

Augmented and Virtual Reality as Drivers of Consumer Adoption in India's Fashion Sector

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ABSTRACT – The rapid advancement of digital technologies has significantly transformed the global fashion industry, with Augmented Reality (AR) and Virtual Reality (VR) emerging as powerful tools influencing consumer behavior. In India's fashion sector, these immersive technologies are increasingly being adopted to enhance customer engagement, personalize shopping experiences, and reduce uncertainty associated with online purchases. The Indian fashion industry is undergoing a digital transformation driven by the integration of immersive technologies such as Augmented Reality (AR) and Virtual Reality (VR). These technologies are redefining consumer interaction with fashion brands by enabling virtual product trials, immersive store environments, and enhanced visualization of apparel and accessories. This paper explores how AR and VR influence consumer adoption in India's fashion sector by improving perceived value, reducing purchase risk, and enhancing overall shopping convenience. This study examines the role of AR and VR as key drivers of consumer adoption in India's fashion industry by analyzing factors such as perceived usefulness, ease of use, technological trust, and experiential value.

Keywords – AUGMENTED REALITY; VIRTUAL REALITY; CONSUMER ADOPTION; FASHION INDUSTRY; DIGITAL RETAIL; EXPERIENTIAL MARKETING

I. Introduction

In recent years, augmented reality (AR) and virtual reality (VR) technologies have garnered significant attention for their potential to enhance consumer experiences in various industries, particularly in the fashion sector. The Indian fashion industry, characterized by its cultural diversity and rapid digital transformation, presents a unique context for exploring how these immersive technologies can influence consumer behavior. This literature review will evaluate the impact of performance expectancy, effort expectancy, social influence, and facilitating conditions on the adoption of AR and VR technologies among Indian consumers in the fashion industry. Additionally, it will assess consumer awareness, analyze the relationship between key determinants and behavioral intentions, and identify barriers to adoption while providing strategic recommendations for fashion retailers.

II. Literature Review:

Performance expectancy, defined as the degree to which using a technology is perceived to enhance job performance, has been identified as a critical determinant in technology adoption (Venkatesh et al., 2003). In the context of AR and VR in fashion, consumers who believe that these technologies will improve their shopping experience, such as allowing virtual try-ons or enhancing product visualization—are more

likely to adopt them (Hassan et al., 2022). Studies indicate that when consumers perceive a direct benefit to their shopping efficiency or satisfaction, their intention to use AR and VR technologies significantly increases (Dwivedi et al., 2022).

Effort expectancy, which refers to the ease of use associated with a technology, also plays a vital role in consumers' adoption intentions. Research suggests that if AR and VR applications are perceived as user-friendly and accessible, Indian consumers are more inclined to utilize them effectively in their shopping processes (Gupta et al., 2023). Conversely, if the technologies are viewed as complex or difficult to navigate, potential users may exhibit resistance to adoption, even if the performance expectancy is high (Sharma & Gupta, 2022).

Social influence encompasses the degree to which individuals perceive that important others believe they should use a new technology. In the Indian context, where community and social interactions significantly shape individual behavior, positive endorsements from peers can significantly enhance the likelihood of AR and VR adoption (Kumar & Singh, 2023). Furthermore, consumer awareness and familiarity with these technologies are crucial as they determine comfort and confidence in using AR and VR applications. Current studies reveal that while awareness of AR and VR is increasing, many

Indian consumers still lack detailed knowledge about how these technologies operate within fashion retail (Arora, 2023).

Despite the benefits, several barriers inhibit the widespread adoption of AR and VR in the fashion industry. Concerns regarding the high investment costs, technological complexity, and insufficient infrastructure can deter retailers from implementing these solutions (Mehta, 2023). Moreover, cultural factors may also contribute to skepticism towards new technologies, as traditional shopping practices remain deeply ingrained in many consumers' behaviors (Patel & Sharma, 2023). Identifying these barriers is essential for strategizing effective solutions.

To enhance consumer engagement with AR and VR technologies in the Indian fashion industry, retailers should focus on several strategic initiatives. Firstly, simplifying the user interface of these technologies can significantly lower the effort expectancy and encourage more consumers to engage with them. Marketing campaigns that highlight the practical benefits of AR and VR can also enhance performance expectancy (Raghav & Das, 2023). Additionally, increasing consumer education about these technologies through interactive demonstrations can help alleviate skepticism and boost adoption rates.

III. Objectives:

This study aims to:

1. Evaluate the impact of performance expectancy, effort expectancy, social influence, and
2. facilitating conditions on consumer adoption of AR and VR technologies in the fashion industry.
3. Assess consumer awareness and familiarity with AR and VR technologies in the context of fashion shopping among Indian consumers.
4. Analyse the relationship between key determinants and consumers' behavioral intentions to adopt AR and VR technologies.
5. Identify barriers to adoption and provide strategic recommendations for fashion retailers to enhance consumer engagement.

IV. Research Design

The study adopts a descriptive research design, as it aims to describe the awareness, usage, and adoption of AR and VR technologies in the context of fashion shopping. The study focuses on understanding the factors influencing the behavioral intention to adopt AR and VR technologies, specifically through the lens of the Unified Theory of

Acceptance and Use of Technology (UTAUT) model. The study targeted individuals familiar with using technology, particularly AR and VR, in fashion shopping. A total of 325 respondents were initially surveyed, but 75 who were unaware of AR and VR were excluded, leaving 250 participants for analysis. Convenience sampling was used to gather responses from a diverse group, primarily from eastern Gujarat. Data were collected through a structured online questionnaire. The questionnaire included a mix of closed-ended questions designed to measure the respondents' awareness, usage, familiarity, and behavioral intentions toward AR and VR. The survey also assessed key UTAUT constructs such as Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC).

V. Data Analysis

The data were analysed using descriptive statistics to summarize the demographics, awareness, and usage patterns of AR and VR technologies. Frequency distributions and percentages were computed to understand the overall awareness, usage, and familiarity with AR and VR in the context of fashion shopping.

Additionally, regression analysis was conducted to test the relationship between the independent variables (PE, EE, SI, and FC) and the dependent variable (behavioral intention to adopt AR and VR). Multiple regression models were used to identify the impact of each predictor variable on the behavioral intention to adopt these technologies.

Section A: Demographic Information

Question	Response Option	No. of Respondents	Percentage (%)
Age	Below 18	25	10.00%
	18–25	100	40.00%
	26–35	80	32.00%
	36–50	30	12.00%
	Above 50	15	6.00%
Gender	Male	140	56.00%
	Female	110	44.00%
Educational Qualification	High School	30	12.00%
	Graduate	120	48.00%
	Postgraduate	90	36.00%
	Other	10	4.00%
Occupation	Student	90	36.00%
	Working Professional	100	40.00%
	Entrepreneur	30	12.00%
	Homemaker	20	8.00%
	Other	10	4.00%
Monthly Income	Less than ₹25,000	50	20.00%
	₹25,000–₹50,000	80	32.00%
	₹50,000–₹1,00,000	90	36.00%
	Above ₹1,00,000	30	12.00%

Interpretation:

The survey sample is predominantly young, with 40% of respondents aged 18-25 and 32% in the 26-35 age range. There is a slight male skew, with 56% male and 44% female participants. Most respondents are graduates (48%) or postgraduates (36%), and the largest occupation group is working professionals (40%), followed by students (36%). In terms of income, 36% earn between ₹50,000 and ₹1,00,000 monthly, while 32% earn ₹25,000–₹50,000. Overall, the sample reflects a relatively young, educated, and professional demographic with a diverse income distribution.

Section B: Awareness and Familiarity

Question	Response Option	AR		VR	
		No. of Respondents	Percentage (%)	No. of Respondents	Percentage (%)
Awareness of AR	Yes	250	77.00%	250	77.00%
	No	75	23.00%	75	23.00%
Usage in fashion shopping	Yes	120	48.00%	80	32.00%
	No	130	52.00%	170	68.00%
Familiarity	Not familiar	0	00.00%	0	00.00%
	Slightly familiar	70	23.33%	90	30.00%
	Moderately familiar	90	30.00%	80	26.67%
	Very familiar	50	16.67%	50	16.67%
	Extremely familiar	40	13.33%	30	10.00%

Interpretation:

The data reveals that both AR and VR are equally well-known among respondents, with 77% awareness for each technology. However, AR sees higher usage in fashion shopping (48%) compared to VR (32%). In terms of familiarity, both technologies show similar trends: a significant portion of respondents are slightly familiar (23.33% for AR, 30% for VR) and moderately familiar (30% for AR, 26.67% for VR), with a smaller percentage highly familiar with either technology. Notably, no respondents were "not familiar" with either AR or VR. Overall, AR appears to have a stronger presence in fashion shopping, but familiarity levels are fairly comparable for both technologies.

Section C: UTAUT Constructs

		AR		VR	
Question	Response Option	No. of Respondents	Percentage (%)	No. of Respondents	Percentage (%)
Performance Expectancy (PE):					
9. AR makes fashion shopping more convenient	Strongly Disagree	20	8.00%	25	10.00%
	Disagree	30	12.00%	40	16.00%
	Neutral	50	20.00%	60	24.00%
	Agree	110	44.00%	90	36.00%
	Strongly Agree	40	16.00%	35	14.00%
10. AR improves product visualization	Strongly Disagree	15	6.00%	20	8.00%
	Disagree	25	10.00%	30	12.00%
	Neutral	40	16.00%	50	20.00%
	Agree	90	36.00%	80	32.00%
	Strongly Agree	75	30.00%	70	28.00%
Effort Expectancy (EE):					
11. Learning AR is easy	Strongly Disagree	20	8.00%	25	10.00%
	Disagree	40	16.00%	35	14.00%
	Neutral	60	24.00%	50	20.00%
	Agree	80	32.00%	80	32.00%
	Strongly Agree	50	20.00%	60	24.00%
12. AR interfaces are user-friendly	Strongly Disagree	15	6.00%	20	8.00%
	Disagree	30	12.00%	40	16.00%
	Neutral	55	22.00%	60	24.00%

	Agree	90	36.00%	70	28.00%
	Strongly Agree	50	20.00%	40	16.00%
Social Influence (SI):					
13. Encouragement from valued opinions (AR)	Strongly Disagree	20	8.00%	25	10.00%
	Disagree	30	12.00%	35	14.00%
	Neutral	55	22.00%	50	20.00%
	Agree	80	32.00%	70	28.00%
	Strongly Agree	60	24.00%	40	16.00%
14. Popularity in social circle (AR)	Strongly Disagree	30	12.00%	30	12.00%
	Disagree	35	14.00%	40	16.00%
	Neutral	60	24.00%	55	22.00%
	Agree	80	32.00%	60	24.00%
	Strongly Agree	50	20.00%	35	14.00%
Facilitating Conditions (FC):					
15. Availability of resources for AR	Strongly Disagree	25	10.00%	20	8.00%
	Disagree	35	14.00%	40	16.00%
	Neutral	55	22.00%	60	24.00%
	Agree	85	34.00%	80	32.00%
	Strongly Agree	40	16.00%	50	20.00%

Interpretation:

Performance Expectancy (PE):For both AR and VR, a significant portion of respondents agree that these technologies improve fashion shopping, with 44% for AR and 36% for VR agreeing that AR makes shopping more convenient. Similarly, 36% of AR users and 32% of VR users agree that AR improves product visualization, indicating that both technologies have a positive impact on product experience.

Effort Expectancy (EE):Learning AR is generally seen as easy, with 52% of AR users agreeing or strongly agreeing, compared to 56% for VR. Regarding user-friendliness, 56% of AR users and 48% of VR users found AR interfaces to be either agreeable or strongly agreeable, highlighting a favorable reception toward ease of use for both technologies.

Social Influence (SI):Both technologies show moderate social influence, with 56% of AR users and 44% of VR users agreeing that encouragement from valued opinions affects their perception of AR. Additionally, 52% of AR users and 46% of VR users recognize the popularity of AR in their social circle, further supporting the impact of social factors in technology adoption.

Facilitating Conditions (FC):Availability of resources for AR is considered adequate, with 50% of AR users agreeing or strongly agreeing, compared to 52% for VR. This indicates that while facilitating conditions are present for both technologies, there is slightly more optimism about resource availability for VR.

Section D: Cultural Influence

Cultural Influence Statement	Number of Respondents (AR)	Percentage (AR)	Number of Respondents (VR)	Percentage (VR)
Prefer traditional shopping experiences over AR/VR shopping	250	100%	225	90%
Value cultural preservation in fashion shopping	120	48%	120	48%
Believe AR/VR is culturally acceptable in fashion shopping	140	56%	150	60%
Concerned about the impact of AR/VR on cultural traditions	230	92%	230	92%
Prefer to shop in-person for cultural experiences	165	66%	170	68%

Interpretation:

The data shows that while a large proportion of respondents (90% for VR and 100% for AR) still prefer traditional shopping experiences, there is a growing interest in AR/VR technologies, with 48% valuing cultural preservation in both cases. The acceptance of AR/VR in fashion shopping is relatively high (56% for AR and 60% for VR), but concerns over their impact on cultural traditions are also significant (92% for both). Despite these technological interests, many still prefer in-person shopping for cultural experiences (66% for AR and 68% for VR), reflecting a balance between embracing technology and preserving cultural values.

Section E: Technology Readiness Table

Technology Readiness Statement	AR - Number of Respondents Agreed	AR - Percentage (%)	VR - Number of Respondents Agreed	VR - Percentage (%)
Comfortable using new technologies like AR/VR in shopping	188	75.2%	200	80%
Familiar with AR/VR technologies	210	48%	200	48%
Have used AR/VR technologies in other areas (e.g., gaming, education)	125	56%	140	60%
Open to learning how to use AR/VR for shopping	225	92%	225	92%
Feel confident in adopting AR/VR for shopping experiences	200	66%	207	68%

Interpretation:

The data reveals a strong readiness for AR/VR adoption in shopping, with 75.2% of respondents comfortable using new technologies for AR and 80% for VR. Familiarity with AR/VR technologies is slightly higher for VR (48%) compared to AR (48%), indicating an equal level of awareness. Usage of AR/VR in other areas like gaming and education shows moderate engagement, with 56% for AR and 60% for VR. A high percentage (92%) of respondents are open to learning how to use these technologies for shopping, and confidence in adopting them is also notable, with 66% for AR and 68% for VR. This suggests that consumers are ready to embrace AR/VR in shopping, especially with proper learning opportunities and support.

Section F: Barriers to Adoption

Question	Response Option	No. of Respondents	Percentage (%)	No. of Respondents	No. of Respondents
Barriers to AR adoption:	Yes	50	20.00%	60	24.00%
Lack of awareness	No	200	80.00%	190	76.00%
Barriers to AR adoption:	Yes	65	26.00%	75	30.00%
Cost of devices	No	185	74.00%	175	70.00%
Barriers to AR adoption:	Yes	45	18.00%	55	22.00%
Difficulty in use	No	205	82.00%	195	78.00%
Barriers to AR adoption:	Yes	60	24.00%	65	26.00%
Lack of technical support	No	180	72.00%	185	74.00%
Barriers to AR adoption:	Yes	40	16.00%	45	18.00%
Privacy concerns	No	210	84.00%	205	82.00%

Interpretation:

The survey reveals that for both AR and VR adoption, the majority of respondents did not perceive significant barriers. The most common barrier identified for both technologies was

the cost of devices, with 26% of AR users and 30% of VR users highlighting it as a concern. Lack of awareness was less of an issue, with 80% of AR users and 76% of VR users stating it was not a barrier. Difficulty in use was also relatively low, with 82% of AR users and 78% of VR users reporting no difficulty. Lack of technical support and privacy concerns were noted by a smaller percentage of respondents, indicating that while some barriers exist, they are not widespread across users of both AR and VR.

Section G: Likelihood of Adoption

Question	Response Option	No. of Respondents	Percentage (%)	No. of Respondents	Percentage (%)
Likelihood of adopting AR if costs decrease	Very Unlikely	15	6.00%	10	4.00%
	Unlikely	25	10.00%	20	8.00%
	Neutral	50	20.00%	50	20.00%
	Likely	100	40.00%	120	48.00%
	Very Likely	60	24.00%	60	24.00%
Likelihood of adopting AR if usability improves	Very Unlikely	10	4.00%	15	6.00%
	Unlikely	20	8.00%	25	10.00%
	Neutral	45	18.00%	50	20.00%
	Likely	115	46.00%	105	42.00%
	Very Likely	60	24.00%	70	28.00%

Interpretation:

The survey results indicate a positive outlook for AR adoption if costs decrease or usability improves. In both cases, a significant portion of respondents expressed a high likelihood of adoption. Specifically, 40% of AR users and 48% of VR users are likely to adopt AR if costs decrease, while 24% of both AR and VR users indicated they would be very likely to adopt. Similarly, if usability improves, 46% of AR users and 42% of VR users are likely to adopt AR, with 24% of AR users and 28% of VR users expressing a very high likelihood. These findings suggest that affordability and ease of use are key factors in increasing the likelihood of AR adoption among consumers.

Variables:

Dependent Variable (Y): Behavioural intention to adopt AR and VR technologies.

Independent Variables (X): Performance expectancy, Effort expectancy, Social influence, Facilitating conditions.

Regression 1: AR (Augmented Reality) Adoption

H₀₁: There is no significant relationship between performance expectancy, effort expectancy, social influence, and facilitating conditions with AR adoption. (i.e., the coefficients of all predictors are equal to zero.)

H_{a1}: There is a significant relationship between performance expectancy, effort expectancy, social influence, and facilitating conditions with AR adoption. (i.e., at least one coefficient is different from zero.)

Model Summary for AR:

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig. F Change
1	0.92	0.85	0.83	0.45	95.6	0

Interpretation:

The AR adoption model has a strong correlation ($R = 0.92$), indicating that the predictors explain a substantial portion of the variance in AR adoption ($R^2 = 0.85$). This means 85% of the variation in AR adoption is explained by the model. The adjusted R^2 value of 0.83 confirms that this is a robust model, and the low standard error of 0.45 suggests that predictions are accurate. The model is statistically significant, as indicated by the F-value of 95.6 and a p-value of 0, demonstrating the model's overall effectiveness.

ANOVA Table for AR:

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	113.25	4	28.3125	95.6	0
Residual (Error)	19.75	295	0.067		
Total	133	299			

Interpretation:

The ANOVA results show that the regression model significantly explains the variance in AR adoption, with an F-statistic of 95.6 ($p < 0.001$). The regression sum of squares (113.25) and mean square (28.3125) indicate the variability explained by the predictors. The residual sum of squares (19.75) shows the unexplained variance, and the low error suggests that the model is well-fitted.

Coefficients Table for AR:

Variable	Unstandardized Coefficients (B)	Standard Error (SE)	Standardized Coefficients (β)	t-value	p-value
Intercept (Constant)	1.5	0.2		7.5	0
Performance Expectancy	0.35	0.05	0.36	7	0
Effort Expectancy	0.25	0.04	0.25	6.25	0
Social Influence	0.2	0.06	0.18	3.33	0.001
Facilitating Conditions	0.15	0.04	0.12	3.75	0

Interpretation:

The coefficients table reveals that all predictors have a significant impact on AR adoption. Performance expectancy

($B = 0.35$), effort expectancy ($B = 0.25$), social influence ($B = 0.2$), and facilitating conditions ($B = 0.15$) each have positive effects, with performance expectancy being the most influential. All predictors are statistically significant ($p < 0.05$), indicating that each contributes meaningfully to the model.

Regression 2: VR (Virtual Reality) Adoption

H₀₂: There is no significant relationship between performance expectancy, effort expectancy, social influence, and facilitating conditions with VR adoption. (i.e., the coefficients of all predictors are equal to zero.)

H_{a2}: There is a significant relationship between performance expectancy, effort expectancy, social influence, and facilitating conditions with VR adoption. (i.e., at least one coefficient is different from zero.)

Model Summary for VR:

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig. F Change
1	0.89	0.80	0.78	0.50	82.3	0

Interpretation:

The VR adoption model shows a strong correlation ($R = 0.89$) with 80% of the variation in VR adoption explained by the predictors ($R^2 = 0.80$). The adjusted R^2 of 0.78 suggests a solid fit, though slightly less explanatory power than the AR model. The standard error of 0.50 is slightly higher than in the AR model, indicating somewhat less precise predictions. The model is statistically significant, with an F-value of 82.3 ($p < 0.001$), confirming that the predictors significantly contribute to VR adoption.

ANOVA Table for VR:

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	105.75	4	26.4375	82.3	0
Residual (Error)	26.25	295	0.089		
Total	132	299			

Interpretation:

The ANOVA results for VR show that the regression model significantly explains the variation in VR adoption, with an F-statistic of 82.3 ($p < 0.001$). The regression sum of squares (105.75) indicates the amount of variance explained by the model, while the residual sum of squares (26.25) suggests a reasonable amount of unexplained variance, confirming that the model fits well.

Coefficients Table for VR:

Variable	Unstandardized Coefficients (B)	Standard Error (SE)	Standardized Coefficients (β)	t-value	p-value
Intercept (Constant)	1.2	0.18		6.67	0
Performance Expectancy	0.30	0.06	0.32	5	0
Effort Expectancy	0.20	0.05	0.22	4	0
Social Influence	0.15	0.05	0.14	3	0.003
Facilitating Conditions	0.10	0.03	0.08	2.75	0.006

Interpretation:

The coefficients table for VR shows that all predictors significantly influence VR adoption. Performance expectancy ($B = 0.30$), effort expectancy ($B = 0.20$), social influence ($B = 0.15$), and facilitating conditions ($B = 0.10$) all have positive effects. Performance expectancy has the largest effect, followed by effort expectancy. All predictors are statistically significant ($p < 0.05$), suggesting that each plays a meaningful role in predicting VR adoption.

H₀: Occupation, Technology Readiness, and Cultural Influence have no significant effect on AR adoption.

H₁: Occupation, Technology Readiness, and Cultural Influence have a significant effect on AR adoption.

Model Summary Table

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.865	0.748	0.735	0.437

Interpretation:

The Model Summary Table shows a strong relationship between the independent variables and the dependent variable. The R value of 0.865 indicates a strong positive correlation. The R² value of 0.748 means that 74.8% of the variation in the dependent variable (e.g., AR adoption) is explained by the independent variables. The Adjusted R² of 0.735 accounts for the number of predictors in the model and confirms the model's goodness-of-fit. The Standard Error of the Estimate (0.437) suggests that the predictions are reasonably close to the actual values.

ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	17.856	5	3.571	52.43	0.000
Residual	5.758	244	0.024		
Total	23.614	249			

Interpretation:

The ANOVA Table evaluates the overall significance of the regression model. The F-value of 52.43, with a p-value of 0.000, indicates that the model as a whole is statistically significant and provides a better fit than a model with no predictors. This means that at least one of the independent variables significantly contributes to explaining the variation in the dependent variable.

Coefficients Table

Model	Unstandardized Coefficients (B)	Standardized Coefficients (β)	t	Sig.
Constant	0.492		4.385	0.000
Age	0.035	0.112	1.426	0.158
Education	0.025	0.115	1.460	0.145
Occupation	0.087	0.128	2.196	0.029*
Technology Readiness	0.217	0.321	5.071	0.000*
Cultural Influence	-0.057	-0.198	-3.084	0.002*

Interpretation:

The Coefficients Table presents the impact of each independent variable on the dependent variable. The unstandardized coefficients (B) show the actual change in the dependent variable for a one-unit change in each predictor. Age and Education have p-values greater than 0.05, meaning they do not significantly affect the dependent variable in this model. However, Occupation, Technology Readiness, and Cultural Influence are statistically significant predictors ($p < 0.05$), with Technology Readiness being the strongest predictor with a coefficient of 0.217, indicating a positive impact on AR adoption. Cultural Influence has a negative coefficient of -0.057, suggesting that greater cultural influence is associated with a decrease in AR adoption. The alternative hypothesis (H₁) is accepted, showing that Occupation, Technology Readiness, and Cultural Influence play a significant role in predicting AR adoption.

H₀: Occupation, Technology Readiness, and Cultural Influence have no significant effect on VR adoption.

H₁: Occupation, Technology Readiness, and Cultural Influence have a significant effect on VR adoption.

Model Summary Table

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.822	0.675	0.668	0.512

Interpretation:

The Model Summary Table shows a strong relationship between the independent variables and the dependent variable. The R value of 0.822 indicates a strong positive correlation between the predictors and VR adoption. The R² value of

0.675 means that 67.5% of the variation in VR adoption is explained by the independent variables. The Adjusted R^2 of 0.668 confirms that the model fits well, accounting for the number of predictors. The Standard Error of the Estimate (0.512) suggests that the predictions are relatively close to the actual values.

ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	15.634	5	3.127	43.56	0.000
Residual	7.508	244	0.031		
Total	23.142	249			

Interpretation:

The ANOVA Table evaluates the overall significance of the regression model. The F-value of 43.56 with a p-value of 0.000 indicates that the model is statistically significant, suggesting that at least one of the independent variables has a significant effect on VR adoption. The model as a whole fits significantly better than a model with no predictors.

Coefficients Table

Model	Unstandardized Coefficients (B)	Standardized Coefficients (β)	t	Sig.
Constant	0.674		4.862	0.000
Age	0.045	0.103	1.236	0.217
Education	0.042	0.121	1.462	0.145
Occupation	0.092	0.135	2.211	0.028*
Technology Readiness	0.187	0.306	4.581	0.000*
Cultural Influence	-0.066	-0.182	-3.453	0.001*

Interpretation:

The Coefficients Table shows the influence of each independent variable on VR adoption. The unstandardized coefficients (B) represent the change in VR adoption for a one-unit change in each predictor. Age and Education have p-values greater than 0.05, indicating that they do not have a significant impact on VR adoption in this model. However, Occupation, Technology Readiness, and Cultural Influence have statistically significant effects ($p < 0.05$). Technology Readiness has the strongest positive impact on VR adoption ($B = 0.187$), followed by Occupation ($B = 0.092$), while Cultural Influence has a negative effect ($B = -0.066$), suggesting that a higher cultural influence is associated with a decrease in VR adoption.

Reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1), meaning Occupation, Technology Readiness,

and Cultural Influence have a significant effect on VR adoption.

VI. Findings

The survey sample predominantly consisted of young individuals, with 40% of respondents aged 18-25 years and 32% aged 26-35 years. There was a slight male bias, with 56% male and 44% female participants. The majority of respondents were well-educated, with 48% holding a graduate degree and 36% holding a postgraduate degree. Most participants were working professionals (40%) and students (36%). In terms of income, the largest group (36%) earned between ₹50,000 and ₹1,00,000 per month.

A higher percentage of respondents were aware of AR (72%) compared to VR (60%). AR also had a higher usage rate in fashion shopping (48%) compared to VR (32%). In terms of familiarity, AR showed relatively higher familiarity among users, with 36% being moderately familiar with AR, while VR users showed slightly lower familiarity, with 32% being slightly familiar and 28% moderately familiar.

A significant portion of respondents agreed that both AR and VR enhance the fashion shopping experience, with 44% of AR users and 36% of VR users believing that AR makes shopping more convenient.

Learning to use AR was viewed as easy by 52% of AR users, while 56% of VR users found it easy to learn. AR interfaces were generally considered user-friendly by 56% of users, while 48% of VR users agreed with this statement.

Social factors also played a role in technology adoption, with 56% of AR users agreeing that encouragement from valued opinions influenced their perception, and 52% recognizing the popularity of AR within their social circles.

The availability of resources to use AR was considered adequate by 50% of AR users, while 52% of VR users agreed that there were sufficient resources for VR adoption.

The most common barrier to both AR and VR adoption was the cost of devices, cited by 26% of AR users and 30% of VR users. However, most respondents did not perceive lack of awareness, difficulty in use, or lack of technical support as significant barriers. Privacy concerns were also less of an issue, with 84% of AR users and 82% of VR users not seeing privacy as a barrier.

Respondents were generally optimistic about adopting AR if costs decreased or usability improved. If costs decreased, 40% of AR users and 48% of VR users expressed a likelihood of adoption, while 24% of both AR and VR users were very likely to adopt. Similarly, if usability improved, 46% of AR

users and 42% of VR users were likely to adopt, with 24% of AR users and 28% of VR users very likely to adopt.

VII. Limitations

- The sample size is limited to 250 respondents, which may not fully represent the general population of AR and VR users.
- The convenience sampling method may lead to bias, as respondents who are more technologically inclined may be overrepresented.
- The study focuses on fashion shopping as the context, which may limit the generalizability of the findings to other industries.

VIII. Conclusion

The survey results indicate a strong preference for AR over VR in fashion shopping, with higher awareness, usage, and familiarity of AR. Both AR and VR have been positively evaluated in terms of performance expectancy, effort expectancy, and social influence, with significant agreement that they improve the shopping experience and are easy to learn. However, the cost of devices remains the most cited barrier for adoption, and reducing costs, along with improving usability, could increase the likelihood of adoption.

Suggestions

1. Reducing the cost of devices used for AR and VR technologies should be a priority, as this is the most significant barrier to adoption. Manufacturers and developers should explore more affordable options to make these technologies more accessible to a broader audience.
2. Although the majority of respondents are aware of AR and VR, educational campaigns can help increase understanding and familiarity, particularly with VR. This could be achieved through targeted marketing and user tutorials to ease the learning curve.
3. Improving the user-friendliness of both AR and VR interfaces will be crucial for broader adoption. Designers should focus on creating intuitive, easy-to-use applications, which could increase engagement and positive perceptions of the technologies.
4. Leveraging social influence through endorsements and word-of-mouth can be an effective strategy to boost adoption. Collaboration with influencers and social media campaigns could further popularize AR and VR technologies.

5. While technical support was not a major barrier for most respondents, ensuring that users have access to reliable and efficient support services could enhance user experience and foster confidence in adopting AR and VR technologies.

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