



## Analyzing the Effect of Customer Analytics on Social Mobile App User Engagement

<sup>1</sup>Rohan Srivastava, <sup>2</sup>Dr. Syed Shahid Raza

<sup>1</sup>UG Student, CMS Business School, Jain Deemed to be University, Bengaluru.

<sup>2</sup>Assistant Professor at CMS Business School, Jain Deemed to be University, Bengaluru.

### ABSTRACT

*Social mobile apps, which provide venues for networking, communication, and entertainment, have become indispensable in the digital age. Because of the widespread use of mobile apps, developers and marketers now need to understand user engagement more than before. This study investigates how user engagement in social mobile applications is affected by customer analytics. To find patterns and correlations between user data and engagement measures, we use a variety of analytical tools such as sentiment analysis, user behavior analysis, and predictive modelling. This research aims to offer important insights into how consumer analytics may be used to improve user engagement tactics by a thorough review of real-world data gathered from social mobile app users. The results of this research could provide valuable insights for marketers and app developers on how to enhance user experiences, boost retention rates, and ultimately propel the success of social mobile applications in a highly competitive industry. Furthermore, customer analytics can help businesses identify trends and patterns in user behavior, enabling them to make data-driven decisions to optimize the app experience. By continuously monitoring and analysing customer data, businesses can iterate on their app design, features, and content to better meet the needs and preferences of their users.*

**Keywords:** Social mobile apps, User engagement, Customer Analytics, Sentiment Analysis User experiences, Features.

### INTRODUCTION

Social mobile applications have become essential tools for networking, communication, and entertainment in the digital era, therefore developers and marketers need to have a better grasp of user involvement. To identify patterns and correlations between user data and engagement metrics, this study explores the effect of customer analytics on user engagement within social mobile apps. It does this by using a variety of analytical methods, including sentiment analysis, user behavior analysis, and predictive modelling. This study aims to offer vital insights for marketers and developers that want to improve user experiences, increase retention rates, and push the success of their apps in a more competitive market by utilizing real-world data collected from social mobile app users. Additionally, customer analytics help companies spot patterns and trends in user behavior. This makes it easier to make data-driven decisions that optimize app features, design, and content to better suit users' changing requirements and preferences.

Lastly, this study can help construct predictive models and useful insights for app improvement by pointing out important patterns or trends in user interaction. App developers may maximize user satisfaction and promote long-term app success by proactively adapting their methods, personalizing recommendations, and delivering relevant material by having a thorough understanding of when and how users engage with features and content. The study's conclusions, taken as a whole, have important ramifications for social mobile app strategy and may change the way customer analytics are used to achieve optimal user engagement.

### STATEMENT OF PROBLEM

The relationship between user engagement levels in social mobile apps and consumer analytics characteristics, such as user behavior, demographics, and preferences, is a critical research topic that this study attempts to solve. Customer analytics have the potential to improve user experiences and engagement strategies, but the precise nature and scope of this relationship are still mostly unknown. For app developers, marketers, and analytics looking to increase user engagement and retention, this ambiguity poses problems. Content curation, product development, and marketing campaign decision-making processes may suffer in the absence of a thorough grasp of how analytics measures affect engagement. Investigating the relationship between consumer data and user

engagement in social mobile apps is crucial to closing this knowledge gap. In addition, the study looks for noteworthy trends or patterns in user interaction based on analytics data, offering useful information for creating optimization plans and prediction models. App developers may improve user pleasure and guarantee the long-term viability of their product by better understanding the how, when, and why users interact with information and features.

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## REVIEW OF LITERATURE

This paper contributes to the increasingly important area of mobile apps and the literatures on customer engagement, on the challenges of online retailing, and on the role of location in retailing. Companies in a variety of industries including health services, travel services, financial services, food and health and fitness, restaurants, and retail offer apps to enhance customer relationships with their business (Bellman et al. 2011).

Mobile apps are a medium through which companies can engage customers. However, much of the early work on the determinants of app usage has not focused on consumer behaviour (using the app), but on attitudes and perceptions (Bellman et al. 2011, Xu et al. 2013, Taylor and Levin 2014, Urban and Sultan 2015).

The conventional perspective holds that the client is external to the business and is the passive beneficiary of its active efforts to create value and values generated in "the factory" (Deshpande 1983).

Central in this new view is the concept of customer engagement, defined as the behavioural manifestation from a customer toward a brand or a firm which goes beyond purchase behaviour (Van Doorn et al. 2010).

In recent years, the emergence of the Internet of Things (IoT) has revolutionized various industries, including retail, by enabling real-time data collection and analysis. This paper aims to explore the significance of leveraging IoT-origin real-time data analytics for developing effective customer engagement strategies in emerging retail markets. By reviewing existing literature, this study seeks to uncover the theoretical foundations, empirical evidence, and practical implications associated with this innovative approach (Yerpude & Singhal, 2021).

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## RESEARCH GAP

To identify the best practices, further research is needed on the efficacy of several analytical techniques, such as sentiment analysis, segmentation, and predictive modelling, in boosting user engagement in social mobile apps. Understanding the temporal dynamics and long-term implications of customer analytics initiatives is vital for maintaining engagement, even though a lot of study focuses on the short-term effects. User preferences for data collection and interventions, in addition to contextual factors including situational context, psychographics, and demographics, all have a big impact on engagement. But privacy and data gathering tactics raise ethical issues that need to be addressed. Furthermore, as the use of social mobile apps occurs across platforms and channels, it is crucial for comprehensive user engagement initiatives to investigate cross-platform and multi-channel engagement tactics.

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## OBJECTIVE OF THE STUDY

1. Quantify the relationship between customer analytics metrics (such as user behavior, demographics, and preferences) and user engagement levels.
2. Identify key patterns or trends in user engagement based on analytics data.

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## HYPOTHESES

**H0 (Null Hypothesis):** There is an association between gender and preferences of the content on social mobile app.

**H1 (Alternative Hypothesis):** There is no association between gender and preferences of the content on social mobile app.

This hypothesis aims to investigate whether there is a significant difference in the distribution of preferences of the content on social mobile app among different genders.

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## RESEARCH METHODOLOGY

The research employed a convenient sampling method to gather insights from 100 respondents obtaining access to anonymized customer analytics data from social mobile apps, including user behavior metrics (e.g., time spent on app, frequency of interactions), demographic information (e.g., age, gender), and preference data (e.g., liked content, favourite topics). The structured questionnaire has been circulated to collect the required data. Secondary data was collected from Kaggle.

## ANALYSIS AND INTERPRETATION

H0 (Null Hypothesis): There is an association between gender and preferences of the content on social mobile app.

H1 (Alternative Hypothesis): There is no association between gender and preferences of the content on social mobile app.

A Chi-square test of independence can be used to ascertain whether there is a statistically significant correlation between the variables of gender and preferences of the content on social mobile app.

### Interpretation of Results:

Level of significance = 0.05

Degree of freedom =  $(r - 1) * (c - 1) = 3$

Chi-Square value: 2.9405

P-value: 0.4008

The chi-square test is used to determine whether gender and preferences of the content on social mobile app are related. We are unable to reject the null hypothesis because the p-value (0.4008) is higher than the alpha value (0.05). As a result, the null hypothesis is accepted, demonstrating a correlation between gender and preferences of the content on social mobile app.

### Demographic Variable:

Demographic variables state the frequency and percentage of respondents for each of the characteristics such as gender, age and Occupation. Table is used to examine the respondent's demographic profile. According to Table around 51% of respondents are male and 49% are female, with most respondents (almost 52% of respondents) falling between the age group of 18 to 30 years. It can also be observed that 33% of the respondents are employed, 30% are self-employed, 22% are unemployed and 15% are students.

**Table: Demographic Distribution**

VARIABLES	FREQUENCY(N=100)	PERCENTAGE (%)
<b>Gender</b>		
Male	51	51
Female	49	49
<b>Age</b>		
18-30	52	52
31-40	39	39
41-50	9	9
51 and above	0	0
<b>Occupation</b>		
Employed	33	33
Self-employed	30	30
Unemployed	22	22
Student	15	15

## CONCLUSION

This study clarifies the complex relationship between data-driven tactics and user behavior by examining how consumer analytics affect user engagement with social mobile apps. Through both quantitative and qualitative investigation, it emphasizes how customer analytics measurements have a major impact on engagement levels.

The results highlight how crucial it is to employ consumer data to tailor user experiences, target marketing campaigns, and modify content in social mobile apps. Gaining insight into user behavior, demographics, and preferences is essential to optimizing engagement strategies and raising user satisfaction levels all around.

Even though this study offers insightful information, it is important to recognize its limits and pinpoint areas that warrant additional research. By considering a variety of contextual elements, future study could expand on these findings to further our understanding of how customer data impacts user engagement dynamics in social mobile apps.

Customer analytics integration into app development and marketing initiatives holds potential to promote long-term user engagement, contentment, and loyalty in a more competitive digital marketplace. Businesses can maintain an advantage in the competition to draw and hold consumers' attention in the dynamic world of social mobile applications by utilizing data-driven insights.

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