Basu, 1994). In marketing and branding literature, loyalty is defined as being deeply committed towards the brand so that a person reaches out to the same brand again in the future despite competitors' marketing efforts or situations calling to switch (Oliver, 1997). Brand loyalty is a favorable attitude and repeat patronage for products or services (Dick & Basu, 1994). The brand equity framework explains loyalty as an important consequent of cognitive, affective, and conative antecedents (Singh, 2018). Kunkel et al. (2021) studied attitudinal and behavioral loyalty for gamified mobile applications and found that consumer attitude influenced behavior; furthermore, gamified affordance added value to the consumer experience. Abou-Shouk and Soliman (2021) studied the impact of gamification on brand awareness loyalty in tourism and found that it increased consumer engagement, brand awareness, and loyalty.

Furthermore, Hwang and Choi (2020) investigated how gamification in loyalty programs affected consumer loyalty and found that gamified loyalty programs increased consumer loyalty and continuance participation. Moreover, Fathian et al. (2019) investigated the gamification effect on consumer loyalty of online stores and found a strong relationship. Thus, the brand loyalty of air passengers can be conjectured as an outcome of the psychological and behavioural outcomes of the gamification. Hence, it is hypothesized:

↳ **Ha3 :** Psychological outcomes due to gamification are positively related to brand loyalty.

↳ **Ha4 :** Behavioural outcomes due to gamification are positively related to brand loyalty.

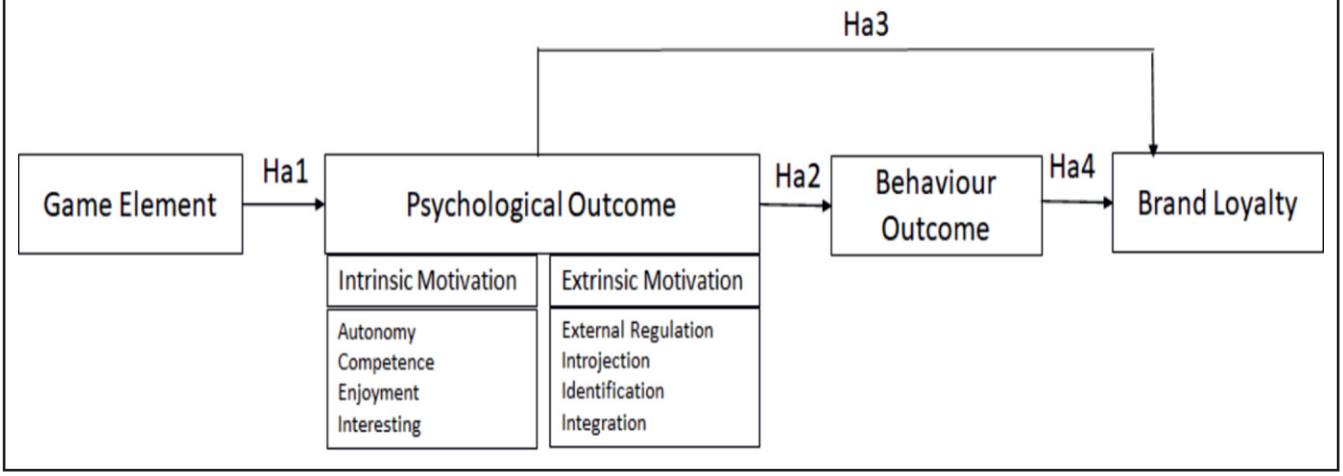
Gamification design succeeds when gamified programs affect individuals; consequently, a person's psychological states change, and the effect of these changes is visible in behavior (Landers et al., 2018). Understanding how gamification creates distal changes is also significant to study such a phenomenon. Garris et al. (2002) theorized that the relationship between game elements and the distal outcome was mediated by user judgment and user behavior, where user judgment is a psychological construct. Landers and Landers (2014) found in the empirical study of gamified learning that time spent on learning activity (behavior) mediated the relationship between the use of leader board (predictor) and learning (outcome). Similarly, the study conducted on gamification by Denny (2013) established motivation and enjoyment as a mediator (Cheong et al., 2013). Based on the above evidence and arguments, the mediation relationship is hypothesized as:

↳ **Ha5 :** Game elements will have a causal positive indirect relationship with brand loyalty via the intermediary causal effect of the psychological outcome.

↳ **Ha6 :** Game elements will have a causal positive indirect relationship with brand loyalty via the sequential intermediary causal effect of the psychological outcome on behavior outcome and behavior outcome on brand loyalty.

A conceptual research framework and causal relationship between the constructs are presented in Figure 1.

Figure 1. ***Conceptual Research Framework***



It is evident from the framework that there are four latent constructs, game elements (GM), psychological outcome (motivation) (PO), behavioral outcome (BO), and distal outcome (i.e., brand loyalty as BL). The psychological outcome includes intrinsic and extrinsic motivation (IM and EM, respectively), and extrinsic motivation is measured through the sub-constructs: external regulation (ER), introjection (IJ), identification (ID), and integration (IG).

Methodology

This study aims to investigate the gamification effect of FFP on air passengers' loyalty. To achieve this, a descriptive (empirical) study is designed by framing the research model and hypotheses. Primary data were collected from domestic air passengers through a questionnaire. Construct validity and reliability of the scale are tested using EFA and CFA; further hypotheses are tested using covariance-based structural equation modeling using IBM AMOS 21.

Questionnaire Design

The survey instrument consisted of two parts; the first part gathered information about the respondents' demographic profile. The second part consisted of item scales to measure the constructs – perception towards the game element, psychological outcome, behavioral outcome, and brand loyalty.

The constructs in the study are the operationalization of the concept given by Hamari et al. (2014) for gamification and Ryan and Deci (2000) for intrinsic and extrinsic motivation. All measures of constructs are presented in Table 1. A panel of five experts evaluated each statement for its content and face validity. To ensure that the items were relevant for the research, the panel included two peer academicians and three managers from the aviation industry. The measures consisted of 7-point Likert scale items, ranging between 1 *("strongly disagree")* and 7 *("strongly agree")* except for the measure items for game elements which are measured on the 7 - point Likert scale type items, ranging from 1 *("too little")* to 7 *("too much")*. Brand loyalty is measured using three scales based on manifest attitudinal and behavioral brand loyalty (Chaudhuri & Holbrook, 2001; Dick & Basu, 1994).

Table 1. ***Questionnaire Items***

Construct	Variable		Items
	2nd Order	Ist Order	
Game Element	---		I accumulate frequent flyer program point miles. (*GM_1*)
			I earn frequent flyer program point miles. (*GM_2*)
			I redeem frequent flyer program point miles. (*GM_3*)
Psychological Outcome	Intrinsic Motivation	---	I like achieving some levels in the frequent flyer program. (*IM_1*)
			It is interesting to be a member of the frequent flyer program. (*IM_2*)
			It is always fun to see what offer is next in the frequent flyer program. (*IM_3*)
	Extrinsic Motivation	External Regulation	I am a frequent flyer program member as other people appreciate it. (*ER_1*)
			I am a member of the frequent flyer program because it gives me reward points. (*ER_2*)
			It is worth to get money value back in the form of points. (*ER_3*)
		Introject Regulation	It is a matter of pride to be a member of airlines' frequent flyer program. (*IJ_1*)
			I would have felt anxious about the quality of service delivery if I am not a member of the frequent flyer program. (*IJ_2*)
			I would feel embarrassed if I am not a member of the frequent flyer program. (*IJ_3*)
		Identified Regulation	It is beneficial to get seat upgraded due to the frequent flyer program membership. (*ID_1*)
			To receive priority services, I am a frequent flyer program member. (*ID_2*)
			The frequent flyer program provides me with aesthetic lounge access. (*ID_3*)
		Integrated Regulation	I feel accomplished being a member of the frequent flyer program. (*IG_1*)
			Being a member of the frequent flyer program motivates me to receive better services. (*IG_2*)
			Being a member of the frequent flyer program inspires me to ask for better services. (*IG_3*)
Behaviour Outcome	---		I will recommend my friend to become a frequent flyer program member. (*BO_1*)
			I will continue to be a member of the frequent flyer program. (*BO_2*)
			If another frequent flying programme is not different, I will only go for this programme. (*BO_3*)
Brand Loyalty	---		I will recommend this airline to my friends. (*BL_1*)
			I will continue my future travel with this airline. (*BL_2*)
			I feel attached to this airline. (*BL_3*)

Data Collection

An e-questionnaire based survey was conducted at international airports in the National Capital Region of India in December 2019. The minimum sample size (n = 385) needed for the study was determined using the formula: $n = Z^2\ p\ (1 - p)/m^2$, where Z = 1.96 for a 95% confidence level, p = 0.5, m (margin of error) = 0.05 with 95% confidence interval. Four hundred eighteen domestic flying passengers participated in the study. Participants were selected using the purposive – convenience sampling method. In the airport-intercept survey, participants had to be the members of FFP of national airlines, that is, Air India, Air Asia, Go Air, Indigo, Spice Jet, and Vistara (Singh, 2021). Surveyors shared e-questionnaire links to the air passengers after confirming their existing membership to

Table 2. ***Respondents' Demographic Profile and Frequent-Flyer Programme Membership***

	Characteristics	Frequency (Respondents)	Composition Ratio (%)
Gender	Male	182	51.1
	Female	174	48.9
Age	24 years old or younger	100	28.1
	25 – 34 years old	96	27
	35 – 44 years old	60	16.9
	45 – 54 years old	43	12.1
	55 years old or older	57	16
Occupation	Students	90	25.3
	Businessman/woman	75	21.1
	Professional	98	29.5
	Salaried	93	26.1
Family annual income (INR)	500,000 or less	80	22.5
	500,001 – 1,000,000	81	22.8
	1,000,001 – 1,500,000	102	28.7
	1,500,001 and above	93	26.1
Membership of Frequent	Air Asia – BIG Membership	65	18.3
flyer programme	Air India (Star Alliance member) – Flying Returns	56	15.7
	Go Air – Go Club	39	11.5
	Indigo – 6E Rewards	103	28.4
	SpiceJet – Spice Club	49	13.8
	Vistara – Club Vistara	44	12.4
Total number of respondents		**356**	**100%**

FFP of any national carrier. Out of the 418 filled questionnaires, 62 questionnaire responses were found to be incomplete. After excluding the incomplete questionnaires, 356 respondents' responses were used to analyze the data. Table 2 shows the demographic profile of the respondents and the membership of FFP.

Measurement Validity

Scale validation requires the fulfillment of convergent and discriminant validity. Confirmatory factor analysis establishes convergent and discriminant validity (Hair et al., 2014). IBM AMOS 23 was used for the analysis. The CFA results for each construct with scale items are presented in Table 3. As evident, the fit indices are highly significant (χ^2 *(df)* = 399.171 (224), $p < 0.01$, χ^2 / *df* = 1.782), indicating that the model fails to fit in an absolute sense. Other goodness of fit measures, $\chi^2/df = 1.782$, which is less than 3 and GFI = 0.91, AGFI = 0.89, CFI = 0.97, NFI = 0.93 are all greater than the recommended value of 0.9 (Bagozzi & Yi, 1988) ; RMSEA = 0.047. Here, the value less than 0.05 indicates a good fit. Also, all standardized factor loadings are found significant between 0.60 and 0.90.

The CR and AVE are calculated (Table 3). The construct reliability (CR) is above the recommended value of 0.7, and each construct explains more than 50% of the variance (Table 3) (Bagozzi & Yi, 1988). Also, Cronbach's alpha value, the reliability for the survey tool, is 0.89.

Table 3. *Confirmatory Factor Analysis Results*

Latent Construct	Observed Variable	Standardized Loading (λ)	Construct Reliability (*CR*)	Average Variance Extracted (*AVE*)
Game Element (*GM*)	*GM_1*	0.743*	0.81	0.58
	GM_2	0.754*		
	GM_3	0.793*		
Intrinsic Motivation (*IM*)	*IM_1*	0.858*	0.78	0.54
	IM_2	0.584*		
	IM_3	0.742*		
External Regulation (*ER*)	*ER_1*	0.866*	0.90	0.75
	ER_2	0.898*		
	ER_3	0.846*		
Introjection Regulation (*IJ*)	*IJ_1*	0.876*	0.85	0.65
	IJ_2	0.823*		
	IJ_3	0.728*		
Identification Regulation (*ID*)	*ID_1*	0.698*	0.82	0.60
	ID_2	0.862*		
	ID_3	0.770*		
Integration Regulation (*IG*)	*IG_1*	0.866*	0.91	0.78
	IG_2	0.886*		
	IG_3	0.901*		
Behaviour Outcome (*BO*)	*BO_1*	0.758*	0.79	0.56
	BO_2	0.735*		
	BO_3	0.762*		
Brand Loyalty (*BL*)	*BL_1*	0.856*	0.80	0.57
	BL_2	0.753*		
	BL_3	0.643*		

*$p < 0.001$

Model Fit : χ^2 (*df*) = 399.171 (224), $p < 0.01$, χ^2 / *df* = 1.782, GFI = 0.916, AGFI = 0.89, CFI = 0.97, RMSEA = 0.047 ; *n* is the number of items in each construct, $e = (1 - \lambda^2)$. (Fornell & Larcker, 1981, p.45)

As evident from Table 4, the diagonal is bold, that is, the square root of AVE for the constructs. Except for introjected regulation, identified regulation, and internalized regulation, the correlation coefficient of all others is greater than the correlation coefficients of corresponding inter-constructs, confirming discriminant validity (Fornell & Larcker, 1981).

From Table 4, it is also evident that the constructs of extrinsic motivation show strong relationships (average $r = 0.85$) between themselves, suggesting a higher-order common factor (Kline, 2005). Consequently, another CFA model with a second-order factor labeled as extrinsic motivation (EM) is developed, as suggested by Chen et al. (2005). The model fitness statistics suggest a good fit (Table 3). The correlation of external motivation with game elements, intrinsic motivation, behavior outcome, and brand loyalty is 0.629, 0.707, 0.789, 0.625, respectively, and is significant at $p < 0.001$. Thus, the scale exhibits both convergent and discriminant validity and is fit for the path analysis. The descriptive statistics and correlation table for the measurement items are given in the appendix.

Table 4. ***Inter-Construct Correlation Table***

	GE	*IM*	*ER*	*IJ*	*ID*	*IG*	*BO*	*BL*
Game Element	**0.76**							
Intrinsic Motivation	0.63*	**0.74**						
External Regulation	0.48*	0.64*	**0.87**					
Introjection Regulation	0.57*	0.62*	0.84*	**0.81**				
Identification Regulation	0.56*	0.62*	0.85*	0.89*	**0.78**			
Internalization Regulation	0.51*	0.69*	0.82*	0.81*	0.89*	**0.88**		
Behaviour Outcome	0.44*	0.61*	0.68*	0.70*	0.73*	0.76*	**0.75**	
Brand Loyalty	0.38*	0.55*	0.50*	0.58*	0.56*	0.62*	0.69*	**0.76**

Note. *$p < 0.01$; the square root of AVE is in bold.

Common Method Bias

There is a possibility of method bias when data are collected for dependent and independent variables from the same respondents. It is suggested to measure the common method variance (Podsakoff & Organ, 1986). Harman's (1967) one-factor test revealed that the one-factor test explains 38% (less than 50%) covariance; hence, the dataset is fit for path analysis.

Analysis and Results

For operationalizing gamification in the aviation context, a conceptual model is developed. The psychological outcome latent construct is formed as a higher-order construct for intrinsic and extrinsic motivation to provide a more parsimonious and interpretable model. The law of parsimony posits that in scientific inquiry with multiple but related theoretical constructs, a single construct would suffice to explain the phenomenon (Cole et al., 2012). Next, the relationship between the constructs: game element, psychological outcome, behavioral outcome, and brand loyalty is estimated using covariance-based structural equation modeling (Anderson & Gerbing, 1988). The path analysis results, fit statistics, and the standardized path coefficients are provided in Figure 2.

The study finds that the direct effect of the game element on the psychological outcome is positive and significant ($\beta = 0.636$, $p < 0.01$), thereby Ha1 is accepted. The psychological outcome is positively related to the behavioral outcome ($\beta = 0.824$, $p < 0.01$), and the behavioral outcome is positively related to brand loyalty ($\beta = 0.432$, $p < 0.01$). Thus, Ha2 and Ha4 are both accepted. The direct effect of the psychological outcome on brand loyalty is insignificant (0.319; $p > 0.05$; Table 5). Thus, Ha3 is not accepted, while the indirect relationship between the psychological outcome and brand loyalty is positive and significant ($\beta = 0.356$, $p > 0.001$), suggesting mediation of behavioral outcome.

Test of the hypothesized mediated role of the psychological outcome on the relationship between game elements and brand loyalty is done through Sobel Test (Sobel, 1982). The unstandardized path coefficient and standard error for path : game-element to psychological outcome is ($B = 0.619$; $p < 0.001$, Std. err = 0.072, $\beta = 0.636$), and for psychological outcome to brand loyalty is ($B = 0.386$; ns, Std. err = 0.150, $\beta = 0.319$). The unstandardized indirect effect of the game element on brand loyalty is 0.238 (the product of unstandardized path coefficient from game element to psychological outcome and the path from psychological outcome to brand loyalty). The Sobel test statistics indicate that the mediation is significant (Test stat : 2.46; Std Error : 0.096; p-value: 0.013). The results of the Sobel test provide strong support for Ha5. Thus, Ha5 is accepted.

Next, the hypothesized sequential mediated role of psychological and behavioral outcomes on the relationship between game element and brand loyalty is tested. The standardized indirect effect is 0.429 ($p < 0.02$). The 95% bootstrap confidence interval of the standardized indirect effect (obtained using 10,000 bootstrap samples) is 0.318 to 0.550, LCL and UCL, respectively. The analysis results provide strong support for Ha6; thus, Ha6 is accepted.

Table 5. ***Structural Equation Model Results (Standardized Results) and Hypothesis Testing***

Path	Direct Effect	Indirect Effect	Total Effect	Hypotheses Results
GM → PO	0.636**	--	0.636**	Failed to reject Ha1
PO → BO	0.824**	--	0.824**	Failed to reject Ha2
PO → BL	0.319 (*ns*)	0.356**	0.675**	Failed to accept Ha3
BO → BL	0.432*	--	0.432*	Failed to reject Ha4
# *GM → PO → BL*	--	0.202**	0.429**	Failed to reject Ha5
@ *GM → PO → BO → BL*	--	0.429**	0.429**	Failed to reject Ha6

Model fit : χ^2 (*df*) = 460.076 (242), $p < 0.01$, χ^2 / *df* = 1.901, GFI = 0.91, AGFI = 0.89, CFI = 0.96, RMSEA = 0.050.

* $p < 0.05$; ** $p < 0.001$; ns = non - significant.

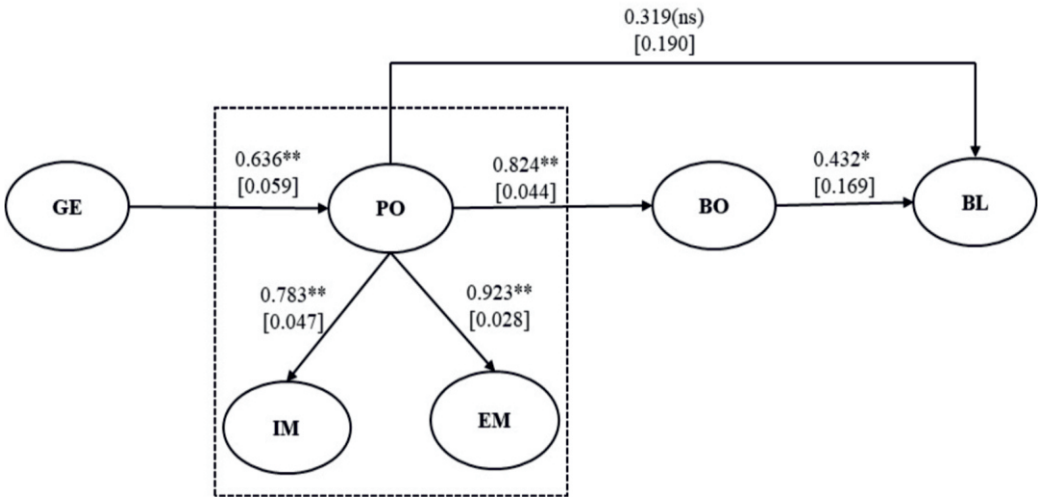
Test for Mediation : Sobel test (Sobel, 1982) ; DV = brand loyalty; IV = game element; MV = psychological outcome.

Sobel Test Statistics : Test stat: 2.46; Std Error: 0.096; *p* - value: 0.013 (5% significance).

@ **Test for Sequential Mediation :** number of bootstrap samples = 10,000; DV = brand loyalty; IV = game element; Sequential mediator variable (SMV) - first mediator: psychological outcome; next sequential mediator: behavioral outcome.

Bootstrap statistics at 95% confidence level is LCL: 0.318; UCL: 0.550; Std Err : 0.06 ; $p < 0.001$.

Figure 2. ***Best Fitting Structural Model***



Note. The results represent the standardized path coefficients of the structural model. Values in the parenthesis report the standard error value.
Model Fit : χ^2 (*df*) = 460.076 (242), $p < 0.01$, χ^2 / *df* = 1.901, GFI = 0.91, AGFI = 0.89, CFI = 0.96, RMSEA = 0.050. * $p < 0.05$; ** $p < 0.001$; ns = nonsignificant.

Discussion

This study investigates the gamified mechanism for aviation and tests it empirically. This study makes multiple contributions to gamification theory and practice. First, this study contextualizes gamification in the aviation industry. Second, this study successfully establishes the association between the FFP game element and air passenger's positive psychological outcomes (Ha1). This finding is supported by Landers and Landers (2014).

Moreover, this study combines all the motivating factors explaining the effect of gamification on passenger loyalty. The investigation establishes that the game element is positively and significantly associated with intrinsic motivation (0.497; $p < 0.001$). This finding is consistent with findings in the video game context (Ryan et al., 2006). The phenomenon of intrinsic motivation is important in gamification because it is likely to engage consumers in exploratory, playful, and curiosity-driven behavior, even without reinforcement or rewards (Ryan & Deci, 2000).

Notably, the game element is also positively associated with extrinsic motivation (0.587; $p < 0.001$). This finding supports that the passengers are motivated towards the game due to various separable outcomes. The extrinsic motivation of passengers behind the game includes an expectation of being rewarded, socially appreciated, attainment of pride, avoiding anxiety and embarrassment, benefitting from a free ticket, seat upgrade, lounge access, or hassle-free check-ins.

Third, this study establishes that the psychological outcome positively influences the behavioral outcome (Ha2), ensuring the continuation of the membership despite competing airlines' situational influences and marketing efforts. This finding supports the classical psychological model of Lavidge and Steiner's (1961) affective and conative relationship.

Fourth, this study establishes that the psychological outcome does not directly influence brand loyalty (an outcome of interest) (Ha3); in the presence of behavioral outcomes, the influence of psychological outcomes on brand loyalty is insignificant (Table 5). However, the indirect and total effect of the psychological outcome on brand loyalty is positive and significant, supporting full mediation of the effect of the psychological outcome on brand loyalty by the behavioral outcome.

Fifth, this study establishes the direct effect of behavior outcome on brand loyalty (Ha4). The passengers who assure their continuance to the program are also vocal about it in their social circle, which manifests in loyalty towards the airlines whose gamified membership they hold. The positive behavioral outcome continues with the game and assures brand loyalty.

This study investigates the mediated role of psychological outcome and the sequential mediated role of psychological and behavioral outcome between the game element and brand loyalty. The study establishes that game elements affect brand loyalty via psychological outcomes. Also, the game elements affect brand loyalty via sequential mediation of psychological and behavioral outcomes. These findings align with the results obtained by Garris et al. (2002), advocating the relationship between game elements and distal outcome mediated by user judgment and user behavior, where user judgment is a psychological construct. This study also exhibits complete mediation of psychological and behavioral outcomes between the game element and brand loyalty, similarly conjectured by Landers and Landers (2014).

Managerial Implications and Conclusion

The findings of this study will help aviation managers unleash the gameful experience of passengers for both financial gain (i.e., sales, revenue) and non-financial benefits (i.e., branding, air passenger relationship, air passenger engagement). Second, the investigation of the psychological outcome of gamification elucidates the influence of gamification on passenger motivation. This information will help the managers frame allotment and

redemption of points and provide other value-added services to the passengers they value the most. The study establishes that passengers are more motivated due to external gains or benefits accrued due to program membership than the playful or enjoyment feelings. Lastly, the behavior exhibited by members towards the program foretells a person's possibility towards availing of the airline's services in the future. On recognizing a drift, managers should proactively take action to prevent the loss of air passengers through the use of other promotional tools or personalized attention and marketing.

Gamification FFP influences air passengers; this phenomenon was needed to be verified. This gap raised the need to evaluate the influence of gamification on air passengers. This study provides meaningful empirical work demonstrating this effect. It is expected that this study will provide a robust theoretical basis for continued research in various aspects of gamification applied in aviation and other industries.

Limitations of the Study and Scope for Future Research

The key limitation of this study is that the data were collected through self-reporting; so, the possibility of bias cannot be ruled out completely. These limitations on the current study also bring out exciting avenues for future research. There is a need to develop a standardized gamification measurement scale validated in the aviation context. Furthermore, the studies in the future should try to investigate the moderation effects of the demographic and psychographic profile of the consumers. Lastly, this study's proposed research model and hypotheses were tested in the domestic carrier context (i.e., Indian carriers). The same research model can be replicated in other countries and international carriers.

Author's Contribution

Dr. Balgopal Singh conceived the idea, extracted research papers of high repute, and developed the research design to undertake the empirical study. The numerical computations were done by the author using AMOS. The manuscript was written and checked for grammar and language using Grammarly.

Conflict of Interest

The author certifies that he has no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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Appendix

Appendix Table A1*. Descriptive Statistics*

Measurement Scale	Mean	Std. Deviation
IM_1	5.36	1.344
IM_2	4.93	1.438
IM_3	5.67	1.148
GM_1	5.38	1.246
GM_2	5.20	1.244
GM_3	5.45	1.205
ER_1	6.17	.990
ER_2	6.13	1.042
ER_3	6.02	1.122
IJ_1	5.89	1.127
IJ_2	6.05	1.255
IJ_3	5.76	1.246
ID_1	5.81	1.192
ID_2	6.25	.998
ID_3	5.92	1.151
IG_1	6.21	.992
IG_2	6.01	1.032
IG_3	6.13	.993
BO_1	5.72	1.204
BO_2	5.59	1.299
BO_3	5.75	1.102
BL_1	5.51	1.290
BL_2	5.31	1.340
BL_3	5.64	1.242

Appendix Table A2. ***Item Correlation Table***

	IM_1	IM_2	IM_3	GM_1	GM_2	GM_3	ER_1	ER_2	ER_3	IJ_1	IJ_2	IJ_3	ID_1	ID_2	ID_3	IG_1	IG_2	IG_3	BO_1	BO_2	BO_3	BL_1	BL_2	BL_3
IM_1	1	.524**	.628**	.352**	.407**	.442**	.477**	.483**	.463**	.456**	.417**	.422**	.463**	.452**	.407**	.515**	.530**	.570**	.386**	.329**	.442**	.378**	.396**	.385**
IM_2	.524**	1	.420**	.251**	.261**	.283**	.268**	.351**	.295**	.324**	.249**	.340**	.303**	.284**	.200**	.318**	.330**	.337**	.215**	.306**	.215**	.232**	.255**	.273**
IM_3	.628**	.420**	1	.355**	.425**	.395**	.476**	.449**	.396**	.411**	.426**	.377**	.363**	.415**	.302**	.393**	.471**	.490**	.361**	.334**	.400**	.304**	.340**	.286**
GM_1	.352**	.251**	.355**	1	.564**	.593**	.308**	.299**	.303**	.381**	.316**	.413**	.283**	.384**	.320**	.330**	.321**	.377**	.259**	.266**	.281**	.227**	.144**	.318**
GM_2	.407**	.261**	.425**	.564**	1	.594**	.301**	.305**	.313**	.372**	.286**	.300**	.301**	.362**	.287**	.346**	.324**	.374**	.251**	.156**	.257**	.221**	.196**	.255**
GM_3	.442**	.283**	.395**	.593**	.594**	1	.385**	.345**	.356**	.439**	.370**	.300**	.308**	.397**	.332**	.366**	.295**	.375**	.302**	.198**	.309**	.255**	.220**	.315**
ER_1	.477**	.268**	.476**	.308**	.301**	.385**	1	.787**	.716**	.643**	.610**	.516**	.561**	.609**	.598**	.646**	.600**	.627**	.434**	.413**	.553**	.310**	.289**	.391**
ER_2	.483**	.351**	.449**	.299**	.305**	.345**	.787**	1	.761**	.647**	.599**	.532**	.582**	.637**	.607**	.657**	.645**	.664**	.418**	.415**	.513**	.355**	.331**	.388**
ER_3	.463**	.295**	.396**	.303**	.313**	.356**	.716**	.761**	1	.661**	.631**	.535**	.563**	.595**	.587**	.653**	.612**	.616**	.440**	.378**	.486**	.377**	.333**	.403**
IJ_1	.456**	.324**	.411**	.381**	.372**	.439**	.643**	.647**	.661**	1	.726**	.625**	.546**	.659**	.610**	.636**	.611**	.644**	.471**	.437**	.472**	.440**	.345**	.424**
IJ_2	.417**	.249**	.426**	.316**	.286**	.370**	.610**	.599**	.631**	.726**	1	.605**	.516**	.627**	.591**	.596**	.582**	.580**	.459**	.425**	.384**	.396**	.299**	.375**
IJ_3	.422**	.340**	.377**	.413**	.300**	.300**	.516**	.532**	.535**	.625**	.605**	1	.437**	.558**	.525**	.555**	.572**	.526**	.449**	.419**	.419**	.367**	.307**	.383**
ID_1	.463**	.303**	.363**	.283**	.301**	.308**	.561**	.582**	.563**	.546**	.516**	.437**	1	.610**	.529**	.571**	.494**	.535**	.337**	.318**	.432**	.328**	.333**	.310**
ID_2	.452**	.284**	.415**	.384**	.362**	.397**	.609**	.637**	.595**	.659**	.627**	.558**	.610**	1	.661**	.737**	.674**	.696**	.528**	.430**	.475**	.404**	.299**	.354**
ID_3	.407**	.200**	.302**	.320**	.287**	.332**	.598**	.607**	.587**	.610**	.591**	.525**	.529**	.661**	1	.612**	.567**	.585**	.460**	.383**	.479**	.391**	.334**	.354**
IG_1	.515**	.318**	.393**	.330**	.346**	.366**	.646**	.657**	.653**	.636**	.596**	.555**	.571**	.737**	.612**	1	.756**	.763**	.526**	.456**	.559**	.436**	.323**	.431**
IG_2	.530**	.330**	.471**	.321**	.324**	.295**	.600**	.645**	.612**	.611**	.582**	.572**	.494**	.674**	.567**	.756**	1	.820**	.492**	.461**	.569**	.493**	.387**	.434**
IG_3	.570**	.337**	.490**	.377**	.374**	.375**	.627**	.664**	.616**	.644**	.580**	.526**	.535**	.696**	.585**	.763**	.820**	1	.520**	.445**	.559**	.481**	.379**	.447**
BO_1	.386**	.215**	.361**	.259**	.251**	.302**	.434**	.418**	.440**	.471**	.459**	.449**	.337**	.528**	.460**	.526**	.492**	.520**	1	.607**	.523**	.502**	.368**	.356**
BO_2	.329**	.306**	.334**	.266**	.156**	.198**	.413**	.415**	.378**	.437**	.425**	.419**	.318**	.430**	.383**	.456**	.461**	.445**	.607**	1	.572**	.409**	.328**	.316**
BO_3	.442**	.215**	.400**	.281**	.257**	.309**	.553**	.513**	.486**	.472**	.384**	.419**	.432**	.475**	.479**	.559**	.569**	.559**	.523**	.572**	1	.452**	.373**	.425**
BL_1	.378**	.232**	.304**	.227**	.221**	.255**	.310**	.355**	.377**	.440**	.396**	.367**	.328**	.404**	.391**	.436**	.493**	.481**	.502**	.409**	.452**	1	.662**	.523**
BL_2	.396**	.255**	.340**	.144**	.196**	.220**	.289**	.331**	.333**	.345**	.299**	.307**	.333**	.299**	.334**	.323**	.387**	.379**	.368**	.328**	.373**	.662**	1	.482**
BL_3	.385**	.273**	.286**	.318**	.255**	.315**	.391**	.388**	.403**	.424**	.375**	.383**	.310**	.354**	.354**	.431**	.434**	.447**	.356**	.316**	.425**	.523**	.482**	1

Note. *** Significance at 0.001.

About the Author

Balgopal Singh (PhD) is an Associate Professor in the Faculty of Management Studies at Banasthali Vidyapith, Rajasthan. His area of research is branding and aviation management. He has published more than 25 articles in national and international journals of repute. A few of his articles were published in the *Journal of Air Transport Management* and *The TQM Journal*.