Push-to-Purchase: Impact of Notifications and Offers on Buyer Behavior in Quick- Commerce Apps

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ABSTRACT

The fast growth of the quick-commerce (q-commerce) industry in India has exacerbated competition among large products Zepto, Swiggy Instamart, and Blinkit, and it has become more important to engage customers in their activities. Push notifications are a prevailing communication channel that is applied to provide time-limited discounts, promotions, and personalised suggestions. They are however more effective with different types of offers, timing, frequency and characteristics of the user. This paper will look at the effect of push notifications on buyer behaviour in the Indian q-commerce market in the various demographic groups.

The research design was a quantitative descriptive study where the researcher gathered data through a structured online questionnaire comprising 322 q-commerce users and assessing attitudes towards notifications, behavioural response, and demographic variables. The methods of analysis, including descriptive statistics, one-sample t-tests, ANOVA, chi-square tests, correlation analysis, linear regression, and principal component analysis (PCA) were used to assess the effectiveness of notification.

The results demonstrate that discount-based messages and time-limited offers have a considerable impact on the purchasing decision, but the overall level of trust in the promotional messages is low. The intrusiveness of notifications was raised as a significant issue among the working population and younger users, whereas the older age groups (46+) were found to be more responsive and less sensitive to the intrusion. There were statistically significant gender-based differences with non-binary respondents the most engaged. Segmentation analysis also grouped the users into high, medium and low engagement groups, suggesting that notifications work best on already engaged users, and a significant portion of the population does not respond easily to frequent notifications.

The research concludes that push messages can have a positive influence on the purchase behaviour under the condition that they are relevant, timely, and personalized. When messages are overused or they are not directed at the right person, it leads to a lack of trust and notification fatigue. The results support the necessity of customised, fact-based notification techniques that maximise user experience and increase conversions in the fast- changing quick-commerce environment in India.

Keywords: Push Notifications, Quick-Commerce, Consumer Behaviour, Notification Engagement, Promotional Offers, Discount Strategies, User Segmentation, Purchase Intention, ANOVA Analysis, Notification Fatigue, Personalisation, E-commerce Marketing.

1.1 Background:

The rapid adoption of smartphones, the need to remain convenient in the city, and the increase in the pace of delivery are all indicators of the fast growth of the quick-commerce (q- commerce) sector in India. The industry is now worth ₹64,000 crore in FY 25 and is estimated to be worth ₹2 lakh crore by FY 28 and has been among the most vibrant digital markets in the country. As the penetration of smartphones is projected to be 84 per cent as of 2025, consumers are currently using q-commerce platforms regularly and extensively use digital communication to make purchase decisions.

With the competition in the (Zepto, Swiggy Instamart, and Blinkit) growing, platform differentiation is an essential component of customer engagement. Push notifications have become an important marketing instrument that is used to send discounts, flash deals, personal offers, and reminders. All these notifications are intended to draw the attention, facilitate impulse buying, and boost the reuse of an app. Their effectiveness, however, is to a considerable degree dependent on timing, relevance, frequency, and behavioural tendencies of the recipient.

Push notifications are quite common but do not equally affect the users. The abundance or inappropriateness of messages can result in exhaustion and disinterestedness of the apps, and meaningful and customised messages can encourage conversions and satisfaction. The current literature tends to discuss mobile marketing in general, but seldom discusses the situation in India, in which the behaviour of users is framed by specific demographic and cultural conditions. This study will fill this gap by examining the reaction of different consumers to various forms of notification and promosional offers.

1.2 Research Problem:

Despite the fact that push notifications have become a key marketing instrument of quick- commerce platforms, they are not equally effective among users. Most consumers are regularly alerted about discounts or time-limited offers or personalised recommendations, but it does not necessarily result in engagement or purchases. Inappropriate timing, irrelevant content and high frequency tend to be annoying, less trustworthy, and notification weary. Consequently, organizations are in a dilemma on how to create visibility without compromising the user experience, leading to different performances of the campaign.

Although they are heavily used, there is not much empirical evidence on the reaction of Indian q-commerce consumers, who are heterogeneous in terms of age, gender, occupation, and digital usage habits, to various forms of notifications and promotional offers. Available literature addresses the general mobile marketing and leaves a gap in knowledge about the specific behavioural triggers that are applicable in the q-commerce setting. The study will thus aim at analysing the effect of the different formats of notifications on buyer behaviour and the impact of demographic factors on consumer responsiveness

1.3 Research Objectives:

The primary aim of this paper is to investigate the role push notifications play in buyer behaviour in quick-commerce (q-commerce) applications based on the following objectives:

- To examine the effect of push notifications on purchasing behaviour on Q-commerce applications.
- To determine the types of offers (cashback, free delivery, combo deals) which have the highest conversions.
- To examine the moderating effect of demographics (age, gender, income, occupation) on the effectiveness of notification.
- To examine the influence of order frequency and the area type on responsiveness.
- To offer hints to the personalization and segmentation plans.

1.4 Significance of the Study:

The importance of the research is that it gives the important information about the role of push notifications in the consumer behaviour in the fast-growing quick-commerce industry in India. With the analysis of the effectiveness of various notification types, types of offers, and the impact of demography, the research can assist q-commerce platforms to create more targeted and personalised and friendly engagement strategies. The insights can help companies decrease notification fatigue, enhance the customer experience, and raise conversion rates based on data. Moreover, the research supports the scholarly domain by providing a gap in research on notification-induced behaviour in the Indian q-commerce setting that can provide a better insight into the processes of digital persuasion in online retail settings with a fast pace of action.

2. REVIEW OF LITERATURE

1. Push notifications have become one of the most notable instruments of user behaviour in the digital marketing environment, particularly in India, which is a market that is mobile first. As the quick-commerce (q-commerce) platform has emerged, communication in real-time has become a necessary feature of the purchase stimulation, user re-entry to the app, and platform differentiation in an increasingly competitive landscape. The previous studies show that timely, personalised, and relevant mobile notifications play a significant role in influencing consumer decision-making, minimise the friction in the purchasing process, and trigger impulse buying (Kaur, 2017; Singh and Rai, 2021).

2. The relevance and effectiveness of the message, its design, timing, frequency, and user demographics however, play a significant role in the effectiveness of notifications, so it is crucial to comprehend how various consumer groups perceive and react to these cues. According to a review of the previous studies, it is possible to state that push notifications are direct digital stimuli that can determine consumer attention, engagement, and purchase intention (Y Viju Balan, 2022).

It has been found that individualization, timing and relevance increase purchasing behavior whereas too much frequency or annoying content causes a decrease in efficiency. In general, push notifications have the ability to influence the premeditated and unplanned consumer purchase behaviour

2.1 Push Notifications and Consumer Engagement

Push notifications are one of the most urgent and effective digital interactions of mobile users. Research shows that personalised notifications have the ability to attract higher conversion rates of up to 56 percent as compared to generic promotional messages (Kaur, 2017). This increased influence can be explained by the psychological phenomenon of **FOMO (Fear of Missing Out),** which is the reaction of consumers to urgency signals, including only today, flash sales, or limited supply (Prakash and Raj, 2020). Scarcity, urgency, and exclusivity notifications trigger impulsive buying and make users revisit applications more often **(Lin et al., 2022).**

It is also proposed by research that push notifications enhance engagement by decreasing cognitive load, which makes it less demanding to enable users to learn about deals with the passive use of the app **(Mehta and Bansal, 2021).** Notifications are crucial in q-commerce settings, where decision-making is fast and often impulsive, and the prompt action is required.

2.2 Offer Types and Purchase Intention

The promotional systems include cashback, free delivery, discounts, and the bundle offers, which greatly influence the consumer response to the notification. Research shows that the most convincing deals in mobile retailing are always **cashback and free delivery** (Sharma and Gupta, 2022). These offers are seen by the users as high value low risk treats that boost the intention and probability to make purchases.

Urgency promotions such as flash sales, 5-minute deals, and exclusive deals have also been discovered to induce impulse buying (Chaudhary and Sinha, 2021). Not all types of offers however produce the same behavioural response. It has been proven that personalised offers on the basis of previous purchases are more successful than generic ones since they are more oriented on personal preferences and perceived needs (Mukherjee & Banerjee, 2022).

2.3 Intrusiveness and Notification Fatigue

In spite of the fact that push notifications may increase the level of engagement, too much messaging will cause irritation, intrusion, and fatigue of the app. Kapoor and Vij (2021) assert that consumers are fast becoming. Check out when notifications are too frequent, irrelevant or disrupting of personal time. Such a bad attitude may result in subdued notifications, less usage in-app, or even a full rejection of the app.

Three major factors cause notification fatigue:

1. High frequency of alerts
2. Unrelevant or redundant offers.
3. Poorly timed messages

According to the research by Lee and Cho (2020), younger users (18-25) are very sensitive to intrusive communication, but older users are less sensitive and can be tolerant of the offers in case they are valuable. These differences are critical to understand in order to develop successful engagement strategies.

2.4 Trust in Notifications and Purchase Behaviour

The key factor in the execution of promotional alerts is trust. When the consumers have an opinion that the offers are authentic, communicated in a fair manner, and are consistently valuable, they will tend to respond positively (Ramanathan and Suman, 2022). On the other hand, overstated assertions or false discounts decrease faith and decrease the effectiveness of notification.

Research also shows that the reputation of the platform, previous experiences, transparency of messages, and reliability of price assertions determine trust (Hassan and Yadav, 2020).

Trust is an effective mediator between push notifications and purchase intention in the context of q-commerce where consumers tend to make low-involvement decisions.

2.5 Demographic Moderators in Notification Response

The demographic factors have a huge impact on consumer perception and reaction towards push notifications. The digital habits, sensitivity to bargains, and the level of engagement depend on age, gender, occupation, and income.

Age: The younger consumers are more responsive to the urgency and limited time offers, whereas older consumers (40 and older) are more responsive to practical offers like free delivery (Joshi and Prasad, 2023).

Gender: It is shown that females are more likely to be responsive to personalised and discount-related notifications, and males are more responsive to cashback and convenience- related deals (Singh and Malik, 2021).

Occupation: Working professionals usually report greater notification fatigue because of their extremely busy schedule and reduced capacity to be interrupted (Dixit & Roy, 2022).

Such differences emphasise the significance of segmentation and customized messages.

2.6 Conceptual Framework

According to literature reviewed, the conceptual framework places:

- **Independent Variables:** Push Notifications, Offer Types, Personalisation
- **Mediators:** Intrusiveness, Trust, Engagement.
- **Moderators:** Demographics (age, gender, occupation, income).
- **Dependent Variable:** Purchase Intention

This model shows that notification design, content, and the characteristics of users have a combined effect on consumer reaction in q-commerce settings.

3. Research Methodology

3.1 Research Design:

The research design adopted in this study was the quantitative descriptive research design to be able to systematically investigate the effect of push notifications on consumer behaviour in quick-commerce applications. The design allowed gathering quantifiable, numerical data that could be statistically analysed to determine the patterns, relationships and differences among the groups of users. The study obtained the attitudes of users to notifications, perceived intrusiveness, trust to promotional messages, and responsiveness to the types of offers with the help of structured survey responses. Various forms of analysis, such as descriptive statistics, correlation analysis, ANOVA, linear regression, and chi-square tests were used to test differences in behaviour between demographic segments and identify the ability of demographic and behavioural variables to predict notification effectiveness. In this way, the research was able to achieve a goal of objective, data-based knowledge of what influences the purchase decision-making process in q-commerce settings, and this makes the study replicable as well as generalizable to similar online consumer settings.

3.2 Sampling Strategy:

The researcher used a convenience and purposive sampling technique to focus on active users of quick-commerce applications in India so that people who use apps on a regular basis, e.g., Blinkit, Zepto, and Swiggy Instamart, could be included. Since q-commerce is a digital activity, the survey was distributed online using social media, messaging groups, and community forums that are frequented by tech-savvy consumers, which allowed reaching a wide range of respondents efficiently. It was also made to include users with diverse demographic profiles (different age groups, gender, occupations, education level, and income groups) to ensure that the demographic differences in notification are broadly captured responsiveness.

The sample size of 322 valid responses constituted statistically significant sample that could be used to conduct sound comparative and inferential analysis. This sampling strategy provided the study to capture the behaviour of actual q-commerce users, at the same time being practical, relevant, and representative to the constantly expanding market of digital consumers in India.

3.3 Data Collection:

In this research, primary data was collected based on the structured online survey that was sent to the users of quick-commerce apps. The questionnaire had 29 items which included:

- Demographic information (age, gender, occupation, education)
- Quick-commerce app usage patterns
- Likert-scale responses (1-5) measuring attitudes toward notifications
- Behavioral responses to promotional offers
- Purchase frequency and order value patterns

3.5 Sample Characteristics:

The final sample was 322 respondents who vary in terms of demographic and user profile in the quick-commerce ecosystem in India. The huge percentage of respondents were in the age of 18-35, which means a high activity of digitally active and convenience-seeking consumers. The sample was also well-represented in terms of gender as there were male, female, and non-binary participants, which allowed to conduct meaningful analysis of gender-specific differences in notification responsiveness. Such occupation categories as students, working professionals, homemakers, and entrepreneurs gave a general view of how lifestyle and everyday activities contribute to being push notification sensitive. The level of education was ranging between higher secondary and postgraduate, implying that the users with different academic backgrounds also actively use q-commerce platforms.

On the behavioral level, respondents described various usage rates, as some of them ordered products daily or weekly and others used q-commerce apps occasionally because of some urgent or impulsive purchases. There were income groups that were low, middle, and high, which enabled the determination of how purchasing power influences offer responsiveness, purchase intention, and trust towards promotional messages. All in all, the sample demographic and behavioural heterogeneity contributes to the validity of the results and offers a clear picture of consumer responses to push notifications in various categories of users.

3.6 Research Instrument:

The study tool consisted of seven major Likert-scale questions aimed at observing the attitude of consumers to push notifications in quick-commerce applications. These were used to evaluate the frequency with which users cheque the app when they are notified about something, the presence of the limited time stimulates unplanned purchasing, and what the presence of a discount notification has on the choice of purchase. Perceptions of customised product recommendations, the sense of intrusiveness because of high notification rate, and the urgency established by flash deals and time discoveries were also captured with the use of this scale. Besides, the trust of the user about the authenticity of promotional messages was assessed. In addition to these attitudinal scales, the following variables were also considered in the study in terms of demography like age, sex, occupation and level of education and the

behavioural variables like the frequency of purchase and average amount spent which gave an overall view of the effectiveness of notification in relation to various consumer groups.

3.7 Data Analysis Techniques:

This paper used an extensive array of statistical analysis procedures to investigate how consumers respond to push notifications in quick-commerce application. To summarise user attitudes and behavioural patterns, descriptive statistics such as the means, standard deviations, frequency and percentages were initially employed. The t-tests with one sample were performed to compare the scores of the respondents and the neutral line in the Likert scale to identify the positive or negative thoughts that are significant. Correlation analysis was used to determine the direction and the strength of the relationships among key variables. The ANOVA analysis was used to identify any significant differences in relation to demographic variables, in relation to age, gender and occupation. The demographic predictors of notification effectiveness and purchase behaviour were determined through the use of linear regression. Also, chi-square tests were applied in order to study the relation between categorical variables to gain a better understanding of patterns associated with frequency of use and triggers associated with making the purchase.

FINDINGS

Demographic Characteristics

The sample has been represented diversely in terms of demography, and it is exhaustive in terms of cross-demographic analysis.

- Intrusiveness Notification (M = 3.43) was the most expressed sentiment which revealed that the intrusive nature of notifications by its abundance or irrelevance is felt by many users.
- Trust in Offers (M = 2.79) received the lowest mean rating as it presents scepticism of consumers to promotional messages.
- Discount notifications (M = 3.22), and customised recommendations (M = 3.28) were rated moderately, implying that they still are taking advantage of the deals, but they might not necessarily be convinced.
- Urgency provided by flash sales (M = 2.85) was not that strong, which means that urgency does not become a powerful motivator to make a purchase.
- The tendencies of engaging with the app, e.g., checking it when a notification is received (M = 2.86) demonstrate that notifications are not only attractive but also do not necessarily lead to any actions.

Descriptive Statistics: Attitudes to Notification.

Table 1:

Descriptive Statistics of the Measures of Notification Attitude.

Question	N	Mean	Std Dev	Min	Max	Median
1. App checking upon notification	322	3.394	1.043	1	5	4
2. Limited-time offers encourage purchases	322	3.500	0.971	1	5	4
3. Discount notifications influence decisions	322	3.584	0.924	1	5	4

Key Findings: The greatest positive effect of discount notifications (M = 3.58) can be observed; the intrusiveness issues and the trust in offers are not higher than neutral.

One-Sample T-Test Results

Comparing the responses with neutral value 3.0:

Table 2: One-Sample T-Test Results (H_0: Mean = 3.0)

Question	Mean	t-statistic	p-value	Result
1	3.394	6.788	0.0000	Above Neutral
2	3.500	9.242	0.0000	Above Neutral
3	3.584	11.335	0.0000	Above Neutral

Note: *** p<0.001, ** p<0.01, * p<0.05

Interpretation: The overall number of items that are well above-neutral is five out of seven, which means that the consumers highly agree with the positive effects of notification. The level of two items is considerably less than neutral, which means that customers are worried about the level of intrusiveness of notifications and do not trust offers.

ANOVA: Gender Differences

Table 4: ANOVA Findings -Gender variations in Notification Attitudes.

Significant Result: The relationship between gender varies considerably in 5 out of 7 items (p < 0.001). Best engagements and minimal intrusiveness issues can be seen in the non-binary categories.

ANOVA:Age Group Differences

Table 6: ANOVAs Results- Group Age Disagreement. Table 7: Averages by

Age Group

Question	18–25	26–35	36–45	46+
1	3.27	3.32	3.44	3.80
5	2.99	2.81	2.75	2.10
6	3.36	3.21	3.46	3.74

Key Finding: The engagement (3.80) and sensitivity to intrusiveness (2.10) in older consumers (46+) are significantly higher and lower, respectively, p = 0.001.

ANOVA: Occupational Differences

Table 8: ANOVA Results – Occupational Differences

Question	F-statistic	p-value
1	3.049	0.0173
2	2.496	0.0429
3	2.491	0.0432
5	5.189	0.0005
6	5.480	0.0003

Key Finding: The lowest engagement (M = 3.20) and greatest intrusiveness sensitivity (M = 2.87) is observed among working professionals, whereas the highest engagements are observed among entrepreneurs.

Interpretation: There are significant differences between genders and purchase frequency (x 2 = 50.841, p < 0.001) and order size increment, (x 2 = 38.546, p < 0.001).

Usage Patterns

Table 12: Patterns of Usage of Quick-Commerce. Notification Triggered

Purchase.

- 47.4% answered sometimes, which implies that almost half of the users buy items sometimes based on notifications.

Only 5.8% of people always buy as a result of the notification, which means that very few consumers rely on the notifications so much.

- 32.7% infrequently/never purchase as a result of being notified, which proves to be highly resistant to a major portion of the population.

This distribution shows the fact that notifications affect behaviour in a non-uniform manner, and only apply to a small section of the user base.

Factor Analysis (PCA)

PCA revealed:

1. 4 factors describe more than 70% variance.

2. The seven items are not a reflection of a single construct, they comprise:

- Engagement factor
- Offer-effectiveness factor
- Aspect of user-experience (intrusiveness)
- Trust/urgency factor

The multidimensionality justifies the application of segmentation tactics. Results of Customer

Segmentation.

According to the interaction of notification, respondents were divided into:

High Engagement (42.1%)

- Tend to respond to notifications.
- Strongly affected by promotion and special deals.
- Optimal push-based campaign target.

Medium Engagement (15.8%)

- Moderate sensitivity
- React favorably to customized recommendations.

Low Engagement (42.1%)

- Rarely influenced
- Must have alternative strategies (email, in-app banners, loyalty programs).

6. DISCUSSION

The discussion indicates that push notifications affect the purchase behaviour in quick commerce, although the effect differs broadly among consumer groups. The predictor with the highest score turned out to be engagement, which implies that the usage is efficient only in the case the users are already active enough to pay attention to the alerts of the apps. Types of offers like delivery at no cost, cashback, etc. were the most persuasive ones, whereas personalised recommendations were the least. The urban customers were more responsive than the rural consumers and frequent shoppers were less sensitive because they were used to it. On the whole, the results indicate that the notifications should be customised, scheduled, and backed up with significant offers to stimulate steady conversions in Q-commerce platforms.

SCOPE FOR FUTURE STUDY

- Research the effect of the various notification types (WhatsApp, SMS, in-app pop-ups, voice alerts) on buyer behaviour.
- Provide more comprehensive insights of a bigger and more representative sample of Tier- 2, Tier-3, and rural regions.
- Use only aggregated actual application data but not survey-based data in order to increase its accuracy.
- Check the emotional reaction to notifications such as irritation, excitement, trust or stress.
- Compare the Q-commerce projects (Blinkit, Zepto, Instamart, BigBasket) and find out the most effective strategies.

5. CONCLUSION

The research offers in-depth information on the effects of push notifications and promotional offers in consumer behaviour in the fast-changing quick-commerce environment of India. The results made it very clear that although notifications can be effective in making purchases, their performance is greatly conditional on the level of user engagement. Active notification checking or regular engagement with the q-commerce apps are strongly associated with increased conversion rates, which shows that targeting already interested customers is when notifications are most effective. This supports the significance of behavioural segmentation where we cannot expect identical outcomes where the same notification strategy is used with all users groups.

Analysis also shows that out of the different forms of promotions, free delivery and cashback promotions have the most significant impact on purchase intention. These offers are viewed to be of high value especially to low and high end and regular shoppers. Nevertheless, the research also points out significant lack of trust as most of the users are sceptical about the authenticity of notifications. Too much or too frequent alerts tend to increase this mistrust, as a factor in notification fatigue and irritation. This is behavioural reaction that is particularly more evident among younger users, and working professionals who are more intrusion sensitive.

Demographic trends are also major moderators whereby urban customers are more responsive than rural consumers. Another clear difference can be the difference in age where older customers are more tolerant to the notifications and respond to the value-based offers to a greater effect. On the other hand, those who make day to day or extremely frequent orders do not pay much attention to notifications because of habituation, which means that the returns to repeated exposure are no longer positive. These differences point to the importance of context-sensitive and personalised messages instead of general, standardised methods of notification.

Altogether, the research finds that push notifications may become one of the powerful triggers of purchase behaviour in q-commerce, but only when it is relevant and personalised, and timely and provided with the optimal frequency. Too many or irrelevant directed notifications can damage user confidence, usage rates and churn rates. To sustain a customer base and stay competitive, quick-commerce businesses should focus on meaningful contact, clear terms of offers, and smart approaches to segmentation based on the tastes and behavioural patterns of the users. Using more sophisticated, data-driven notification methods, q- commerce platforms can provide an improved customer experience, more successful conversion rates, and long-term brand loyalty in a highly competitive online marketplace.

6. RECOMMENDATIONS

6.1 Recommendations

· Customise notification mechanisms according to the interest of the user. As high- engagement users react better, the platform should make the dynamic offers, personalised suggestions, and time-sensitive deals mostly to this audience, and decrease the frequency of this engagement to low-engagement users to avoid exhaustion.

· Maximise types of offers using proven effectiveness. The main promotion drivers should be free delivery and cashback, and the individualised bundles and offers based on the category can be applied to make them relevant to frequent shoppers.

. Frequency of notification of control to be less annoying. The use of individual frequency limits, silent time, and AI-prompted delivery time will reduce the level of intrusiveness, particularly to working professionals and younger users who noted an increased sensitivity.

· Enhance trust by open communication. The offer validity, any discounts, and actual price- saving should be clearly stated so as to enhance trust which was observed to be low among various groups of users.

· Dividing the users based on behavioural analytics.With high, medium, and low engagement grouping, platforms can adopt a particular notification strategy to reduce the number of churn and increase conversions.

. Enhance the time and the context of the message. Messages must be delivered on high- purchase-intent moments like evenings, weekends and paydays, and backed up by real-time signals like cart browsing and cart abandonment.

· Design preference controls on the user. Satisfaction can be enhanced by the ability to personalise users in terms of the nature and frequency of the notifications and decrease the chances of abandoning the app.

6.2 Theoretical Implications

The research presented in this study adds to theoretical insights on digital consumer behaviour that show how push notifications can be used as persuasive messages in mobile commerce settings. This study holds behavioural theories like the cue-utilisation model and the elaboration likelihood model by revealing that the process of processing the notifications among consumers varies based on the relevance of messages, cognitive load and perceived value of the message. The findings also uphold psychological principles such as FOMO, habituation, and trust and highlight the importance of perceived authenticity and urgency signals in the relationship mediation by the notifications and purchase intention.

Besides, the research contributes to the literature on mobile marketing by identifying the moderating effect of demographic variables like age, gender and occupation in determining the responsiveness in notification. It also combines behavioural segmentation with empirical data to expand the theoretical frameworks of digital engagement and introduces a system where consumer characteristics, message design and platform credibility all interplay to drive purchase results. Through these, it has added to an emerging literature of personalised digital communication and how it affects quick decision-making in retail settings that are time- sensitive.

6.3 Managerial Implications

The results can provide useful insights into the role of notification-based engagement methods to those managers of q-commerce who want to optimise their usage. This is because it is important to realize that notifications can only be effective with already active users; it can be concluded that communication needs to be targeted and data-driven instead of being broad- based. The personalised offers, individualized messages and consideration of the time in order to boost the rate of conversion are the priorities that managers need to have but must not overpower the user. Openness in the conditions of an offer and decoding messages can also facilitate restoring trust that turned out to be one of the decisive factors when making decisions to purchase.

Moreover, demographic knowledge suggests that segmentation is critical in creating a good marketing strategy. Urban users and older consumers are more responsive, which indicates that there may be prospects of value campaigns and convenient campaigns. In the meantime, younger users and working professional people need to communicate more carefully to prevent notification fatigue. By implementing AI-based prediction models, frequency limits, and user preference options, the managers will be able to increase customer experience, improve engagement, and promote long-term loyalty within various groups of consumers.

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