

Gamification in Mobile Apps: Assessing the Effects on Customer Engagement and Loyalty in the Retail Industry

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Abstract

Gamification, involving elements like earning points and badges, has emerged as a strategy to enhance user retention. This study investigates the impact of gamification on customer engagement and loyalty in the retail industry, addressing challenges in user retention for mobile apps. The objective comprises learning about gamification's influence, exploring user satisfaction components, and offering recommendations. The study adopts a survey-based descriptive research approach in Bengaluru city, targeting prospective gamification-enabled app users. The study collected data from a sample of 116 participants in Bengaluru, Statistical analyses conducted using the Statistical Package for Social Sciences (SPSS) included descriptive statistics to profile the participants, factor analysis to identify key components influencing user experience, and Spearman's rho correlation analysis to explore relationships between gamification, engagement, and user recommendations.

Keywords: Gamification, Customer Engagement, Customer Loyalty, Mobile Apps, User Experience.

1. Introduction

With the invent of smart phones, the usage of mobile phone has increased considerably. Over the last few years, the statistics shows that the downloading of mobile apps has been increased significantly from 140.7 billion in 2016 to 204 billion in 2019. (Statista, 2020).

The surge in mobile app downloads and the challenge of retaining users underscore the importance of effective user engagement strategies. Gamification, integrating gaming elements into mobile apps, emerges as a powerful tool for user retention. This study explores the impact of gamification on customer engagement and loyalty in the retail industry.

Although there is an increase in mobile app downloading, only 32% users employ any one app more than 10 times, and only 25% of apps are used only once after being downloaded. (Localytics, 2019). So, the major challenge lies in front of app developers is to keep the users engaged. Gamification is a powerful tool used by mobile app developers to incorporate gaming elements into mobile applications. It is particularly useful in improving the app for the retention rates of the users and getting better returns on advertisement expenditure and time spent by the users on the app.

There are various modes of online games such as

- Earning points
- Badges
- Tasks, Challenges and Obstacles
- Streaks and Milestones achieved.
- Teams and Leaderboards

Although enough work has been done in developing mobile apps and including the gaming elements to keep the user engaged, there has been very limited research done to assess the factors responsible for keeping the customer engaged.

2. Related Work

Customer engagement has been defined in multiple ways by different authors. It is a continuous interaction between the company and the customer that goes beyond the level of transaction. The five stages of Customer Engagement are:

Discovery, Considering, Buying, Loyalty, Advocacy:



Figure 1. Five Stages of Consumers' Buying Journey

- i. **Discovery:** This is the first stage of customer engagement when a customer becomes aware of the brand. Advertisement and promotion play an important role here.
- ii. **Considering:** In this stage, the customer starts considering buying the brand. Attractive offers and celebrity endorsement influence the buyer to consider any brand.
- iii. **Buying:** This is the stage when the customer buys the product. Smooth buying process and easy credit facility is helpful here.
- iv. **Loyalty:** This is the most crucial stage when the customers opt for repeated purchases. Building a relationship with the customer in order to engage them is essential.
- v. **Advocacy:** At this stage, customers begin to act as brand ambassadors, recommending the products to friends and relatives. Providing good customer service and building relationships becomes crucial.

It has been shown that gamification increases the customer engagement by satisfying the users' needs of competence, autonomy, and relatedness. The users 'actively participate in gamified apps, engaging in competition with others and fulfilling their need for competence. As a result, the engagement further gets converted into greater inclination towards using the

app, leading to positive Word of Mouth publicity and higher app ratings, thereby fostering increased usage. Gamification is always entertaining and fosters loyalty among users. Whether it involves collecting points, staying ahead of competitors, or refreshing your mind with innovative games, it enhances the user experience by providing new cognitive, emotional, and social benefits through game designs. Customers become loyal and connected with the brands as it satisfies their cognitive skills by learning new tricks to stay ahead of the competitors and enhances emotional and social skills by connecting them with other people in the society and getting emotionally attached with them.

It has been proved medically also that playing video games regularly on online platforms releases dopamine and endorphins. These are the hormones released by the human body because of sense of achievement while playing games and thus enables the users to enjoy. Gaming enhances the loyalty through three basic means. Firstly, it enhances the sense of achievement and gives utmost pleasure to the user every time he wins the game. Secondly, gaming is highly competitive. In earlier days, the player used to compete against himself the next turn he plays, Now, due to exposure to online games, a particular player's score is displayed globally, and he would be competing against multiple players. Thirdly, online games are habit forming. Offering additional points if the user appears again within 24 hours boost up their instinct of becoming a habitual player. Continuous playing of games will ultimately make the users a brand loyal customer.

3. Proposed Work

- To determine the impact of gamification on customer engagement.
- To assess the impact of gamification on customer loyalty in the retail industry.
- To Investigate key components of user satisfaction.
- To develop recommendations for retailers on how to effectively use gamification in their mobile apps.

3.1. Hypothesis Proposed

- H01: Gamification does not have a significant impact on customer engagement in mobile apps.

- H02: Gamification does not have a significant impact on customer loyalty in the retail industry.

3.2. Research Methodology

Table 1. Description of Research Methodology

Geographical Area	Bengaluru city
Population	Prospective gamification enabled app users in Bengaluru city
Research Area	Digital Marketing
Sample Size	116 prospects
Sampling Method	Convenience sampling
Data Collection	Primary data via Questionnaire and
	Secondary data via journals, articles, books, and magazines.
Statistical Tools	Correlation, Factor Analysis, Descriptive statistics
Research Type	Survey based descriptive research

In the bustling metropolis of Bengaluru, the research focuses on the convergence between Digital Marketing and the developing field of Gamification. Our study, which targets a sample of 116 prospective gamification-enabled app users in the city, takes a survey-based descriptive research technique to investigate the dynamics of user engagement. The geographical area of Bengaluru, recognized for its tech-savvy populace, presents an ideal setting for researching the influence of gamification in the sphere of digital marketing. The primary data was collected using convenience sampling, a method of non-probability sampling in which units are chosen for inclusion in the sample because they are the easiest to access. and a well-structured questionnaire, providing significant insights into user preferences, satisfaction, and behaviours connected to gamified applications. To supplement the main data, a multitude of secondary data sources, such as journals, papers, books, and magazines, are also used in order to provide a thorough awareness of the digital marketing landscape in Bengaluru.

Statistical tools such as correlation, factor analysis, and descriptive statistics will be used to thoroughly examine the acquired data, revealing patterns and relationships within the dataset. Through this multifaceted research initiative, we hope to provide significant insights about the function of gamification in digital marketing as well as shed light on user habits and preferences in the bustling city of Bengaluru. The Table.1 above shows the description of research methodology used. Rationale for the study

The research employed a survey-based descriptive research approach to investigate the influence of gamification on customer engagement and loyalty in the retail sector, focusing on mobile apps. The rationale for this method included its alignment with the study objectives, efficiency in data collection, and cost-effectiveness.

The survey targeted prospective gamification-enabled app users in Bengaluru, with a sample size of 116 participants chosen through convenience sampling. The questionnaire, the primary data collection tool, featured closed-ended and Likert-scale questions covering demographic information, user experience components, and opinions on gamification's impact. Ethical considerations included obtaining informed consent from participants, ensuring their anonymity and confidentiality.

3.3. Data Analysis and Interpretation

The demographic features of the study participants indicate a primarily young and student-dominated population. Among the participants, 70.7% identified as male and 29.3% as female. In terms of age distribution, the majority (92.2%) were between the ages of 18 and 25, showing a youthful demographic. The vast majority of respondents (93.1%) were students. A minority worked part-time (1.7%), full-time (3.4%), or self-employed (1.7%). This demographic profile provides vital insights into the study sample's composition, offering light on the opinions and behaviours of primarily young people, particularly students, within the defined age categories. The Table.2 below shows the demographic profile of the respondents

Table 2. Demographic Profile of the Respondents

Demographic Characteristics		n	%
Gender	Male	82	70.7

	Female	34	29.3
Age	18-25	107	92.2
	26-35	6	5.2
	36-45	2	1.7
	46-55	1	.9
Occupation	Student	108	93.1
	Employed (Part-time)	2	1.7
	Employed (Full-time)	4	3.4
	Self-employed	2	1.7

Table 3. Key Components of User Experience

Component Matrix	Component
	1
Overall experience	.677
Ease of Navigation	.840
Satisfaction about responsiveness and speed	.802
Frequency of encountering technical issues of bugs	-.742
Extraction Method: Principal Component Analysis.	

Analysis: The Principal Component Analysis (PCA) was done using SPSS and it provided a Component Matrix with loadings for each variable on the principal components. Each row represents a variable, and each column represents a principal component. The numbers in the matrix represent the correlation (loading) between the original variables and the

principal components. The higher the absolute value of a loading, the more that variable contributes to the corresponding principal component.

A set of questions were designed to investigate the factors contributing significantly towards a good user experience, as the result of factor analysis shows that the ease of navigation and quick responsiveness of apps with gamification enhances the user experience. However, the lesser bugs could significantly improve the user experience.

Hypothesis Testing

H₀1: Gamification does not have a significant impact on customer engagement in mobile apps.

H₀2: Gamification does not have a significant impact on customer loyalty in the retail industry.

Table 3. Spearman's rho Correlation Analysis

Correlations Analysis			Ever used mobile apps with gamification	Gamification leads to increased engagement	Recommendation
Spearman's rho	Ever used mobile apps with gamification	Correlation Coefficient	1.000	-.164	-.112
		Sig. (2-tailed)	.	.079	.232
		N	116	116	116
	Gamification leads to increased engagement	Correlation Coefficient	-.164	1.000	.228*
		Sig. (2-tailed)	.079	.	.014
		N	116	116	116
	Recommendation	Correlation Coefficient	-.112	.228*	1.000
		Sig. (2-tailed)	.232	.014	.

		N	116	116	116
*. Correlation is significant at the 0.05 level (2-tailed).					

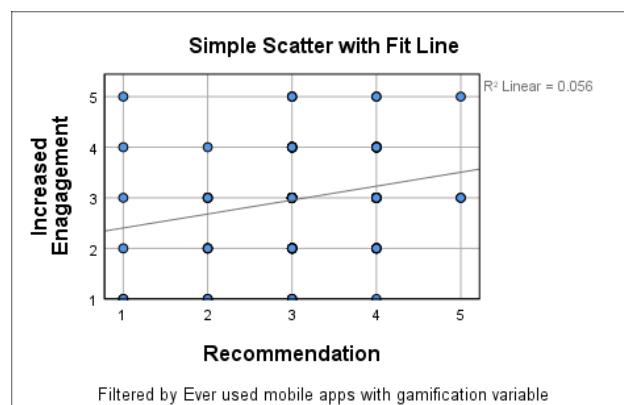


Figure 2. Scatter Plot Diagram (Spearman's rho Correlation Analysis)

Interpretation- The correlation analysis was performed using Spearman's rho coefficient, to explore the relationships between variables related to mobile app usage with gamification, increased engagement, and recommendations. The correlation coefficients indicate the strength and direction of the relationships. A positive correlation of 1.000 between "Ever used mobile apps with gamification" and "Gamification leads to increased engagement" suggests that as the usage of gamified apps increases, so does user engagement.

The significance levels (p-values) provide information about the reliability of the observed correlations. The asterisk indicates that the correlation between "Gamification leads to increased engagement" and "Recommendation" is statistically significant at the 0.05 level (2-tailed), meaning there is a low probability of obtaining such results by chance.

As per the analysis, there exists a negative correlation between the belief that gamification could lead to greater engagement. However, people who believe that gamification could lead to greater engagement seem positive about recommendation and hence could continue to be loyal towards the apps which use gamification. Hence, Null Hypothesis 1 (H01) is accepted, and Null Hypotheses 2 (H02) is rejected.

4. Result and Discussion

- In the study undertaken, majority of the participants were male (70.7%), and they fall in the age group of 18-25 years.
- The crucial components which contribute towards the user experience are emphasis on ease of navigation and quick responsiveness enhances user experience.
- The participant who has used gamification, advocate about the convenience but are not sure about the increased engagement.
- Gamification if used in the proper segment and with easy incorporation, it has huge potential to retain the customers and hence the recommendations also.

4.1 Recommendation for App Developers and Stakeholders

App developers and Stakeholders should prioritize the design and functionality of mobile apps to ensure easy navigation and quick responsiveness. These factors were identified as crucial components contributing to a positive user experience in the study.

While gamification has the potential to enhance user engagement and loyalty, it should be implemented strategically. Consideration should be done while incorporating elements such as earning points, badges, challenges, and milestones in a way that aligns with the app's purpose and target audience.

As understood the users perceive encountering technical issues or bugs as a significant deterrent to a positive experience. App developers should focus on identifying and resolving such issues promptly to improve overall user satisfaction.

As the study found that users were uncertain about the impact of gamification on increased engagement, app developers should communicate the benefits effectively. Educate users on how gamified features contribute to a more enjoyable and rewarding app experience.

Gamification can be leveraged to encourage users to become advocates for the app. Design challenges or rewards that prompt users to recommend the app to friends and family, thereby contributing to user loyalty and positive word-of-mouth promotion. Loyalty programs should be introduced along with gamification to make the customers loyal.

User feedback should be actively and timely gathered to identify areas for improvement. Analytics tools can be utilised to track user engagement patterns and preferences, enabling data-driven decisions for refining gamification strategies. Simultaneously, the app makers should focus more on fixing problems quickly and on the positive side of gamification in ads.

5. Conclusion

The study explored the impact of adding fun elements known as gamification, to mobile apps and its influence on user engagement and retention. Making the app easy to use and quick to respond is crucial for a pleasant experience. Surprisingly, some people may not attribute increased app usage to gamification, those who appreciate it are more inclined to recommend the app to others. Therefore, although gamification may not universally boost app usage, it does foster loyalty among those who enjoy it. For app developers, fixing problems quickly and focusing on the positive side of gamification in ads could make users happier and more likely to stick around. As technology keeps changing, keeping apps fun and easy will be key to make users happy in the competitive digital world.

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Author's biography



Ms Harshita Kaushik - A dedicated professional with over 5 years of academic experience. Currently serving as an assistant professor in the Department of MBA at Acharya Institute of Technology, specializes in marketing. In addition to the role in academia, also a research scholar at Tumkur University, wherein the research area is the application of AI tools in the field of e-commerce.



Ms Archana Vijay - A seasoned professional with experience extending beyond 11 years, contributed significantly towards the student's development programs. Very passionate about research in the areas of consumer behaviour and marketing in general.