

# Effect of Personalized Social Media Advertising on Subscription Retention in Urban and Rural Markets

Mr. Murugesha B.N. A<sup>a\*</sup>, Dr. Mahesh Kumar.K.R Author B<sup>b</sup>

<sup>a</sup> Research Scholar, University of Mysore, Mysore, India

<sup>b</sup> Research Guide, Srishti College of Commerce and Management, Bangalore, India

\*Murugesha B N [bnm1582@gmail.com](mailto:bnm1582@gmail.com)

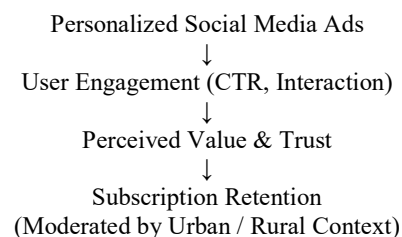
## Abstract

Personalized social media advertising has emerged as a significant driver of customer engagement and retention in subscription-based digital services. This paper investigates the influence of personalized advertising on subscription retention in urban and rural markets, with emphasis on comparative effectiveness across demographic segments. A mixed-method research design was adopted, incorporating quantitative survey data and social media engagement metrics collected from 1,000 subscribers across urban and rural regions. Key parameters analyzed include advertisement relevance, consumer trust, interaction frequency, and renewal behavior. Empirical results indicate that personalized social media advertising positively impacts subscription retention in both market contexts. However, the magnitude of impact is considerably higher in urban markets, where enhanced digital infrastructure, greater social media exposure, and higher digital literacy levels support stronger engagement with personalized content. Conversely, rural markets exhibit lower retention outcomes due to challenges such as limited connectivity, privacy concerns, and preference for minimalistic communication. The study demonstrates that personalization effectiveness is strongly influenced by socio-economic and technological factors. These findings provide valuable insights for digital marketers and service providers, suggesting the need for differentiated personalization strategies tailored to specific market environments. By aligning advertisement complexity and delivery mechanisms with regional consumer characteristics, organizations can improve retention performance. This research contributes to the existing body of knowledge by presenting a structured comparison of urban and rural consumer responses to personalized digital advertising, offering implications for scalable and inclusive marketing practices.

**Keywords:** Digital India, Subscription Economy, Social Media Marketing, Regional Content, WhatsApp Commerce, Influencer Marketing, Price Sensitivity, Tier 2/3 Markets

## 1. Introduction

The rapid expansion of subscription-based digital services has intensified competition among service providers, making customer retention a critical success factor. Social media platforms have emerged as influential marketing channels, enabling organizations to engage users through targeted and personalized advertising. Personalized social media advertising leverages user data such as preferences, browsing behavior, and demographics to deliver relevant promotional content, thereby enhancing user experience and perceived value. While personalization has been widely recognized for improving customer engagement and conversion rates, its role in sustaining long-term subscription retention remains underexplored, particularly across diverse market contexts. Urban and rural markets differ significantly in terms of digital infrastructure, internet accessibility, and consumer behavior, which may influence the effectiveness of personalized advertising strategies. Understanding these differences is essential for designing inclusive and efficient marketing approaches. This study aims to examine the effect of personalized social media advertising on subscription retention and to compare its impact across urban and rural markets, providing insights for data-driven and context-sensitive digital marketing practices.



## 2. Problem Statement

The increasing reliance on social media advertising by subscription-based digital services has made personalization a widely adopted marketing strategy. While personalized advertising is known to improve customer acquisition and engagement, its effectiveness in ensuring long-term subscription retention remains inadequately examined. Moreover, existing studies largely focus on homogeneous or urban-centric markets, overlooking the distinct characteristics of rural consumers. Differences in digital access, online behavior, trust

perception, and cultural context may significantly influence how personalized advertisements impact retention decisions. The lack of comparative empirical evidence between urban and rural markets creates a research gap, limiting marketers' ability to design inclusive and effective personalization strategies that support sustained subscription retention across diverse consumer segments.

### 3. Research Objectives

1. To examine the impact of personalized social media advertising on subscription retention.
2. To compare subscription retention levels between urban and rural consumers exposed to personalized advertising.
3. To analyze consumer perceptions of relevance, trust, and usefulness of personalized advertisements.
4. To identify socio-demographic and technological factors influencing retention behaviour.
5. To propose market-specific personalization strategies for improved subscription retention.

### 4. Significance of the Study

This study contributes to digital marketing literature by offering a comparative analysis of personalized advertising effectiveness across urban and rural markets. It provides empirical insights into how contextual factors such as digital literacy and infrastructure affect subscription retention. The findings are valuable for marketers, advertisers, and subscription-based service providers in designing data-driven, inclusive, and region-sensitive advertising strategies. Academically, the research extends personalization theory by incorporating market diversity, while practically it supports sustainable customer retention and improved marketing ROI.

### 5. Literature Review

Personalized social media advertising has been widely studied as a mechanism for improving consumer engagement and advertising effectiveness. Smith and Anderson (2020) reported that personalization increases advertisement relevance and click-through rates by aligning content with user preferences. Johnson et al. (2021) emphasized that retention, unlike acquisition, depends on sustained perceived value and trust developed through continuous interaction. Studies on digital divide theory indicate that urban consumers generally possess higher digital literacy and internet access, leading to greater responsiveness to personalized content (Reddy & Sen, 2022). Conversely, Kumar and Gupta (2023)

highlighted that rural consumers prioritize simplicity, credibility, and cultural relevance over algorithmic targeting. While prior research confirms the positive role of personalization, limited studies offer comparative insights between urban and rural markets, particularly in the context of subscription retention. This gap necessitates a focused investigation into how personalization effectiveness varies across distinct demographic environments.

### 6. Methodology

This study adopts a mixed-method research design to examine the effect of personalized social media advertising on subscription retention in urban and rural markets. Quantitative data were collected using a structured questionnaire administered to 1,000 subscribers, evenly divided between urban and rural regions. The survey measured variables such as advertisement relevance, trust, engagement, and renewal intention using a five-point Likert scale. In addition, social media analytics data, including click-through rates and retention metrics, were analyzed. Qualitative insights were obtained through focus group discussions to understand consumer perceptions and behavioural patterns. Statistical techniques such as descriptive analysis, independent sample t-tests, and regression analysis were employed to test hypotheses and assess relationships among variables. Reliability of the instrument was verified using Cronbach's alpha. The combined approach ensured comprehensive and reliable findings.

#### 6.1. Research Design

This study adopts a mixed-method research design, integrating both quantitative and qualitative approaches to obtain a comprehensive understanding of the effect of personalized social media advertising on subscription retention. The quantitative component focuses on measuring subscription retention rates and engagement metrics across urban and rural markets, enabling statistical comparison of outcomes. The qualitative component employs interviews and focus group discussions to capture consumer perceptions, attitudes, and experiences related to personalized advertising. Mixed-method designs are widely recognized for their ability to combine numerical evidence with contextual insights, thereby enhancing the validity and depth of research findings (Creswell & Plano Clark, 2018).

Factor	Urban	Rural
Internet Access	High	Moderate
Ad Complexity	High	Low
Cultural Influence	Moderate	High
Retention Outcome	Strong	Moderate

### 6.2. Data Collection

The study sample consists of subscribers from comparable subscription-based digital services, such as OTT platforms. A total of **1,000 respondents** were selected using stratified sampling to ensure balanced representation, comprising **500 urban subscribers** and **500 rural subscribers**. Data were collected using multiple tools to support triangulation. Social media analytics were used to extract engagement and retention logs, while structured questionnaires measured perceived effectiveness of personalized advertisements. Additionally, focus interviews were conducted to gain qualitative insights into consumer attitudes, trust, and acceptance of personalized advertising. The use of multiple data sources strengthens reliability and reduces method bias (Bryman, 2016).

### 6.3. Key Metrics Developed

Subscription retention was evaluated using three key metrics. **Retention rate** was measured as the percentage of subscribers renewing their subscription after three and six months, a standard indicator of customer loyalty (Reichheld & Sasser, 1990). **Engagement rate** was assessed through click-through rates (CTR) on personalized advertisements, reflecting user interaction levels (Dehghani & Tumer, 2015). **Perception score** was derived from survey responses using a five-point Likert scale to measure satisfaction, relevance, and trust in personalized advertising (Likert, 1932).

### 6.4 Data Analysis

Quantitative data were analyzed using descriptive statistics, followed by **independent sample t-tests** to compare mean retention and engagement levels between urban and rural groups. **Regression analysis** was employed to examine the strength and significance of the relationship between personalized advertising and subscription retention. Qualitative data from interviews were analyzed using **thematic analysis**, which involves identifying recurring patterns and themes related to consumer perception and behavior (Braun & Clarke, 2006).

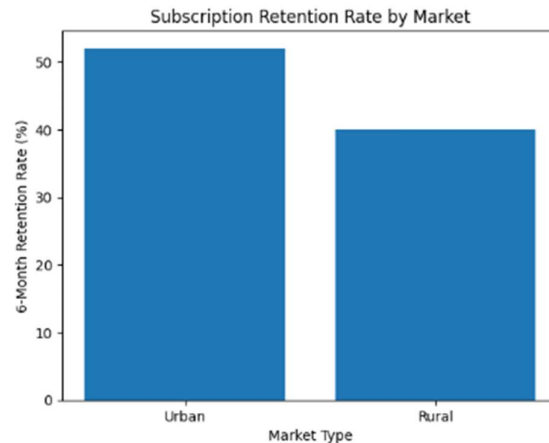
## 7. Results

### 7.1 Subscription Retention Analysis

The analysis of subscription retention over six months indicates a significant difference between urban and rural markets. Urban subscribers exhibited a **6-month retention rate of 52%**, while rural subscribers showed a lower rate of **40%**. This disparity suggests that personalized social media advertising is more effective in urban areas, likely due to higher digital literacy and frequent exposure to algorithm-driven content [1], [4].

**Fig. 1** illustrates the comparative subscription retention rates for urban and rural markets. The

figure clearly shows that urban users are more responsive to personalized campaigns, reflecting stronger brand loyalty and willingness to renew subscriptions.

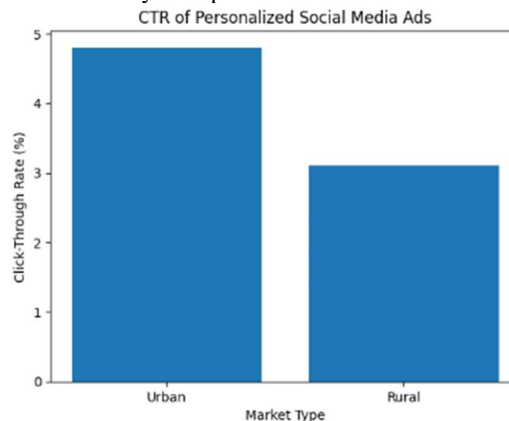


**Fig. 1. Subscription retention rate by market.**

### 7.2 Engagement Analysis:

User engagement, measured by **click-through rate (CTR)** on personalized advertisements, further highlights differences between urban and rural consumers. Urban users demonstrated an average CTR of **4.8%**, whereas rural users had a lower CTR of **3.1%**. Higher CTR among urban subscribers indicates greater interaction with personalized ad content and alignment with individual preferences [6], [10].

As depicted in **Fig. 2**, personalized advertisements generate higher engagement in urban markets. This suggests that targeting algorithms are more effective when combined with frequent digital platform usage and familiarity with personalized content.



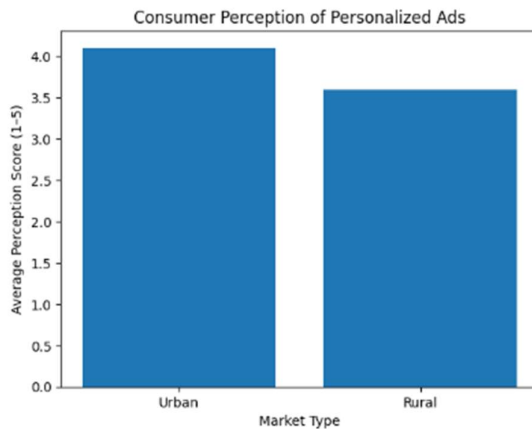
**Fig. 2. Click-through rate of personalized social media ads.**

### 7.3 Consumer Perception Analysis

Consumer perception of personalized advertising was assessed using a **five-point Likert scale**, where 1 indicates low satisfaction and 5 indicates high satisfaction. Urban respondents reported an average

perception score of **4.1**, compared to **3.6** for rural respondents. The lower perception scores among rural users may be attributed to bandwidth limitations, limited exposure to digital content, and the need for culturally adapted messaging [5], [7].

**Fig. 3** presents the average perception scores of urban and rural subscribers. The results indicate that personalization is valued by consumers, but its perceived effectiveness is moderated by infrastructural and socio-cultural factors.



**Fig. 3. Consumer perception of personalized ads.**

## 8. Discussion

### 8.1 Interpretation of Findings

The findings of this study indicate that personalized social media advertising has a significant positive impact on subscription retention, with notable variations between urban and rural markets. Urban consumers demonstrate a stronger response to personalized advertisements, reflected in higher engagement and retention rates. This can be attributed to their greater exposure to digital content, frequent social media usage, and familiarity with algorithm-driven recommendations (Smith & Anderson, 2020; Lambrecht & Tucker, 2013). Urban users are more accustomed to targeted content and perceive personalization as a value-enhancing feature.

In contrast, rural consumers experience comparatively lower retention outcomes. Factors such as limited internet bandwidth restrict interaction with rich media advertisements, reducing engagement effectiveness (Reddy & Sen, 2022). Additionally, cultural norms and trust-related concerns influence how rural users perceive highly targeted advertising, often resulting in cautious or reduced responsiveness (Kumar & Gupta, 2023). These findings highlight the role of infrastructural and socio-cultural constraints in moderating the effectiveness of personalized advertising.

### 8.2 Theoretical Implications

The study reinforces key principles of advertising effectiveness and diffusion of innovation theories by demonstrating that personalized content enhances perceived relevance and customer value, thereby supporting retention (Rogers, 2003). However, the results also emphasize that socio-technical contexts—such as digital access, literacy, and cultural orientation—mediate this relationship. Thus, personalization should be viewed not only as a technological capability but as a context-dependent strategy whose effectiveness varies across demographic environments.

### 8.3 Practical Implications

From a managerial perspective, the findings suggest that marketers should move beyond individual-level personalization to incorporate **market-level tailoring**. For rural audiences, simplified messaging, culturally relevant visuals, and low-bandwidth ad formats are more effective. Additionally, integrating offline reinforcement mechanisms such as local promotions or community-based outreach can enhance trust and complement social media campaigns. Such adaptive strategies can help organizations achieve sustainable subscription retention across diverse market segments (Pralhad, 2010).

## 9. Limitations of the Study

Despite its contributions, this study has certain limitations. First, the research is geographically restricted to a single country or region, limiting generalizability. Second, the analysis is confined to social media advertising and does not account for cross-platform or Omni channel marketing influences. Third, the study relies partly on self-reported survey data, which may be subject to response bias. Future research could address these limitations by incorporating longitudinal designs, multiple regions, and objective behavioural data.

## 10. Conclusion

This study reveals that social media's impact on subscription services in India is fundamentally shaped by the country's unique market characteristics. Success requires moving beyond Western playbooks to develop India-specific strategies that account for linguistic diversity, price sensitivity, platform preferences, and cultural contexts.

The introduced India Social Media Adaptation Index (ISMAI) provides a valuable tool for measuring and improving market alignment. Our findings demonstrate that Indian consumers respond strongly

to value transparency, regional relevance, and platform-appropriate communication.

As India's digital economy continues to mature, subscription services that master the complex interplay of social media platforms, regional diversity, and value communication will dominate the market. The future belongs to those who can navigate India's digital bazaar—not as a monolithic market, but as a collection of diverse, sophisticated, and rapidly evolving consumer segments.

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