

A STUDY ON THE IMPACT OF SUBSCRIPTION-BASED MODELS ON CONSUMER BUYING BEHAVIOUR WITH RESPECT TO E-COMMERCE PLATFORMS

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ABSTRACT

Subscription services have transformed the e-commerce landscape from its early origins to a \$196.35 billion industry, providing benefits such as convenience and predictable revenue streams. This study examines the impact of subscription-based models on consumer buying behaviour within the e-commerce sector, focusing on factors influencing adoption, customer loyalty, and satisfaction. Employing a descriptive research design with a sample of 206 respondents from Ahmedabad, the study utilized non-parametric statistical methods due to non-normal data distribution. The findings reveal a significant relationship between subscription duration and overall spending, a strong correlation between consumer satisfaction and loyalty, and a notable impact of perceived service quality on subscription continuation. These insights highlight the critical role of high service quality in retaining and expanding subscription bases and offer practical recommendations for businesses to optimize their subscription models. Future research should explore a broader range of e-commerce platforms and diverse consumer demographics to enhance understanding of subscription dynamics.

Keywords: Subscription Services, Consumer Behaviour, E-commerce, Customer Loyalty, Service Quality.

INTRODUCTION

Subscription services have dramatically reshaped the e-commerce landscape, evolving from their origins in 17th-century newspaper and book publishing to becoming a dominant \$196.35 billion market today. These models, characterized by recurring payments for continuous access to products or services, have expanded across diverse industries, from entertainment and lifestyle goods to software and professional services.

The rise of subscription-based models offers clear benefits for both consumers and businesses. Consumers enjoy the convenience of automated periodic purchases, reducing the hassle of frequent transactions and fostering a long-term commitment to brands. For businesses, these models provide predictable revenue streams, reduce the need for constant customer acquisition, and strengthen customer loyalty, which is crucial in maintaining a competitive edge in the market.

This study investigates the implications of subscription-based models on consumer buying behaviour within the e-commerce sector. It seeks to uncover the driving factors behind consumer adoption, including variations across demographics and psychographics, and to assess how these models influence purchase frequency, brand loyalty, and overall consumer satisfaction. Additionally, the research will explore the strategic advantages and challenges that businesses face when implementing and optimizing subscription models. By delving into industry trends and case studies, the study aims to offer valuable insights and practical recommendations for businesses aiming to leverage the full potential of subscription-based commerce in a competitive and ever-evolving marketplace.

NEED OF THE STUDY

The rapid growth of e-commerce in India, charged by increasing internet penetration and digital adoption, coupled with the rising prominence of subscription-based models, necessitates an in-depth examination of their impact on consumer behaviour. Understanding these dynamics is crucial as subscription models reshape how consumers engage with online platforms, offering convenience, personalized experiences, and predictable costs.

The significance of this study lies in its potential to inform strategic decisions for e-commerce platforms seeking to innovate their business models and enhance customer engagement. Understanding how subscription models contribute to customer loyalty, revenue predictability, and market competitiveness is crucial for businesses navigating the evolving digital landscape.

OBJECTIVE OF STUDY

1. To Examine the effect of a subscription-based model on buying behaviour of the consumer in e-commerce industry.
2. Evaluate the relationship between subscription-based services and consumer loyalty.
3. To evaluate the impact of perceived better quality on the likelihood of maintaining or increasing subscriptions to e-commerce services.

SCOPE OF THE STUDY

The research will analyse subscription models in Indian e-commerce across fashion, beauty, groceries, and digital content. It explores how these models vary by region and demographics, influencing consumer behaviour, decision-making, and preferences. It will evaluate their economic impact on platforms, including revenue diversification and customer retention. Comparative analyses with traditional retail models will highlight pros and cons. The study aims to uncover successful strategies, emerging trends, and provide strategic recommendations for businesses in this evolving sector.

LIMITATIONS OF THE STUDY

- i. Generalizability may be limited due to diverse subscription models and consumer behaviours.
- ii. Self-reported data reliance could introduce response biases or inaccuracies.
- iii. Rapid changes in e-commerce and subscription models may make findings quickly outdated.
- iv. Access to proprietary data from e-commerce platforms may be restricted, impacting depth of analysis.
- v. Not all factors influencing consumer behaviour in subscriptions may be fully covered.
- vi. External factors like economic conditions could influence study outcomes.

RESEARCH METHODOLOGY

Research Design:

Descriptive research design has been carried out for this survey

Sampling Design:

Non-Probability Sampling

Sampling Method:

The convenience sampling method involves selecting participants or data points based on their ease of availability and accessibility.

Sources of Data:

This study employs primary data collection through questionnaires.

Sample Size:

The study comprises a sample size of **206**, drawn from various areas within Ahmedabad.

Data Tools & Techniques:

Primary data for this study gathered through survey conducted in Ahmedabad.

For Data Analysis - Descriptive statistics are presented using data tables and simple charts to illustrate the analysis of various variables. Inferential analysis is performed through hypothesis testing using non-parametric tests. SPSS software is utilized to apply these non-parametric tests and evaluate the predefined hypotheses.

LITERATURE REVIEWS

Tanvir Abir (2024), this study aims to consumer buying behaviours within online shopping platforms in Bangladesh, employing a mixed-method approach that integrates questionnaire surveys and in-depth interviews with e-commerce customers. The primary data collected highlights several key findings regarding factors influencing customer satisfaction in e-commerce. Psychographic indicators, economic indicators, and socio-cultural factors were identified as significant contributors to customer satisfaction, with statistically significant coefficients suggesting their positive impact. Conversely, demographic factors were found to be non-significant in influencing customer satisfaction. These insights provide valuable implications for e-commerce businesses operating in Bangladesh, emphasizing the importance of understanding and catering to psychographic and socio-cultural preferences to enhance customer satisfaction and optimize business strategies in the online marketplace.

Gladilina et al. (2023), This study explores the creation of digital ecosystems through the integration of various consumer services into unified online platforms. Their survey of 200 users examines the motives and barriers influencing multiservice subscription decisions, including demographic factors like gender and income. The study provides valuable insights for e-commerce platforms to refine their marketing strategies and better meet consumer needs in a rapidly evolving digital landscape.

Iyengar, Park, and Yu (2022), This study investigates how subscription programs affect customer behaviour across retail platforms using difference-in-differences methodology and generalized random forests. Their study uncovers a substantial increase in customer purchases linked to subscription membership, which persists over time and varies by customer segment.

The research identifies psychological factors, such as the sunk cost fallacy associated with upfront payments, as significant drivers of this effect, rather than purely economic incentives. The findings offer valuable insights for businesses on optimizing subscription models and improving customer retention strategies.

Tommy O. Immanuel (2020), this study aimed to assess customer perceptions of subscription-based loyalty programs and their impact on visit frequency, spending behaviour, and social status. Using a descriptive, cross-sectional design with 85 participants, quantitative methods were employed, focusing on demographics, loyalty program involvement, perceptions, and expectations. Results highlighted that economic value strongly influenced purchase behaviour, whereas interactional and psychological values were perceived less significantly. Preferences leaned towards cash rewards and immediate gratification, underscoring the importance of pricing strategies and reward timing in program design. The study's implications for academia and practical applications in business were thoroughly discussed, emphasizing strategies to enhance customer engagement and program effectiveness.

Alexandros Deligiannis, Charalampos Argyriou (2020), in this study the impact of e-commerce platforms on consumer purchasing behaviour and offers strategic recommendations to enrich the online shopping experience. Employing a qualitative research approach that includes interviews, the investigation aims to uncover valuable insights into how e-commerce sites shape consumer buying decisions. By proposing effective measures for businesses to implement, the research seeks to empower organizations with actionable strategies for enhancing customer engagement and satisfaction. These findings are poised to provide valuable guidance to businesses seeking to optimize their online presence and improve overall performance by aligning with consumer preferences and behaviour. E-commerce enterprises are thus advised to prioritize understanding and adapting to consumer buying patterns to continually refine and elevate the online shopping journey.

Erica Spurgeon and Linda Niehm (2019), The research on subscription-based online services (SOS) underscores its rapid growth and versatility across diverse product categories, reflecting its adaptation to consumer preferences in the digital age. While initial research has explored consumer perceptions and adoption factors, there remains a gap in understanding satisfaction and purchasing behaviour, particularly within fashion SOS. Grounded in the Expectation-Confirmation Theory (ECT), this study aims to fill this gap by qualitatively exploring motivations, satisfaction levels, and purchase behaviour among fashion SOS users. By interviewing 10 female consumers from the Midwest, the research seeks to provide nuanced insights that could inform both academic inquiry and practical strategies for enhancing customer retention in this evolving retail format.

Kuusisto (2018), This paper investigates the transition from ownership-based consumption to subscription-based product-service systems (PSS). By conducting focus groups across themes like mobility and home appliances, the study identifies key factors influencing consumer adoption of PSS, such as reduced ownership burdens and enhanced experiential value. However, barriers such as uncertainty and emotional burden remain significant, particularly in cost-sensitive product categories. The study offers insights into consumer attitudes towards subscription models and their implications for market acceptance.

Chen, Fenyo, Yang, and Zhang (2018), this study explores subscription e-commerce trends among U.S. consumers. Their survey, encompassing over 5,000 participants, finds that 15% of online shoppers engage with subscription services, with a notable preference among younger, affluent urban consumers due to the convenience and personalization offered by these models. Despite this appeal, the study also identifies significant churn rates driven by inadequate customer experiences, underscoring the need for businesses to enhance service quality to reduce cancellation rates.

Wang, Ye, Zhang, and Nguyen (2015), This report examines factors influencing consumers' willingness to subscribe to fee-based online services. Through a survey, they find that factors such as convenience, essentiality, added-value, and service quality positively affect subscription willingness, while perceptions of unfairness decrease it. The study provides actionable insights for service providers to improve subscription models by addressing these factors to enhance consumer appeal.

Cesareo and Pastore (2014), This study to analyse consumer attitudes towards online piracy and subscription-based music services using a structural equations model. The study finds that positive attitudes towards piracy negatively impact consumers' willingness to adopt subscription services, influenced by both economic and moral judgments. The research suggests that the music industry should focus on educating consumers about the benefits of legal services while addressing piracy concerns to enhance subscription uptake.

ANALYSIS

Reliability Statistics:

Reliability Statistics	
<i>(Source: SPSS)</i>	
Cronbach's Alpha	N of Items
.708	38

Source: SPSS Output

The Cronbach's Alpha value is 0.708 which is greater than 0.7 that states our data are reliable.

Normality Test:

<i>(Source: SPSS)</i>	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Income Level	.293	206	.000	.789	206	.000
Subscription duration	.318	206	.000	.753	206	.000
The frequency of purchasing non-subscription items	.229	206	.000	.855	206	.000
Since Subscribing Overall Spending	.353	206	.000	.714	206	.000
The variety of purchased products	.304	206	.000	.806	206	.000
Satisfaction Level	.365	206	.000	.730	206	.000
Enhance/Detract overall shopping experience	.291	206	.000	.812	206	.000

a. Lilliefors Significance Correction

Source: SPSS Output

The statistic value in Kolmogorov-Smirnov is less than 0.5. This means our data is non-parametric.

Kruskal-Wallis H test:

Test Statistics ^{a,b}	
<i>(Source: SPSS)</i>	Overall spending
Chi-Square	10.013
df	3

Asymp. Sig.	.018
a. Kruskal Wallis Test	
b. Grouping Variable: Subscription Duration	

Source: SPSS Output

H0: There is no significant effect of subscription duration on consumer buying behaviourOverall spending in the e-commerce industry.

H1: There is a significant effect of subscription duration on consumer buying behaviourOverall spending in the e-commerce industry.

The Kruskal-Wallis H test is used to examine the effect of subscription duration on overallspending behaviour in the e-commerce industry. The test results get a Chi-Square value of

10.013 with 3 degrees of freedom, and the p-value was 0.018. Since the p-value is less than the significance level of 0.05, we **reject the null hypothesis**. This indicates a significant effect ofsubscription duration on consumer overall spending behaviour.

Correlation:

Correlations				
			q09	q13
Spearman's rho	Satisfaction Level(q09)	Correlation Coefficient	1.000	.492**
		Sig. (2-tailed)	.	.000
		N	206	206
	Recommend Service based onexperience (q13)	Correlation Coefficient	.492**	1.000
		Sig. (2-tailed)	.000	.
		N	206	206

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output

H0: There is no significant relationship between consumer satisfaction with e-commerce subscription services and their level of consumer loyalty, as measured by their likelihood to recommend the service and their intention to continue the subscription.

H1: There is a significant relationship between consumer satisfaction with e-commerce subscription services and their level of consumer loyalty, as measured by their likelihood to recommend the service and their intention to continue the subscription.

Based on the Spearman's Rank Correlation analysis, we **reject the null hypothesis**. This indicates that there is a significant relationship between consumer satisfaction with e- commerce subscription services and consumer loyalty. Specifically, higher consumer satisfaction is strongly associated with a greater likelihood of recommending the service, demonstrating that satisfied customers are more likely to endorse and continue using the subscription services.

Chi-Square Test:

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.639 ^a	3	.014
Likelihood Ratio	10.549	3	.014
Linear-by-LinearAssociation	7.871	1	.005
N of Valid Cases	206		

Source: SPSS Output

H0: There is no significant relationship between the perception of better quality and the likelihood of maintaining or increasing subscriptions.

H1: There is a significant relationship between the perception of better quality and the likelihood of maintaining or

increasing subscriptions.

The Chi-Square test results show a Chi-Square value of 10.639 with a p-value of 0.014. Since the p-value is less than the conventional significance level of 0.05, we **reject the null hypothesis**. That indicates that there is a statistically significant relationship between the perception of better quality and the likelihood of maintaining or increasing subscriptions.

FINDINGS

The Cronbach's Alpha of 0.708 confirmed that the data collected is reliable for further analysis. This suggests that the responses are consistent and trustworthy for deriving conclusions.

The normality test revealed that the data does not follow a normal distribution. Consequently, non-parametric statistical methods were employed for analysis, due to the data's distribution characteristics.

Using inferential analysis, the Kruskal-Wallis H test revealed a significant effect of subscription duration on overall spending. This indicates that the length of time a respondent has been subscribed impacts the amount they spend on related products.

Spearman's Rank Correlation showed a strong correlation between consumer satisfaction and loyalty. This suggests that higher levels of satisfaction are strongly associated with increased customer loyalty to subscription services.

The Chi-Square test indicated a statistically significant relationship between the perception of better quality and the likelihood of maintaining or increasing subscriptions. With a Chi-Square value of 10.639 and a p-value of 0.014, the results confirm that improved service quality significantly influences the likelihood of customers continuing or expanding their subscriptions.

CONCLUSION

This research study was conducted with the primary objective of examining the impact of e-commerce subscription services on consumer behaviour, focusing on factors influencing subscription decisions, customer satisfaction, and the effectiveness of subscription features. Through a comprehensive analysis of primary data collected from a survey of 206 respondents, the study has provided valuable insights into the dynamics of e-commerce subscriptions. The data collection covered various aspects, including shopping frequency, platform preferences, subscription status, and the impact of service quality on customer loyalty.

The analysis, utilizing descriptive statistical methods such as the Chi-Square test, has revealed a significant relationship between the perception of better quality and the likelihood of maintaining or increasing subscriptions. This finding underscores the importance of high service quality in retaining and growing subscription-based customer bases. Additionally, the study highlighted critical factors that influence subscription decisions, such as fast delivery, cost savings, and free shipping, while also identifying areas for improvement, including enhancing product quality and offering competitive pricing. The study found a strong correlation between consumer satisfaction and the likelihood of continued subscription use, emphasizing the need for e-commerce platforms to focus on these aspects to foster customer loyalty.

Despite the valuable insights gained, the study acknowledges its limitations, including the focus on a specific sample group and geographic region, which may not fully represent the broader market. Future research could expand on these findings by exploring a more diverse range of e-commerce platforms and customer demographics. Further investigation into the impact of service quality on subscription behaviour across different market segments could provide a deeper understanding of the factors driving consumer preferences and loyalty in the e-commerce subscription sector.

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