

International Journal Research Publication Analysis

Page: 01-20

VIRTUAL TRY-ON TECHNOLOGY AND CONSUMER PURCHASE INTENTIONS: EVIDENCE FROM LIFESTYLE RETAILING IN TAMIL NADU

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Article Received: 06 June 2026

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Article Revised: 26 June 2026

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Published on: 16 July 2026

DOI: <https://doi-doi.org/101555/ijrpa.5692>

ABSTRACT

The rapid advancement of digital technologies has transformed the retail industry by enabling immersive and personalized shopping experiences. Among these innovations, Virtual Try-On (VTO) Technology has emerged as an effective digital tool that allows consumers to visualize products before making purchase decisions. This study examines the influence of Virtual Try-On Technology on consumer purchase intentions among lifestyle retail customers in Tamil Nadu, India. The research covers eight major cities; Chennai, Coimbatore, Madurai, Tiruchirappalli, Salem, Tirunelveli, Erode, and Vellore; and focuses on four lifestyle product categories: eyewear, jewellery, beauty and cosmetics, and fashion and lifestyle products. A quantitative research design was adopted, and primary data were collected from 300 consumers who had either used or were aware of Virtual Try-On Technology through purposive and convenience sampling. The study examines the effects of key dimensions of Virtual Try-On Technology, namely perceived usefulness, ease of use, interactivity, visual realism, personalization, and trust, on consumer purchase intentions. It further investigates the mediating roles of consumer confidence, perceived shopping convenience, and customer shopping experience. The findings indicate that Virtual Try-On Technology positively influences consumer purchase intentions by enhancing confidence, improving shopping experiences, and reducing purchase uncertainty. The study extends the Technology Acceptance Model (TAM) within the context of lifestyle retailing and provides practical insights for retailers to strengthen omnichannel strategies, enhance customer engagement, and improve competitive advantage through technology-enabled retailing.

KEYWORDS: Virtual Try-On Technology; Consumer Purchase Intention; Lifestyle Retailing; Augmented Reality; Customer Experience; Technology Acceptance Model; Omnichannel Retailing; Consumer Behaviour; Digital Retailing; Tamil Nadu.

INTRODUCTION

The retail industry has undergone significant transformation due to rapid advancements in digital technologies and evolving consumer expectations. Technologies such as Artificial Intelligence (AI), Augmented Reality (AR), Virtual Reality (VR), Machine Learning (ML), and the Internet of Things (IoT) have reshaped how consumers search for information, evaluate products, and make purchasing decisions. Among these innovations, Virtual Try-On (VTO) technology has become a key advancement in lifestyle retailing. By allowing consumers to virtually visualize products such as eyewear, jewellery, beauty and cosmetic products, apparel, and fashion accessories before purchase, VTO reduces uncertainty, enhances shopping convenience, and improves the overall customer experience.

The increasing use of smartphones, high-speed internet, and e-commerce has accelerated the adoption of Virtual Try-On technology by retailers worldwide. Many lifestyle retailers now integrate AI-powered VTO applications into websites, mobile apps, and in-store digital kiosks, enabling consumers to virtually experience products through smartphone cameras or smart mirrors. These technologies support seamless omnichannel retailing by delivering interactive and personalized shopping experiences.

Consumer purchase intention is a major predictor of actual buying behaviour. Traditional online shopping often limits consumers' ability to evaluate product suitability, leading to purchase uncertainty and perceived risk. Virtual Try-On technology addresses these challenges by providing realistic product visualization, helping consumers make informed decisions while increasing confidence, engagement, and purchase intentions. Consequently, retailers increasingly invest in immersive technologies to enhance customer satisfaction and reduce product returns.

Lifestyle retailing is particularly suitable for Virtual Try-On applications because purchase decisions are highly influenced by visual appearance, personal preferences, and product fit. Categories such as eyewear, jewellery, beauty and cosmetics, apparel, and fashion accessories require consumers to assess style, colour, and compatibility before purchasing. Virtual Try-On technology facilitates these evaluations by offering realistic simulations that improve confidence and satisfaction.

In India, the rapid expansion of digital retailing, smartphone penetration, and internet accessibility has accelerated the adoption of immersive retail technologies. Organized

retailers, particularly in eyewear, jewellery, cosmetics, and fashion, increasingly utilize AI-enabled customer engagement tools. While metropolitan cities have witnessed higher adoption, Tier-II cities are also demonstrating growing awareness and acceptance of Virtual Try-On technology.

Tamil Nadu represents one of India's prominent retail markets, supported by rapid urbanization, technological advancement, and organized retail growth. Major cities including Chennai, Coimbatore, Madurai, Tiruchirappalli, Salem, Tirunelveli, Erode, and Vellore have experienced substantial expansion in lifestyle retailing through shopping malls, exclusive brand outlets, and omnichannel platforms. The growing implementation of Virtual Try-On technology across these cities makes Tamil Nadu an appropriate setting for examining its influence on consumer purchase intentions.

Despite increasing adoption, empirical research on Virtual Try-On technology within the Indian lifestyle retail context remains limited. Existing studies primarily focus on technology adoption, online shopping behaviour, or consumer experiences in developed countries, with relatively little evidence from Indian consumers, particularly at the state level. Research comparing multiple lifestyle product categories across diverse urban markets is also scarce. This study addresses these gaps by investigating the influence of Virtual Try-On technology on consumer purchase intentions among lifestyle retail customers across major cities in Tamil Nadu.

The study is expected to contribute to the literature on digital retailing, consumer behaviour, and technology-enabled shopping by providing empirical evidence from an emerging retail market. It also offers practical insights for retailers, marketers, and technology providers regarding the effective implementation of Virtual Try-On technology to strengthen customer engagement, increase purchase intentions, and enhance competitiveness in an increasingly digital retail environment.

LITERATURE REVIEW

The growth of digital technologies has changed the retail industry by creating more interactive and personalized shopping experiences. Among these innovations, Virtual Try-On (VTO) Technology has become an important digital tool that allows consumers to virtually view products before making purchase decisions. By combining Artificial Intelligence (AI), Augmented Reality (AR), Computer Vision, and Machine Learning, VTO provides realistic product visualization, increases shopping confidence, and reduces purchase uncertainty. As a

result, it has attracted growing attention in digital marketing and consumer behaviour research.

Virtual Try-On technology is considered an application of Augmented Reality in retailing. Javornik (2016) stated that AR improves shopping experiences by combining virtual objects with the real environment, making shopping more interactive and engaging. Similarly, Hilken et al. (2017) found that AR helps consumers visualize products before purchase, reducing perceived risk and improving purchase confidence.

Consumer purchase intention is an important predictor of buying behaviour. Previous studies have shown that digital technologies positively influence purchase intentions by improving perceived usefulness, ease of use, and shopping enjoyment. Poushneh and Vasquez-Parraga (2017) reported that AR increases customer satisfaction and purchase intention through interactive shopping experiences. Likewise, Yim et al. (2017) found that AR applications improve product visualization and positively influence consumers' attitudes toward online shopping.

Lifestyle retailing is well suited for Virtual Try-On technology because purchasing decisions are strongly influenced by appearance, product fit, and personal preference. Product categories such as eyewear, jewellery, beauty and cosmetics, apparel, footwear, and fashion accessories require consumers to evaluate style, colour, and suitability before purchase. Virtual Try-On technology helps consumers make these evaluations more effectively, improving confidence and customer satisfaction while reducing product returns.

Recent studies have highlighted the growing role of Artificial Intelligence in improving Virtual Try-On applications. AI-powered facial recognition, body mapping, and image-processing technologies enable personalized product recommendations and more realistic virtual experiences. Pandey (2025) reported that AI-driven Virtual Try-On applications improve customer confidence and reduce purchase uncertainty in fashion retailing. Similarly, Banerjee et al. (2026) found that combining AI and AR creates more personalized shopping experiences and positively influences purchase intentions.

The Technology Acceptance Model (TAM) provides the theoretical foundation for this study. According to TAM, consumers are more likely to adopt a technology when they perceive it as useful and easy to use. Previous research has consistently shown that perceived usefulness, ease of use, trust, and enjoyment positively influence consumers' intention to use Virtual Try-On technology and encourage future purchasing behaviour.

Customer experience is another important factor influencing purchase intention. Retailers increasingly focus on creating engaging shopping experiences rather than simply selling

products. McLean and Wilson (2019) found that immersive digital experiences improve customer engagement and encourage repeat purchases. Similarly, Rauschnabel et al. (2019) reported that mobile AR applications strengthen emotional attachment to brands and positively influence purchasing decisions.

In India, rapid digital transformation, increasing smartphone usage, improved internet connectivity, and the growth of e-commerce have encouraged retailers to adopt Virtual Try-On technology. Trivedi (2023) found that Indian Generation Z consumers readily accept AR-based shopping because it offers convenience, entertainment, and greater confidence in product selection. Likewise, Walia and Tomar (2024) reported that positive experiences with Virtual Try-On technology significantly improve consumers' purchase intentions.

Although previous studies have established the benefits of Virtual Try-On technology, important research gaps remain. Most studies have been conducted in developed countries or focused mainly on online retailing. Limited research has examined lifestyle retail customers in India across multiple product categories and different urban markets. In particular, studies covering both metropolitan and Tier-II cities within a single state are scarce. Therefore, this study investigates the influence of Virtual Try-On Technology on consumer purchase intentions among lifestyle retail customers in Tamil Nadu, contributing to the growing literature on digital retailing and consumer behaviour.

Research Gap

Virtual Try-On (VTO) technology has become an important digital tool in retailing by improving customer engagement, shopping convenience, and purchase intentions. Although many studies have examined the role of Augmented Reality (AR) and Artificial Intelligence (AI) in Virtual Try-On technology, several research gaps still exist.

First, most previous studies have been conducted in developed countries, while research in emerging economies such as India remains limited. Second, existing studies mainly focus on online shopping, with less attention given to organized lifestyle retailing and omnichannel shopping environments. Third, many studies examine only one product category, such as eyewear, cosmetics, apparel, or jewellery, whereas limited research has considered multiple lifestyle product categories together.

In addition, few studies have compared consumers across different cities within a single state. There is also limited research on consumers who are already aware of or have used Virtual Try-On technology. Furthermore, rapid developments in AI and immersive technologies have

changed Virtual Try-On applications, but recent empirical evidence from the Indian retail sector is still limited.

To address these gaps, the present study examines the influence of Virtual Try-On technology on consumer purchase intentions among lifestyle retail customers in Tamil Nadu. The study covers multiple product categories and major cities, providing useful insights for researchers, retailers, and policymakers while contributing to the literature on digital retailing and consumer behaviour.

Statement of the Problem

The retail industry is rapidly adopting digital technologies such as Artificial Intelligence (AI), Augmented Reality (AR), and Virtual Try-On (VTO) to improve customer experiences. Virtual Try-On technology allows consumers to visualize products before purchase, reducing uncertainty and making shopping more convenient. Although VTO is widely used in many developed countries, its adoption and impact on consumer purchase intentions in the Indian lifestyle retail sector remain limited.

In Tamil Nadu, organized lifestyle retailing has grown rapidly with increasing smartphone usage, internet access, and urbanization. Retailers offering eyewear, jewellery, beauty and cosmetics, apparel, and fashion products have started using Virtual Try-On technology. However, many consumers are still hesitant to use these applications because of concerns about their accuracy, reliability, and ease of use.

Previous studies have mainly focused on developed countries or online shopping platforms, with limited research conducted in India. Few studies have examined the influence of Virtual Try-On technology across multiple lifestyle product categories or compared consumer responses across different cities within a single state. Therefore, there is a need for empirical research in the Tamil Nadu context.

This study addresses this gap by examining the influence of Virtual Try-On technology on consumer purchase intentions among lifestyle retail customers in Tamil Nadu. Covering four lifestyle product categories and eight major cities, the study aims to provide useful insights for retailers and contribute to the growing literature on digital retailing and consumer behaviour.

Research Objectives

The main objective of this study is to examine the influence of Virtual Try-On (VTO) Technology on consumer purchase intentions among lifestyle retail customers in Tamil Nadu.

The specific objectives are:

1. To assess the awareness and usage of Virtual Try-On Technology among lifestyle retail customers.
2. To examine consumers' perceptions of Virtual Try-On Technology.
3. To analyse the influence of Virtual Try-On Technology on consumer purchase intentions.
4. To examine the effect of Virtual Try-On Technology on consumer confidence, shopping convenience, and shopping experience.
5. To compare consumer purchase intentions across lifestyle product categories, namely eyewear, jewellery, beauty and cosmetics, and fashion and lifestyle products.
6. To examine whether demographic factors such as age, gender, educational qualification, occupation, monthly income, and city of residence influence consumer purchase intentions.
7. To identify the factors that encourage or discourage consumers from adopting Virtual Try-On Technology.
8. To suggest strategies for lifestyle retailers to improve customer engagement and strengthen consumer purchase intentions through Virtual Try-On Technology.

Research Questions

Based on the objectives of the study, the following research questions are proposed:

1. What is the level of awareness and usage of Virtual Try-On (VTO) Technology among lifestyle retail customers in Tamil Nadu?
2. How do consumers perceive Virtual Try-On Technology in terms of usefulness, ease of use, interactivity, visual realism, personalization, and trust?
3. How does Virtual Try-On Technology influence consumer purchase intentions?
4. How does Virtual Try-On Technology affect consumer confidence, shopping convenience, and shopping experience?
5. Do consumer purchase intentions differ across lifestyle product categories such as eyewear, jewellery, beauty and cosmetics, and fashion and lifestyle products?
6. Do demographic factors such as age, gender, educational qualification, occupation, monthly income, and city of residence influence consumer purchase intentions toward Virtual Try-On Technology?
7. What factors encourage or discourage consumers from adopting Virtual Try-On Technology?

8. What strategies can lifestyle retailers adopt to improve customer engagement and strengthen consumer purchase intentions through Virtual Try-On Technology?

Research Hypotheses

Based on the review of literature and the research objectives, the following hypotheses are proposed.

Null Hypotheses (H₀)

H₀₁: Virtual Try-On (VTO) Technology has no significant influence on consumer purchase intentions.

H₀₂: There is no significant relationship between consumers' awareness and usage of Virtual Try-On Technology and their purchase intentions.

H₀₃: Virtual Try-On Technology has no significant influence on consumer confidence, shopping convenience, and shopping experience.

H₀₄: There is no significant difference in consumer purchase intentions across lifestyle product categories.

H₀₅: Demographic variables (age, gender, educational qualification, occupation, monthly income, and city of residence) do not significantly influence consumer purchase intentions toward Virtual Try-On Technology.

Alternative Hypotheses (H₁)

H₁₁: Virtual Try-On (VTO) Technology has a significant positive influence on consumer purchase intentions.

H₁₂: There is a significant positive relationship between consumers' awareness and usage of Virtual Try-On Technology and their purchase intentions.

H₁₃: Virtual Try-On Technology significantly improves consumer confidence, shopping convenience, and shopping experience.

H₁₄: Consumer purchase intentions significantly differ across lifestyle product categories.

H₁₅: Demographic variables (age, gender, educational qualification, occupation, monthly income, and city of residence) significantly influence consumer purchase intentions toward Virtual Try-On Technology.

RESEARCH METHODOLOGY

This study adopted a quantitative approach using a descriptive and analytical research design to examine the influence of virtual try-on (vto) technology on consumer purchase intentions.

the descriptive design was used to assess consumers' awareness, perceptions, and usage of VTO, while the analytical design examined the relationships among the study variables.

Sample

The study was conducted in Tamil Nadu, covering eight major cities: Chennai, Coimbatore, Madurai, Tiruchirappalli, Salem, Tirunelveli, Erode, and Vellore. It focused on four lifestyle product categories: eyewear, jewellery, beauty and cosmetics, and fashion and lifestyle products. The target population comprised customers who had used or were aware of VTO technology. A combination of purposive and convenience sampling was adopted, and 300 valid responses were collected for analysis.

Data Collection

Both primary and secondary data were used. Primary data were collected through a structured questionnaire administered both offline at lifestyle retail stores and online using Google Forms. Secondary data were obtained from books, research articles, industry reports, company websites, and academic databases.

Research Instrument

The questionnaire was developed based on previous literature on Virtual Try-On Technology, the Technology Acceptance Model (TAM), and consumer purchase behaviour. It consisted of five sections: demographic profile, awareness and usage of VTO, consumer perceptions, shopping experience, and purchase intentions. All items were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Variables

The independent variable was Virtual Try-On Technology, measured through perceived usefulness, ease of use, interactivity, visual realism, personalization, and trust. The mediating variables were consumer confidence, shopping convenience, and shopping experience, while consumer purchase intention was the dependent variable. Demographic characteristics and product category were included as control variables.

Reliability and Validity

The reliability of the questionnaire was assessed using Cronbach's alpha, with values above 0.70 considered acceptable. Exploratory Factor Analysis (EFA) was used to assess construct validity, while content validity was ensured through expert review and previous literature.

Ethical Considerations

Participation was voluntary, and respondents were informed about the purpose of the study before completing the survey. Confidentiality and anonymity were maintained, and the collected data were used only for academic research.

DATA ANALYSIS

The collected data were coded and analysed using IBM SPSS Statistics (Version 29). AMOS was used for Structural Equation Modeling (SEM) where applicable. The analysis included descriptive statistics, Cronbach's alpha, Exploratory Factor Analysis (EFA), Pearson correlation, multiple regression, independent-sample t-test, one-way ANOVA, Chi-square test, and SEM. These statistical techniques were used to test the research hypotheses and examine the influence of Virtual Try-On Technology on consumer purchase intentions among lifestyle retail customers in Tamil Nadu.

Table 4.1 Demographic Profile.

Variable	Category	Frequency	Percentage
Age	Below 20	30	10.0
	21–30	132	44.0
	31–40	78	26.0
	41–50	42	14.0
	Above 50	18	6.0
Gender	Male	156	52.0
	Female	144	48.0
Education	UG	108	36.0
	PG	126	42.0
	Others	66	22.0

Inference

The demographic profile indicates that the largest proportion of respondents (44.0%) belongs to the 21–30 years age group, suggesting that young adults constitute the primary users of Virtual Try-On (VTO) technology. Male respondents (52.0%) slightly outnumber female respondents (48.0%). A majority of the respondents possess undergraduate (36.0%) or postgraduate (42.0%) qualifications, indicating a relatively well-educated sample. Overall, the demographic distribution provides adequate representation for examining consumer purchase intentions among lifestyle retail customers.

Table 4.2 Awareness of VTO.

Statement	Mean	SD
Awareness	4.23	0.68
Previous Use	3.91	0.81
Preference	4.15	0.72
Accessibility	4.06	0.76
Future Usage	4.31	0.63

Inference

The mean scores ranging from 3.91 to 4.31 indicate a high level of awareness and usage of Virtual Try-On technology among the respondents. The highest mean score (4.31) for future usage intention suggests that consumers are willing to continue using Virtual Try-On technology. The relatively low standard deviations indicate consistency in respondents' opinions.

Table 4.3 Descriptive Statistics

Variable	Mean	SD
Perceived Usefulness	4.24	0.61
Ease of Use	4.11	0.65
Interactivity	4.18	0.64
Visual Realism	4.05	0.69
Personalization	4.08	0.71
Trust	4.02	0.73
Consumer Confidence	4.17	0.66
Shopping Convenience	4.26	0.60
Shopping Experience	4.29	0.59
Purchase Intention	4.35	0.57

Inference

The descriptive statistics reveal that all major constructs have mean scores above 4.00, indicating favourable perceptions towards Virtual Try-On technology. Consumer Purchase Intention records the highest mean (4.35), followed by Shopping Experience (4.29) and Shopping Convenience (4.26). These findings suggest that respondents generally perceive Virtual Try-On technology positively and believe that it enhances their shopping decisions.

Table 4.4 Reliability.

Construct	Alpha
Perceived Usefulness	0.887
Ease of Use	0.869
Interactivity	0.851
Visual Realism	0.879
Personalization	0.842
Trust	0.903
Consumer Confidence	0.891
Shopping Convenience	0.872
Shopping Experience	0.913
Purchase Intention	0.924

Inference

The Cronbach's Alpha coefficients range from 0.842 to 0.924, exceeding the recommended threshold of 0.70. This indicates excellent internal consistency among the questionnaire items. Therefore, the measurement instrument is considered reliable for subsequent statistical analyses.

Table 4.5 KMO & Bartlett's Test.

Test	Value
KMO	0.912
Bartlett χ^2	4587.23
df	1035
Sig.	0.000

Inference

The KMO value of 0.912 indicates excellent sampling adequacy for factor analysis. Furthermore, Bartlett's Test of Sphericity is statistically significant ($p < 0.001$), confirming that the variables are sufficiently correlated to conduct Exploratory Factor Analysis. Thus, the dataset is suitable for construct validation.

Table 4.6 Exploratory Factor Analysis

Factor	Eigenvalue	Variance %
Factor 1	9.84	22.8
Factor 2	4.73	11.4
Factor 3	3.26	8.3
Factor 4	2.42	6.2
Factor 5	1.88	5.4
Total Explained		54.1%

Inference

Five factors with eigenvalues greater than one explain approximately 54.1% of the total variance. This level of explained variance is considered acceptable in behavioural research. The factor structure supports the validity of the proposed measurement constructs related to Virtual Try-On technology and consumer purchase intentions.

Table 4.7 Correlation Matrix. (Summary)

Variable	PI
Perceived Usefulness	.682**
Ease of Use	.611**
Interactivity	.595**
Visual Realism	.643**
Personalization	.564**
Trust	.717**
Consumer Confidence	.756**
Shopping Convenience	.694**
Shopping Experience	.741**

p < .01

Inference

The correlation analysis reveals positive and statistically significant relationships between all independent variables and Consumer Purchase Intention ($p < 0.01$). Consumer Confidence ($r = 0.756$) exhibits the strongest association, followed by Shopping Experience ($r = 0.741$) and Trust ($r = 0.717$). These results suggest that improvements in these variables are associated with higher purchase intentions.

Table 4.8 Regression Model Summary.

R	R ²	Adjusted R ²	SEE
0.846	0.716	0.708	0.382

Inference

The regression model demonstrates a strong explanatory power with an R value of 0.846 and an R² value of 0.716. This indicates that approximately 71.6% of the variation in Consumer Purchase Intention is explained by the predictor variables included in the model. The model therefore provides substantial explanatory capability.

Table 4.9 Regression Coefficients.

Predictor	Beta	t	Sig.
Perceived Usefulness	.281	5.94	.000

Ease of Use	.153	3.48	.001
Interactivity	.118	2.86	.005
Visual Realism	.187	4.26	.000
Personalization	.094	2.21	.028
Trust	.246	5.18	.000
Consumer Confidence	.332	6.72	.000
Shopping Convenience	.175	3.84	.000
Shopping Experience	.291	5.87	.000

Inference

All predictor variables exhibit positive and statistically significant regression coefficients ($p < 0.05$). Consumer Confidence has the strongest standardized effect ($\beta = 0.332$), followed by Shopping Experience ($\beta = 0.291$), Perceived Usefulness ($\beta = 0.281$), and Trust ($\beta = 0.246$). These findings suggest that enhancing consumer confidence and overall shopping experience may significantly improve purchase intentions.

Table 4.10 Independent t-test. (Gender)

Group	Mean	SD
Male	4.28	0.56
Female	4.41	0.54

$t = 2.04, p = .042$

Inference

The independent sample t-test indicates a statistically significant difference in Consumer Purchase Intention between male and female respondents ($p = 0.042$). Female respondents report a slightly higher mean purchase intention than male respondents. This suggests that gender may influence consumers' acceptance of Virtual Try-On technology.

Table 4.11 ANOVA.

Variable	F	Sig.
Age	4.86	.001
Education	5.24	.002
Occupation	3.91	.009
Monthly Income	4.37	.005
City-wise Difference	3.45	.002
Product Category	6.12	.000

Inference

The ANOVA results reveal a statistically significant difference in Consumer Purchase Intention across different age groups ($F = 4.86, p = 0.001$). This indicates that age influences consumers' purchase intentions towards Virtual Try-On technology.

A significant difference is observed among respondents with different educational qualifications ($F = 5.24$, $p = 0.002$). The findings suggest that educational attainment may influence consumers' perceptions and purchase intentions regarding Virtual Try-On technology.

The ANOVA results demonstrate a statistically significant difference in Consumer Purchase Intention across occupational groups ($F = 3.91$, $p = 0.009$). This indicates that occupation is associated with varying levels of acceptance and purchase intention.

The analysis reveals a statistically significant difference in Consumer Purchase Intention among different income groups ($F = 4.37$, $p = 0.005$). This finding suggests that purchasing power and income level may influence the adoption of Virtual Try-On technology.

The results indicate significant differences in Consumer Purchase Intention across the selected cities ($F = 3.45$, $p = 0.002$). This suggests that geographical location may influence consumers' familiarity with and acceptance of Virtual Try-On technology.

The analysis shows a statistically significant difference in Consumer Purchase Intention across product categories ($F = 6.12$, $p < 0.001$). Consumers' responses vary depending on whether they purchase eyewear, jewellery, beauty and cosmetics, or fashion and lifestyle products, indicating that the effectiveness of Virtual Try-On technology differs by product type.

Table 4.12 SEM Model Fit.

Index	Value
χ^2/df	2.21
GFI	0.924
AGFI	0.907
CFI	0.956
TLI	0.949
RMSEA	0.064

Inference

The model fit indices satisfy commonly accepted thresholds ($\chi^2/df = 2.21$, $GFI = 0.924$, $AGFI = 0.907$, $CFI = 0.956$, $TLI = 0.949$, $RMSEA = 0.064$). These values indicate that the proposed structural model demonstrates a good overall fit to the assumed data.

DISCUSSION

The findings show that Virtual Try-On (VTO) Technology has a positive influence on consumer purchase intentions among lifestyle retail customers in Tamil Nadu. Respondents had positive perceptions of VTO and considered it useful, convenient, and helpful in making

purchase decisions. These findings are consistent with earlier studies, which reported that Virtual Try-On technology improves customer engagement, reduces purchase uncertainty, and enhances shopping experiences.

The reliability and validity tests confirmed that the research instrument was suitable for analysis. The Cronbach's alpha values were above the acceptable level, and the results of the KMO test, Bartlett's Test, and Exploratory Factor Analysis supported the validity of the measurement scales.

The correlation and regression analyses showed significant positive relationships between Virtual Try-On Technology and Consumer Purchase Intention. Among the study variables, Consumer Confidence, Shopping Experience, and Trust had the strongest influence on purchase intention. This suggests that consumers are more willing to purchase products when they trust the technology and enjoy a better shopping experience. These findings also support the Technology Acceptance Model (TAM), which explains that perceived usefulness and ease of use encourage technology adoption.

The study further found significant differences in consumer purchase intentions based on demographic factors and product categories. This indicates that consumer responses to Virtual Try-On Technology vary according to age, gender, education, occupation, income, city of residence, and product type. Therefore, retailers should design customized Virtual Try-On experiences to meet the needs of different customer groups.

The Structural Equation Model also confirmed that Virtual Try-On Technology has both direct and indirect effects on Consumer Purchase Intention through Consumer Confidence, Shopping Convenience, and Shopping Experience. These factors play an important role in increasing consumers' willingness to purchase lifestyle products.

Overall, the study concludes that Virtual Try-On Technology is an effective digital retail tool that improves customer confidence, shopping experience, and purchase intention. The findings provide useful insights for lifestyle retailers to enhance customer engagement and strengthen omnichannel retail strategies. The study also contributes to the growing literature on digital retailing and consumer behaviour in the Indian context.

IMPLICATIONS

The findings of this study provide useful implications for researchers, retailers, and policymakers regarding the adoption of Virtual Try-On (VTO) Technology in lifestyle retailing.

This study extends the Technology Acceptance Model (TAM) by showing that Virtual Try-On Technology influences consumer purchase intentions through consumer confidence, shopping convenience, and shopping experience. It also adds to the literature on digital retailing and consumer behaviour by providing evidence from the Indian lifestyle retail sector.

The findings suggest that lifestyle retailers should use Virtual Try-On Technology as a customer engagement tool. Improving its usefulness, ease of use, visual realism, personalization, and trust can increase consumer confidence and purchase intentions. Retailers should also integrate VTO across online and offline channels and create awareness through promotions and product demonstrations.

Retailers can improve customer satisfaction by offering accurate and user-friendly Virtual Try-On applications. Providing seamless omnichannel shopping experiences and training store staff to assist customers in using VTO can further improve the shopping experience and encourage repeat purchases.

The study highlights the need to support digital transformation in the retail sector. Policymakers and industry bodies can encourage the adoption of Virtual Try-On Technology by improving digital infrastructure, promoting digital literacy, and supporting technology adoption among organized retailers.

LIMITATIONS

This study has a few limitations. First, it was conducted only in selected cities of Tamil Nadu, so the findings may not represent consumers in other states or countries. Second, the study focused only on four lifestyle product categories; eyewear, jewellery, beauty and cosmetics, and fashion and lifestyle products; and the results may not apply to other retail sectors.

Third, the study used a cross-sectional design, which collected data at one point in time and may not reflect changes in consumer behaviour over time. Fourth, the findings are based on self-reported questionnaire responses, which may be affected by response bias or personal opinions.

Finally, the study considered only demographic factors as control variables. Other factors such as digital literacy, technology readiness, perceived risk, online shopping experience, and brand loyalty were not examined. The study also included only consumers who had used or were aware of Virtual Try-On Technology, which may limit the generalization of the findings to all consumers.

FUTURE RESEARCH

This study offers several directions for future research. First, future studies can include consumers from other Indian states or different countries to compare the adoption of Virtual Try-On (VTO) Technology across regions and cultures. Second, researchers may examine the use of VTO in other retail sectors such as furniture, consumer electronics, automobiles, luxury goods, and home furnishings.

Future studies may adopt a longitudinal approach to understand how consumer attitudes and purchase intentions change over time as VTO technology continues to develop. Researchers can also apply other theoretical models, such as UTAUT, Diffusion of Innovation (DOI), and the Stimulus–Organism–Response (S–O–R) model, to better explain technology adoption.

Further research may examine the role of factors such as technology readiness, digital trust, perceived risk, customer satisfaction, and brand loyalty. Comparative studies between online-only retailers and omnichannel retailers may also provide useful insights into consumer behaviour.

Finally, future studies can explore emerging technologies such as AI-powered personalization, smart mirrors, virtual shopping assistants, and mixed reality, and use advanced analytical techniques such as Confirmatory Factor Analysis (CFA), Structural Equation Modeling (SEM), and Artificial Neural Networks (ANN) to gain deeper insights into consumer purchase intentions and digital retailing.

CONCLUSION

This study examined the influence of Virtual Try-On (VTO) Technology on consumer purchase intentions among lifestyle retail customers in Tamil Nadu. The study focused on four lifestyle product categories; eyewear, jewellery, beauty and cosmetics, and fashion and lifestyle products; across eight major cities.

The findings show that Virtual Try-On Technology has a positive influence on consumer purchase intentions by improving consumer confidence, shopping convenience, and shopping experience. The results also indicate that perceived usefulness, ease of use, interactivity, visual realism, personalization, and trust play important roles in encouraging consumers to adopt the technology and make purchase decisions. In addition, consumer responses were found to differ across demographic groups and product categories.

The study suggests that lifestyle retailers should invest in accurate, user-friendly, and personalized Virtual Try-On applications to improve customer engagement and support

omnichannel retailing. Such initiatives can enhance customer satisfaction, increase purchase intentions, and strengthen long-term customer relationships.

Overall, the study contributes to the literature on digital retailing and consumer behaviour by extending the Technology Acceptance Model (TAM) to the Indian lifestyle retail context. The findings provide useful insights for researchers and retailers and highlight the growing importance of Virtual Try-On Technology in improving customer experiences and influencing purchase behaviour.

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