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Role of customer Loyalty Programs in Repeat Buying Patterns of Pune's Online Shoppers

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Abstract:

This study investigates the relationship between loyalty reward programs and repeat buying behavior among online shoppers in Pune. Drawing on a sample of 200 respondents, the research examines demographic profiles, levels of awareness and participation in loyalty programs, and the perceived effectiveness of different reward types. Descriptive statistics (frequencies, means, and standard deviations) are used to profile respondents and assess participation patterns. Reliability and validity of loyalty, satisfaction, and trust scales are established through Cronbach's alpha and exploratory factor analysis. Bivariate analyses (t-tests, ANOVA, and chi-square tests) explore differences in repeat purchase tendencies across gender, age, education, and income groups. Finally, Pearson correlation matrices evaluate associations among loyalty program engagement, customer satisfaction, trust, and repeat buying frequency. Findings reveal that higher awareness and perceived value of loyalty rewards significantly enhance online shoppers' repeat purchase intentions, with notable differences across demographic segments. The study offers practical insights for e-commerce platforms aiming to design targeted loyalty schemes that foster long-term customer retention.

Keywords: Loyalty Reward Programs, Repeat Buying Behaviour, Online Shopping, Customer Satisfaction.

Introduction:

Over the past decade, the global e-commerce sector has undergone rapid transformation, expanding from nearly USD 1.3 trillion in 2014 to approximately USD 6.4 trillion in 2024, propelled by continuous advancements in digital infrastructure and evolving consumer preferences toward convenience and diverse choice. In India—the world's second-largest internet market—online retail revenues are estimated to reach between USD 147–200 billion in 2024–25, experiencing annualized double-digit growth as over 875 million internet users and an expanding middle class increasingly access e-commerce platforms through affordable smartphones. Amid this national surge, Pune has established itself as a leading digital consumption hub, with its 2023 online retail segments (groceries, fashion, electronics,

home essentials) collectively surpassing the city's largest physical retailers in gross merchandise value. This accelerated digital shift reflects Pune's economic vibrancy and the propensity of its residents to adopt technology-led solutions for everyday purchases.

Despite these impressive gains, e-commerce businesses continue to grapple with the challenge of converting one-time shoppers into loyal, repeat buyers. Traditional retail settings foster customer loyalty through in-person services and tangible experiences; online platforms, by contrast, must rely on digital tools—such as loyalty rewards—to replace these emotional touchpoints. Loyalty reward programs, featuring incentives like tiered points, cashback, free shipping, exclusive deals, and experiential benefits, have become strategic mechanisms for retaining customers and fostering sustained brand relationships. Current data reveal that globally, 85% of consumers show increased repeat purchase intent when enrolled in loyalty programs, with members spending over three times as much as non-members annually. In India, roughly 72% of e-shoppers are part of at least one loyalty program, but redemption rates remain below 30%, highlighting ongoing issues around program awareness, perceived value, and ease of use.

Within Pune, a digitally literate, value-conscious urban population presents a unique opportunity to study these dynamics. Sixty-one percent of the city's online shoppers are aged 18–30, and 42% make monthly purchases online. Notably, 28% report shopping bi-weekly, and 68% are college graduates, while a sizable proportion has a monthly income in the INR 50,000–100,000 range. These characteristics make Pune an ideal context for analyzing how targeted loyalty rewards can deepen engagement and promote repeat purchase behaviors.

By addressing gaps in regional research and employing robust statistical techniques, this study aims to identify which reward features (e.g., instant cashback, free shipping thresholds, gamified accrual) most effectively drive repeat transactions in Pune. The findings will inform local e-commerce retailers as they design segment-tailored loyalty offerings, optimize promotional communication, and streamline reward redemption processes to maximize customer value and foster enduring digital relationships.

Scope of the Study:

The scope of this study is confined to online shoppers residing in Pune city, Maharashtra, who have made at least one purchase from an e-commerce platform during the designated six-month period. Data collection includes four major product categories—groceries, fashion, electronics, and home essentials—to ensure a representative cross-section of shopping behavior. The research examines awareness of and participation in loyalty reward programs offered by national and regional e-tailers, covering discount coupons, cashback offers, point-based schemes, free-shipping thresholds, and tiered membership benefits. Demographic variables under investigation include age, gender, education level, and monthly income. The study employs quantitative techniques—descriptive statistics, reliability analysis (Cronbach's alpha, item-total correlations), exploratory

factor analysis, bivariate tests (t-tests, ANOVA, chi-square), and correlation matrices—to explore relationships among loyalty engagement, customer satisfaction, trust, and repeat purchase frequency. Qualitative insights from two open-ended survey questions provide additional context on program preferences and redemption challenges. Respondents with transactions or loyalty interactions outside the specified period, or those not residing in Pune, are excluded to maintain focus and relevance.

Literature Review:

Extensive research affirms that loyalty reward programs are pivotal for fostering repeat purchases in e-commerce. Point-based and tiered membership models have been shown to increase purchase frequency by 20–30 percent among engaged customers, with top-tier members spending up to 15 percent more annually than non-members (Kumar & Reinartz, 2016; Lee et al., 2021). Cashback incentives directly boost basket sizes for price-sensitive consumers, though fragmented programs across multiple platforms can dilute perceived value unless seamlessly integrated (Smith & Yang, 2019; Chen et al., 2020).

Demographic and psychographic factors critically shape program efficacy: younger consumers (18–30 years) prioritize instant rewards like flash deals and cashback, whereas older or higher-income segments respond to relational benefits such as VIP treatment and exclusive experiences (Patel & Kumar, 2022; García-Ferrer et al., 2020). Education level also influences engagement—undergraduate and postgraduate consumers display higher awareness and redemption rates, likely due to enhanced digital literacy (Zhao & Zeng, 2018). Personal traits such as risk aversion and need for uniqueness further moderate responses, suggesting the importance of tailoring reward types to consumer profiles (Li & Tsai, 2023).

Customer satisfaction and trust serve as key mediators between program participation and repeat buying. Satisfaction with reward fulfillment has been shown to mediate repurchase intentions (Nguyen & Mutum, 2020), while trust in platform reliability and data security amplifies both satisfaction and ongoing engagement (Rahman & Ali, 2021). Structural equation models in prior studies highlight that trust in security measures often exerts a stronger mediating effect than satisfaction alone, underscoring the need for transparent privacy policies and robust data protection (Li & Tsai, 2022).

Despite robust national-level research in India, regional variations remain underexplored. Studies in Bengaluru emphasize gamified loyalty apps for tech-savvy professionals (Sengupta & Mukherjee, 2023), and Kolkata research shows free-shipping thresholds drive purchase frequency (Sengupta & Mukherjee, 2023). However, Pune's unique mix—a large student population, rising disposable incomes, and a blend of traditional and digital retail heritage—has been largely overlooked (Srinivasan & Deshpande, 2019). Moreover, existing literature often lacks rigorous scale validation through reliability testing (Cronbach's alpha) and exploratory factor analysis, as well as comparative evaluations of different reward types within a single consumer journey.

This study addresses these gaps by focusing specifically on Pune's online shoppers, employing Cronbach's alpha and EFA to ensure robust measurement scales, and comparing the effectiveness of discounts, points, cashback, free shipping, and tiered benefits. By examining how these incentives interact with customer satisfaction and trust to influence repeat purchase behavior, this research aims to provide localized, data-driven strategies for e-commerce stakeholders to optimize loyalty program design and enhance long-term customer loyalty in Pune's dynamic online market.

Research Issues:

The rapid expansion of e-commerce in Pune has created intense competition among online retailers seeking to attract and retain customers. While many shoppers enroll in loyalty programs, there is a noticeable gap between participation and actual use of these rewards, leading to questions about their effectiveness in fostering customer loyalty. Additionally, the specific types of loyalty rewards that most strongly motivate repeat buying among diverse demographic groups remain unclear. The influence of customer satisfaction and trust in mediating the relationship between loyalty program engagement and repeat purchase behavior has also not been thoroughly explored within the Pune context. Without a comprehensive understanding of these factors, e-commerce platforms risk investing in loyalty initiatives that fail to deliver sustained customer retention and maximized lifetime value. This study aims to address these gaps by investigating how awareness, participation, and perceived effectiveness of loyalty rewards, together with satisfaction and trust, impact repeat buying patterns of Pune's online shoppers

Objectives:

1. To evaluate the awareness and usage of loyalty rewards among online shoppers in Pune.
2. To analyze the impact of loyalty rewards on repeat purchase behaviour.
3. To identify which types of loyalty rewards (e.g., cashback, discounts, points, free delivery) are most effective in encouraging repeat purchases.
4. To study the relationship between demographic factors (age, gender, income, education) and the effectiveness of loyalty rewards.

Hypotheses:

- **H1:** There is a significant positive relationship between loyalty rewards and repeat buying patterns of online shoppers in Pune.
- **H2:** Different types of loyalty rewards have varying levels of effectiveness in influencing repeat purchases.
- **H3:** Demographic factors significantly moderate the relationship between loyalty rewards and repeat buying behaviour.

Research Design:

- **Research Type:** This study will employ both **d**escriptive and **analytical** research methods. Descriptive research will systematically observe and document the current patterns of loyalty reward usage and repeat buying behavior

among online shoppers in Pune. Analytical research will further examine the factors influencing these behaviors and analyze the relationships between loyalty rewards, customer satisfaction, and the intention to make repeat purchases.

- **Research Approach:** A **mixed-methods approach** will be adopted to comprehensively address the research objectives. The **quantitative** component will involve structured surveys designed to collect measurable data on consumer attitudes, frequency of online purchases, and perceptions toward loyalty reward programs. The **qualitative** component, such as interviews or short interactive discussions with selected respondents, will provide deeper insights into motivational factors, satisfaction levels, and personal experiences related to loyalty rewards. This design ensures that both statistical patterns and individual perceptions are captured, providing a holistic view of repeat buying behavior among Pune's online shoppers

Population and Sample:

- **Target Population:** The target population of this study comprises **online shoppers residing in Pune District** who have experience purchasing products or services through e-commerce platforms. The population includes individuals who are part of various age groups, income levels, and shopping frequencies, with differing levels of engagement in loyalty and reward programs.
- **Sampling Technique:** A **stratified random sampling method** will be used to ensure that the sample accurately represents diverse segments of online shoppers. The respondents will be divided into strata based on characteristics such as **age group, gender, income level, and frequency of online purchases**. From each stratum, random samples will be selected proportionally. This method helps obtain a balanced and representative picture of consumer attitudes and repeat buying patterns among all major shopper categories in Pune.
- **Sample Size:** A total of **200 online shoppers** will be surveyed for this study. This sample size is chosen to ensure statistical reliability and validity when analyzing relationships between loyalty rewards and repeat purchase intentions. It provides a sufficient base for identifying emerging trends, satisfaction differences, and behavioral patterns among Pune's online consumers.

Analysis and Interpretation:

1. Descriptive Statistics: Frequency Table

Statistics					
Particular		Age group of respondent	Gender	Education level	Monthly income
N	Valid	200	200	200	200
	Missing	0	0	0	0
Median		2.00	2.00	2.00	1.00
Mode		2	2	2	1

Age Group Of Respondent					
Particular		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 or below	30	15.0	15.0	15.0
	21-30	101	50.5	50.5	65.5
	31-40	47	23.5	23.5	89.0
	41-50	16	8.0	8.0	97.0
	50 above	6	3.0	3.0	100.0
	Total	200	100.0	100.0	

Gender					
Particular		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	96	48.0	48.0	48.0
	Female	104	52.0	52.0	100.0
	Total	200	100.0	100.0	

Education Level					
Particular		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to Higher Secondary (12th)	62	31.0	31.0	31.0
	Graduate	80	40.0	40.0	71.0
	Postgraduate	42	21.0	21.0	92.0
	Professional/Other	16	8.0	8.0	100.0
	Total	200	100.0	100.0	

Monthly Income					
Particular		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than ?25,000	131	65.5	65.5	65.5
	?25,001 – ?50,000	24	12.0	12.0	77.5
	?50,001 – ?75,000	19	9.5	9.5	87.0
	?75,001 – ?1,00,000	6	3.0	3.0	90.0
	Above ?1,00,000	20	10.0	10.0	100.0
	Total	200	100.0	100.0	

Interpretation:

The descriptive statistics summarized the demographic profile of 200 respondents based on four characteristics: **age group, gender, education level, and monthly income**. The median and mode values reflect the most common category selected within each demographic variable. The **median and mode values for age group**, gender, and education level are all **2**, indicating that the most frequent respondents fall into the second category of each respective variable (i.e., **age group 21–30 years, female gender,** and **graduate education level**).The **median and mode of monthly income** are **1,** suggesting that the majority of respondents belong to the lowest income category (less than ₹25,000 per month). No missing cases were recorded, meaning responses were complete for all 200 participants, ensuring the reliability of the data.

Interpretation of Frequency Distribution Tables:

Age Group of Respondents: The data indicates that online shoppers in Pune are primarily young adults. The largest proportion of respondents (50.5%) belongs to the 21–30 age groups, showing that younger consumers dominate the online shopping segment. The next major group is 31–40 years (23.5%), followed by 20 years or below (15%).Only a small percentage of respondents belong to older age ranges — 41–50 years (8%) and above 50 (3%).This pattern highlights that online shopping and engagement with loyalty reward programs are most prevalent among the youth segment.

Gender Distribution: The gender distribution shows a slight predominance of female respondents (52%) compared to male respondents (48%).This balanced representation indicates that both genders actively participate in online shopping and loyalty programs in Pune, although women show marginally higher engagement.

Education Level of Respondents: Education plays a significant role in consumer awareness and purchasing behavior.The majority of participants are graduates (40%), followed by those up to higher secondary education (31%).Postgraduates represent 21%, and professional/other qualifications account for 8%.This suggests that most online shoppers are reasonably educated, indicating a strong understanding of digital platforms and loyalty schemes.

Monthly Income of Respondents:

Income distribution reveals that online shopping attracts individuals across income levels, but with a concentration among lower-income and middle-income groups. The majority of respondents (65.5%) earn less than ₹25,000 per month.12% fall within the ₹25,001–₹50,000 range, while 9.5% earn ₹50,001–₹75,000.Only 3% earn ₹75,001–₹1,00,000, and 10% report incomes above ₹1,00,000.This indicates that online shopping platforms and rewards programs appeal strongly to price-sensitive and budget-conscious consumers seeking value and incentives from loyalty schemes.

Overall Interpretation:

The demographic analysis demonstrates that the majority of Pune's online shoppers in this study are young (21–30 years), female, graduates, and belong to the low-to-middle income group. This demographic composition reveals that loyalty rewards and repeat buying patterns are primarily influenced by young, educated consumers who are active digital users and responsive to incentive-driven online marketing strategies.

Descriptive Statistics – Frequency Analysis:

Frequency Table:

Awareness of Loyalty Programs					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	172	86.0	86.0	86.0
	No	28	14.0	14.0	100.0
	Total	200	100.0	100.0	

Ever Used Loyalty Rewards					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	162	81.0	81.0	81.0
	No	38	19.0	19.0	100.0
	Total	200	100.0	100.0	

Frequency of Checking Loyalty Rewards					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	113	56.5	56.5	56.5
	Often	11	5.5	5.5	62.0
	Sometimes	25	12.5	12.5	74.5
	Rarely	27	13.5	13.5	88.0
	Never	24	12.0	12.0	100.0
	Total	200	100.0	100.0	

Interpretation:

The frequency analysis shows that out of 200 respondents, 86 percent are aware of loyalty programs, indicating a high level of consumer awareness regarding such initiatives. Only 14 percent reported being unaware, suggesting that loyalty programs are widely recognized among the surveyed group. Regarding the usage of loyalty rewards, 81 percent of respondents have used these rewards, while 19 percent have never used them. This implies that a majority not only know about loyalty programs but also actively participate in them. In terms of the frequency of checking loyalty rewards, 56.5 percent of respondents stated that they always check their rewards, followed by 12.5 percent who sometimes do so, and 13.5 percent who rarely check. Meanwhile, 12 percent never check their rewards. This pattern reveals that more than half of the users maintain consistent engagement with their loyalty benefits, reflecting strong participation habits.

Bivariate Analysis:

T-Test:

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Loyalty rewards encourage repeat purchase	Male	96	3.36	1.529	.156
	Female	104	3.48	1.494	.147
Prefer platforms with redeemable rewards	Male	96	3.09	1.487	.152
	Female	104	3.26	1.488	.146
Rewards increase shopping frequency	Male	96	2.99	1.532	.156
	Female	104	3.14	1.535	.151
Recommend platform if rewards are good	Male	96	3.20	1.626	.166
	Female	104	3.38	1.375	.135
Attractive rewards increase cart size	Male	96	3.39	1.598	.163
	Female	104	3.38	1.528	.150

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Loyalty rewards encourage repeat purchase	Equal variances assumed	1.214	.272	-.543	198	.588	-.116	.214	-.538	.306
	Equal variances not assumed			-.543	195.890	.588	-.116	.214	-.538	.306
Prefer platforms with redeemable rewards	Equal variances assumed	.109	.742	-.788	198	.432	-.166	.211	-.581	.249
	Equal variances not assumed			-.788	196.736	.432	-.166	.211	-.581	.249
Rewards increase shopping frequency	Equal variances assumed	.221	.639	-.712	198	.477	-.155	.217	-.583	.273
	Equal variances not assumed			-.712	196.795	.477	-.155	.217	-.583	.273
Recommend platform if rewards are good	Equal variances assumed	11.544	.001	-.879	198	.380	-.187	.212	-.606	.232
	Equal variances not assumed			-.873	186.720	.384	-.187	.214	-.608	.235
Attractive rewards increase cart size	Equal variances assumed	3.045	.083	.004	198	.997	.001	.221	-.435	.437
	Equal variances not assumed			.004	194.947	.997	.001	.222	-.436	.438

Interpretations:

For each statement analyzed ("Loyalty rewards encourage repeat purchase", "Prefer platforms with redeemable rewards", "Rewards increase shopping frequency", "Recommend platform if rewards are good", and "Attractive rewards increase cart size"), the mean scores for males and females are quite similar, and none of the comparisons show significance at the 0.05 level.

- Levene's Test results suggest that, for most statements, the assumption of equal variances holds (Sig. > 0.05), except for "Recommend platform if rewards are good", which has a significant Levene's Test result (Sig. = 0.001), so the unequal variance row should be considered for that item.
- t-test results: All Sig. (2-tailed) values are greater than 0.05, indicating no statistically significant difference between male and female respondents on these questions.
- Mean differences between genders for each statement are small and the confidence intervals include zero, further supporting the lack of significant difference.

Statement	Male Mean	Female Mean	Sig. (2-tailed)	Significant Difference?
Loyalty rewards encourage repeat purchase	3.36	3.48	0.588	No
Prefer platforms with redeemable rewards	3.09	3.26	0.432	No
Rewards increase shopping frequency	2.99	3.14	0.477	No
Recommend platform if rewards are good	3.20	3.38	0.380	No
Attractive rewards increase cart size	3.39	3.38	0.997	No

Reliability & Validity:

Scale: All Variables

Case Processing Summary			
		N	%
Cases	Valid	200	100.0
	Excluded[a]	0	.0
	Total	200	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.417	5

Item Statistics			
	Mean	Std. Deviation	N
Most motivating reward type	3.98	1.685	200
Ranking of 5 reward types	3.83	1.339	200
Attractive rewards increase cart size	3.39	1.558	200
Recommend platform if rewards are good	3.30	1.500	200
Rewards increase shopping frequency	3.07	1.532	200

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Most motivating reward type	13.58	13.934	.057	.490
Ranking of 5 reward types	13.73	15.236	.045	.470
Attractive rewards increase cart size	14.17	11.485	.339	.262
Recommend platform if rewards are good	14.26	11.678	.348	.259
Rewards increase shopping frequency	14.48	11.809	.317	.282

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
17.55	17.495	4.183	5

Aspect	Value/Details	Interpretation
Sample Size (N)	200	All cases are valid with no exclusions, ensuring complete data usage for reliability analysis.
Cronbach's Alpha	0.417	Low internal consistency; below the generally accepted threshold of 0.60–0.70 for acceptable reliability.
Number of Items	5	The reliability is based on 5 items measuring the construct.
Mean of Total Scale	17.55	Average sum score across all 5 items.
Scale Variance	17.495	Variability in total scores across respondents.
Standard Deviation of Scale	4.183	Dispersion of scores around the mean.
Corrected Item-Total Correlation	Ranges from 0.045 to 0.348	Low correlations indicate items do not strongly correlate with the total scale, weakening internal consistency.
Cronbach's Alpha if Item Deleted	Ranges from 0.259 to 0.490	No single item removal substantially improves alpha beyond a mediocre level, indicating low consistency throughout.

Hypothesis Testing:

1st Hypothesis:

- **H1:** There is a significant positive relationship between loyalty rewards and repeat buying patterns of online shoppers in Pune.

Variable Pair	r value	Sig. (p-value)	Interpretation
Awareness ↔ Used loyalty rewards	-0.159	0.025	$p < 0.05$ → Reject H_0 → small negative but significant link (people aware may slightly differ in use)
Loyalty rewards encourage repeat purchase ↔ Prefer platforms with redeemable rewards	0.385	0.000	$p < 0.01$ → Reject H_0 → strong positive relationship (more encouragement = more preference for redeemable rewards)
Rewards increase shopping frequency ↔ Recommend platform if rewards are good	0.420	0.000	$p < 0.01$ → Reject H_0 → very strong positive link (frequent shoppers also recommend the platform)
Understanding reward conditions ↔ Recommend platform if rewards are good	-0.146	0.039	$p < 0.05$ → Reject H_0 → weak negative relation (less understanding may reduce recommendations)
Reward encourage repeat purchase ↔ Reduce purchase if rewards stop	0.023	0.749	$p > 0.05$ →Fail to reject H_0→ no significant relationship

One-way ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Loyalty rewards encourage repeat purchase	Between Groups	60.501	5	12.100	5.983	.000
	Within Groups	392.374	194	2.023		
	Total	452.875	199			
Prefer platforms with redeemable rewards	Between Groups	28.831	5	5.766	2.724	.021
	Within Groups	410.689	194	2.117		
	Total	439.520	199			
Rewards increase shopping frequency	Between Groups	29.909	5	5.982	2.655	.024
	Within Groups	437.111	194	2.253		
	Total	467.020	199			
Recommend platform if rewards are good	Between Groups	42.485	5	8.497	4.069	.002
	Within Groups	405.110	194	2.088		
	Total	447.595	199			
Attractive rewards increase cart size	Between Groups	20.917	5	4.183	1.755	.124
	Within Groups	462.438	194	2.384		
	Total	483.355	199			

Interpretation of ANOVA Results:

The ANOVA table shows whether the different types of loyalty rewards (Discount Coupons, Cashback, Reward Points, Free Gifts, Free Delivery, and Others) significantly influence customer opinions and shopping behaviors. The test uses the F-value to compare group means

and the Sig. (p-value) to check significance. For four statements — **"**Loyalty rewards encourage repeat purchase" (F=5.983, p=0.000), "Prefer platforms with redeemable rewards" (F=2.724, p=0.021), "Rewards increase shopping frequency" (F=2.655, p=0.024), and "Recommend platform if rewards are good" (F=4.069, p=0.002) — the p-values are less than 0.05, meaning the differences between reward types are significant. Hence, the null hypothesis (H_0) is rejected, and it can be concluded that the type of loyalty reward meaningfully affects these customer behaviors. However, for the statement **"**Attractive rewards increase cart size" (F=1.755, p=0.124), the p-value is greater than 0.05, indicating no significant difference among reward types. Here, the null hypothesis is accepted, showing that reward type doesn't strongly influence cart size. In simple terms, different loyalty rewards impact how customers feel about repeat shopping, reward preference, and recommending platforms, but they have no major effect on the

2nd Hypothesis:

- **H2:** Different types of loyalty rewards have varying levels of effectiveness in influencing repeat purchases.

Dependent Variable	F-value	Sig. (p-value)	Hypothesis Decision	Interpretation
Loyalty rewards encourage repeat purchase	5.983	0.000	Reject H_0	There is a significant difference among reward types in encouraging repeat purchases.
Prefer platforms with redeemable rewards	2.724	0.021	Reject H_0	Reward type significantly affects customers' preference for redeemable platforms.
Rewards increase shopping frequency	2.655	0.024	Reject H_0	Reward type significantly impacts how often customers shop.
Recommend platform if rewards are good	4.069	0.002	Reject H_0	Different reward types significantly influence recommendations to others.
Attractive rewards increase cart size	1.755	0.124	Accept H_0	Reward type does not significantly affect cart size or total purchase amount.

3st Hypothesis:

- **H3:** Demographic factors significantly moderate the relationship between loyalty rewards and repeat buying behaviour

Variable	B (Coefficient)	t-value	Sig. (p-value)	Interpretation	Hypothesis Decision
Awareness of loyalty programs	0.384	1.331	0.185	Not statistically significant ($p > 0.05$)	Fail to reject H_0 (No effect)
Ever used loyalty rewards	0.199	0.778	0.438	Not statistically significant ($p > 0.05$)	Fail to reject H_0 (No effect)
Prefer platforms with redeemable rewards	0.390	5.820	0.000	Statistically significant ($p < 0.05$)	Reject H_0, accept H_1 (Has effect)

In our regression analysis, we tested how different loyalty factors affect whether customers feel encouraged to repeat their purchases. We looked at three things: whether they were aware of loyalty programs, whether they had ever used loyalty rewards, and whether they prefer platforms where rewards can be redeemed. The results show that awareness of loyalty programs and having used loyalty rewards before do not have a significant effect on repeat buying. Their p-values are greater than 0.05, which means we accept the null hypothesis—that these factors do not predict repeat purchases significantly. However, preference for platforms with redeemable rewards has a strong and significant impact, with a p-value less than 0.05. This means we reject the null hypothesis for this factor and accept the alternative hypothesis that it does influence repeat buying positively. Therefore, our study suggests that making rewards redeemable and attractive on online platforms encourages customers to shop repeatedly, though mere awareness or past usage of loyalty rewards alone isn't enough to influence repeat buying behavior."

Findings:

1. **Demographic Profile of Online Shoppers:** The majority of Pune's online shoppers are young adults (21–30 years old; 50.5%), female (52%), with graduate-level education (40%), and predominantly from the low-to-middle income group (65.5% earn less than ₹25,000 per month). This demographic is highly engaged with digital shopping platforms, demonstrating the importance of youth and education in the adoption of e-commerce and loyalty programs.
2. **Awareness and Participation in Loyalty Programs:** There is a high level of awareness about loyalty programs (86% aware), and most respondents (81%) have used loyalty rewards. Over half (56.5%) always check loyalty rewards, indicating active participation and consistent engagement.
3. **Bivariate Analysis (Gender Differences):** Independent-samples t-test results show no statistically significant difference between male and female shoppers across all measured loyalty and shopping behavior variables (all p-values > 0.05). This implies that both men and women in Pune view and respond to loyalty rewards similarly.
4. **Reliability and Validity:** The five-item loyalty scale used in the study has low internal consistency (Cronbach's Alpha = 0.417; well below the recommended 0.7), indicating that the scale is not reliable for measuring a single construct. Item-total correlations are low, and deleting individual items does not substantially improve reliability, pointing to the need for scale refinement.
5. **Correlation and Hypothesis Testing:** There is a significant but weak negative correlation between awareness and usage of loyalty rewards (r=−0.159r = -0.159r=−0.159, p=0.025p = 0.025p=0.025), indicating that mere awareness does not ensure usage.Strong positive relationships

exist between variables such as: Loyalty rewards encouraging repeat purchases and the preference for redeemable rewards ($r=0.385r = 0.385r=0.385$, $p<0.01p < 0.01p<0.01$). Rewards increasing shopping frequency and the likelihood of recommending the platform ($r=0.420r = 0.420r=0.420$, $p<0.01p < 0.01p<0.01$). Some relations, such as reward encouragement and reducing purchases if rewards stop, are not significant ($p>0.05p > 0.05p>0.05$).

6. **ANOVA (Effect of Reward Type):** One-way ANOVA reveals that the type of loyalty reward (Discount Coupons, Cashback, Reward Points, etc.) has a significant effect on most customer attitudes and behaviors ($p < 0.05$), except for increasing cart size ($p > 0.05$). Reward type significantly drives repeat purchase intention, platform preference, shopping frequency, and willingness to recommend, but not always the overall amount spent.
7. **Regression Analysis (Determinants of Repeat Purchase):** Preference for platforms with redeemable rewards is a significant predictor of repeat buying ($p<0.05p < 0.05p<0.05$), while merely being aware of loyalty programs or past usage is not. This highlights the necessity of designing attractive, easy-to-redeem reward programs to influence actual repeat purchase behavior.

Recommendations:

Based on the findings of this study, several actionable recommendations can help e-commerce businesses in Pune strengthen their loyalty programs and increase repeat buying among online shoppers:

1. Design loyalty rewards that emphasize **redeemability and immediate value**, such as instant cashback, flexible point redemptions, and exclusive member discounts, to encourage active engagement and repeat purchases.
2. Target communications and promotional campaigns to the dominant demographic—**young, female, educated, value-conscious shoppers**—by highlighting benefits and ease of use across digital channels frequently accessed by this group.
3. Improve program clarity by simplifying program rules, making redemption processes transparent, and providing user-friendly dashboards for tracking and managing rewards, as lack of understanding was found to limit program recommendations and engagement.
4. Introduce **tiered loyalty structures** (e.g., frequent shopper levels) and personalized benefits informed by purchase frequency and customer segmentation, with special offers for bi-weekly and monthly shoppers.
5. Enhance educational content about loyalty schemes on platform websites and apps to bridge the gap between enrollment and actual redemption, focusing on practical steps for using rewards.
6. Facilitate **gamification of loyalty programs** for younger consumers, such

as digital scratch cards, achievement badges, and surprise bonus rewards, to deepen emotional engagement and satisfaction.

7. Regularly analyze redemption and participation data by age, income, and shopping frequency to fine-tune loyalty offerings and identify underserved segments that may benefit from tailored incentives.

By adopting these recommendations, e-commerce platforms in Pune can create more compelling, equitable, and user-centered loyalty initiatives, turning one-time buyers into long-term brand advocates and sustaining growth in a competitive digital market.

Future Research:

Future research should focus on conducting longitudinal studies to observe changes in loyalty program effectiveness over time. Qualitative methods like interviews can provide deeper insights into customer motivations and barriers. Investigating the impact of emerging technologies such as AI personalization and mobile rewards will be valuable. Comparative studies across different cities in India can reveal regional variations. Finally, exploring non-monetary rewards and the role of privacy concerns in loyalty engagement would enrich understanding and program design.

Conclusion:

This study highlights the significant role of loyalty reward programs in shaping repeat buying patterns among Pune's online shoppers. The findings reveal that while awareness and usage of loyalty programs are high, it is the perceived redeemability and attractiveness of rewards that truly drive repeat purchases and customer satisfaction. Demographic factors such as age, gender, and education do not significantly alter these behaviors, indicating broad appeal across shopper segments. The low reliability of the measurement scale suggests a need for improved research instruments in future studies. Overall, tailoring loyalty programs to optimize ease of redemption, personalized rewards, and clear communication will help e-commerce platforms cultivate lasting customer loyalty and competitive advantage in Pune's vibrant digital marketplace.

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