

Augmented Reality as a Catalyst for Sustainable Purchase Intention: Insights from Generation Z Women in the Indian Beauty Industry

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Abstract: Despite the increasing adoption of augmented reality in the beauty industry, limited empirical evidence explains how AR marketing influences purchase intention through sustainable consumption among Generation Z women in India. This paper examines the influence of Augmented Reality Marketing (AR) on the Purchase Intention of Generation Z women in the Indian beauty industry with sustainable consumption serving as the mediating variable. Grounded in Situated Cognition theory this paper conceptualises Augmented Reality using the EEE (Embed, Embodied, Extended) framework to explain how immersive marketing influences consumer decision making. This study adopts a quantitative cross-sectional research design and analyses the responses of 426 Indian Generation Z women using structural equation modelling (SEM). The results of this paper reveal that AR marketing significantly influences purchase intention both directly and indirectly through sustainable consumption confirming that it partially mediates the relationship. These findings imply that Augmented Reality goes beyond being a gimmicky fun tool. It is a tool of sustainability and can enhance value-oriented shopping behaviour. This paper contributes to the existing literature by integrating embed, embodied and extend framework with situated cognition theory, providing a better understanding on the decision making process of Indian Generation Z women, and also offer practical insights to beauty marketers to leverage AR to create immersive, engaging and sustainable digital shopping experiences.

Keywords: Immersive marketing, Embed, Embodied, Extend, Situated Cognition theory

1. INTRODUCTION

Augmented reality (AR) is increasingly being recognized as a disruptive technology in marketing. Augmented reality overlays digital information in the real - world environment of the user blending the virtual and the physical in real time (1). This makes it an interactive experience that goes beyond mere static images or traditional online presentations of products. Augmented reality helps the consumers to visualise the products in real time, engage with them and manipulate the products in their actual surroundings without the physical presence of the product (2). With the wide-spread adoption of smartphones, the accessibility and scalability of augmented reality is increasing. As a result, AR has moved beyond gaming and entertainment industries into more mainstream spaces like marketing (3). The appeal of AR lies in its multi-dimensional nature. Researchers have stated that AR is interactive, vivid, novel and improves personalization. In addition to this, with the help of virtual-try Ons AR can help the consumer to visualise the product in their own environment bridging the gap between online and offline shopping experiences (4).



One of the most important applications of AR can be seen with the beauty industry. With features like virtual-try on, AR allows consumers to digitally experiment with their looks before making a purchase decision. Along with this, virtual mirrors and facial analysis tools are also integrated into the platforms to reduce purchase uncertainty and provide the consumers with more personalised and realistic visualisation of products, aiding in the evaluation of the feasibility of the product, without any physical interaction (5,6).

Before AR, consumers relied on in-store product testing, consultations, celebrity endorsements and the static images for evaluating the products. These methods provide considerable amount of information; however, they often fail to communicate how a product would look on an individual consumer. This limitation was extremely evident in online shopping environments where consumers were not able to physically interact with the products before purchase. As a result, consumers frequently experienced uncertainty regarding product suitability, colour matching, and overall performance, leading to product dissatisfaction, return behaviour, and decision-making anxiety (7,8). By allowing consumers to virtually experience products before purchase, AR addresses many of these challenges and enhances confidence during the decision-making process.

This becomes highly relevant in context of Generation Z women. Generation Z women are individuals born between 1997 and 2012. These women are characterized by their digital literacy, social media fluency and value driven consumption behaviour, as they have grown up in a digital environment. In India, especially, Generation Z women are a new key consumer segment that blends two elements together - technology savviness and ethical consumption behaviour (9). Previous research about Gen Z women show that they prefer products or brands that align with their identity and value and are often described as self-expressive, impulsive and often influenced by peer recommendations, in comparison to previous generations (10). Furthermore, generation Z women found that social media plays an important role in influencing their online shopping behaviour, thereby, making them an important target audience for immersive marketing technologies (11).

As the beauty industry continues to evolve sustainability has become one of its significant shifts. Recent studies show that consumers are increasingly considering the ethical and environmental aspects of the products alongside the functionality, showing a growing preference towards sustainable consumption (12). Thus, generation Z 's desire to be more value-driven when it comes to making a purchase has had a significant impact on greener beauty practices. When shopping online, digital cues play a very important role. Research shows that women rely on the information given online about the product, the sustainability labels, user reviews to make a purchase decision (13). With the rise of online shopping, augmented reality becomes very important in helping the brand communicate effectively and appealingly to the consumer about the product and aid them in taking an eco-conscious decision. AR with the help of virtual-try Ons also helps in minimizing product uncertainty which results in lesser product returns and wastage (14). Generation Z women who are digitally literate and eco-conscious can use AR technology which will enhance their satisfaction while supporting socially responsible consumption behaviour. With the help of product fit and personalisation, AR decreases return rates and encourages conscious consumerism (15).

Additionally, India is one of the fastest growing beauty and personal care markets, due to the increase in smartphone usage, digital commerce adoption and growing consumer engagement. Consequently, the Indian beauty industry becomes extremely relevant in examining how immersive technologies can influence the decision making of consumers.

Despite sufficient literature on the impact of AR on experiential value, consumer engagement and purchase intention, there is a clear academic gap. Existing studies have always studied sustainability or sustainable consumption through the lens of green consumerism or ethical practice or eco-consumerism (16,17). Consequently, limited attention is given to understanding augmented reality experiences through the lens of a sustainability driven behaviour in the Indian beauty market. In addition to this, little is known about how the different dimensions of AR - embed, embodied and extend impact sustainable consumption choices which ultimately shape the purchasing behaviour of Indian generation Z women.

Accordingly, this paper studies the different dimensions of Augmented reality and its influence on purchase intention with sustainable consumption as the mediator. With its foundation grounded in situated cognition theory, this paper examines how immersive experiences can shape sustainable consumer behaviour and purchase intention among Gen Z Indian women. To address this, the paper identifies three research questions:

RQ1: What is the influence of Augmented Reality on the purchase intention of Generation Z women in the Indian beauty industry?

RQ2: What is the influence of Augmented Reality on sustainable consumption among Generation Z women?

RQ3: Does sustainable consumption mediate the relationship between Augmented Reality and purchase intention among Generation Z women in the Indian beauty industry?

2.LITERATURE REVIEW

2.1 Augmented Reality and Sustainable Consumption

Previous studies show that augmented reality enhances consumer decision making by providing an immersive, interactive and an experience rich shopping experience (7). It is also known to increase/improve product visualisation, transparency and decrease the uncertainty one has during online purchases, thereby enabling the consumer to make more informed and deliberate purchasing decisions. With features like virtual try-ons, real time simulations, AR allows the consumers to try the products and evaluate them before purchase, thereby reducing in product mismatch, return rates and unnecessary consumption (8, 14). In addition to this, AR also aids the consumers in understanding the attributes and suitability of the products better, which may lead to a more responsible and sustainable purchasing behaviour. Conversely, some scholars have stated that AR is characterized by novelty, entertainment and hedonic value rather than any long-term behavioural change, which questions its ability to promote sustainable behaviour consistently (18). Despite the growing literature on AR and its impact on consumer behaviour, limited attention is paid to understanding whether it can promote sustainable consumption within the beauty industry, particularly among Gen Z women in an emerging market such as India. Therefore, the following hypotheses is proposed:

H1: Augmented Reality has a significant influence on Sustainable Consumption.

2.2 Sustainable consumption and purchase intention

Sustainable consumption has been widely recognized as one of the most important predictors of purchase intention, with respect to younger consumer groups. Consumers who participate in sustainable behaviour often consider environmental responsibility, ethical sourcing and conscious purchasing along with the product attributes when making the purchase decisions (19). Such consumers often develop positive attitudes towards the brands that align with their social and environmental values, resulting in an increase in trust and willingness to purchase the product (20). Brand credibility and purchase intentions are further enhanced by sustainability related cues like eco-labels, green packaging, cruelty free claims and ingredient transparency. This is extremely relevant to study because generation Z women, not only demonstrate greater concern for environmental and ethical issues but also prefer brands which align with the same values (21). Nevertheless, there are few studies that state that despite the overwhelmingly positive attitude towards sustainability, it does not always translate to actual purchasing behaviour due to factors such as price sensitivity, convenience, and perceived product performance creating an attitude-behaviour gap in sustainable consumption (22, 23). Despite this limitation, the beauty industry has witnessed a considerable growth for ethically manufactured and environmentally responsible products, especially among Gen Z women (24). Thus, sustainable consumption is expected to have a positive influence on purchase intention in the context of beauty related purchasing decisions. Therefore, the following hypotheses is proposed:

H2: Sustainable consumption has a significant influence on Purchase Intention.

2.3 Augmented Reality and Purchase Intention

Augmented reality marketing in the beauty industry has completely changed traditional marketing with features like virtual mirrors provide virtual styling, AR driven skin analysis and personalisation. This leads to better engagement, improved product evaluation, and building trust of the consumer thereby having a direct impact on the purchase intention. (25). Previous studies have showed that customization and personalized recommendations help in making better purchase decisions which drive up the sales in the beauty industry (26). Other features of Augmented reality like vividness, realistic ability create an appealing and real experience which again leads to an increase in the engagement with the beauty product (27, 28). Additionally features like interactivity and novelty can also influence consumers perceptions, especially in context of beauty products (29). However, some scholars argue that the effectiveness of AR may be affected by factors such as technological barriers, user familiarity, and novelty effects, suggesting that positive consumer responses may not always translate into sustained purchase behaviour (30,31,32). Despite growing evidence supporting the role of AR in enhancing purchase outcomes, limited research has examined this relationship within the context of the Indian beauty industry, particularly among Generation Z women. Therefore, the following hypothesis is proposed:

H3: Augmented Reality has a significant influence on Purchase Intention.

2.4 Sustainability as a mediator

Past research demonstrates that AR enhances evaluation processes for consumers by reducing perceived risk and increasing transparency (33). Such results are consistent with factors known to increase sustainability-oriented decision-making (34). As AR increases the understanding of products and better conveys information to consumers, decisions that show the values of sustainability will be preferred, which will lead to an increase in purchase intention. Sustainability behaviors also help the consumers in decision process, further re-establishing the effect of technology-enabled evaluation on eventual purchase outcomes (35). However, the mechanisms through which AR influences purchase intention is underexplored. Most of the past studies focus on the direct effects rather than the behavioural processes through which these direct effects occur. Thus, there are very limited studies examining the link between sustainable consumption and AR experiences and purchase intention; particularly in the beauty industry. Thus, the following hypotheses is proposed:

H4: Sustainable Consumption mediates the relationship between Augmented Reality and Purchase Intention.

2.5 Sub-dimensions of Augmented Reality

The foundational work and conceptualised the experiential value of AR is done through three sub-dimensions: Embed, Embodied and Extend (36). These three dimensions clearly explain the manner in which AR enhances the consumer experience by integrating both the digital and physical elements in meaningful ways. The embedded nature of AR refers to AR's ability to overlay digital information directly within the consumer's real environment, thereby improving product evaluation and reducing uncertainty during decision-making. The embodied sub dimension of AR explains the way AR replicates or simulates bodily involvement and presence in a digital experience. This helps in enhancing engagement and experiential richness. Extendedness in augmented reality refers to the shared experiences of consumers. It also involves the amplification of their cognitive and social abilities through augmented reality. Through this dimension of augmented reality, it steps beyond the realm of mere visual appeal and enters a digital ecosystem where consumers are transformed into active participants (36a). Previous research further suggests that intuitive interactions and peer-to-peer engagement can strengthen cognitive evaluation, empowerment, and consumer participation (37,38). Collectively, these dimensions create immersive and interactive experiences that enhance consumer engagement, product understanding, and purchase-related outcomes.

3. THEORETICAL FRAMEWORK

3.1 Situated Cognition Theory

According to Situated Cognition Theory, knowledge and learning are inherently part of the environment in which they occur (39). In the context of augmented reality, the Situated Cognition Theory provides a strong explanation of how AR influences purchase intention. Applications of AR create a context-rich interactive and immersive environment through which the consumer interacts with the product and learns about it.

Embedded means overlaying the digital information within the consumer's physical environment.

Embodied means the sensory and body engagement with the digital world.

Extend means the ability of AR to help in building a community where users can share their content with each other enabling social validation.

Together, these AR mechanisms create immersive, interactive and rich experiences that support better-informed, more experiential, and environmentally conscious decision-making. As consumers virtually try out products, interact with them within their own environments, or visualize the outcomes before making a purchase, they get better knowledge about the product that decrease uncertainty and enhances confidence. Situated cognition theory also explains why these experiences can push consumers toward sustainable consumption behaviors. It is because decisions are taken within a meaningful and personalized context that makes consequences more clear and more real.

This in turn increases purchase intention, whereby consumers feel more confident, informed, and aligned with their values when making choices. Thus, Situated Cognition Theory provides a theoretical basis for connecting AR experiences (embed, embodied, extend) with sustainability-oriented decision-making and ultimate purchase behavior.

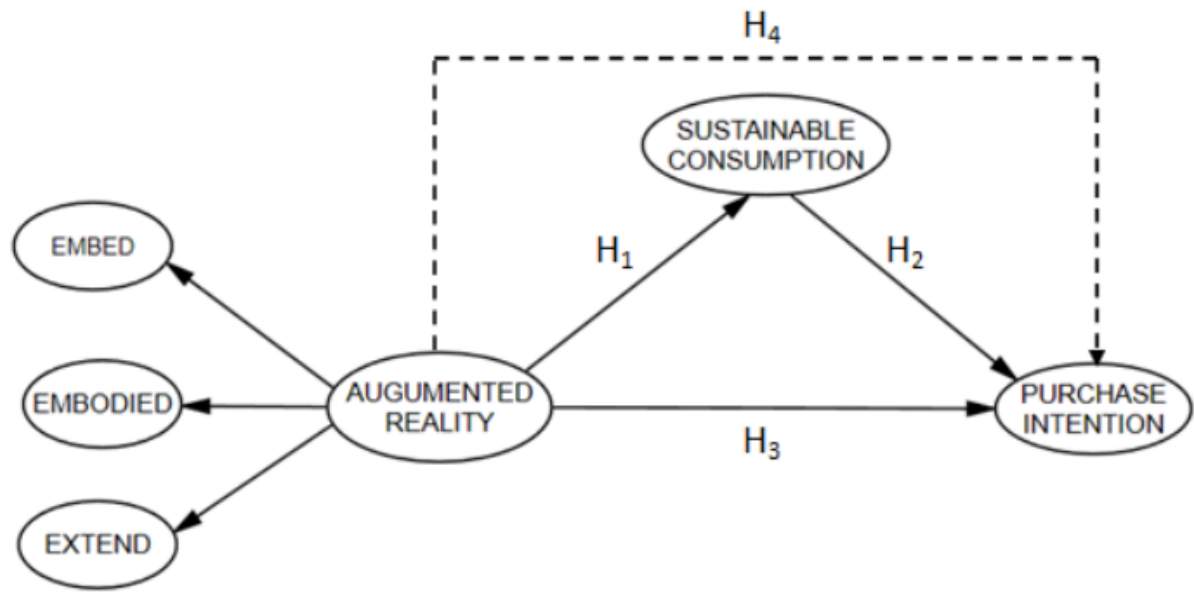


Figure 1: Conceptual framework

4.METHODOLOGY

4.1 Sampling and Data Collection

The proposed model examines the impact of augmented reality enabled beauty experiences on consumer responses among Generation Z women in India. The cohort for this study comprised Generation Z women (born 1997–2012) who actively use augmented reality (AR)-based beauty applications.

Data was collected from 426 respondents through online and offline surveys. These respondents were personally approached by the researcher outside various beauty outlets to collect the data. Along with this, data was also collected across India, through online distribution of the questionnaire, to ensure wider, better representation.

The sampling technique employed was purposive sampling. The selection of the respondents was done based on certain characteristics like digital fluency, awareness of augmented reality, interest in beauty products and applications, frequent online shopping and also prior usage of AR features. These standards ensured that the respondents selected had adequate exposure to and an understanding of augmented reality technology. This enabled the researcher to meaningfully evaluate the effectiveness and quality of the primary data.

The questionnaire consisted of three constructs. This was measured on a five-point Likert scale. The proposed model was tested through AMOS, using structural equation modelling. The measurement model was used to assess the reliability and the validity of the constructs. The structural model was used to assess the significance of the hypothesised relationships among the variables.

4.2 Demographic profile

Table 1: Demographic profile of respondents

Variable	Category	%
Generation	Generation Z (1997–2006)	100.0
Educational Qualification	High School / Equivalent	47.2
	Diploma	5.4
	Graduate	27.9

	Postgraduate	17.4
	PhD	2.1
Beauty Application Usage Frequency	Daily	19.5
	Once a week	16.2
	A few times a week	28.2
	A few times a month	19.0
	Rarely	17.1
Preferred Beauty Application	Nykaa	80.8
	Other apps (MyGlamm, Tira, Purplle)	19.0
AR Feature Usage Frequency	Very often	23.0
	Sometimes	29.8
	Regularly	10.0
	Rarely	24.9

As depicted in table 1, with respect to the educational background, 47.2% of the respondents have completed their high school or equivalent qualification, 27.9% of the respondents have completed their graduation and 17.4%, their post-graduation. With regards to the frequency of usage of beauty applications, 28.2% of them stated that they use it few times a week, 19.5% reported that they use beauty applications daily and 19% use them few times a month. With respect to platform preference, 80.8% of the respondents preferred using Nykaa for online beauty purchases, and the remaining 19% used other applications such as MyGlamm, Tira and Purplle. Finally, the questionnaire also addressed the frequency of engaging with AR features like virtual-try ons. 29.8% of the respondents stated that they sometimes used the AR features, followed by 24.9% stating they rarely used and 23% stating they used them often.

Thus, with these findings it can be noted that Generation Z women have awareness of AR enabled technologies, making them highly suitable for this research.

4.3 Measures

EEE (Embed, Embodied and Extend) model was used to measure Augmented Reality. The embed dimension, helps in capturing media richness, personalisation, vividness, perceived informativeness and environmental embedding. The embodied dimension helps in evaluating interactivity and simulated physical control. The final dimension, embed helps in capturing content co-creation and peer review (36).

Established measures from sustainability and green consumer behaviour, ethical product preferences, environmental responsibility, willingness to choose sustainable alternatives and conscious purchasing were used to measure sustainable consumption (40). Validated scales from consumer behaviour research were used to measure Purchase Intention (41).

All items were assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 2: Reliability and Item Loadings of sub dimension of Augmented Reality, Sustainable Consumption and Purchase Intention dimensions

Factor	Item/Indicators	Loading	CR	CA	AVE
Embed (EMBED)	I get useful information from the AR app that helps me in learning about the beauty products.	0.688	0.907	0.909	0.525

	I can interact and quickly understand how beauty products work with AR app.	0.670			
	I can use my face and movements (like smiles or poses) in the AR app to see how products will look.	0.688			
	I get product suggestions from the AR app that are perfect for me (like my skin type or a special event).	0.611			
	I see promotions and offers in the AR app that match what I like.	0.563			
	I see clear and detailed pictures of myself virtually trying on the beauty products in the AR app.	0.800			
	I feel like I'm really using the products because the AR app makes it look real.	0.812			
	I find and buy beauty products easily with the AR app.	0.847			
	I see how beauty products will look on my face in real-time using the AR app.	0.791			
Embodied (EMBOD)	I felt that I was in control of how I moved around and explored the AR app.	0.767			
	I could choose what I wanted to look at in the AR app.	0.815	0.885	0.885	0.658
	The AR app quickly responded to what I needed when I used it.	0.821			
	I could move and adjust the virtual beauty products in the AR app.	0.841			
Extend (EXTND)	I can make and share my own beauty product content in the AR app.	0.676			
	I can change and personalize the virtual beauty products I see in the AR app.	0.793			
	I can work with other users to make the AR content better.	0.722	0.871	0.871	0.530
	I can see reviews from other users for beauty products in the AR app.	0.715			
	I can see ratings from other users for beauty products in the AR app.	0.694			

	The feedback from other users makes me want to use the AR app more.	0.762			
	I think about the environment when I buy beauty products.	0.670			
	I think beauty brands using AR are good for the environment.	0.772			
Sustainable Consumption (SUTCON)	I believe the AR app helps me be environmentally friendly by letting me try products virtually instead of physically.	0.814	0.863	0.864	0.613
	I feel more confident buying beauty products after using AR because it helps me make better decisions.	0.864			
	I feel more confident buying beauty products after using augmented reality	0.847			
	AR makes it easier for me to make purchase decisions about beauty products.	0.871			
Purchase Intention (ONPRIT)	I find it helpful to shop for beauty products online using augmented reality.	0.880	0.934	0.934	0.740
	AR reduces the time and effort I spend searching for beauty products online.	0.849			
	Using augmented reality (AR) to shop for beauty products makes my overall shopping experience easier.	0.855			

Note: CR - Composite Reliability, CA - Cronbach Alpha, AVE – Average Variance Explained

Table 2 presents the measurement items, standardized factor loadings, Composite Reliability (CR), Average Variance Extracted (AVE), and Cronbach's alpha values obtained through Confirmatory Factor Analysis (CFA). The results confirmed the reliability and validity of the measurement model prior to testing the structural relationships among the study constructs.

Table 3: Discriminant Validity of the Measurement Model:

	EMBED	EMBOD	EXTND	SUTCON	ONPRIT
EMBED	0.725*				
EMBOD	0.689	0.811*			
EXTND	0.674	0.720	0.728*		
SUTCON	0.625	0.677	0.657	0.783*	
ONPRIT	0.702	0.713	0.665	0.743	0.860*

As evident in Table 3, the discriminant validity results confirm that each construct is empirically unique from each other. The square root of the AVE of each construct exceeds its correlations with the remaining constructs, satisfying Fornell-Larcker criterion. These findings show that there is adequate discriminant validity and suggest the absence of multicollinearity among the study variables.

4.4 Mediation Analysis Result

After running the CFA to check the reliability and validation of the items (questions), the defined research hypotheses shown in conceptual framework (Fig 1) is tested for mediation analysis and the results are shown in Figure 2 and table 4.

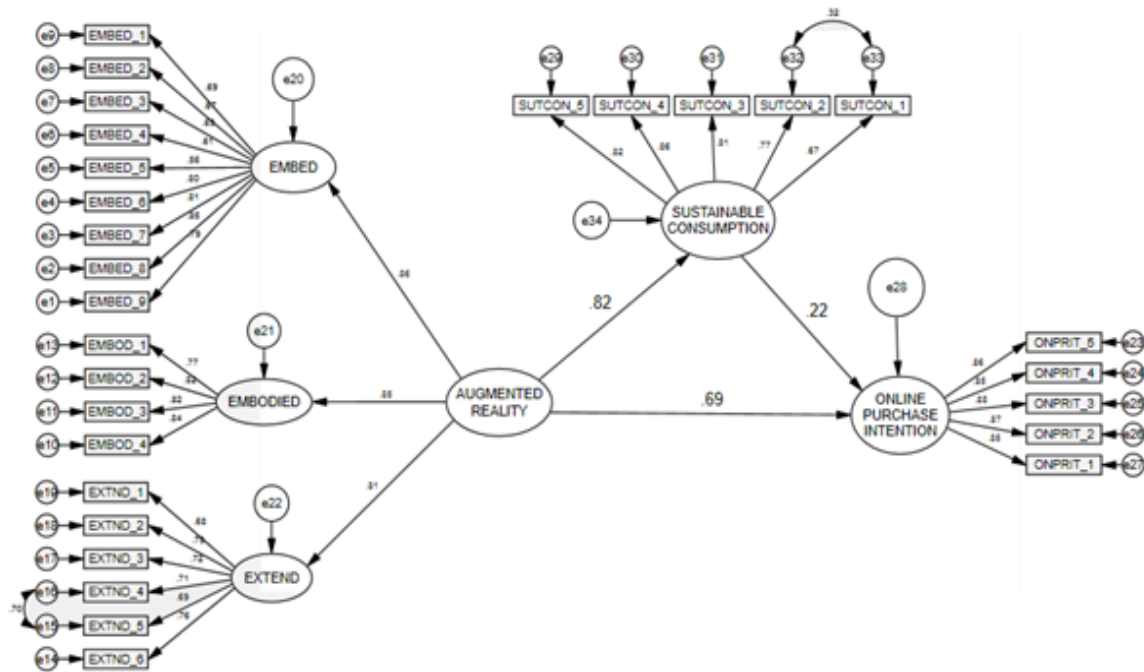


Figure 2 – Mediation Analysis of sustainable consumption between augmented reality and purchase intention

As shown below in Table 4, the goodness-of-fit indices indicate that the proposed structural model demonstrates an acceptable fit with the observed data. The χ^2/df value of 2.983 is below the recommended threshold of 5.0, indicating a satisfactory model fit. The RMSEA value of 0.068 falls within the acceptable range, suggesting a reasonable approximation of the model to the population covariance matrix. Furthermore, the AGFI, CFI, IFI, PCFI, and PNFI values satisfy the recommended benchmark levels, supporting the adequacy of the model. The values of GFI, NFI and RFI are slightly below the ideal standard of 0.90. However, they still remain within an acceptable range for behavioural research (42, 43). These results provide evidence that the data is suitable for testing the hypothesized relations between augmented reality, sustainable consumption and purchase intention.

Table 4 - Goodness-of-Fit Indices of the Structural Model

Fit Index	Recommended Value	Model Value	Interpretation
χ^2/df	< 5.00	2.983	Acceptable Fit
GFI	> 0.90	0.879	Marginally Acceptable
RMSEA	< 0.10	0.068	Good Fit
AGFI	> 0.80	0.822	Acceptable Fit
NFI	> 0.90	0.884	Marginally Acceptable
CFI	> 0.90	0.920	Good Fit

IFI	> 0.90	0.920	Good Fit
RFI	> 0.90	0.873	Marginally Acceptable
PCFI	> 0.50	0.840	Good Fit
PNFI	> 0.50	0.808	Good Fit

Table 5: Mediation result of sustainable consumption on Augmented Reality and purchase intention

	b	Boot S. E	Boot LLCL	Boot ULCI	p- value	Remark
A	0.819	0.030	0.756	0.869	0.001*	H1 Supported
B	0.224	0.098	0.046	0.426	0.014*	H2 Supported
a*b (Indirect)	0.183	0.078	0.041	0.347	0.013*	H3Supported
Direct (c')	0.690	0.096	0.483	0.863	0.002*	H4 Supported
Total	0.873	0.027	0.814	0.917	0.001	

As depicted in Figure 2 and Table 5, the results show that Augmented Reality has a significant positive influence on Sustainable Consumption with a β value of 0.819 and p value of 0.001, thereby supporting H1. Accordingly, sustainable consumption too has a significant positive influence on Purchase Intention with a β value of 0.224 and p value of 0.014, thereby supporting H2. Augmented Reality also has a significant direct effect on Purchase intention with a β value of 0.690, and p value of 0.002, supporting H3. The indirect effect, based on bootstrapping results showed the indirect effect of Augmented Reality on Purchase Intention through Sustainable Consumption. It was found to be significant with a β value of 0.183, and p value of 0.013. As both the direct effects and indirect effects is significant, sustainable consumption partially mediates the relationship between Augmented Reality and Purchase Intention, consequently supporting H4.

5. DISCUSSION

The findings of the present study show that Augmented Reality (AR) has a significant influence on the sustainable consumption behaviour among Generation Z women in the Indian beauty industry. The findings also align with previous studies which state the impact AR has on consumer decision making, by enhancing the product evaluation by embedding digital information within the consumers' physical environments. This not only improves decision-making but also reduces uncertainty (44,45,46). Deliberate purchasing decisions can be facilitated by AR through its immersive and interactive nature which enables the consumers to visualise the products before purchase and also access contextual information. While past research has heavily focused on the experiential and evaluative value of AR, the current study adds on to the literature by showing that AR experiences can also lead to sustainability-oriented behaviour (47). This is further corroborated by (19), who state that information clarity and contextual cues can enable environmentally responsible consumer choices.

The study also shows that sustainable consumption has a positive influence on purchase intention among Generation Z women. This finding aligns with previous research which suggests that consumers who practice environmental responsibility, conscious purchasing behaviour are more likely to develop positive attitudes towards a brand, which has the same values (48,49). This is particularly relevant in context of Generation Z consumers, who are highly regard sustainability and incorporate it into their own purchase decisions and also expect greater transparency from brands (50, 51, 52). Thus, sustainability is not just limited to being an ethical consideration, but it is also a significant determinant of consumer preference and purchase behaviour within the beauty industry.

The findings also show a significant direct relationship between AR and purchase intention. This result is in line with previous studies which have shown that AR increases consumer confidence, improves product evaluation,

and decreases perceived risk through realistic and interactive product experiences (53, 54, 55). There is greater certainty among consumers regarding product suitability and performance, as they can virtually interact with the products before purchase. This strengthens the consumers' purchase intention. The findings therefore reinforce the growing body of literature that positions AR as an effective marketing tool capable of influencing consumer behaviour and purchase outcomes in digital retail environments.

Furthermore, the mediation analysis indicates that sustainable consumption partially mediates the relationship between AR and purchase intention. This finding suggests that AR influences purchase intention not only through experiential benefits but also by encouraging consumers to make decisions that align with sustainability-related values. The result is consistent with the assumptions of Situated Cognition Theory, which proposes that knowledge and decision-making are shaped by contextualized interactions within meaningful environments (39). By enabling consumers to evaluate products within simulated real-world contexts, AR facilitates informed decision-making that may encourage both sustainable consumption and purchase intention. Overall, the study contributes to the existing literature by demonstrating that AR extends beyond enhancing experiential value and engagement, and can also play a role in supporting sustainability-oriented consumer behaviour among Generation Z women in the Indian beauty industry.

6. IMPLICATIONS

6.1 Theoretical Implications

This study contributes to the growing body of literature on Augmented Reality (AR) marketing by extending the application of Situated Cognition Theory to the context of sustainable consumption and purchase intention. While previous studies have predominantly examined AR as a tool for enhancing engagement, experiential value, and product evaluation (56), the present study demonstrates that AR may also influence sustainability-oriented consumer behaviour. This study also provides an in-depth understanding of the nature through which AR influences Purchase Intention by integrating Sustainable Consumption as a mediating variable. Additionally, the findings also substantiate the importance of Embed, Embodied and Extend dimensions of AR and their role in shaping consumer decision making, in the Indian digital beauty environment. Thus, this study contributes towards AR marketing research literature and sustainability research by highlighting the integration of an immersive technology and responsible consumer behaviour among Generation Z Indian women.

6.2 Practical Implications

The findings of this study show that the value of AR is not limited to only creating engaging digital content, but can also be used to make informed and sustainability-oriented purchase decisions. As evidence based on the findings of this study, beauty retailers should invest in AR features such as virtual try-ons, personalised recommendations and interactive visualisation. Businesses can also integrate sustainability related information within their AR interfaces. Information such as ingredient transparency, cruelty free certifications, ethical sourcing information, eco-friendly packaging indicators can be included. Furthermore, based on the Extend dimension, marketers can also incorporate peer reviews, social validation features and user generated content to increase engagement and build trust. These initiatives can be effective among the Generation Z women cohort, as they demonstrate higher levels of digital fluency and also value sustainability. Thus, AR can act as a strategic tool, simultaneously increases consumer engagement, providing immersive experiences, promoting sustainable consumption and increasing purchase intention.

7. FUTURE RESEARCH AND CONCLUSION

7.1 Future Research

This study is limited to only one cohort, i.e. Generation Z Indian women. Future research can examine other consumer segments, including male consumers and different generational cohorts. This could help in providing a broader understanding of AR and its impact on consumer behaviour. The current study adopts a cross-sectional design. A longitudinal study may provide deeper insights into the long-term impact of AR and also examine whether its influence lasts beyond the initial novelty associated with the technology. Additionally, with the intersection of Artificial Intelligence and Augmented Reality, future studies can explore the influence of AI enhanced AR experiences on sustainable consumption, consumer trust and purchase behaviour across various retail contexts.

7.2 Conclusion

This study examined the influence of Augmented Reality (AR) on sustainable consumption and purchase intention among Generation Z women in the Indian beauty industry. The findings reveal that AR has a positive influence on sustainable consumption and purchase intention. It also revealed that sustainable consumption partially mediates the relationship between AR and purchase intention. These results showcase the influence AR has on consumer behaviour, not only through immersive and interactive experiences but also by promoting more responsible and sustainability-oriented decision-making.

By including the Embed, Embodied, and Extend dimensions proposed by (36) with sustainable consumption as a mediating variable, this study gives a comprehensive understanding of how AR shapes consumer behaviour within digital beauty retail environments. With its foundations in Situated Cognition Theory, the findings show that consumers develop confidence and make informed decisions through context-rich interactions with AR technologies.

The study also contributes to the growing literature on AR marketing by highlighting its ability to function as a tool of marketing and sustainability. As Generation Z continues to grow as a dominant consumer segment within India's digital economy, brands that strategically use sustainability-related information into AR experiences, may be better positioned to increase engagement, build trust, and strengthen purchase intention. Additionally, this study also provides meaningful insights into the interplay between technology, sustainability and consumer behaviour, providing a foundation for future researchers in the beauty-technology landscape.

8. DECLARATIONS

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Conflict of Interest : All authors have read and agreed to the published version of the manuscript.

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