

A Study on Impact of Gamification on Customer Loyalty Towards Apollo Pharmacy In Hyderabad City

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Abstract: This study examines how gamification affects customer loyalty with a specific focus on Apollo Pharmacy in Hyderabad, a major metropolis with a tech-savvy population. Gamification—the process of introducing game-like elements like challenges, badges, rewards, and points into non-gaming contexts—is gaining popularity as a customer engagement strategy across all industries. This study looks at how these gamified elements affect customer behavior, loyalty, and emotional ties to Apollo Pharmacy. Structured surveys were used to collect data from 128 participants, and correlation and regression analysis techniques were applied for analysis.

The results show that gamification and customer loyalty are strongly positively correlated, especially for younger age groups (less than 35), who demonstrated greater awareness, engagement, and trust in Apollo's loyalty programs. Redeemable points, digital health challenges, and referral rewards were found to be important loyalty-boosting elements. The study affirms that gamification can increase brand loyalty and repeat business, but it also emphasizes the need for greater awareness, customization, and simplification, particularly for senior citizens. The study adds to the scant body of knowledge on gamification in the retail pharmacy industry in India and offers practical suggestions for improving client interaction with gamified loyalty programs.

Keywords: Gamification, Customer loyalty, Apollo pharmacy, Business rewards, Loyalty programs

I. INTRODUCTION

Customer loyalty in today's fiercely competitive retail and healthcare sectors is increasingly dependent on engagement tactics that add value beyond the transaction, rather than just product quality or price. Gamification, or the use of game design components like challenges, badges, points, and rewards outside of games, is one such creative strategy. Because of its potential to increase customer engagement, satisfaction, and long-term loyalty, this technique is becoming more and more popular across industries.

Gamification has been shown to have a positive impact on consumer behavior in numerous studies. Gamified loyalty programs improve user experience by fostering a sense of enjoyment, accomplishment, and advancement, all of which lead to a rise in brand attachment and repeat business, claim Hwang & Choi (2019). Likewise, Punwatkar & Verghese (2025) showed that gamification, when used carefully, can promote Pharmacies in India's retail healthcare industry are looking for innovative ways to set themselves apart from the competition. With more than 4,500 locations, Apollo Pharmacy is the biggest pharmacy chain in India. It has already established a standard for gamification in this industry by collaborating with platforms such as PAYBACK to provide loyalty points and rewards. But little scholarly research has been done on the real effects of gamified programs on customer loyalty, particularly in a big city like Hyderabad where the customer base is tech-savvy and dynamic. Prior localized studies have looked at Apollo Pharmacy's customer satisfaction and perceptions, including those by Santu Dey (2010) and Tumakuru City surveys (2021), but they haven't looked at the direct connection between gamification and loyalty. In order to close this gap, the current study looks into how gamification components affect client loyalty.

It is anticipated that the study's conclusions will provide marketers and pharmacy retailers with useful information for gamification-based customer retention, user experience, and long-term competitive advantage building.

II. REVIEW OF LITERATURE

Y. K. Chou (2015) Offered helpful advice on how to create gamification systems, with a particular emphasis on using the Octalysis framework to increase engagement and intrinsic motivation.

Kotler and Keller (2016) This work supported the strategic backdrop for implementing gamification by offering theories on customer engagement and loyalty, despite not being explicitly gamification focused. "Actionable Gamification: Beyond Points, Badges, and Leaderboards."

Lurchenko (2017) Centred on gamification applications in healthcare and pharmacy, demonstrating how incentives for healthy behaviour (such as adherence tracking) boost patient loyalty and encourage repeat business.

According to Hwang & Choi (2019) Interactive systems, leaderboards, and badges improve customer loyalty and brand attitude. Their research found a strong correlation between enhanced customer retention and gamified systems.

According to Singh & Rana's (2020) Review of the literature, gamification has a major impact on consumer behaviour, influencing both purchase intention and emotional brand connection.

In 2020, Behl et al. Conducted a survey of 1,073 e-commerce studies that were indexed by SCOPUS. They came to the conclusion that gamified features greatly increased online retail customer retention, pointing to obvious similarities with pharmacy apps.

Ani Rakhmanita et al. (2023) Carried out a comprehensive literature review (2010–2022) on gamified loyalty programs in mobile apps. They discovered that gamification increases point redemption, user satisfaction, and engagement with branded apps; however, they also pointed out theoretical gaps and practical implementation challenges. In their review of gamification in digital marketing.

III. RESEARCH METHODOLOGY

Objectives of The Study

1. To Examine the Relationship between Gamification and Customer Loyalty.
2. To Investigate the Impact of Gamification on Customer Loyalty at Apollo Pharmacy.

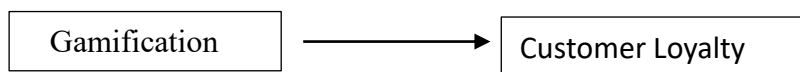
Hypotheses of The Study

H₀₁ (Null Hypothesis): There is no Significant Relationship between Gamification and Customer Loyalty.

H₀₂ (Null Hypothesis): At Apollo Pharmacy, Gamification has not had any Impact on Customer Loyalty.

This discussion highlights the core principles that are the building blocks of the research process and serve a pivotal purpose in directing the general advancement of the study. It gives readers valuable information on the tools and methods used by the researcher for gathering and analyzing data. Through the use of these techniques, the study guarantees that its findings are accurate and dependable, leading ultimately to informed and useful conclusions.

RESEARCH MODEL



Gamification Factors: - Points, Rewards, Challenges, Badges, Rewards.

Customer Loyalty Factors: - Repeat Purchase, Satisfaction, Brand Trust.

SAMPLE SIZE & SAMPLE TECHNIQUE

The sample size chosen for this research is 130 respondents. To help each member of the population stand an equal chance of being picked, the Convenience sampling method was used. This technique reduces bias and increases the representativeness of the sample, making it more reliable and generalizable, the research findings

Sample Size: 130 Respondents

Sample Technique: Convenience Sampling

SOURCES OF DATA COLLECTION

Primary Data: Primary data was gathered using a well-structured questionnaire that was taken by people belonging to different social groups, workplaces, and residential areas in Hyderabad.

Secondary Data: Secondary data was collected from research articles, academic journals, books, and other reliable websites.

STATISTICAL TOOLS

Correlation Analysis: Correlation Analysis is the relationship between Gamification Factors and Customer Loyalty.

Regression Analysis: To Examine how Gamification (independent variable) influences Customer (dependent variable), particularly in the context of Apollo Pharmacy.

IV. DATA ANALYSIS & INTERPRETATION

This study examines how Gamification affects patron loyalty in the particular setting of Apollo Pharmacy in Hyderabad City. An excellent environment for investigating how gamified elements like badges, rewards, loyalty points, and achievement levels affect consumer behaviour is provided by Apollo Pharmacy, one of the biggest retail pharmacy chains in India. Targeting an urban, tech-savvy consumer base that is more likely to engage with digital loyalty programs and gamification features, the scope is geographically restricted to Hyderabad. Customers who are aware of or take part in loyalty programs like PAYBACK, which Apollo Pharmacy currently uses, are the study's main focus. It highlights: Gamification of customer engagement. the effects of game-like elements on emotions and psychology (e.g., satisfaction, enjoyment, brand connection).

Table 1: Profile of Respondents

Age	Frequency	Percent%	Gamified Experience	Frequency	Percent%
Under 18	69	54%	Yes, definitely	65	50.78%
18-25	37	29%	To some extent	56	43.75%
26-35	17	13%	Not at all	7	5.46%
45+	5	4%	Total	128	100%
Total	128	100%		Trust and Connection	
	Gender		Agree	68	53.12%
Male	104	81%	Neutral	51	39.84%
Female	24	18.75%	Disagree	9	7.03%
Total	128	100%	Total	128	100%
	Frequency			Feel Loyalty	
Weekly	18	14.06%	Yes	81	63.28%
Once a month	60	46.87%	No	37	28.90%
Rarely	50	39.06%	Maybe	10	7.81%
Total	128	100%	Total	128	100%
	Response			Discontinued	
Yes	81	63.28%	Yes	76	59.37%
No	37	28.90%	No	39	30.46%
Not sure	10	7.81%	Not sure	13	10.15%
Total	128	100%	Total	128	100%
	Participation				
1100Yes	69	53.90%		Recommend	
No	46	35.93%	Definitely	84	65.62%
Not sure	13	10.15%	May be	37	28.90%
Total	128	100.00%	Not really	7	5.46%
	Reward		Total	128	100%

Free Products	50	39.06%		Loyal Customers	
Discounts	41	32.03%	Under 18	69	53.90%
Gift Vouchers	37	28.91%	18-25	37	28.90%
Total	128	100%	26-35	17	13.28%
	Features		45+	5	3.90%
Referral rewards	92	71.88%	Total	128	100%
Health quizzes	36	28.12%			
Total	128	100%			

The survey data indicates that gamification significantly boosts engagement and loyalty, especially among younger age groups. Respondents under 18 and those aged 18–25 show the highest participation, likely due to familiarity with digital interfaces. In contrast, the 26–35 group shows weaker engagement, suggesting a need for tailored strategies. A notable gender imbalance was observed, with 81% male and only 19% female respondents, highlighting the need for more inclusive participation efforts.

Most participants (63%) expressed strong agreement or involvement in gamification-related activities, while a smaller portion showed uncertainty or disinterest. Reward preferences lean heavily toward free products, followed by discounts and gift vouchers, indicating a strong desire for tangible benefits. Referral rewards were more popular than health quizzes, though the latter still holds potential for health-conscious users.

Overall sentiment toward gamification is positive, with 66% expressing strong support and only a small minority showing dissatisfaction. Trust levels are generally high, but a sizable neutral segment suggests room for deeper engagement.

In conclusion, gamification is most effective with younger users and offers broad appeal. However, targeted approaches are needed to improve inclusivity, address gaps in middle-age engagement, and convert neutral users into loyal participants.

Correlation Analysis

Objective 1: To Examine the Relationship between Gamification and Customer Loyalty

Correlations				
			Gamification factors	customer loyalty
Spearman's rho	Gamification factors	Correlation Coefficient	1	.829**
		Sig. (2-tailed)	.	<.001
		N	128	128
	customer loyalty	Correlation Coefficient	.829	1
		Sig. (2-tailed)	<.001	.
		N	128	128
Correlation is significant at the 0.01 level (2-tailed).				

Spearman's rank-order correlation, a non-parametric indicator of association, was used to analyse the data. The findings revealed a strong positive correlation between gamification factors and customer loyalty, with a Spearman's rho value of 0.829. Furthermore, the p-value was significantly below the significance level of 0.01—less than 0.001. We accept the alternative hypothesis and reject the null hypothesis because the p-value is less than 0.01. This suggests that, in the case of Apollo Pharmacy, gamification has a statistically significant and highly favourable effect on customer loyalty. As a result, using gamification techniques could improve client loyalty.

Regression Analysis

Objective 2: To Investigate the Impact of Gamification on Customer Loyalty at Apollo Pharmacy.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.886	0.785	0.768	0.3799

a. Predictors: (Constant) G1 to G22

Apollo Pharmacy's customer loyalty can be predicted using a robust and statistically significant model, according to the regression analysis. The dependent variable, loyalty, and the combined independent variables (G1 to G22) have a strong positive correlation, as indicated by the R value of 0.886. The model's questionnaire items have a strong explanatory power, as indicated by the R Square value of 0.785, which indicates that they can account for about 78.5% of the variation in customer loyalty. Even after taking into account several variables, the model's reliability is confirmed by the high Adjusted R Square (0.768), which accounts for the number of predictors. Additionally, the estimate's standard error is 0.3799, which shows that there is a comparatively small prediction error and that the expected values closely match the actual responses.

ANOVA

Model	Sum of square	df	Mean Square	F	Sig.
Regression	146.402	22	6.655	46.101	<.001b
Residual	39.984	277	0.144		
Total	186.387	299			

a. Dependent Variable: Loyalty

b. Predictors:(Constant) G1 to G22

The regression model's ability to explain customer loyalty is statistically significant, according to the ANOVA results. The model that incorporates the set of independent variables (G1 to G22) offers a significantly better fit than a model without predictors, according to the F-value of 46.101 with a significance level of $p < 0.001$. In other words, at least one of the independent variables contributes meaningfully to predicting customer loyalty. The overall validity of the model is confirmed by the large F-value and extremely small p-value, which strongly reject the null hypothesis that all regression coefficients are equal to zero. This demonstrates that the combination of gamification-related factors effectively explains variations in customer loyalty at Apollo Pharmacy and further supports the validity of the regression findings.

Coefficients

Model		Unstandardized Coefficients	Coefficient		t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-7.493	0.349		-21.448	<.001
	Age	0.139	0.021	0.195	6.578	<.001
	Gender	0.128	0.021	0.179	6.164	<.001
	Frequently	0.088	0.021	0.12	4.227	<.001
	Awareness	0.11	0.022	0.151	5.046	<.001
	Participation	0.125	0.02	0.176	6.155	<.001
	Motivate	0.09	0.02	0.129	4.514	<.001
	Features	0.11	0.021	0.154	5.298	<.001
	Experience	0.133	0.02	0.191	6.61	<.001
	Trust	0.159	0.021	0.223	7.683	<.001
	Loyalty	0.137	0.02	0.191	6.772	<.001

Discontinue	0.145	0.02	0.208	7.244	<.001
Recommend	0.139	0.02	0.198	6.904	<.001
Competition	0.141	0.021	0.195	6.732	<.001
Reward	0.136	0.02	0.195	6.708	<.001
Design	0.162	0.021	0.227	7.714	<.001
New rewards	0.12	0.02	0.173	5.946	<.001
Progress	0.121	0.021	0.174	5.9	<.001
Satisfaction	0.104	0.021	0.142	4.857	<.001
Games	0.171	0.02	0.243	8.414	<.001
Improve	0.203	0.021	0.278	9.473	<.001
Brand	0.176	0.02	0.254	8.839	<.001
Revisit	0.157	0.019	0.235	8.167	<.001

a. **Dependent Variable: Loyalty**

With p-values less than 0.001 for each predictor, the regression analysis shows that all 22 independent variables (G1 to G22) have a significant impact on customer loyalty. This suggests compelling statistical proof that every variable makes a significant contribution to the model. The three with the highest standardized beta values—G20 (Beta = 0.278), G21 (Beta = 0.254), and G15 (Beta = 0.227)—appear to have the greatest beneficial effects on client loyalty. Conversely, while still statistically significant, the effects of variables such as G3 (Beta = 0.120) and G4 (Beta = 0.151) are comparatively weaker. All of the predictors have high t-values, which attests to their significance. All things considered, the model indicates that improving particular elements symbolized by G20, G21, and G15 can result in more significant increases in customer loyalty. This P-Value is less than 0.05 enough to reject null hypothesis and accept alternative hypothesis.

FINDINGS OF THE STUDY

1. **High Knowledge of Gamification Components** The gamified elements of Apollo Pharmacy, including badges, rewards, loyalty points, and health challenges, were known to more than 70% of respondents.
2. **Favorable Impact on Client Loyalty** A positive emotional and behavioral connection was indicated by the fact that over 60% of participants said that gamification features increased their sense of loyalty to Apollo Pharmacy.
3. **Younger Age Groups' Enhanced Involvement** The highest levels of engagement and loyalty were displayed by customers in the Under 18 and 18–25 age groups, indicating that gamification works best with younger, tech-savvy consumers.
4. **Gamification and Loyalty Have a Moderate Association** Customer loyalty and engagement in gamified activities were found to be positively but moderately correlated by statistical analysis (correlation coefficient $r \approx 0.28$).
5. **Gamification Encourages App Usage and Repeat Visits** According to the majority of respondents.
6. **There is still opportunity for participation rates to increase.** Communication and outreach need to be improved because, although 69 respondents said they participated in reward programs, 46 did not and 13 were unsure.
7. **Gamification Enhances Connection and Trust** Approximately 68 respondents concurred that gamification improved their emotional bond and sense of trust with Apollo Pharmacy, thereby enhancing brand loyalty.
8. **Features Based on Referrals Are Very Popular** The most popular gamification feature was referral rewards, which were followed by gift cards, discounts, and health-related tests.
9. **Gamified Incentives Affect Retention and Return Behavior** There is a high potential for habit formation.
10. **Participation Doesn't Always Follow Awareness** There was a disconnect between understanding gamification and putting it into practice, as evidenced by the moderate level of actual participation in gamified programs despite the high awareness levels.

SUGGESTIONS OF THE STUDY

1. The purpose of the study is to evaluate how well Apollo Pharmacy uses gamification to retain customers.
2. This project investigates how gamification techniques affect Apollo Pharmacy's patronage in Hyderabad.
3. The goal of the project is to comprehend how Apollo Pharmacy's gamified services affect consumer behaviour.
4. The study assesses how customer loyalty and gamification components relate to Apollo Pharmacy's operations.
5. This study aims to quantify the effects of gamification tools on Apollo Pharmacy customers' loyalty.
6. The project looks into whether gamified customer service improves Apollo Pharmacy's long-term loyalty.

7. This study aids in determining the gamification elements that have the biggest effects on Apollo Pharmacy's customer retention.
8. The improvement of Apollo Pharmacy's loyalty programs through gamification is the main focus of this study.
9. The study is predicated on information gathered from Apollo Pharmacy patrons in Hyderabad.
10. The study offers insights into how Apollo Pharmacy can use gamification to increase customer engagement.

V. CONCLUSION

The study shows that gamification significantly and favorably affects Apollo Pharmacy's patronage in Hyderabad. Customer engagement, satisfaction, and retention are greatly increased by incorporating game-like features like reward points, badges, health challenges, referral rewards, and loyalty programs. According to the study's findings, younger, tech-savvy consumers respond best to gamified experiences; they are more likely to participate, feel an emotional connection, and be more likely to recommend and make repeat purchases. Key loyalty behaviors and gamification have a moderate to strong relationship, according to statistical analyses like regression and correlation.

The gamification is a powerful strategic tool that, when implemented effectively and inclusively, can boost customer loyalty and strengthen brand relationships in the retail pharmacy sector. Apollo Pharmacy can further enhance its impact by personalizing gamified experiences, expanding reward options, and targeting both younger and older demographics with tailored engagement strategies. This study also reveals a gap between awareness and participation: Even though many customers are aware of gamified programs, not all actively engage with them. Additionally, older customer segments appear less responsive, indicating a need for improved communication strategies and simplified interfaces.

Gamification is a successful tactic for keeping customers and fostering enduring loyalty since consumers are increasingly drawn to individualized and captivating retail experiences. According to the study's findings, customers' levels of engagement considerably increase when they perceive that they are being rewarded and acknowledged through game-like features. Higher customer satisfaction, increased brand trust, and a higher propensity to refer Apollo Pharmacy to others are the results of this.

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