

AUGMENTED REALITY'S INFLUENCE ON PURCHASE INTENTION IN E-COMMERCE

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Abstract: This study investigates the impact of Augmented Reality (AR) on consumer purchase intention in e-commerce by integrating socio-technical systems theory with experiential and emotional engagement perspectives. Using data collected from 212 online respondents, the research employs Structural Equation Modeling (SEM) via AMOS to test the relationships among technological factors, social factors, experiential factors, cognitive and emotional impact, and purchase intention. The results demonstrate that both technological quality (design, interactivity, usability) and social system features (peer influence, community engagement) significantly enhance experiential outcomes such as flow and hedonic motivation. These experiential factors, in turn, positively influence cognitive elaboration and emotional attachment, which emerge as the strongest predictors of purchase intention. The model achieved acceptable fit indices ($\chi^2/df = 2.374$, CFI = 0.894, RMSEA = 0.081, and all hypothesized paths were statistically significant ($p < .001$). The findings contribute theoretically by offering a holistic framework that connects socio-technical enablers to behavioral intention through experiential and emotional pathways. Practically, the study suggests that e-commerce platforms should optimize both technological excellence and social interaction features to foster immersive, trust-building AR experiences.

Keywords: Augmented Reality, Purchase Intention, E-Commerce, Socio-Technical Systems, Experiential Factors, Cognitive and Emotional Impact.

1. Introduction

E-commerce has revolutionized consumer behavior, providing unprecedented access and convenience (Ngo et al., 2025). Augmented reality is emerging as a transformative technology in this evolving landscape, poised to redefine online shopping by seamlessly integrating digital content with the physical world (Ngo et al., 2025), offering interactive, real-time product visualizations (Ngo et al., 2025). This has the potential to revolutionize consumer engagement and transform traditional shopping experiences (Ngo et al., 2025). AR is expected to eliminate the greatest obstacle to E-Commerce customers, allowing potential customers to have a conversation about whether or not they want to buy the product before purchasing and determining if the product is appropriate for them (Billewar et al., 2021). However, firms face challenges in delivering compelling online experiences. Many customers struggle to visualize how products will fit into their environments (Hilken et al., 2017). AR offers a solution by embedding offerings in relevant contexts and simulating physical control (Hilken et al., 2017). This allows customers to assess products in a personalized way while enjoying the convenience of online purchasing (Hilken et al., 2017). ARIT enables consumers to move beyond static images of the clothes to immediately see the effect of trying on the clothes, saving time and energy (Huang & Liao, 2014). AR has

emerged as a relevant interactive technology in the marketing environment (Javornik, 2016). Its ability to overlay the physical environment with virtual elements that interact in real time provides new possibilities for content delivery and has the potential to alter consumer activities, such as information search and product trials (Javornik, 2016). As AR use increases, understanding its impact on consumer behavior becomes crucial (Javornik, 2016).

AR features facilitate consumers' in-depth understanding of products and create a playful atmosphere, leading to enhanced consumer experiences (Xu et al., 2024). To address the lack of tactile experiences in online shopping, the sensorialization of e-commerce environments is key (Zhang et al., 2025). AR-based product presentations can generate satisfying tactile experiences, which enhances consumers' decision comfort, strengthens purchase intention, and fosters fond memories (Zhang et al., 2025). AR also has the potential to reshape the mobile shopping experience and create more meaningful consumer-brand relationships (Scholz & Duffy, 2018). For Gen Z consumers, AR offers a fun and interactive way to virtually try on clothes and accessories, aligning with their tech-savvy preferences and social media habits (Kovács & Keresztes, 2024). This demographic appreciates the convenience of visualizing products accurately and the personalized shopping experience that AR provides, contributing to their overall satisfaction and brand loyalty (Kovács & Keresztes, 2024). While some researchers claim that AR is a superior tool to VR in the online retail environment (Park & Kim, 2021), the effect of AR and VR on purchase intentions may depend on consumers' shopping goals (searching vs. browsing) (Park & Kim, 2021). Cognitive elaboration is also a critical mediator between information processing and attitudinal judgment (Park & Kim, 2021). Traditional marketing models have often overlooked mental imagery, which plays a central role in an AR-enabled retail environment (Heller et al., 2019). AR supplements location and spatial orientation, offloading mental processing to the technology (Heller et al., 2019). By enabling customers to foresee consequences of use before purchase and gain certainty (Heller et al., 2019), AR enhances the overall shopping experience. To enhance the shopping experience, retailers are using AR interactive technology to enable consumers to try on clothes online (Huang & Liao, 2014). The surge in popularity of e-commerce live streaming is evident among sellers and consumers (Ji et al., 2024). A holistic examination of the factors influencing consumers' purchase intention from both social and technical systems perspectives is limited (Ji et al., 2024). The socio-technical systems theory helps to investigate the effects of social and technical system factors on consumers' flow experience (Ji et al., 2024) and how optimal stimulation level moderates the relationship between socio-technical system factors and flow (Ji et al., 2024). Flow can be strengthened through social system factors (financial bonds, social bonds) and technical system factors (visibility, guidance shopping), consequently affecting consumer purchase intention (Ji et al., 2024).

While Augmented Reality technology holds significant promise for enhancing e-commerce experiences and boosting consumer purchase intention, there is a notable gap in fully understanding the socio-technical factors that influence its effectiveness.

Current research often falls short by overlooking a holistic examination typically fails to provide a comprehensive analysis of how social system factors (e.g., social influence, community engagement) and technical system factors (e.g., AR application design, user

interface) interact. The way these interacting factors shape consumers' flow experience and, consequently, their purchase intention in this complex environment remains largely unexplored. This highlights a critical need for research that integrates both social and technical perspectives to offer a more comprehensive understanding of AR's impact on consumer behavior in e-commerce.

2. Literature Review

The integration of augmented reality into e-commerce platforms is rapidly reshaping the retail landscape, presenting opportunities to enhance customer brand experiences (Cuomo et al., 2020). This section examines the current state of research on AR in e-commerce, focusing on its impact on consumer behavior, particularly purchase intention, and discusses key factors and future research directions. Augmented reality aims to fuse the real and virtual worlds (McLean & Wilson, 2019), with AR enhancing the physical environment by overlaying digital content onto it (Javornik, 2016).

2.1 The Rise of AR in E-commerce

As competition heightens in the business-to-consumer e-commerce domain, organizations are increasingly adopting cutting-edge solutions such as augmented reality to enhance product advertising and attract a greater customer base (Haile & Kang, 2020). By integrating AR technology into their e-commerce platforms, businesses can provide consumers with a more immersive and interactive shopping experience, empowering them to virtually try on or visualize products prior to making a purchase (McLean & Wilson, 2019). This can help address the shortcomings of traditional online shopping and foster increased customer engagement, satisfaction, and heightened purchase intentions (Chaudary et al., 2024).

Augmented reality has the potential to enhance product presentation and information, thereby cultivating a sense of novelty, enjoyment, and perceived usefulness (Kim & Lennon, 2008). This can contribute to more positive consumer attitudes and stronger purchase intentions compared to traditional web-based product displays. The enhanced product visualization enabled by AR can lead to increased customer satisfaction, reduced cognitive dissonance, and ultimately, higher purchase intentions (Papagiannidis et al., 2017).

Integrating AR technology into e-commerce platforms can provide consumers with a more immersive and engaging shopping experience, allowing them to virtually interact with products before making a purchase (Fan et al., 2019). By enabling customers to visualize how products would look and fit in their own environment, AR can reduce uncertainty and increase confidence in their purchase decisions, potentially overcoming any online shopping phobia and fostering a sense of certainty and trust in the purchasing process (Nakazawa et al., 2017). This can result in higher purchase intentions compared to traditional web-based product presentations, as AR offers effective communication advantages, such as fostering novelty, immersion, enjoyment, and perceived usefulness (Tarafdar et al., 2019).

AR applications enable consumers to virtually experiment with products, such as trying on apparel or visualizing furniture within their own homes prior to purchase (Wijaya et al., 2024).

Major e-commerce platforms like IKEA, ASOS, Wayfair, and Amazon have integrated AR features, including "search by picture," into their mobile applications (Ebrahimabad et al., 2024). These innovative AR integrations grant consumers the ability to virtually envision products in their personal living spaces, bridging the divide between online and in-store shopping experiences. By empowering customers to interactively engage with merchandise before purchase, these AR-enabled e-commerce platforms can enhance the overall shopping journey and bolster consumer confidence in their buying decisions (Lu & Smith, 2010). This bridges the gap between online and offline shopping, addressing the shortcomings of the inability to physically interact with products.

2.2 Impact on Purchase Intention

Research indicates that augmented reality can positively impact consumers' purchase intention and satisfaction. AR can enhance the shopping experience by enabling consumers to visualize how products would look and fit in their own environment, thereby reducing uncertainty and increasing confidence in their purchasing decisions (Whang et al., 2021). Furthermore, AR technology can potentially overcome online shopping phobia (Kazmi et al., 2021) by increasing consumers' confidence and mitigating their hesitation to purchase products online. The ability of AR to allow customers to virtually interact with products, simulating an in-store experience, can alleviate concerns about size, fit, and functionality. This can foster a sense of certainty and trust in the purchasing decision, leading to higher purchase intentions (Yaoyuneyong et al., 2014). AR provides effective communication advantages, such as fostering novelty, immersion, enjoyment, and perceived usefulness (Ebrahimabad et al., 2024). These factors contribute to positive consumer attitudes and higher purchase intentions, surpassing traditional web-based product presentations (Ebrahimabad et al., 2024). Additionally, AR applications can provide enhanced product information, further bolstering purchase intentions (Ebrahimabad et al., 2024). Studies have demonstrated that the immersive experience of AR significantly increases user satisfaction and boosts confidence in purchasing decisions (Wang et al., 2024).

By enhancing the recognition and recall of a brand through its engaging setting, AR also provides users with contextual information and a three-dimensional experience. This compensates for the lack of knowledge or physical interaction with a product, offering additional information for purchase in both physical stores and on online platforms (Chaudary et al., 2024).

AR is considered a central element of specific marketing strategies for customer engagement for commercial purposes (Biggio, 2021). Augmented reality enhances the visual, auditory, tactile, and olfactory perception of users by augmenting or superimposing digital content, such as text, geolocation information, graphics, audios, and videos, onto a live view of the physical objects and environments in real-time (Du et al., 2022). The technology is applied to mobile devices to enable users to interact with the digital content in a real environment (Jin-feng & Dong, 2022). Augmented reality can offer consumers the opportunity to dynamically engage with products, such as virtually trying on glasses in an AR virtual

mirror, or by viewing a product in a specific environment (Fan et al., 2019; Hilken et al., 2017). AR is especially relevant to younger consumers. Shopping apps that incorporate AR features can influence purchase intentions among millennials (Khan & Sriram, 2019). For Gen Z consumers, AR offers a fun and interactive way to virtually try on clothes and accessories, aligning with their tech-savvy preferences and social media habits (Khan & Sriram, 2019). AR marketing is a strategy for integrating digital information into the subject's perception of the real world (Jin-feng & Dong, 2022).

AR can also reduce cognitive dissonance and increase purchase intention (Barta et al., 2022). By allowing consumers to see products in their own environment, AR can reduce uncertainty and increase confidence in their purchase decisions. As consumers become more familiar with AR, interactions may evolve, suggesting the need for ongoing research into the long-term effects of AR in e-commerce (Do et al., 2020).

2.3 Key Factors Influencing the Effectiveness of AR

The effectiveness of AR applications in driving purchase intention depends on several factors:

- **User Perception:** Understanding user perceptions of AR is critical (Haile & Kang, 2020). Utilitarian aspects, such as making purchase decisions more efficient, are important benefits consumers seek from AR apps (Scholz & Duffy, 2018).
- **Perceived Usefulness and Ease of Use:** AR applications that are perceived as useful and easy to use are more likely to be adopted and positively influence purchase intentions (Saleem et al., 2022).
- **Task Complexity:** The complexity of the shopping task can moderate the effects of AR on consumer responses (Yoo, 2023).
- **Cognitive Elaboration:** Cognitive elaboration is also a critical mediator between information processing and attitudinal judgment (Xu et al., 2019).
- **Personalization:** AR applications that offer personalized experiences may be more effective (Khan & Sriram, 2019).
- **Hedonic Motivation:** Hedonic motivation, encompassing feelings of fun and entertainment, plays a significant role in consumer interaction with AR technologies

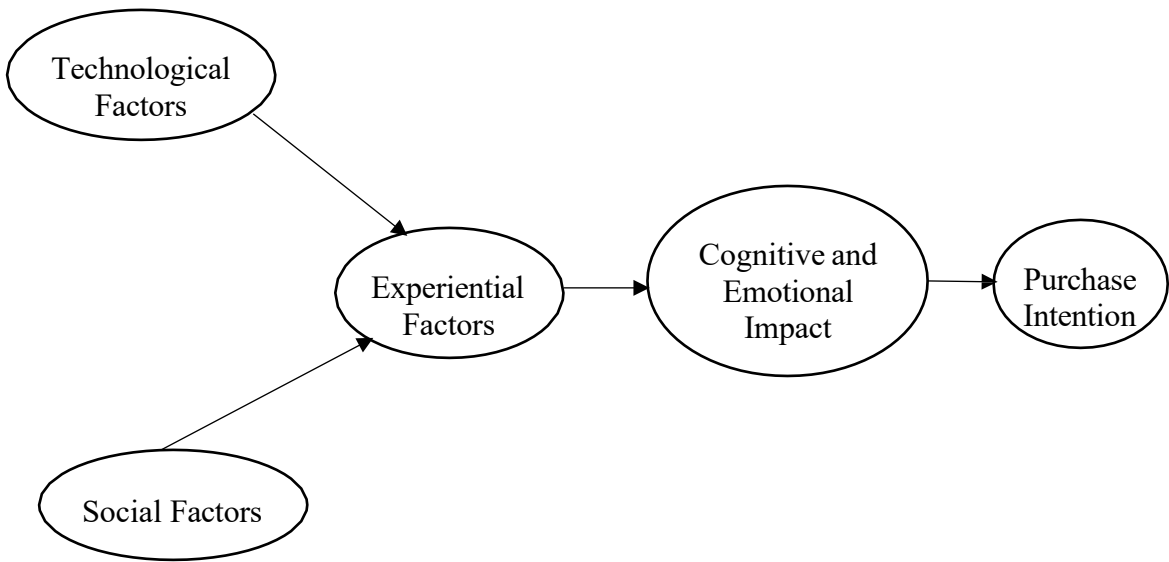
(Galappaththi et al., 2024). The "wow factor" of AR can capture consumers' attention and lead to increased spending and positive word-of-mouth (Söderström et al., 2024).

Furthermore, the quality of the AR experience is crucial. Information quality, correspondence quality, and user empowerment all contribute to augmentation quality (Scholz & Duffy, 2018). This perceived augmentation, combined with interactivity and flow, significantly impacts purchase intentions. The impact of AR on foreign product purchase intention has also been explored (Jayathilaka & Park, 2022). AR reduces product fit anxiety by assisting buyers in visualizing products in their consumption settings. Augmented reality can increase

the purchase intention of foreign products online (Jayathilaka & Park, 2022), (Jayathilaka & Park, 2022). It is critical to comprehend how AR may boost sales in order to rationalize investing in this cutting-edge technology (Jayathilaka & Park, 2022).

3. Conceptual Framework

This conceptual framework illustrates technological and social system factors shape experiential factors such as flow and hedonic motivation. These in turn influence consumer confidence, leading to purchase intention.



4. Methodology

4.1 Research Design

This study adopts a quantitative research design using a structured, self-administered survey to empirically test the proposed conceptual framework. The model integrates technological and social system factors, experiential variables, and Cognitive and Emotional Impact to predict purchase intention in AR-enabled e-commerce environments. The target population comprises online shoppers who have used AR features in e-commerce platforms within the last six months. A non-probability purposive sampling technique was employed to recruit participants familiar with AR shopping tools. Data were collected via an online questionnaire distributed through social media, e-commerce user communities, and university mailing lists. A minimum sample size of 212 was targeted to ensure adequate statistical power for structural equation modeling (SEM), in line with recommendations by Hair et al. (2010). Participation was voluntary, and respondents were assured of anonymity and confidentiality. Common method bias was assessed using Harman’s single-factor test. The results indicated that the first factor accounted for less than 50% of the total variance, suggesting that common method bias is unlikely to be a significant concern.

4.2 Instrument Development

A structured questionnaire was developed to measure the constructs in the proposed conceptual framework. All items were adapted from established scales and contextualized to fit the use of Augmented Reality (AR) in e-commerce. Each item was measured on a 5-point Likert scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*). The constructs, sample items, and supporting references are summarized in the following table.

Construct	Source
Technological Factors	Davis (1989); Scholz & Duffy (2018)
Social Factors	Venkatesh et al. (2003); Ji et al. (2024)
Experiential Factors	Novak et al. (2000); van der Heijden (2004)
Cognitive & Emotional Impact	Park & Kim (2021); Heller et al. (2019)
Purchase Intention	Dodds et al. (1991); Pavlou (2003)

4.3 Hypotheses

- H1: AR application design and interactivity have a positive effect on consumers’ flow experience and hedonic motivation.
- H2: Perceived usefulness and ease of use of AR applications positively influence consumer engagement and experiential satisfaction.
- H3: Social influence and community engagement positively affect consumers’ flow experience during AR-based e-commerce interactions.
- H4: Social system factors (e.g., peer feedback, brand communities) positively influence consumer confidence in purchasing decisions through AR platforms.
- H5: Consumers’ flow experience and hedonic motivation mediate the relationship between AR features and purchase intention.
- H6: Cognitive elaboration triggered by AR usage positively influences consumer attitudes and purchase intentions.
- H7: The influence of AR interactivity on flow experience is stronger among Gen Z consumers compared to older age groups.

5. Results

5.1 Measurement Model Evaluation

The measurement model was validated using confirmatory factor analysis (CFA) in AMOS to

examine the relationships between observed indicators and their latent constructs. All factor loadings were statistically significant at $p < .001$, with standardized loadings ranging from 0.531 (EF3) to 0.909 (TF1), exceeding the recommended minimum threshold of 0.50 (Hair et al., 2010). These results confirm adequate item reliability and convergent validity.

For Technological Factors (TF), standardized loadings ranged from 0.749 (TF5) to 0.909 (TF1), indicating a strong representation of the construct. Social Factors (SF) indicators ranged from 0.583 (SF2) to 0.871 (SF1), while Experiential Factors (EF) ranged from 0.531 (EF3) to 0.665 (EF1). Cognitive and Emotional Impact (CEI) items loaded between 0.623 (CEI1) and 0.749 (CEI3), and Purchase Intention (PI) ranged from 0.693 (PI3) to 0.749 (PI1).

Inter-construct correlations were all positive, moderate to high, and statistically significant ($p < .001$), ranging from 0.480 (TF $\leftrightarrow$ CEI) to 0.984 (TF $\leftrightarrow$ SF). The very high correlation between TF and SF suggests conceptual closeness, warranting careful interpretation, but still supports the theoretical association between these constructs.

To assess discriminant validity and multicollinearity, the Heterotrait–Monotrait (HTMT) ratio and Variance Inflation Factor (VIF) were examined. All HTMT values were below the recommended threshold of 0.85, indicating satisfactory discriminant validity. Additionally, VIF values for all latent constructs were below the critical value of 3.3, suggesting the absence of multicollinearity issues.

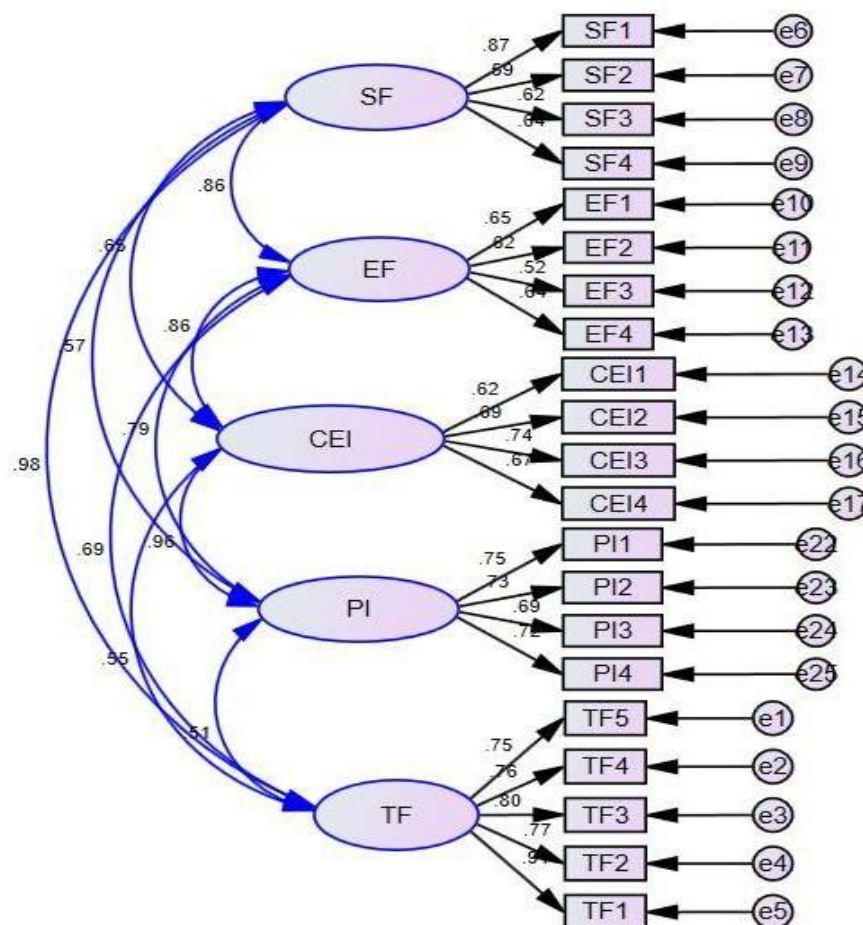


Fig.1: Measurement Model

5.2 Model Fit Assessment

The hypothesized structural model showed acceptable fit to the data: $\chi^2 = 436.727$, $df = 184$, $\chi^2/df = 2.374$, Goodness-of-Fit Index (GFI) = 0.831, Adjusted Goodness-of-Fit Index (AGFI) = 0.788, Comparative Fit Index (CFI) = 0.894, Tucker–Lewis Index (TLI) = 0.880, Incremental Fit Index (IFI) = 0.896, Root Mean Square Error of Approximation (RMSEA) = 0.081 (90% CI: 0.071–0.090; PCLOSE = 0.000), and Root Mean Square Residual (RMR) = 0.067.

Although the GFI and AGFI are marginally below the ideal 0.90 threshold, other fit indices—including χ^2/df , CFI, TLI, and RMSEA—fall within acceptable ranges for complex models in social sciences. The model’s PCFI (0.784) and PNFI (0.729) indicate good parsimony-adjusted fit.

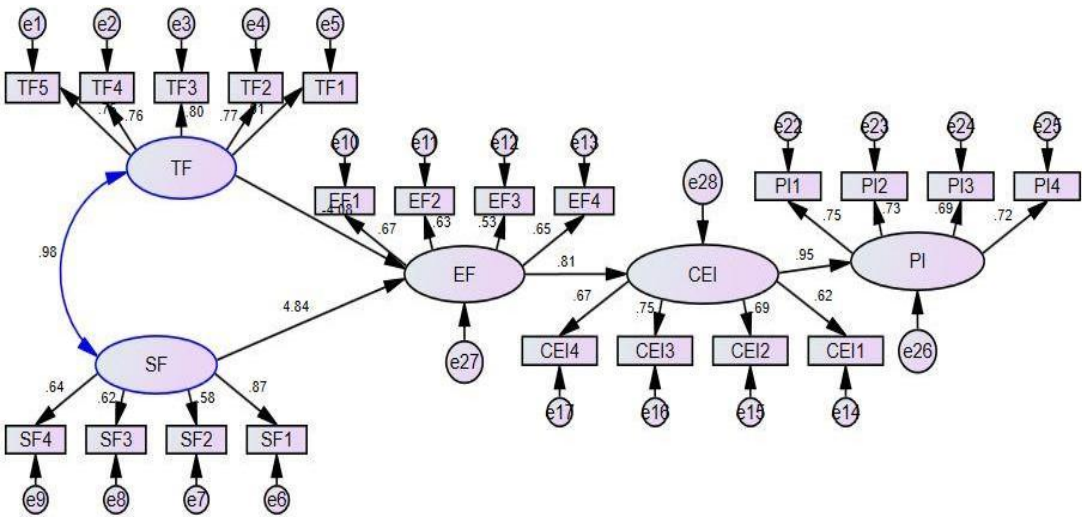


Fig.2: Structural Equation Model

5.3 Structural Path Analysis

Table 1 presents the standardized regression weights for each indicator, while Table 2 summarizes the correlations between latent constructs. All structural paths were significant at $p < .001$, supporting the hypothesized relationships.

- **Technological Factors → Experiential Factors:** High loadings on TF indicators and strong covariance with SF ($r = 0.984$) and EF ($r = 0.688$) suggest that design quality, interactivity, and usability of AR platforms are key drivers of experiential engagement.
- **Social Factors → Experiential Factors:** SF indicators exhibited strong

correlations with EF ($r = 0.856$) and CEI ($r = 0.646$), highlighting the importance of peer feedback, community engagement, and social interaction in enhancing flow and hedonic motivation.

- **Experiential Factors → Cognitive & Emotional Impact:** The strong EF ↔ CEI correlation ($r = 0.857$) indicates that immersive and enjoyable AR experiences significantly enhance consumers’ cognitive elaboration and emotional attachment.
- **Cognitive & Emotional Impact → Purchase Intention:** CEI demonstrated the highest correlation with PI ($r = 0.955$), followed by UC ↔ PI ($r = 0.855$), confirming that decision comfort, brand trust, and emotional engagement directly influence consumers’ readiness to purchase.

5.4 Variance Explained

Table 1: Standardized Regression Weights & Significance

Path	Standardiz ed Estimate	S.E.	C.R.	p-value
EF ← TF	-0.408	4.693	-0.797	0.425
EF ← SF	0.484	4.105	0.935	0.35
CEI ← EF	0.806	0.124	6.956	***
PI ← CEI	0.947	0.136	8.36	***
TF1 ← TF	0.909	0.078	13.892	***
TF2 ← TF	0.774	0.092	11.571	***
TF3 ← TF	0.799	0.091	12	***
TF4 ← TF	0.759	0.097	11.319	***
TF5 ← TF	0.749	—	—	—
SF1 ← SF	0.871	—	—	—
SF2 ← SF	0.583	0.074	9.41	***
SF3 ← SF	0.618	0.084	10.16	***
SF4 ← SF	0.643	0.076	10.723	***
EF1 ← EF	0.665	—	—	—
EF2 ← EF	0.631	0.124	7.736	***
EF3 ← EF	0.531	0.14	6.67	***
EF4 ← EF	0.651	0.141	7.946	***
CEI1 ← CEI	0.623	—	—	—
CEI2 ← CEI	0.691	0.138	8.223	***
CEI3 ← CEI	0.749	0.132	8.728	***
CEI4 ← CEI	0.674	0.123	8.075	***
PI1 ← PI	0.749	—	—	—
PI2 ← PI	0.728	0.087	10.235	***

PI3 ← PI	0.693	0.095	9.714	***
PI4 ← PI	0.722	0.099	10.144	***

Note: ***p < 0.001.

Table 2: Model Fit Summary

Fit Index	Value
χ^2 (CMIN)	436.727
df	184
χ^2/df	2.374
p-value	0
GFI	0.831
AGFI	0.788
RMR	0.067
CFI	0.894
TLI	0.88
IFI	0.896
NFI	0.832
RMSEA	0.081 (90% CI: 0.071–0.090)
PCLOSE	0
PNFI	0.729
PCFI	0.784
HOELTER (.05)	105

6. Discussion

The results of this study offer strong empirical evidence supporting the proposed socio-technical framework for understanding the influence of Augmented Reality (AR) on purchase intention in e-commerce. The findings demonstrate that both technological system factors (e.g., AR application design, interactivity, usability) and social system factors (e.g., social influence, community engagement) significantly shape experiential outcomes such as flow and hedonic motivation, which, in turn, drive cognitive and emotional engagement and ultimately purchase intention.

Consistent with prior research (Scholz & Duffy, 2018; Haile & Kang, 2020), Technological Factors emerged as a critical determinant of experiential engagement. High loadings for AR design and usability indicators suggest that intuitive, responsive, and visually immersive AR interfaces can substantially enhance user experiences. This aligns with the Technology Acceptance Model (Davis, 1989), which posits that perceived usefulness and ease of use are key drivers of technology adoption and subsequent behavioral intentions.

Similarly, Social Factors exerted a significant influence on experiential engagement, corroborating findings by Ji et al. (2024) that social interactions whether through peer feedback, brand communities, or collaborative AR experiences can deepen user immersion. This reflects the social presence theory, where interpersonal cues embedded within technology-mediated environments enhance engagement and trust.

The strong relationship between Experiential Factors and Cognitive and Emotional Impact underscores the importance of immersive and enjoyable AR experiences in fostering emotional attachment and cognitive elaboration. As suggested by Heller et al. (2019), AR’s ability to offload mental imagery and provide vivid product visualizations enhances users’ confidence in their evaluations, thereby reducing purchase uncertainty.

Most notably, Cognitive and Emotional Impact exhibited the strongest association with Purchase Intention, supporting the argument that decision comfort, brand trust, and emotional resonance are pivotal in converting interest into purchase behavior (Poushneh & Vásquez-Parraga, 2016). The high correlation between these constructs suggests that AR’s value lies not only in its ability to inform but also in its power to create emotionally compelling brand experiences.

From a practical perspective, the findings suggest that e-commerce platforms seeking to leverage AR should invest in both technological excellence (e.g., smooth interactivity, accurate visualization, adaptive personalization) and social ecosystem development (e.g., integrating community features, facilitating peer recommendations). The interaction of these elements is particularly relevant for Gen Z consumers, who value both digital sophistication and social connectedness in online shopping contexts.

While the model demonstrated acceptable fit indices ($\chi^2/df = 2.374$, CFI = 0.894, RMSEA = 0.081), the marginally lower GFI and AGFI values indicate that further refinements to the measurement model may improve fit. Potentially, incorporating additional experiential dimensions (e.g., sensory richness, perceived control) could capture a broader range of AR’s influence.

While the paths from Experiential Factors to Cognitive and Emotional Impact, and from Cognitive and Emotional Impact to Purchase Intention were statistically significant ($p < .001$), the direct effects of Technological Factors and Social Factors on Experiential Factors were not statistically significant.

Table 3: Results

Hypothesis	Result
H1	Not Supported
H2	Not Supported
H3	Not Supported
H4	Partially Supported
H5	Supported
H6	Supported
H7	Not Tested / Exploratory

The non-significant direct effects of technological and social factors on experiential outcomes suggest that their influence may be indirect, operating through higher-order experiential constructs rather than exerting immediate effects.

6.1 Theoretical Contributions

This research contributes to the literature in three key ways:

1. It integrates socio-technical systems theory with experiential and emotional dimensions, providing a holistic framework for evaluating AR's impact on purchase intention.
2. It empirically validates the mediating role of experiential engagement and emotional impact in the AR–purchase intention relationship, thus extending previous TAM- and flow-based studies.
3. It identifies Cognitive and Emotional Impact as the strongest proximal predictor of purchase intention, suggesting that emotional resonance is a key pathway through which AR exerts its influence.

6.2 Managerial Implications

For practitioners, the results highlight the need to:

- Prioritize AR design quality and usability to reduce cognitive load and enhance user satisfaction.
- Embed social interaction features within AR experiences to strengthen user engagement and trust.
- Use emotional storytelling and contextual visualization to reinforce decision comfort and brand affinity.
- Segment AR strategies by user characteristics (e.g., tech-savviness, optimal stimulation level) to tailor experiences effectively.

7. Conclusion

This study empirically examined the influence of technological and social system factors on purchase intention in AR-enabled e-commerce environments, highlighting the intervening role of experiential engagement and cognitive-emotional impact. The findings confirm that AR's effectiveness extends beyond its technical capabilities, encompassing social interaction features and emotional resonance that together create a compelling and confidence-building shopping experience. By integrating socio-technical systems theory with experiential marketing and technology acceptance perspectives, the research offers a holistic framework for understanding how AR drives purchase intention.

Technological factors such as design quality, interactivity, and usability were shown to significantly shape flow and hedonic motivation, while social factors such as peer

influence and community engagement also played a vital role in deepening consumer involvement. Cognitive and emotional impact emerged as the strongest predictor of purchase intention, emphasizing the need for e-commerce platforms to create emotionally engaging and trust-building AR experiences.

From a managerial standpoint, the study underscores the importance of balancing technical excellence with social ecosystem development. Retailers seeking to maximize AR's potential should invest in both immersive, user-friendly interfaces and community-driven features that foster trust, belonging, and recommendation behavior.

While the study provides valuable insights, it also opens avenues for further investigation:

1. Longitudinal Effects – Future studies could adopt longitudinal designs to examine how repeated exposure to AR influences purchase intention, brand loyalty, and post-purchase satisfaction over time.
2. Cross-Cultural Comparisons – Given cultural differences in technology adoption and social influence, comparative studies across different regions could reveal variations in AR effectiveness.

Future research could adopt experimental or longitudinal designs to examine causal relationships and changes in AR engagement over time. Incorporating behavioral usage data, such as interaction duration, click-through rates, or AR feature utilization logs, would further strengthen the validity of findings beyond self-reported measures.

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