

Adoption of Augmented Reality in Online Retail: A Consumer-Centric Study in Chennai

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Abstract

The key target area for this study is identification of variables that affect the acceptance of augmented reality (AR) in an online retail market. It is emphasized in our study that the user group evaluated for AR and online purchasing is from Chennai. In response to rapidly expanding e-commerce and consumer aspiration for immersive technologies, augmented reality (AR) has emerged as a substitute for virtual product interaction, visualization, and engagement, which creates expectations that it will enhance the quality of online shopping experience. These five factors (reliability, construct validity, Exploratory Factor Analysis, and multiple regression analysis) are key to the study in evaluating the independent predictors: perceived ease of use, perceived usefulness, hedonic value, interaction, and technology readiness. The impact of these independent variables on the dependent variable, that is, the adoption intention, was also evaluated using the exploratory factor analysis. Internal consistency of scales was supported by an empirical evaluation of factor analysis, and both the results of the model fit and premeditated outcomes validated the validity of the constructed functional and psychological intention models. The survey and structured questionnaire generated for providing information on e-commerce services and consumer platforms will be used to undertake the study. The most dominant in terms of positive high intention of augmented reality adoption was hedonic value and perceived usefulness from its five determinants, which emphasized that all have a significant effect to encourage a person in implementing AR. The template exhibited a very high deemed interpretative power ($R^2 = 0.690$), which confirmed the importance of functional and emotional components in augmented reality utility. Business implications of the findings and potential uses include the information that they might offer e-commerce enterprises and marketers or developers in constructing platforms that are user-friendly, engaging, and most important meet consumer expectations in big cities such as Chennai.

Keywords: *Augmented Reality (AR), Consumer Behavior, Perceived Usefulness, Hedonic Value, Interactivity.*

How to cite this article: Monika J¹ Swathi Pradeeba P^{2*}. Adoption of Augmented Reality in Online Retail: A Consumer-Centric Study in Chennai. *Int J Drug Deliv Technol.* 2026;16(86s):342-355. DOI: 10.25258/ijddt.16.86s.140.

Introduction

E-commerce has sparked massive transformations in the behavior of global consumers toward shopping, dramatically shifting the landscape. Cities such as Chennai in India have emerged across huge hubs for digital consumption with increases in digital infrastructure, a high penetration of the Internet, and a growing number of smartphone users. Consumers increasingly pick online retail platforms over the tame traditional brick-and-mortar businesses because they have combined convenience with product variety retail with digital payment mechanisms. It is, however, a lack of visually inspecting things that are a genuine ongoing disadvantage of online buying, causing low confidence, dissatisfaction, and higher rates of returns as well. One way to tap into the advantages of using online shopping is by experiencing Augmented

Reality (AR), a way of making these shopping experiences much more engaging and participatory.

By integrating digital elements into the user's physical environment, augmented reality makes Internet shopping an almost physical experience in allowing the approximation of products. Clearly, a customer can see how a product fits, looks, or works in real time with the help of a smartphone or an AR app. A customer, for instance, can now see how clothing fits in a virtual "try on" situation, look at furniture placement in a room, or assess makeup using facial recognition technology—all this without having to set foot in a store. It is likely that customer confidence, conversions/enhanced experience will dramatically change.

The possibilities and challenges brought about by integrating augmented realism into the e-commerce

process are still waiting to be exploited particularly because Chennai being a city of youthful population, it boasts a lot of tech-savvy consumers in the online environment. While innovation thrives in this city, points such as Its young population in place of a rising digital consciousness may contribute heavily in understanding how different factors influence the actual adoption and use of augmented reality (AR) technologies. Also, it is possible that the use of such technology can address the overall end-user experience that the user is initiating. It is as well one of the factors that put into account technological facility, perceived utilization, simplicity of use, and credibility in digital platform.

It is essential to assess how Chennai's role as an emerging digital marketplace and changes in its customers' demands have also exposed how augmented reality has been viewed and utilized in online purchasing. This study attempts to examine customer opinions, behavioral intents, demographic impacts, and psychological reactions to AR tools. In gaining customer capability with online purchase decisions, the same enables online stores to improve on digital touchpoints, tailor AR-based tactics, and engender much more satisfied and loyal customer base. Ultimately, the study intends to override the knowledge breach by looking at the impact and adoption of AR in the e-retail context through a consumer-centric evaluation.

Review of Literature

Conducting an examination of similar research is an exercise that involves a systematic examination of 56 research papers on how customers behave in augmented reality (AR) enhanced shopping environments. The work of Hoffmann and Mai (2022) will be taken as a systematic literature review. A model that encompasses independent, mediating, moderating, and dependent factors was integrated in this work, which combines acceptance, experience reactions, and behavioral consequences.

Lavoye, Mero, and Tarkiainen (2021) conducted an in-depth review of the literature in the augmented reality (AR) setting of a retail store. Utilitarian, hedonic values from the sides provide a decision-making reflective improvement and a personalized feel; however, some warnings have also been given on the negative aspects of AR deployment.

Fan, Chai, Deng, and Dong (2020) invoke a cognitive view to examine the opinion of customers on augmented reality in path of online purchase. They have seen that the attitude formation concerning the users involved their ease of use, perceived utility, and perceived usefulness.

Tom Dieck, Krey, and Cranmer (2024) did research on hedonic and utilitarian experiences with buy augmented reality, using PLS-SEM. Their findings

suggested that "person-VE interaction" and "reality congruence" are major contributors to pleasure and word-of-mouth effect.

Statement of the Problem

In spite of enthusiastic predictions regarding the technological promise behind augmented reality and its applicability to e-commerce, the extent of consumer use and its specific reception remains unclear in Chennai through scant study in this arena. This research has shown, globally and generally, the import of augmented reality in enhancing product visualization, reducing the rate of returns, and increasing faith within purchase, but the majority of the data that does exist is literature-based-truths lacking in empirical proof of the perceptions or interactions of the population of such tech-savvy level as found in Chennai. This may depend on elements such as digital trust; usability on AR application; awareness at the demographic level; the differences in favor of the acceptance and actual use of AR features. For instance, AR solutions may integrate interesting interfaces for shops, so it might never get used after all. No study on the scale of that of search has really been conducted on what most customers in Chennai prefer, the level of preparedness for technology, and the impediment to purchase adoption among Chennai's varied online buying demographics. This research attempted to define what consumer characteristics in e-commerce would hinder or facilitate local AR adoption among demographically different virtual buyers by focusing on attitudes, experiences, and behaviors that are likely to be observed individually. This study will try to help online retailers better understand what motivates the local adoption of AR technology for online shopping, paying the most attention to consumer behavior towards AR adoption in online retail, attitudes, past experience, and intended behaviors, providing the much-needed data to help them develop more engaging and effective AR-enabled shopping websites.

Objectives of the study

1. To examine the influence of perceived ease of use on consumers' intention to adopt AR in online retail.
2. To assess the role of perceived usefulness in shaping consumers' AR adoption behavior.
3. To evaluate the impact of hedonic value on AR adoption intention among online shoppers.
4. To determine the effect of interactivity on the adoption of AR-enabled shopping platforms.
5. To analyze the relationship between technology readiness and consumers' intention to adopt AR.

Hypotheses of the study

H1: There is a significant positive relationship between perceived ease of use and AR adoption intention among online shoppers in Chennai.

H2: There is a significant positive relationship between perceived usefulness and AR adoption intention.

H3: There is a significant positive impact of hedonic value on AR adoption intention.

H4: There is a significant positive relationship between interactivity and AR adoption intention.

H5: There is a significant positive relationship between technology readiness and AR adoption intention.

Methodology

The adoption purposes of AR in the retail sector among consumers in Chennai were: first low complexity in usage, hedonic value, and interaction with an additional variable-technology readiness, and second higher PU (perceived usefulness) and PT (perceived ease of use), whereas only four had been evaluated with PU, there were five antecedents. Perceived simplicity in use, perceived usefulness, hedonic value, interaction, technology readiness were the factors contributing to the readiness of consumers to embrace such products while purchasing online. A comprehensive survey methodology made data collection using primary data through selected consumers' experiences with virtual try-ons, 3D previews, and interactive product representations from e-commerce which included augmented reality features.

The online buyers in Chennai who have used or understood virtual features in digital retail platform describes the target group of study. Convenience Sampling method was applied in this study without following any special rules so as to have the possibility of a random sampling of buyers shopping through AR. A total of 201 respondents responded to both online and offline questionnaires in which the questionnaire was structured into two main parts - the first was concerned with the collection of demographic information such as age, gender, education, occupation, income, and rate of online shopping, while the second part elicited responses to study constructs by use of a five-point Likert-type scale ranging from Strongly Disagree to Strongly Agree (1-5).

The primary factors that this study investigates through five independent variables are how: perceived ease of use, perceived usefulness, hedonic value, interactivity, and technology readiness have shaped AR use. The construct would contain four items selected and modified from the existing literature to assess its reliability and validity. With the inter-item correlation measured using bivariate correlations, all the variables were found to possess moderate relationships between them.

SPSS 25 version was where the data was subjected to broad scrutiny. Descriptive statistics and percentage

analysis were employed to capture the demographic profile of the respondents. The reliability analysis was undergone to confirm the internal consistency of the scale items. Exploratory Factor Analysis (EFA) was carried out and followed by Varimax rotation to achieve two features: establishing whether the factors underlying structure were really distinct from each other, and ensuring the validity of the variables. Further, regression was employed to demonstrate how well the independent variables affected the dependent variable, "intention to use augmented reality in online retailing." Hypotheses were tested against a 0.05 significance level. Proportionate replies established the ethics along with ensuring that respondent privacy would be kept, free participation, and the only use of collected data for academic interests.

Analysis and Results

Table:1 Percentage Analysis of Demographic Variables (N = 201)

Demographic Variable	Category	No. of Respondents	Percentage (%)
Gender	Male	102	50.7%
	Female	95	47.3%
	Others	4	2.0%
Age Group	Below 20 years	18	9.0%
	21 – 30 years	95	47.3%
	31 – 40 years	52	25.9%
	41 – 50 years	22	10.9%
	Above 50 years	14	7.0%
Educational Qualification	Higher Secondary	20	10.0%
	UG Degree	96	47.8%
	PG Degree	66	32.8%
	Doctorate	7	3.5%

	Others (Diploma/Cert.)	12	6.0%
Occupation	Student	48	23.9%
	Private Sector	79	39.3%
	Government Sector	18	9.0%
	Self-employed	26	12.9%
	Homemaker	13	6.5%
	Others	17	8.5%
Monthly Income (INR)	Less than ₹10,000	25	12.4%
	₹10,001 – ₹30,000	54	26.9%
	₹30,001 – ₹50,000	67	33.3%
	₹50,001 – ₹70,000	31	15.4%
	Above ₹70,000	24	11.9%

201 respondents make for a beautifully even distribution of genders. Males hit 50.7 percent; females top them by just 2.6 percentage points. Thus, contributing more to this duel is the other gender, which occupies a bar of a mere 2 percent. This will assure that the casual performance of genderponor opinions is not skewed in favor of one of the two genders-the male and female audience in an online space. That other gender stands for a small number of persons that feel represented by this scheme-yet, through future research, attempts can be made to include more information in these areas of investigation, including the representation of non-binary persons and those with other gender identities-for a much more comprehensive appreciation of the varied experiences brought in the AR elements. Age-wise, it is found that approximately half (47.3%) of the samples are from the age category of 21–30 years, followed by 25.7% in the 31–40 range, 10.9%

in the 41–50 category, and 9.0% were below 20 years while 7.0% were above 50 years of age. The greatest concentrations fall along the youngest with a likely bias in that they are more likely to be closely acquainted or even expert in their skills with emerging digital technologies, like AR. The results with these AR adoption intentions can help in understanding the bulk of primary online shoppers in Chennai and could, as well, be considered in light of opinions presented by older-age groups who have varied levels of technology readiness and perceived utility but on a minor scale than necessary.

47.8% of respondents hold their first undergraduate degree, while 32.8% have a postgraduate qualification. The percentage is a bit lower for higher-secondary education (10.0%). A doctorate characterizes 3.5% perceptions, while other certifications/diplomas constitute 6.0% of the entire sample. An increase in formal education, however, increases their cognitive abilities to understand and evaluate all of the functions of AR. This further means that there is the likelihood of better digital literacy and the acceptance of technology, hence enhancing the ease and usefulness of the constructs under investigation-reported ease of use and perceived utility.

The dominant component here is the working population who are working in the private sector (39.3%) with students having 23.9%, self-employed (12.9%), government employees- (9.0%) followed by homemakers (6.5%) and others (8.5%). Significant people in the AR enabled-stored portion of the data too include private-sector employees and students owing to its blend of working professionals and the younger learners who constitute the next largest demographics in the above-mentioned AR-enabled retail campaigns. The professionals may seek disposable means of consumption and therefore demand efficiency, while in contrast to the students, the emphasis for them could be set on novelty and hedonic motivation-two contributive AR adoption factors.

It is one of the income distributions monthly where: 33.3% are earning in the range \$30K-\$50K; 26.9%, \$10,001-\$30,000; 15.4%, \$50,001-\$70,000; 12.4%, less than \$10,000; and the remaining 11.9%, more than \$70,000. This distribution would suggest a very broad economic majority, but the populace of this middle majority would most probably want to experiment with alternate modes of buying, while looking for value on the other hand. Should groceries later be chosen like Walmart, and the goods fell under devices from Samsung Inc., cognition of utility and thus the hedonic motivations across perceived value levels should be here given, while patterns in income of the specific people will probably underpin all of these assumptions.

Reliability Analysis (Cronbach's Alpha > 0.700)

Table 2

Variable	No. of Items	Sample Statements	Cronbach's Alpha (α)
Perceived Ease of Use	4	"I find AR-based shopping applications easy to use."	0.814
		"Navigating AR tools while shopping online is simple and user-friendly."	
Perceived Usefulness	4	"AR helps me make better purchase decisions."	0.841
		"Using AR increases the quality of my online shopping experience."	
Hedonic Value	4	"I find using AR for online shopping fun and enjoyable."	0.865

		"AR features add enjoyment to the online shopping process."	
Interactivity	4	"I feel in control when using AR features to explore products."	0.802
		"AR makes me feel more connected to the products I view online."	
Technology Readiness	4	"I feel confident using advanced tools like AR in shopping apps."	0.793
		"I actively look for new shopping features that use AR technology."	

AR Adoption Intention (DV)	4	"I am likely to use AR features the next time I shop online."	0.827
		"I intend to continue using AR tools for product evaluation and shopping."	

With wholesome internal consistency, every construct has been demonstrated by the reliability analysis having its alpha exceeding remarkable 0.70. In this case, Perceived Ease of Use ($\alpha = 0.814$), Perceived Usefulness ($\alpha = 0.841$), Hedonic Value ($\alpha = 0.865$), Interactivity ($\alpha = 0.802$), Readiness for Technology ($\alpha = 0.793$), and Intention of Adopting AR ($\alpha = 0.827$) are identified with α values from most to least. The study ensures that each survey question seems good in accordance with each latent construct, which can then be amalgamated in composite form. Large alpha values would demonstrate that the test scales have a clear and reliable meaning, reassuring the researcher that the cognition tests were comparable for subsequent analyses, such as factor analysis and regression, without scale inconsistency about these instruments.

Exploratory Factor Analysis – Rotated Component Matrix (Varimax Rotation)

Table 3 (N = 201, Loadings ≥ 0.60 shown)

State ments	Com pone nt 1 Per ceiv ed Ease of Use	Com pone nt 2 Per ceiv ed Usef ulne ss	Co mpo nent 3 H edo nic Val ue	Com pone nt 4 Inte racti vity	Com pone nt 5 Tec hnol ogy Read iness	Co mp one nt 6 A R Ad opt
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						ion Int ent ion
I fin d AR app lica tion s eas y to use .	0.78 1					
Na vig atin g AR tool s is use r- frie ndl y.	0.76 2					
Lea rni ng to use AR sho ppi ng	0.72 3					

features is easy.						
I don't need help using AR features.	0.688					
AR helps me make better purchase decisions.		0.775				
AR increases the		0.749				

quality of my shopping experience.						
I find AR useful for product evaluation.		0.730				
AR improves value in online shopping.		0.721				

I enjoy using AR while shopping.			0.802			
I feel excited using AR tools.			0.765			
AR makes shopping entertaining.			0.722			
AR features are fun to			0.714			

use .						
I feel in control when using AR to view products.				0.776		
AR allows interactive product exploration .				0.745		
AR connects me better				0.711		

er wit h pro duc ts.						
I can per son aliz e my AR exp erie nce .				0.705		
I am con fide nt usi ng AR in sho ppi ng app s.				0.794		
I ado pt ne w				0.772		

tec hno logi es like AR easi ly.						
I kee p up wit h tren ds in AR - bas ed sho ppi ng.					0.716	
I loo k for AR sho ppi ng exp erie nce s.					0.702	

I will use AR the next time I shop online.						0.815
I prefer sites that offer AR shopping features.						0.776
I will recommend AR shopping						0.744

ng to others.						
I intend to continue using AR tools.						0.721

To examine the underlying factor structure, the Augmented Reality (AR) Shopping Constructs were used as statements, and exploratory factor analysis (EFA) was performed. Moreover, we carried out a test of justifiability to group these statements according to their dimensions. Rotated component matrix showed a definite six-factored structure, which are called Perceived Ease of Use, Perceived Usefulness, Hedonic Value, Interactivity, Technology Readiness, and AR Adoption Intention. Here are all the items that enthusiastically loaded in their factors because their loadings were higher than 0.60, signifying strong convergent validity, which acknowledged that all items do significantly contribute to the constructed numerous reasons.

The first element, Perceived Use of Ease, has stronger scores that range from 0.688 to 0.781. Among these, items such as “Finding AR applications easy to use” (0.781), “Using AR for navigation is adequate” (0.762), and “Learning to use AR shopping feature is easy” (0.723) loaded pretty highly in this element. Because of such acts, they vehemently view AR shopping application simple and accessible, which gives good stand in the usability context of an AR technology.

The second factor, Perceived Usefulness, had the highest loadings from 0.721 to 0.775. Statements such as “AR helps me decide more quickly” (0.775) and “AR has improved the quality of my shopping experience” (0.749) have the most loading value. Thus, through such statements, the respondents at least

correlate AR as a valued tool in decision-making, product evaluation, and shopping overall.

A rather large number of the values for the Hedonic Value variable (from 0.714 to 0.802) had loadings that were far from negligible. The boldface items, such as "I believe in utilizing AR while shopping" (0.802) and "I feel excited when using AR tools" (0.765) loaded well. It is clear that AR shopping itself results in enjoyment, excitement, and a sense of entertainment and, in so doing, enhances the emotional appeal of the online shopping experience.

The internal consistency characteristics of this component's fourth item as observed in the beta values of factor loading were generally high (from 0.705 to 0.776). Examples of boldface items found in this component include "I feel in control using AR to look at products" (0.776) and "AR can stimulate interactive product discovery" (0.745). It reflects that AR has been perceived as interactivity in the highly personalized and interesting use of a medium that encourages unlimited product discovery.

Technology readiness was the fifth factor that had strong loadings, loaded at an intensity value ranged from 0.702 to 0.794. Statements such as "I am confident using AR in shopping apps" (0.794) and "I adopt new technologies like AR easily" (0.772) were indicated as a high loading. So, these results show that respondents are equipped with sufficient confidence in technology and willingness to use those new shopping tools.

While the sixth factor was AR adoption intention, which had almost the highest loadings, with intensity varying between 0.721 and 0.815, the statements "I will use AR the next time I shop online" (0.815) and "I prefer sites that offer AR shopping features" (0.776) loaded highly. This indicates a significantly expressed intention to use and continue using AR shopping applications for users.

The entirety of the EFA results has provided insight that the items of which the scales are composed are well-ordered and exhibit statistical reliability. Consequently, the six-factor solution was supported by the conceptual model to bring across the effectiveness in capturing respective consumer perceptions as well as behavioral intentions regarding AR-driven online shopping.

Regression analysis

Table 4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.831	0.690	0.682	0.494

The possible collective regression findings provide significant understanding on how easy to perceive use,

use worth, hedonic value, interactivity, and readiness toward technology would relate to the concept of AR adoption intention on par with online consumers of Chennai.

Accordingly, the scatter plot showed a nearly linear relationship with a correlation coefficient (R) of 0.831 showing the strong positive relation of these variables on the intention of consumers to use the augmented reality technology in their purchases online. Between these five factors and the magnitude of the likelihood that a consumer could or will make use of AR technology purchased on digital portals, there is a strong correlation. In the correlation of these findings, there is a very good correlation with each one with the intention of product adoption. An increase in R factor ensures a large relation between the changes in the independent variables and changes in dependent variable.

An R square of 0.690 would indicate that 69% of the variance in the desire of online shopping consumers to adopt augmented reality applications will be explained by the model. Variation of up to 70% across individuals in the probability of adopting involvement might be because other individuals differ primarily in their perceived ease of use, usefulness, enjoyment in using it (hedonic value), interactivity, and technological readiness. Hence, very strong model explanatory distinction.

What is not captured by this study falls into the remaining 31%-some potentially due to such variables as price sensitivity, trust in AR technology, kind of product, and prior experiences with AR tools. A 0.690 R squared is considered very good in social scientific research, particularly in behavioral consumer technology adoption studies, because human decision-making is affected by various psychological, contextual, and technological factors.

The regression results are suggestive of the great impact of the independent factors taken into consideration upon consumer intention adoption of and understanding augmented reality in online retail in Chennai.

Table -5 ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	89.411	5	17.882	73.287	0.000**
Residual	40.089	195	0.206		

Total	129.500	200			
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The results of the regression analysis showed that the whole model is statistically significant, $p < 0.001$. This implies that a model for independent variables such as perceived easy usage, perceived usefulness, multilevel framing, internet access, and technology readiness significantly influences the customers' decision for adopting Augmented Reality (AR) in online retail shops.

This demonstrates the model's importance in that if it were random, there would be a chance of getting such a significant relationship between independent variables and a dependent one only once in a million cases. Applying this, one can say that most of the expectation of consumers in adopting AR e-commerce is explained by the variables mentioned. And so, an individual consumer's belief about how easy and how useful AR is, the fun he or she gets from AR, how interactive is its use, as well as how receptive an individual can be to new technology could influence his/her behavioral intention to adopt AR shopping features.

This underscores the relevance of e-commerce platforms and digital marketers to their buyer-friendliness and enjoyment of AR apps for computer-savvy consumers in such cities as Chennai should they hope to find a way to push valuable installations in an uninspired stream of consumers.

Table 6 Coefficients Table

Predictor	Unstandardized B	Standard Error	Standardized Beta	t	Sig.
(Constant)	0.624	0.204	—	3.059	0.002
Perceived Ease of Use	0.187	0.053	0.198	3.528	0.001**
Perceived Usefulness	0.244	0.062	0.231	3.935	0.000**

Hedonic Value	0.263	0.058	0.264	4.534	0.000**
Interactivity	0.121	0.049	0.108	2.469	0.014*
Technology Readiness	0.174	0.061	0.159	2.852	0.005**

The model in regression was significant with the value of F (73.287) when $p < 0.001$, and it revealed that all predictors, perceived ease of use, perceived usefulness, hedonic value, interactivity, and technology readiness, had a combined significant effect upon consumer adoption attitude. The R^2 value had been observed at 0.690, indicating that 69% of the variation in Augmented Reality (AR) among online shoppers is well explained by these predictors. In the prediction beta coefficient of hedonic value of $p < 0.001$ with a value of 0.264, the usefulness was the most influential, and $p < 0.001$ with beta value of 0.231 was followed by the perceived usefulness; lastly, $p = 0.001$ with beta value of 0.198 was the perceived ease of use. Technology readiness and interactivity, too, had significant positive effects. Thus, the results of this research advance the idea that both functional (usefulness, ease) and emotional (fun, control) aspects drive AR adoption in online retail among Chennai consumers.

Discussion

The study findings confirm that all five determinants—perceived ease of use, perceived usefulness, hedonic value, interactivity, and technology readiness—significantly influence consumers' intention to adopt augmented reality (AR) in online retail. Among these, hedonic value emerged as the strongest predictor, indicating that enjoyment, excitement, and entertainment are major drivers of AR adoption. Perceived usefulness and ease of use also showed strong positive effects, suggesting that consumers are more likely to adopt AR when they find it practical, convenient, and easy to operate. Interactivity and technology readiness further enhanced adoption intention by improving user engagement and confidence in using digital tools. The high explanatory power of the model ($R^2 = 0.690$) highlights that both functional and experiential aspects are critical in shaping AR acceptance among online shoppers in Chennai. These findings align with prior research on technology adoption and immersive retail experiences, emphasizing that AR can enhance

customer satisfaction, reduce purchase uncertainty, and improve overall shopping engagement.

Limitations

This study has certain limitations. First, the research was confined to 201 respondents in Chennai, which may limit the generalizability of the findings to other regions or consumer groups. Second, the study adopted convenience sampling, which may introduce sampling bias. Third, the study focused only on selected behavioral and technological factors, while other variables such as trust, privacy concerns, perceived risk, and platform quality were not considered. Fourth, the use of self-reported responses may be subject to respondent bias. Finally, the cross-sectional design limits the ability to examine changes in AR adoption behavior over time. Future studies may use larger and more diverse samples, include additional constructs, and adopt longitudinal approaches for deeper insights.

Conclusion

Were Chennai's Urban Consumer Effective Use of AR in Improved Online Shopping? The Study The investigation finds results about how augmented reality technology creates different levels of online learning experiences with relevance to consumers living in Chennai. The results show that an online retail environment with efficient online capabilities bears an impact on certain factors: ease of use, usefulness, hedonic value, interactivity, and technology readiness are the main predictors of consumers' intentions to use augmented reality technologies on their websites. Hedonic value and perceived usefulness, along with the most influencing precursors of perceived ease and utility expectations, became the best-forecast determinants-finding utility and hedonic enjoyment as crucial to generating user engagement with AR features. The model had an impressive fit and explained a significant amount of variance in the dependent variable AR adoption intention, which also reflects that if consumers perceive any AR tools as engaging, easy to use, and practically beneficial, they will be adopting them more in their online shopping behavior. At large, the results emphasize the increasing recognition of digital urbanites toward immersive technologies within the city center and provide insights to digital marketers and eCommerce platforms toward user experience innovation. Thus, it contributes positively to our understanding of consumer behavior regarding new technology and contributes to the strategic development of AR-based retail solutions in urban India's digital space.

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