Omni Channel Try-on Using Virtual Reality: Transforming the Retail Experience

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Abstract- Background: The integration of virtual Reality (VR) into omnichannel retail is transforming the customer experience by offering immersive and interactive ways for customers to engage with products. This technological shift is especially relevant in sectors such as fashion, cosmetics and home décor, where visual and experiential engagement is critical.
Objective: To evaluate the effectiveness of VR-based try-on technologies in enhancing customer interaction and improving retail performance across both digital and physical touchpoints in omnichannel retail environments.
Methodology: A qualitative and analytical approach is employed, combing insight from recent industry case studies, technologies reviews and consumer behaviour research. Key areas analysed include customer journey optimization, return rate reduction and personalization in retail environments.
Results: The study finds that VR try-on solutions significantly streamline the shopping experience by enabling customers to visualize products in real-time, reducing uncertainty and returns. Personalized engagement through VR leads to higher satisfaction and loyalty, while operational efficiency improves through better product visualization.
Conclusion: The research highlights the potential of immersive VR technologies to create seamless, customer-centric omnichannel ecosystems. Retailers aiming to adopt VR-driven strategies must address challenges such as cost, technology integration and user readiness while leveraging the operational and experiential benefits to remain competitive in the evolving retail landscape.

Key words: Virtual Reality, Omnichannel, Try-on, Retailing, Digital Touchpoints

INTRODUCTION

Businesses are finding it more and more difficult to successfully engage clients across many platforms in the quickly changing retail world of today. As a result, two well-known tactics have emerged: multichannel and omnichannel marketing. For organizations looking to improve customer experiences and increase revenue, it is essential to comprehend the distinction between omnichannel and multichannel. This article examines the differences, applications, and ramifications of these tactics, eventually emphasizing the reasons omnichannel retail is thought to be the way of the future for consumer purchasing.

Omnichannel vs. Multichannel Examples
Take a look at the following examples to show how omnichannel and multichannel differ:
Multichannel Example: To advertise a seasonal discount, a clothes retailer employs social media ads, email marketing, and a real store. With distinct messaging and advertising, every channel functions autonomously. Customers may not find the same deals or experience if they visit the website after seeing an advertisement on Facebook.
An example of an omnichannel business is a tech company that lets users browse products on its website, get personalized alerts through its app, and contact customer service by phone or chat. A seamless experience is created when a customer begins their trip online and continues it in-store without losing context.

Omnichannel Marketing
Across a brand's sales touchpoints, such as physical stores, events, mobile devices, and online retailers, omnichannel marketing produces a unified, integrated buying experience. Every time consumers come across the brand, it establishes consistency through data and analytics. Suppose you own a company that sells socks. A customer may discover socks they adore on social media, peruse your online store's inventory, and then get a voucher to purchase their preferred pair in your physical store if you have an omnichannel marketing strategy in place. In order to provide a fully consistent, cohesive experience across all devices and marketing channels, omnichannel marketing strategy places the customer at the center.

Omnichannel Retailing is Known as The Future of Shopping

i) Enhanced Customer Experience: With the rise of digital shopping, consumers expect a seamless experience across all channels. Omnichannel strategies meet these expectations by providing consistent messaging and easy transitions between platforms.
ii) Increased Customer Loyalty: Brands that adopt an omnichannel approach tend to foster greater customer loyalty. Customers are more likely to return when they feel valued and understood through personalized interactions.
iii) Higher Sales Potential: Research indicates that businesses with strong omnichannel engagement can significantly increase sales. For example, omnichannel customers tend to spend more than those who engage through a single channel.
iv) Data-Driven Insights: Omnichannel strategies allow brands to collect and analyze data from various touchpoints, leading to a better understanding of customer behavior and preferences. This data can be leveraged to tailor marketing efforts and improve product offerings.
v) Adaptability to Market Changes: The retail landscape is constantly evolving, and brands that embrace an omnichannel approach are better equipped to adapt to changes in consumer behavior and market trends.

Try on: Imagine you're searching for a new pair of glasses but don't have the time to visit a store. Or you've found the perfect lipstick shade but aren't sure if it will complement your skin tone. One of the biggest challenges of online shopping is the inability to try products before making a purchase. That's where virtual try-on (VTO) technology comes in. Powered by augmented reality (AR) and artificial intelligence (AI), virtual try-on allows users to see how a product will look and feel—without ever physically trying it on. Whether it's glasses on your face, sneakers on your feet, or a sofa in your living room, VTO brings products to life in a completely virtual environment. And the best part? No special equipment is required—just your phone, computer or any smart device with camera! This technology addresses one of the biggest pain points of online shopping: the uncertainty of whether a product will truly suit you. Instead of visiting multiple stores and trying on countless options, you can make faster, more confident purchase decisions with just a few taps. The benefits extend beyond convenience. Customers enjoy a more informed and seamless shopping experience, while brands see higher conversion rates, fewer returns, and greater customer satisfaction. Simply put, virtual try-on isn't just enhancing e-commerce—it's revolutionizing it.

Try-On Examples and Industry Applications:

1. Fashion & Apparel – Zara Virtual Fitting Room: Zara's virtual fitting room, integrated into its mobile app, allows users to visualize how clothing fits their bodies. By using their smartphone cameras, customers can assess the fit, fabric drape, and overall style. This innovation helps online shoppers choose the right size, reducing return rates.
2. Footwear – Nike Fit: Nike Fit uses virtual try-on technology to scan users' feet via smartphone cameras, providing precise shoe size recommendations. Powered by AI, the system considers foot shape and measurements to suggest the best fit. Available both online and in physical stores, Nike Fit significantly reduces size-related returns.
3. Eyewear – Warby Parker Virtual Try-On: Warby Parker's AR-powered virtual try-on feature enables customers to see how eyeglasses will look on their faces. The app analyzes facial features and accurately simulates frame fit, including nose bridge placement and ear alignment, eliminating the need for in-store visits.
4. Watches & Jewelry – Rolex AR Try-On: Rolex enhances the luxury shopping experience with an AR application that allows customers to preview how different watch models will look on their wrists. Users can explore various designs, straps, and case sizes in real time, making more confident purchasing decisions.
5. Makeup & Cosmetics – L'Oréal Modiface: L'Oréal's AI-powered Modi face platform enables customers to virtually try on beauty

products, including lipstick, foundation, and eyeshadow. By analyzing skin tone, the system suggests the most flattering shades. Retailers like Sephora and Ulta Beauty have also integrated this technology to enhance personalization.

Statement of the Problem

In today's dynamic retail landscape, consumers expect seamless, interactive, and personalized experiences across both physical and digital platforms. Omnichannel retailing has emerged as a strategic response to these expectations, yet many retailers struggle to deliver a cohesive experience that bridges online and offline touchpoints. Virtual Reality (VR)-based try-on solutions offer a promising innovation, allowing customers to visualize and interact with products in an immersive manner before purchasing. Despite its potential, the adoption of VR in omnichannel environments remains limited due to high implementation costs, technical integration challenges, low customer awareness, and limited digital readiness among retail operators. Without empirical evidence on the impact of VR try-on technologies on customer engagement and purchasing decisions, retailers may hesitate to invest in such tools. This study aims to address this gap by evaluating the effectiveness, adoption patterns, and customer perceptions of VR-based try-on systems within an omnichannel retail framework.

Objective

To assess the impact of VR based try-on solutions in enhancing customer engagement within an omnichannel retail environment.

Hypothesis

There is no significant relationship between the use of Virtual Reality based try-on solutions and customer engagement in an omnichannel retail environment.

Scope of the Study

This study focuses on assessing the role and effectiveness of Virtual Reality (VR)-enabled try-on technologies in enhancing customer engagement and purchasing decisions within omnichannel retail environments. The research specifically targets the fashion, cosmetics, and lifestyle product segments where visual interaction is critical. The geographic scope is limited to retail consumers and businesses in Coimbatore, Tamil Nadu, considering their growing exposure to digital technologies. Data has been collected from 50 respondents using a structured questionnaire via Google Forms, supplemented by insights from secondary sources such as journals, articles, and industry reports. The study evaluates key factors such as user awareness, satisfaction, perceived usefulness, adoption challenges, and purchase behavior linked to VR try-on experiences. The findings aim to provide actionable insights for retailers, technology providers, and policymakers interested in integrating immersive technologies into customer-centric retail strategies.

REVIEW OF LITERATURE

Kotler et al. (2017). The increase of mobility and connectivity, companies should map customer path to purchase, understand customer touch points across the path and intervene in selecting touch points that matter. The customer path should be written in the five A's: aware, appeal, ask, act, and advocate. Andert (2011). generation is influenced by computers and a greater acceptance of non-traditional families and values. Ali and Purwandi (2017) state that in urban areas, the millennial generation is identical with 3C (Creative, Confident, and Connected). Cook (2014). omni-channel customers are mobile as well as highly connected and they embrace technology in their daily life. They are fully engaged oin digital and social media channels. Rippé et al. (2015). mention that omni-channel consumers usually believe that they know more about a purchase than the salespeople and they perceive themselves as having more control over the sales encounter.

Methodology of the Study

Area of the Study: Coimbatore

Period of the Study: 2025

Method of data collection:

i) Primary data using structured questionnaire through google form

ii) Secondary from articles, journals, magazines etc.,

No of data collected: 50

Statistical tool used for analysis: Descriptive analysis

DATA ANALYSIS AND INTERPRETATION

Table No: 1 - Demographic Profile

VARIABLE	CATEGORY	FREQUENCY	PERCENTAGE
GENDER	Male	22	44%
	Female	28	56%
AGE GROUP	18-25 years	20	40%
	26-35 years	18	36%
	36-45 years	9	18%
	Above 45 years	3	6%
OCCUPATION	Student	15	30%
	Working Professional	25	50%
	Business Owners	6	12%
	Others	4	8%

Sources: Primary Data

A majority of the respondents (56%) were female, with a large portion aged between 18 and 35 years (76%). Most participants were working professionals or students, indicating that the sample is largely composed of tech-Savy individuals likely to engaged with digital retail platforms.

Table No: 2 – Awareness of Virtual Try-On Technology

FAMILIARITY	FREQUENCY	PERCENTAGE
YES	32	64%
NO	18	36%

Sources: Primary Data

More than half of the respondents (64%) were aware of virtual try-on technology, showing moderate awareness. However, there remains a significant portion (36%) that is unfamiliar, suggesting a need for increased customer education and exposure.

Table No: 3 – Usage of Virtual Try-On in Online Shopping

RESPONSE	FREQUENCY	PERCENTAGE
YES	28	56%
NO	22	44%

Sources: Primary Data

A little over half of the respondents have already used virtual try-on tools, indicating a growing interest in immersive retail experiences. The 44% have not yet used these tools represent a potential target for awareness campaigns.

Table No: 4 – Satisfaction with Virtual Try-On Experience

SATISFACTION LEVEL	FREQUENCY	PERCENTAGE
HIGHLY SATISFIED	10	35.7%
SATISFIED	12	42.9%
NEUTRAL	4	14.3%
DISSATISFIED	2	7.1%
HIGHLY DISSATISFIED	-	-

Source: Primary Data

Most user expresses satisfaction with their virtual try-on experiences, with 78.6% indicating they were satisfied or highly satisfied. This reinforces the positive impact of VR in improving the online shopping experience.

Table No: 5 – Influence of Virtual Try-On Purchase Decisions

RESPONSE	FREQUENCY	PERCENTAGE
YES	35	70%
NO	15	30%

Source: Primary Data

A large majority (70%) of respondents said they would be more likely to purchase a product after using VR try-on tools. This shows that such feature can boost conversion rates and reduce purchase hesitation.

Table No: 6 – Perceived Helpfulness of Virtual Try-on in Product Evaluation

RESPONSE	FREQUENCY	PERCENTAGE
STRONGLY AGREE	18	36%
AGREE	20	40%
NEUTRAL	7	14%
DISAGREE	5	10%
STRONGLY DISAGREE	-	-

Source: Primary Data

About 76% of respondents agreed that virtual try-on helps them make better purchasing decisions. This confirms the effectiveness of VR tools in reducing buyer uncertainty and enhancing confidence.

Table No: 7 – Store that offer try-on options across Online and Offline Channels

RESPONSE	FREQUENCY	PERCENTAGE
YES	38	76%
NO	12	24%

Source: Primary Data

An overwhelming 76% of respondents prefer brands that offer consistent try-on options across both physical and digital platforms. This aligns with the principle of omnichannel retailing and shows the important of a unified customer experience.

FINDINGS AND SUGGESTIONS

The study revealed several key insights into the adoption and effectiveness of Virtual Reality (VR) try-on tools in omnichannel retail settings. Each finding is followed by a corresponding suggestion for practical application.

i) Tech-Savvy Demographic Preference

Finding: A large portion of respondents (76%) were young (18–35 years) and mostly students or working professionals, indicating that VR try-on is more appealing to a tech-savvy demographic.

Suggestion: Retailers should develop mobile-friendly VR experiences and launch interactive social media campaigns. This can be done by:

- Collaborating with influencers to showcase the VR try-on experience on platforms like Instagram and YouTube.
- Integrating gamification features (e.g., “try and win discounts”) into apps.
- Promoting user-generated content where customers share screenshots of their VR try-ons for rewards.

ii) Moderate Awareness of VR Try-on

Finding: 64% of respondents were aware of virtual try-on tools, but 36% remained unfamiliar with such technologies.

Suggestion: To increase awareness, retailers can:

- Include a short, engaging tutorial video on product pages demonstrating how to use VR try-on.
- Place in-store screens or QR codes allowing customers to test the feature using their own devices.
- Organize live demo sessions in retail outlets or malls where staff assist customers in using the tool in real time.

iii) Growing Usage in Online Shopping

Finding: 56% of participants had already used virtual try-on features while shopping online, signalling a growing shift toward immersive technologies.

Suggestion: Retailers can meet this demand by:

- Starting with basic VR modules (e.g., eyewear or footwear try-ons) that integrate easily into Shopify or WooCommerce platforms.
- Using SaaS-based VR vendors who offer plug-and-play solutions that don't require in-house development.
- Testing the solution on a small product category, then gradually expanding to others based on usage analytics.

iv) High User Satisfaction

Finding: Nearly 79% of users who tried VR-based try-ons reported satisfaction, particularly for fashion and cosmetics.

Suggestion: Retailers should focus on these sectors initially by:

- Offering VR try-ons for selected best-selling items in fashion or beauty.
- Creating a dedicated "Virtual Studio" section on their website or app for enhanced experience.
- Collecting testimonials and reviews from customers using VR features to build credibility.

v) Influence on Purchase Decisions

Finding: 70% of respondents stated that they are more likely to purchase a product after using VR try-on tools.

Suggestion: To leverage this behavior:

- Label VR-enabled products with a visible "Try Virtually Now" badge on product listings.
- Provide a side-by-side view for real and VR-try-on visuals for comparison.
- Use A/B testing to measure the impact of try-on visibility on conversion rates, and optimize accordingly.

vi) Better Decision – Making Support

Finding: 76% agreed that virtual try-on helps them make better purchasing decisions by reducing uncertainty.

Suggestion: Retailers can reduce returns and improve satisfaction by:

- Sending follow-up emails with tips or suggestions based on try-on behavior (e.g., "Customers who tried this lipstick also liked...").
- Integrating AI with VR to suggest better fits or complementary items.
- Allowing customers to save and compare their try-on experiences before finalizing the purchase.

vii) Preference for Omnichannel Integration

Finding: 76% of respondents preferred stores that offer try-on options across both online and offline channels.

Suggestion: To enable seamless omnichannel experience:

- Install VR kiosks or smart mirrors in physical stores where customers can try on items virtually.
- Use customer accounts to sync try-on history between app and in-store systems, allowing continuity in the shopping journey.
- Train store staff to encourage customers to try the VR tool while shopping, especially for personalized recommendations.

viii) Barriers to Adoption

Finding: Cost and integration challenges were perceived as barriers to wider VR adoption.

Suggestion: Retailers can overcome these by:

- Partnering with local startups or tech companies to co-develop affordable VR try-on tools under shared revenue or licensing models.
- Applying for government digital transformation grants or retail technology subsidies.
- Joining retail consortiums or chambers of commerce that facilitate group purchases or pilot testing of VR technology for small businesses.

RECOMMENDATIONS

To successfully adopt VR-based try-on technologies in omnichannel retail, retailers must focus on both strategic investment and implementation planning. First, instead of opting for high-cost, fully customized VR systems, businesses can begin with scalable, cost-effective VR platforms that offer integration with existing e-commerce and point-of-sale systems. This phased approach allows for gradual adoption without straining budgets. To address the challenge of low customer awareness, retailers should implement interactive in-store and online demonstrations, tutorials, and promotional campaigns that explain how to use virtual try-on features. Educating frontline staff to assist customers in navigating these tools can further enhance user experience and encourage adoption. Moreover, small and medium retailers who face technological limitations should explore partnerships with technology firms and startups specializing in AR/VR to access shared platforms at reduced costs. Government bodies and retail associations can play a supportive role by offering subsidies, tax incentives, or digital transformation

grants to retailers adopting immersive technologies. Policymakers should also consider creating standard guidelines for data privacy and user interface design to ensure safe and consistent VR usage across industries. Ultimately, the success of VR integration depends on a coordinated approach that includes cost-effective planning, workforce training, strategic collaborations, and supportive policy frameworks.

CONCLUSION

The integration of Virtual Reality based try-on technology within omnichannel retail environments is reshaping customers interact with products and brands. This study, based on data collected from consumers in Coimbatore, reveals that VR try-on significantly enhances customer engagement, improves purchase confidence and contributes to a more personalized shopping experience. While adoption challenges remain particularly in terms of cost and customer familiarity the benefits such as reduced return rates, increased loyalty and seamless shopping journeys are substantial. Therefore, retailers aim to remain competitive in the digital era should consider incorporating VR technologies into their omnichannel strategies. Further studies with large samples and advanced tools can provide deeper insight into long term consumer behaviour changes.

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