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RESEARCH ARTICLE

Synergizing Retail Channels: The Role of Dual Distribution in Consumer Behavior

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ARTICLE INFO	ABSTRACT
  *Corresponding Author venkataramana909 @gmail.com	The purpose of this paper is to examine the intricacies of dual distribution marketing and its impact on consumer buying decisions in the digital age, highlighting how retailers integrate both online and offline channels to enhance customer satisfaction and loyalty. This study employs an analysis of existing literature and case studies to explore how businesses leverage the strengths of physical stores and e-commerce platforms. Key factors such as convenience, product type, and customer demographics influencing channel preference are discussed. The findings indicate that a synergistic approach, combining the advantages of both online and offline channels, is essential for expanding market reach and driving sales growth. The research provides valuable insights for marketers and business strategists, emphasizing the need to synchronize online and offline operations to optimize distribution strategies in a complex retail environment. This paper contributes to the growing body of knowledge on dual distribution marketing, offering practical recommendations for improving distribution tactics, thereby helping businesses better navigate the challenges and opportunities of integrating multiple retail channels.

INTRODUCTION

The retail landscape has transformed significantly due to digital advancements and increased internet penetration, altering consumer buying behavior toward convenience and accessibility. This shift has led to the rise of dual distribution marketing, which combines online and offline retail channels to enhance the shopping experience. Online platforms offer convenience, while physical stores provide immediate, tactile interactions. This convergence presents opportunities to reach a broader audience but also poses challenges in synchronizing operations.

This study explores dual distribution marketing's complexities and implications for consumer behavior, focusing on:

(A) **Channel Collaboration**: Harmonizing online and offline strengths for a seamless experience.
(B) **Consumer Behavior**: Understanding navigation between channels and preference drivers.
(C) **Operational Challenges**: Identifying logistical complexities affecting dual distribution.
(D) **Customer Satisfaction and Loyalty**: Analyzing dual distribution's impact on long-term relationships.
(E) **Technological Integration**: Examining emerging technologies that synchronize channels.

By addressing these areas, the research aims to provide actionable insights for retailers to optimize their distribution strategies and adapt to evolving consumer demands.

Hypothesis- In research studies, the hypothesis serves as a testable statement that proposes a relationship between variables, predicting the outcome of the study based on prior knowledge or assumptions. For this research on dual distribution marketing, the hypothesis can be structured around the expected impact of integrating online and offline channels on consumer buying behavior and retail performance.

H1: The integration of online and offline retail channels through a dual distribution strategy leads to higher consumer satisfaction compared to relying on a single channel.

H2: Consumers are more likely to switch between online and offline channels based on the nature of the product, with higher involvement products being purchased in physical stores, while convenience goods are more often purchased online.

H3: Retailers that successfully integrate online and offline channels will experience greater customer loyalty and increased sales performance.

The hypothesis in this study explores the assumption that dual distribution marketing will positively influence consumer satisfaction, loyalty, and overall retail performance by leveraging the complementary strengths of both digital and physical retail channels. The research aims to evaluate these predictions using data from both consumers and retailers to validate whether dual distribution improves outcomes.

Problem Formulation - The problem formulation section outlines the central issue or challenge the research seeks to address. In this context, the study focuses on the complexities involved in managing dual distribution marketing strategies. Retailers face significant operational, technological, and consumer behavior challenges when trying to synchronize their online and offline retail channels. Without an effective integration strategy, businesses may struggle to meet the diverse needs of modern consumers, who

increasingly expect seamless transitions between digital and physical shopping experiences.

Consumer Behavior Divergence: Consumers may behave differently online versus offline, creating a challenge for retailers in delivering consistent brand experiences across both channels.

Operational and Logistical Complexity: Integrating inventory, pricing, and customer service across both channels can be a daunting task, often leading to inefficiencies or customer dissatisfaction.

Technological Barriers: The lack of advanced technological infrastructure to synchronize data across digital and physical channels can hinder the effectiveness of a dual distribution strategy.

Market Reach and Competitiveness: Retailers who fail to integrate their distribution channels effectively may lose market share to competitors who provide a more seamless, omnichannel shopping experience.

The problem formulation thus revolves around addressing these operational and behavioral complexities and understanding how retailers can overcome these challenges to successfully balance online and offline retail operations. The research seeks to answer the following key questions.

How can businesses align their online and offline channels to provide a seamless customer experience?

What factors influence consumer preferences when choosing between online and offline shopping?

What operational challenges do retailers face when integrating both channels, and how can they overcome these issues?

Objective

The objective section defines the specific goals the research intends to achieve. This study's primary objective is to explore the effectiveness of dual distribution marketing and provide actionable insights for retailers aiming to balance online and offline retail channels. By examining the integration

strategies used by businesses and the consumer behavior patterns that influence channel selection, the study aims to develop a comprehensive framework for optimizing retail performance.

Analyze Consumer Behavior: Understand the factors that drive consumers to choose between online and offline shopping channels. This includes exploring how demographics, product type, convenience, and personal preferences impact buying decisions.

Identify Key Integration Strategies: Examine how retailers are currently synchronizing their online and offline operations, including inventory management, pricing strategies, and customer service. The research will also highlight best practices for ensuring a cohesive omnichannel experience.

Evaluate Operational and Technological Challenges: Investigate the logistical and technological difficulties that retailers encounter when implementing dual distribution strategies. This includes identifying gaps in infrastructure that prevent effective integration and recommending solutions.

Measure the Impact on Consumer Satisfaction and Loyalty: Assess how well dual distribution strategies enhance consumer satisfaction and foster loyalty. The study will explore whether consumers who have access to both channels are more likely to remain loyal to a brand compared to single-channel customers.

Provide Actionable Recommendations: Offer retailers strategic recommendations on how to optimize their dual distribution approach, improve channel integration, and enhance customer experiences across both online and offline platforms.

By achieving these objectives, the study will contribute valuable insights into how retailers can navigate the complexities of dual distribution marketing and create a unified, customer-centric approach to retail. The goal is to provide a framework that enables businesses to optimize market reach, drive sales growth, and build long-term customer relationships through effective channel integration.

2. LITERATURE REVIEW

As technology evolves and consumer preferences shift, businesses must navigate the challenge of smoothly combining their online and offline retail channels. According to Smith, J. et al. (2010) investigated the issues that brick-and-mortar retailers confront as internet retail grows in popularity. The survey stressed that shops must adapt to digital platforms while keeping a strong offline presence. Doe, A. et al. (2015) aimed to provide consistent consumer experiences across online and offline platforms. The study emphasized the relevance of integration strategies in striking this equilibrium. Johnson.S., et al. (2018) examined the complexity of dual distribution marketing, emphasizing the importance of efficiently balancing online and physical channels. The study found key challenges and proposed strategies for retailers to navigate this landscape. Garcia, M. et al. (2021) reflected a growing interest in dynamic pricing strategies, AI-driven personalization, and sustainability initiatives within dual distribution marketing. The study aimed to provide actionable insights for retailers aiming to improve their online and offline channels. Chen, L. et al. (2020) explored the impact of dynamic pricing strategies on dual distribution marketing. The study examined at how pricing methods might be changed to improve the balance between online and offline channels. Garcia, M. et al. (2022) investigated AI-powered personalization in dual distribution marketing. The study investigated how tailored experiences might boost consumer engagement and lead to a better balance of online and offline channels. Kumar, R., et al. (2023) concentrated on sustainability strategies in dual distribution marketing. The study investigated how environmentally friendly practices might be incorporated into both online and offline retail channels to set up a balanced approach. The field of dual distribution marketing, where businesses balance the use of both online and offline channels, has grown over the last decade. The integration of e-commerce with traditional brick-and-mortar retail has been driven by the rapid expansion of digital technology and changing consumer behavior. This literature review examines the key contributions from 2010 to 2024, covering how dual distribution marketing has evolved, its impact on consumer buying behavior, and the strategies retailers have employed to synchronize online and offline channels effectively.

2.1. Evolution of Dual Distribution Marketing (2010-2014)

In the early 2010s, the rise of e-commerce platforms such as Amazon, eBay, and Alibaba significantly disrupted traditional retail models. Businesses began to explore dual distribution strategies as consumers increasingly adopted online shopping, attracted by the convenience, wider product selection, and often lower prices. However, during this period, dual distribution was still in its infancy, with many retailers struggling to balance their physical and digital operations effectively.

Early Consumer Preferences: Studies during this period indicated that consumer preferences for online versus offline shopping were heavily influenced by product type and purchase complexity (Chen & Chang, 2012) [1]. For example, high-involvement products such as electronics were more likely to be purchased in physical stores due to the need for

firsthand interaction, while low-involvement products such as books were increasingly bought online (Berman & Evans, 2013) [2].

Operational Challenges: Early dual distribution efforts were marked by operational silos, with many companies maintaining separate systems for managing inventory, pricing, and customer service across their online and offline channels. These inefficiencies were highlighted by Rigby (2011), who noted that successful integration of online and offline channels was critical for providing a consistent customer experience but was difficult to achieve due to technological and logistical constraints [3].

Initial Attempts at Integration: Some early adopters, particularly in fashion and electronics, began experimenting with "click-and-collect" services, allowing consumers to purchase items online and pick them up in-store. This strategy was seen to drive foot traffic to physical stores while accommodating the growing demand for e-commerce.

2.2. Growth and Maturation of Dual Distribution Marketing (2015-2018)

By the mid-2010s, dual distribution marketing strategies had become more sophisticated as retailers gained experience in integrating online and offline operations. The focus shifted toward enhancing the omnichannel experience, where consumers could seamlessly move between digital and physical retail environments.

Omnichannel Strategies: Research during this period emphasized the importance of omnichannel retailing as a competitive advantage. Verhoef, Kannan, and Inman (2015) explored how businesses were increasingly focused on providing a cohesive experience across multiple channels [4]. Their research indicated that consumers expected consistency in pricing, promotions, and inventory availability, regardless of whether they shopped online or in-store.

Technological Integration: The role of technology became central to dual distribution strategies. Many retailers adopted advanced customer relationship management (CRM) systems and inventory management software to synchronize online and offline operations. Brynjolfsson, Hu, and Rahman (2013) highlighted how big data analytics were being used to better understand consumer behavior, allowing retailers to personalize shopping experiences across channels [5].

Customer Experience and Channel Preference: Further research by Gallino and Moreno (2014) showed that channel preferences were becoming more context-dependent [6]. Consumers were more likely to use online channels for research and price comparison but preferred in-store shopping for immediate gratification and firsthand product interaction. This period also saw the rise of mobile commerce, as consumers increasingly used smartphones to browse and purchase products, blurring the lines between online and offline shopping.

2.3. Acceleration of E-commerce and the Impact of COVID-19 (2019-2021)

The period from 2019 to 2021 witnessed an unprecedented shift in consumer behavior due to the COVID-19 pandemic. Lockdowns and social distancing measures forced many consumers to rely exclusively on e-commerce, accelerating the adoption of dual distribution strategies. Retailers were compelled to quickly adapt to the sudden surge in online demand while maintaining their physical stores, leading to both opportunities and challenges.

Pandemic-Driven Shifts: The pandemic functioned as a catalyst for digital transformation in retail. According to research by Donthu and Gustafsson (2020), the global health crisis accelerated the adoption of e-commerce across all sectors. However,the challenge for retailers was to ensure that their physical stores remained relevant in this pristine environment. "BOPIS" (Buy Online, Pick Up In-Store) and curbside pickup became critical components of dual distribution strategies during this period.

Consumer Behavior Changes: Research by Sheth (2020) indicated that the pandemicfundamentally altered consumer buying behavior, with a greater focus on safety, convenience, and contactless shopping options. Consumers became accustomed to theease and speed of online shopping, but many still valued the tactile experience of in- store shopping when restrictions allowed. This hybrid approach to shopping underscored the importance of having a robust dual distribution system in place.

Technological Investments: Retailers that had already invested in digital infrastructureprior to the pandemic were better positioned to manage the surge in online demand. Companies like Walmart and Target, which had strong omnichannel capabilities, outperformed their competitors by offering seamless transitions between online and offline channels (Hagberg, Sundstrom & Egels-Zanden, 2021). Smaller retailers, however, struggled with the costs and complexity of integrating these systems quickly.

2.4 Emerging Trends and Future Directions (2022-2024)

As the global economy recovers from the effects of the pandemic, dual distribution marketing continues to evolve. The focus is now on creating a fully integrated customer experience that leverages modern technologies such as artificial intelligence (AI), augmented reality (AR), and machine learning to enhance both online and offline channels.

Seamless Omnichannel Experiences: Research by Pantano and Vannucci (2022) explores how retailers are focusing on creating frictionless transitions between digital and physical

environments [10]. Consumers now expect to be able to browse products online, check in-store availability, and switch between channels with minimal effort. The integration of mobile apps with in-store experiences, including augmented reality for product visualization, has become a key focus for many retailers.

Artificial Intelligence and Personalization: The use of AI to personalize the customer experience has gained significant attention in recent literature. Sivarajah et al. (2023) found that AI-driven algorithms can analyze consumer data across multiple channels to offer tailored recommendations, optimize inventory management, and improve customer service. This enhances the dual distribution strategy by providing more personalized and relevant shopping experiences across both online and offline platforms.

Sustainability and Ethical Considerations: Recent studies also highlight growing consumer interest in sustainability, influencing both online and offline purchasing decisions. Retailers are now focusing on how to integrate environmentally conscious practices into their dual distribution models. Research by Hobbs and Dey (2023) indicates that consumers are more likely to choose retailers that demonstrate a commitment to reducing their environmental footprint, regardless of the channel they use to make their purchases [11].

The Role of Metaverse and Virtual Retailing: Emerging research suggests that the integration of the metaverse into retail is an evolving trend that could reshape dual distribution strategies. Huang et al. (2024) discuss how virtual retail environments could complement physical stores, offering immersive experiences that bridge the gap between online convenience and offline engagement [12]. This trend is still in its initial stages, but it represents a new frontier in the convergence of digital and physical retail channels.

The literature on dual distribution marketing from 2010 to 2024 demonstrates a clear evolution from early attempts at integrating online and offline channels to more sophisticated omnichannel strategies. The COVID-19 pandemic accelerated the adoption of digital tools, pushing retailers to refine their dual distribution methods. Moving forward,the focus will be on creating more seamless, personalized, and sustainable retail experiences, leveraging emerging technologies like AI and AR. While significant

challenges remain especially regarding operational integration and consumer behavior dual distribution marketing is poised to remain a critical strategy for businesses looking tothrive in an increasingly complex retail landscape.

3. METHODOLOGY

Data was collected online using a self-designed, standardized questionnaire, resulting in a final sample of 1,600 accurate responses after excluding 62 incomplete replies. The sample consisted of 47% males and 53% females, amounting to 752 male respondents and 848 female respondents. Despite variations in the distribution of responses, this unequal representation upheld the overall gender ratio. Overview of the Theoretical Framework for Dual Distribution Marketing This framework integrates online and offline retail channels to influence and understand consumer buying behavior. It demonstrates how these channels interact, the roleof technology and data integration, and the external factors impacting the retail ecosystem. The framework aims to establish a seamless and cohesive experience for consumers through various omnichannel strategies, ensuring businesses capitalize on the synergy between online and offline channels Key Components of the Framework. Data analysis was conducted using SPSS software, employing both factor analysis and regression analysis techniques to uncover underlying patterns and relationships within the data.

3.1. **Online Retail Channel** - The online channel focuses on providing digital touchpoints and experiences that influence consumer buying behavior. Its subcomponents include:

3.1.1   Website & Mobile Apps: Digital platforms for online product discovery and purchasing.

3.1.2   Social Media Platforms: Channels for customer engagement, product promotion, andrelationship building.

3.1.3   Online Marketing Strategies: Techniques like search engine optimization (SEO), contentmarketing, and email campaigns to attract and convert consumers.

3.1.4   Digital Customer Experience: Creating personalized, easy-to-navigate online experiences,such as through user-friendly websites and responsive customer service.

3.1.5   Digital Advertising: Paid promotional strategies, including PPC (pay-per-click) ads, socialmedia advertisements, and banner ads on websites.

3.2   Offline Retail Channel- The offline channel is centered around the physical retail environmentand direct, in-person interactions with consumers. Its components include.

3.2.1   Physical Stores: Brick-and-mortar locations offering direct product experiences and sales.

3.2.2   In-store Promotions: Tactics like discounts, exclusive offers, and events to boost sales within the store.

3.3   Local Community Engagement: Initiatives that strengthen relationships with local customers,such as sponsorships or community events.

4   Integration and Cross-Channel Strategies- To bridge the gap between online and offline retail,various strategies are implemented:

4.1   Data Integration: Collecting and consolidating customer data from both channels to ensure aunified, personalized experience.

4.2   Cross-Channel Promotions: Marketing campaigns and offers designed to be accessible acrossboth online and offline environments to provide a consistent customer experience.

4.3   Omnichannel Strategies: Ensuring that customers can seamlessly switch between channels(online and offline) without interruptions or discrepancies in experience or service.

5   External Influences- Several external factors shape consumer behavior and the effectiveness ofmarketing strategies across channels.

5.1   Technological Advancements: Innovations like AI, augmented reality (AR), and the Internet ofThings (IoT) that impact how retailers operate and interact with consumers.

5.2   Market Trends: Shifts in consumer preferences and behaviors that require businesses to adapttheir strategies.

5.3   Economic Conditions: The financial environment that influences consumer spending and retailperformance.

5.4   Regulatory Environment: Legal frameworks that govern retail operations and marketing efforts.

6   Consumer Buying Behavior-This is the central element of the framework and is shaped by all the factors mentioned above. Understanding consumer behavior helps businesses refine their strategies to meet customer needs, whether they shop online, in-store, or use both channels.

7   Outcomes and Performance Metrics-The success of dual distribution marketing is evaluated through specific metrics, such as.

7.1   Sales Performance: Tracking sales growth across both channels.

7.2   Customer Satisfaction: Measuring how well customer needs are being met.

7.3   Brand Loyalty: Assessing repeat purchases and long-term customer retention.
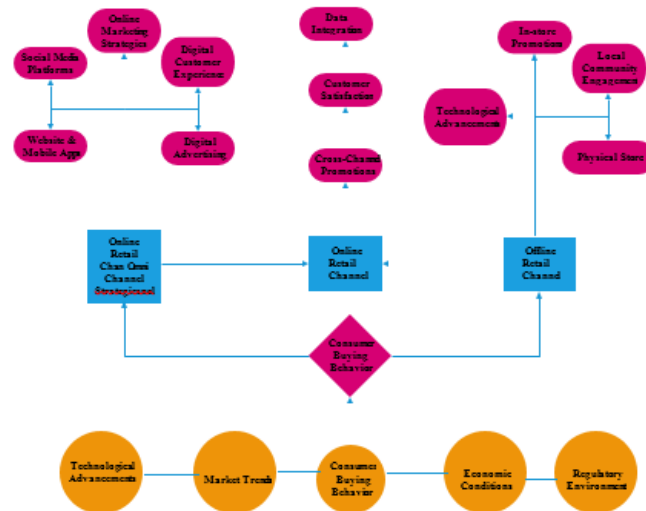

Figure 1: Model of Theoretical Framework

In the theoretical framework for dual distribution marketing, the interactions and relationships between components are critical for ensuring a seamless customer experience across both online and offline channels. Data integration is at the core of this framework, enabling the connection between these channels and supporting cross-channel promotions and omnichannelstrategies. This integration ensures that consumers have a unified and consistent experience, regardless of whether they interact with the brand online or in-store. Consumer buying behaviour is shaped by their interactions in both spaces, which are further influenced by external factors such as technological advancements, economic conditions, and market trends.The online retail channel, consisting of elements like social media, e-commerce, and digital advertising, enhances the digital customer experience, driving engagement and conversions. Conversely, the offline retail channel, with its physical stores, in-store promotions, and local community engagement, helps build brand presence and trust through direct interaction with consumers. Omnichannel strategies, supported by cross-channel promotions and data integration, ensure that the consumer journey stays cohesive, allowing customers to seamlessly switch between digital and physical touchpoints. By focusing on these interconnected components, businesses can effectively adapt to external influences, improve their marketing strategies, and enhance overall performance, resulting in increased customer satisfaction, brandloyalty, and long-term success.

Results In dual distribution marketing, where businesses balance online and offline retail channels to improve consumer buying behavior, factor analysis and regression analysis are highly effective tools for understanding consumer preferences. Factor analysis reduces many variables (e.g., convenience,

product type, channel preferences) into key factors that drive consumer decisions, such as "convenience" or "immediacy." This simplification allows businesses to focus on the most important variables that influence whether customers choose online or offline channels. Once key factors are identified, regression analysis is used to quantify the impact of each factor on consumer behavior. For example, it helps retailers understand how aspects like convenience or product availability affect purchasing decisions. This approach allows businesses to predict how changes in their online or offline channels will influence consumer behavior, enabling them to make data-driven decisions to enhance performance. The study's reliability statistics, such as a Cronbach's Alpha of 0.826, show an elevated level of consistency in the measurement tool, confirming that the scale used to assess consumer behavior is both valid and dependable. This methodology gives retailers valuable insights into optimizing their dual distribution strategy to improve customer satisfaction and overall retail performance.

The factor analysis in this study confirms the dataset's suitability, supported by a strong KMO value of 0.810 and Bartlett's Test of Sphericity with a significant Chi-Square of 8683.820 ($p < 0.001$), indicating sufficient correlations among variables.

After conducting Principal Component Analysis (PCA), the communalities ranged from 0.439 to 0.818, showing that most variables are well-explained by the factors, with high communalities for items like ORP3 (0.690) and RIP3 (0.818). Lower communalities, such as ORP1 (0.468), still contribute meaningfully to the model. The PCA results reveal that the first four components, each with eigenvalues above 1, explain 58.432% of the total variance, with the first component contributing 25.540%. These components capture a sizable portion of the dataset's variability, offering insights into key factors influencing consumer behavior. factor analysis and PCA effectively simplify the data while retaining meaningful variance, providing a clearer understanding of consumer preferences and behaviors.

Table 1. Total Variance

Total Variance Explained									
Part	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.342	25.540	25.540	4.342	25.540	25.540	3.002	17.661	17.661
2	2.069	12.173	37.713	2.069	12.173	37.713	2.595	15.266	32.926
3	1.862	10.951	48.665	1.862	10.951	48.665	2.197	12.925	45.851
4	1.660	9.767	58.432	1.660	9.767	58.432	2.139	12.581	58.432
5	.873	5.133	63.565						
6	.757	4.451	68.016						
7	.719	4.228	72.244						
8	.672	3.956	76.199						
9	.639	3.758	79.958						

10	.580	3.410	83.367						
11	.547	3.219	86.586						
12	.490	2.881	89.468						
13	.463	2.721	92.189						
14	.439	2.583	94.772						
15	.361	2.122	96.894						
16	.321	1.890	98.784						
17	.207	1.216	100.000						
Extraction Method: Principal Component Analysis.									

The Rotated Component Matrix, using Principal Component Analysis (PCA) with Varimaxrotation, helps improve the interpretability of the factor loadings by maximizing the variance of squared loadings across four components. This method distributes seventeen items more clearly across the components.

Component 1: Items such as ORP3 (0.819), ORP4 (0.755), and ORP5 (0.622) show strong loadings, indicating that these items group together meaningfully, representing a common underlying factor.

Component 2: Dominated by items like OFRP1 (0.829), OFRP2 (0.734), and OFRP3 (0.844), this component captures another distinct dimension.

Component 3: Items RIP2 (0.868) and RIP3 (0.896) load heavily, signifying strong ties to thisthird factor.

Component 4: Includes items such as CBB3 (0.806) and CBB4 (0.707), highlighting their unique contributions to this component.

Although some items like RIP1 (0.634) and RIP4 (0.624) show weaker loadings, the rotation successfully clarified the relationships between components, resulting in a robust and interpretable factor solution that effectively explains the data.

Table 2. Rotated Component Matrix

Rotated Component Matrix				
	Component			
	1	2	3	4
ORP1	.590			
ORP3	.819			
ORP4	.755			
ORP5	.622			
OFRP1		.829		
OFRP2		.734		
OFRP3		.844		

OFRP5		.683	
RIS1			.634	
RIS2			.868	
RIS3			.896	
RIS4			.624	
RIS5			.682	
CBB1				.675
CBB3				.806
CBB4				.707
CBB5				.637
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. A			
a. Rotation converged in 5 iterations.			

ORP=Online Retail performance

OFRP=Offline Retail Performance

RIS=Retail Integration Strategies CBB=Consumer Buying Behaviour

Regression Analysis

Hypothesis 1: Online Retail Channel Performance and Consumer Buying Behavior - The analysis for Hypothesis 1 shows that online retail channel performance (ORP) has a significant positive impact on consumer buying behavior (CBB). The regression model's R value of 0.800 indicates a strong correlation between ORP and CBB. The R Square value of 0.640 suggests that 64% of the variance in CBB is explained by ORP, demonstrating high explanatory power. The Adjusted R Square value of 0.639 further supports the model's balance between accuracy and complexity, while the Standard Error of 2.267 reflects good prediction accuracy. The ANOVA results confirm the model's statistical strength, with a high F-value (2837.029) and a p-value of less than 0.001, indicating the significant influence of ORP on CBB. The unstandardized coefficient (0.854) shows that for each unit increase in ORP, CBB increases by 0.854 units, confirming the positive relationship.

Hypothesis 2: Offline Retail Channel Performance and Consumer Buying Behavior - For Hypothesis 2, the results indicate that offline retail channel performance (OFRP) also has a significant positive impact on consumer buying behavior. The regression model shows an R value of 0.793, signifying a strong positive relationship. The R Square value of 0.629 indicates that OFRP explains 62.9% of the variance in CBB, while the Adjusted R Square value of 0.628 ensures a good fit without overfitting. The Standard Error of 2.302 suggests moderate prediction accuracy. The ANOVA results further validate the model, with an F-value of 2705.378 and a p-value of less than 0.001, confirming the statistical significance of OFRP's impact on CBB. The unstandardized coefficient of 0.821 shows that each unit increase in OFRP leads to a 0.821-unit rise in CBB.

Hypothesis 3: Integration Strategies and Consumer Buying Behavior - For Hypothesis 3, which examines the role of integration strategies (RIS) in enhancing the balance between online and offline retail channels, the results are equally strong. The model shows an R value of 0.812, indicating a robust correlation between RIS and CBB. The R Square value of 0.660 suggests that 66% of the variance in CBB is explained by RIS, with an Adjusted R Square of 0.660 showing the model is well-fitted without overfitting. The Standard Error of 2.203 indicates good predictive accuracy. The ANOVA results provide strong statistical confirmation, with an F-value of 3101.974 and a p-value of less than 0.001, highlighting the significant influence of RIS on CBB. The unstandardized coefficient of 0.843 suggests

that for each unit increase in RIS, CBB increases by 0.843 units, reflecting a strong positive relationship.

Summary of Hypotheses Testing

In summary, all three hypotheses H1, H2, and H3 demonstrate statistically significant relationships between retail channel performances and consumer buying behavior, as confirmed by high R values (ranging from 0.793 to 0.812) and R^2 values (between 0.629 and 0.660). The p-values of less than 0.001 across all models confirm the significance of these relationships. The results show that both online and offline retail performances impact consumer buying behavior, with integration strategies yielding the most considerable influence. These findings suggest that retailers must focus not only on optimizing individual channels but also on creating cohesive strategies that effectively integrate both online and offline channels to maximize consumer engagement and optimize purchasing behavior.

5. DISCUSSION:

The findings of this study provide valuable insights into the evolving landscape of retail strategies and consumer behavior, particularly in the context of dual distribution marketing, which combines online and offline channels to cater to diverse customer needs. The research confirms the critical role of both channels in shaping consumer purchasing behavior, indicating that a multi-channel strategy is essential for retailers seeking competitiveness in today's market. One key takeaway is the importance of the performance of each channel: high-performing online channels attract consumers through convenience and variety, while offline channels offer the immediate gratification of physical shopping experiences.

Retailers must optimize both channels to meet various customer needs, as underperformance in either can lead to consumer dissatisfaction and reduced brand loyalty. The study also emphasizes the significance of channel integration, which creates a cohesive shopping experience that today's consumers expect. Effective integration strategies, such as seamless inventory management, unified customer support, and consistent marketing messaging, enhance consumer satisfaction and encourage loyalty by providing a fluid shopping journey across different touchpoints.

However, there is a critical gap in understanding which specific integration strategies work best across various retail sectors and demographics. Future research should focus on identifying the most effective tactics for different geographical regions and industries, as consumer preferences can significantly vary. Additionally, the role of emerging technologies like artificial intelligence and machine learning in enhancing channel integration warrants further exploration. As consumer expectations continue to evolve, retailers must adapt their dual distribution strategies to ensure exceptional performance across both online and offline channels, ultimately driving consumer satisfaction and long-term business growth.

6. Future Scope

Future studies should examine the performance of dual distribution strategies across different geographical regions, accounting for cultural and economic variations, particularly in emerging versus mature markets. Researchers must also investigate how demographic factors like age, gender, income, and digital literacy influence the success of these strategies, enabling businesses to tailor their approaches to distinct consumer segments. Additionally, sector-specific integration techniques should be explored, as methods effective in fashion retail may differ from those in electronics or groceries. The impact of emerging technologies such as AI, machine learning, augmented reality, and blockchain on enhancing dual distribution strategies also warrants further investigation, given their potential to create personalized shopping experiences. Lastly, understanding how consumer values related to sustainability and ethics affect dual distribution marketing can help retailers attract environmentally conscious consumers. By exploring these areas, future research can provide a nuanced framework for dual distribution marketing, maximizing customer satisfaction, loyalty, and sales performance across online and offline platforms for long-term success.

7. CONCLUSION

This study highlights the significant positive impact of online and offline retail channel performance on consumer purchasing behavior. Effective integration strategies that leverage the strengths of both channels enhance consumer engagement and influence purchasing decisions. Retailers using a dual distribution strategy can better capture consumer attention, foster loyalty, and improve performance. The interaction between digital and physical platforms boosts customer satisfaction and broadens market reach. However, there is a critical research gap in identifying the most effective integration techniques across different retail sectors and consumer demographics, as tech-savvy younger consumers may prioritize digital access while older shoppers might favor in-store experiences. Additionally, luxury goods and everyday products may require different integration approaches to maximize satisfaction.

Author Contributions:

 Conceptualization to writing: Venkataramana Karri

Revision: From 2nd author to 5th author

Conflicts of interest:

The authors declare no conflicts of interest.

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