THE ROLE OF VIRTUAL TRY-ON (VTO) AS A TECHNOLOGICAL STIMULUS IN OPTIMIZING ONLINE SHOPPING EXPERIENCE (OSE) AND PURCHASE DECISIONS

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Abstract

The rapid growth of e-commerce is driving the need for more immersive shopping experiences, particularly in visual-dependent product categories such as cosmetics and fashion. Sensory gaps in online shopping often increase risk perception and decrease consumer confidence in decision-making (Scholz & Duffy, 2018). This conceptual study aims to propose the strategic role of Artificial Intelligence-based Virtual Try-On (VTO) as a technological stimulus within the Stimulus Organism Response (SOR) framework. The review was conducted through a Descriptive Conceptual Review using a theoretical thematic synthesis that integrates key literature on virtual realism, technological utility, and functional risk reduction (Kim & Forsythe, 2008; Poushneh & Vasquez-Parraga, 2017). The results of the synthesis indicate that VTO systematically strengthens the cognitive and affective dimensions of the Online Shopping Experience (OSE) by increasing information clarity, interaction enjoyment, and confidence in product suitability (Javornik, 2016; Izogo & Jayawardhena, 2018). This improvement in OSE quality serves as an organismal mechanism that plays a crucial role in driving behavioral responses, namely purchasing decisions. This study confirms that VTO integration in e-commerce is not merely a visual innovation, but a strategic experiential driver capable of optimizing the overall consumer journey. These theoretical findings provide the conceptual foundation necessary for further empirical testing of the causal relationships between VTO, OSE, and purchasing decisions, as well as their strategic implications for digital marketing managers.

Keywords: Virtual Try-On (VTO); Online Shopping Experience (OSE); Stimulus-Organism-Response (SOR); Conceptual Study; Purchase Decision

INTRODUCTION

The rapid development of digital technology over the past decade has resulted in significant structural changes in the global e-commerce ecosystem. The shift in consumer behavior toward online-based shopping experiences increasingly demands that companies deliver informative, accurate, and immersive experiences, particularly in product categories that rely heavily on visual assessments such as cosmetics and fashion. However, in the digital context, consumers face a sensory gap in the form of the inability to touch, try, or feel products directly, thereby increasing the perception of risk and uncertainty in the decision-making process (Scholz & Duffy, 2018). This sensory gap has long been identified as a major challenge hindering optimal online shopping experiences and potentially reducing consumer confidence in product accuracy, particularly in high-involvement categories. Therefore, the need for technology that can bridge the sensory gap and provide more realistic representations is becoming increasingly urgent in the modern e-commerce ecosystem.

In this context, Virtual Try-On (VTO) technology, which utilizes Augmented Reality (AR) and Artificial Intelligence (AI), presents an innovative solution capable of simulating the experience of trying on products virtually. VTO allows consumers to see the product display in real time on their own face or body, providing a more personalized, accurate, and contextual visualization than conventional two-dimensional images (Javornik, 2016). Various studies have shown that this technology can increase perceived realism, perceived utility, and reduce the functional risks consumers perceive when interacting with products online (Kim & Forsythe, 2008; Poushneh & Vasquez-Parraga, 2017). This capability makes VTO not only a visual aid, but also a strategic experiential driver that enriches the online shopping experience and influences consumers' perceptions, emotions, and cognitive evaluations. The presence of VTO in e-commerce platforms has also been shown to increase consumer confidence in product suitability, enhance emotional engagement, and strengthen exploratory pleasure during the shopping process (Lavoye et al., 2023), thus providing an opportunity for companies to create a more personalized and satisfying shopping experience.

In line with these developments, the urgency of a theoretical understanding of the psychological mechanisms linking VTO to consumer purchasing behavior is increasing. The Stimulus-Organism-Response (SOR) model, historically used to explain how environmental stimuli influence behavioral responses through internal psychological processes (Mehrabian & Russell, 1974), provides a relevant conceptual framework for understanding these dynamics. In the context of e-commerce, VTO functions as a stimulus that triggers changes in consumers' internal states, represented through the Online Shopping Experience (OSE), including cognitive responses such as information clarity and decision confidence, as well as affective responses such as enjoyment and engagement (Izogo & Jayawardhena, 2018). Recent empirical research has shown that cognitively and affectively rich shopping experiences play a significant role in enhancing purchase intentions and actual purchase decisions in immersive technology contexts (Hwangbo et al., 2020; Sekri et al., 2024; Nguyen et al., 2025). Thus, this conceptual study is important to strengthen academic understanding regarding the strategic role of VTO in shaping online shopping experiences and purchasing decisions, as well as providing a theoretical basis for future empirical research.

REVIEW OF LITERATURE

Virtual Try-On (VTO)

a. Understanding
Virtual Try-On (VTO) is an Augmented Reality (AR) or Artificial Intelligence (AI)-based technology that allows consumers to virtually visualize products on their bodies or faces before purchasing. This technology is designed to simulate the experience of actually trying on a product through interactive, realistic, and personalized digital imaging.

b. Main Concept
The literature emphasizes three main conceptual components in VTO:
1. Perceived Realism – the extent to which the virtual display resembles the physical form of the product, thereby reducing uncertainty regarding color, size, and fit (Javornik, 2016).
2. Perceived Usefulness – the belief that VTO technology helps the product evaluation process and improves the accuracy of purchasing decisions (Poushneh & Vasquez-Parraga, 2017).
3. Risk Reduction – VTO's ability to minimize the risk of misfit and purchasing errors through more accurate visualization (Kim & Forsythe, 2008).

Purchase Experience (Online Shopping Experience)

a. Definition
Purchase experience, or online shopping experience (OSE), refers to the overall cognitive and affective responses consumers experience during the exploration, evaluation, and purchase decision process in a digital environment. This experience is shaped by consumers' perceptions of information quality, ease of navigation, interactivity, and perceived emotional value (Izogo & Jayawardhena, 2018).

b. Main Concept
The literature identifies OSE as a multidimensional construct that includes:
1. Cognitive – perceptions related to information clarity, visual accuracy, and confidence in decisions (Hwangbo et al., 2020).
2. Affective – positive emotions such as enjoyment, engagement, and sense of immersion while using technology.
3. Behavioral Response – the tendency to act after an experience, such as interest in purchasing or sharing information.

In the context of VTO, AR/AI technology enhances OSE by providing immersive, interactive, and personalized experiences, thereby strengthening consumer decision certainty.

Purchase Intention

a. Definition
Purchase intention is a consumer's psychological tendency that reflects the likelihood or willingness to purchase a product in the future. Purchase intention is an indicator of future behavior shaped by evaluations of benefits, previous experiences, and perceptions of product risk or quality (Fishbein & Ajzen, 1975; Dodds et al., 1991).

b. Main Concept
1. Cognitive-Based Intention – formed from rational evaluations such as information quality, visual clarity, and confidence in the decision.

2. Affective-Based Intention – influenced by positive emotions such as pleasure, satisfaction, and engagement.
3. Technology-Driven Intention – in the context of VTO, purchase intention is formed from increased consumer confidence, reduced risk, and more informative trial experiences (Poushneh & Vasquez-Parraga, 2017).

Purchase intention in the SOR model is a response that appears after a technological stimulus (VTO) influences the organism (consumer experience and perception).

RESEARCH METHOD

This study adopts a Descriptive Conceptual Literature Review approach , which *focuses* on a systematic review and in-depth synthesis of existing literature to build a new theoretical framework. This methodology is non-empirical , meaning it does not involve primary data collection, statistical testing, or hypothesis formulation. The approach used is Theoretical Thematic Synthesis . This method involves a qualitative analysis of theoretical frameworks and key findings from reputable journals (Scopus and Web of Science) to:

1. **Construct Mapping:** Operationally defining the key constructs of VTO, OSE, and Purchasing Decision.
2. **Mechanism Identification:** Analyzing the causal mechanisms underlying the relationships between constructs within the SOR framework.
3. **Model Development:** Formulating theoretical propositions and visualizing the proposed conceptual model.

To ensure conceptual validity, this study implemented a protocol inspired by *the Systematic Literature Review* (SLR). The SLR process began with source identification using three reputable academic databases: Scopus, Web of Science, and ScienceDirect. The search was conducted using standardized keywords, such as “virtual try-on,” “online shopping experience,” and “purchase intention.” Boolean combinations (AND, OR) were used to broaden the search scope and ensure all relevant articles were systematically captured. The focus was on articles explicitly using or discussing the Stimulus Organism Response (SOR) framework and the Virtual Try-On variable in the context of retail technology from publications in the last ten years (2015–2025).

RESULTS AND DISCUSSION

This results and discussion section integrates conceptual findings from various literatures related to Virtual Try-On (VTO), online shopping experience, and consumer behavior within the Stimulus Organism Response (S–O–R) framework. The analysis is conducted by critically examining how key VTO attributes, including perceived realism, perceived utility, and functional risk reduction, operate as external stimuli that influence consumers' internal psychological mechanisms when interacting with Augmented Reality (AR)-based features in e-commerce environments. Recent journals emphasize that immersive technologies such as VTO play a strategic role in closing the sensory gap, shaping more accurate information perception, and reducing decision uncertainty, ultimately enriching the quality of consumers' Online Shopping Experience (OSE) (Plotkina & Saurel, 2019; Samy et al., 2025; Scholz & Duffy, 2018).

Furthermore, this discussion aims to systematically elucidate the interrelationships between constructs to demonstrate that the causal relationship between VTO → OSE → Purchase Decision is not simply a linear relationship, but rather a dynamic and mutually reinforcing psychological mechanism. The literature indicates that consumer exposure to VTO technology not only generates cognitive reactions in the form of increased product trust and decision certainty, but also creates affective responses through feelings of pleasure, exploratory enjoyment, and emotional engagement (Javornik, 2016; Lavoye et al., 2023). Similarly, various empirical studies confirm that a cognitively affectively rich shopping experience is a key driver of consumer behavioral responses in the form of increased purchase intention and actual purchase decisions (Hwangbo et al., 2020; Nguyen et al., 2025; Sekri et al., 2024). Therefore, this results and discussion section offers a comprehensive understanding of how VTO functions as a strategic catalyst that transforms consumer behavior through psychological mechanisms structured in the S–O–R model.

Virtual Try-On (VTO) as an External Stimulus

Within the SOR framework, VTO serves as a complex and innovative external stimulus. This stimulus is characterized by three key attributes that directly mitigate online shopping risks:

a. Perceived Realism

Realism is the extent to which consumers perceive a virtual representation of a product (color, texture, size) as an accurate replica of the physical product. AI-based VTO provides greater realism through precise, *real-time* facial or body *tracking* (Scholz & Duffy, 2018). High realism is essential for building the credibility of a stimulus.

b. Perceived Utility

Utility refers to how useful a VTO feature is to the decision-making process. VTO provides relevant and personalized information about product *fit* and match , which is difficult to obtain from static 2D images. This utility reduces consumers' cognitive effort and increases the efficiency of the shopping process (Kim & Forsythe, 2008).

c. Functional Risk Reduction

The primary function of VTO is to reduce perceived functional risk, which is the concern that a product will not fit or meet expectations. By visualizing the product on themselves before purchasing, VTOs visually verify the product's *fit* , thereby substantially increasing consumers' cognitive confidence (Poushneh & Vasquez-Parraga, 2017).

Online Shopping Experience (OSE) as a Mediating Organism

Online Shopping Experience (OSE) is an internal and psychological state (Organism) mediated by interaction with VTO Stimulus. OSE can be divided into cognitive and affective dimensions (Izogo & Jayawardhena, 2018).

a. Cognitive Dimension (Beliefs and Information)

VTO enhances OSE cognitively by increasing Product Confidence and Decision Certainty. The realism *of* VTO allows consumers to process product information efficiently, find it informative, and reduce perceived uncertainty, which are key aspects of high-quality cognitive OSE .

b. Affective Dimension (Enjoyment and Involvement)

of OSE. Interaction with immersive AR technology generates a high sense of Pleasure and Engagement (Javornik, 2016). Positive affective OSE makes the shopping experience *more* enjoyable and memorable .

Causality Mechanism of VTO to OSE to Purchasing Decision

This conceptual model integrates literature findings into a causal chain based on the SOR framework.

Table 1.
Conceptual Model

SOR components	Main Contract	Conceptual Role in the Model	Key References
Stimulus (S)	*Perceived Realism* & *Perceived Utility* of VTO	It functions as an external stimulus that bridges *the sensory gap* and provides accurate product visualization that is useful for consumer decision-making. This stimulus triggers initial cognitive and affective responses.	Scholz & Duffy (2018); Kim & Forsythe (2008); Plotkina & Saurel (2019)
Stimulus (S)	*Functional Risk Reduction*	Reducing functional risks related to product suitability before purchase, strengthening confidence and reducing consumer uncertainty.	Poushneh & Vasquez-Parraga (2017)
Organism (O)	Online Shopping Experience (OSE) – Cognitive Dimension	Represents internal responses in the form of increased clarity of information, decision confidence, and evaluative judgments based on the realism and utility of VTO.	Izogo & Jayawardhena (2018); Javornik (2016)
Organism (O)	Online Shopping Experience (OSE) – Affective Dimension	Describes emotional responses such as enjoyment, engagement, and exploratory pleasure during using AR-based VTO.	Javornik (2016); Lavoye et al. (2023)
Response (R)	Buying decision	The final behavioral manifestation is in the form of intention or actual purchasing decision which is influenced by the quality of OSE (cognitive and affective).	Poushneh & Vasquez-Parraga (2017); Hwangbo et al. (2020); Sekri et al. (2024); Nguyen et al. (2025)

From the synthesis above, several theoretical propositions were developed as follows:

a. **Proposition 1:** Perceived realism from Virtual Try-On (VTO) positively influences the cognitive dimension of Online Shopping Experience (OSE). The visual realism generated by VTO increases the clarity of information and the accuracy of consumers' perceptions of the product, thereby strengthening cognitive beliefs in the product evaluation process.

This finding aligns with research showing that AR and VTO enhance product representations that are closer to reality, thereby reducing uncertainty (Scholz & Duffy, 2018; Kim & Forsythe, 2008).

b. **Proposition 2:** Perceived utility of VTO positively influences the affective dimension of the Online Shopping Experience (OSE). The functional benefit of VTO in helping consumers personally assess product suitability creates a sense of comfort, exploratory pleasure, and emotional engagement during the shopping process. This aligns with studies that found that the interactivity and utility of AR technology increase consumer pleasure and engagement (Javornik, 2016; Lavoye et al., 2023).
c. **Proposition 3:** Functional risk reduction (VTO) enhances cognitive evaluation in OSE. VTO allows consumers to validate product suitability before purchase, thereby reducing the risk of nonconformity and increasing confidence in decision-making. This risk-reducing effect has been shown to be significant in various studies on AR use in retail (Poushneh & Vasquez-Parraga, 2017; Plotkina & Saurel, 2019).
d. **Proposition 4:** OSE mediates the positive relationship between VTO and consumer purchase decisions. Interaction with VTO results in a more informative, enjoyable, and personalized shopping experience, ultimately increasing purchase intention and actual purchase decisions. This mediation effect is reinforced by empirical findings confirming that OSE is a key predictor of purchasing behavior in digital environments (Izogo & Jayawardhena, 2018; Hwangbo et al., 2020; Sekri et al., 2024; Nguyen et al., 2025).
e. **Proposition 5:** Integration of AR-based interactive features into VTO increases consumer engagement, which strengthens the VTO–OSE relationship. AR technology that enables self-explorative engagement has been shown to influence consumers' affective and evaluative responses to brands and products, thus enhancing the role of VTO as a psychological stimulus (Lavoye et al., 2023).

Conceptual Framework

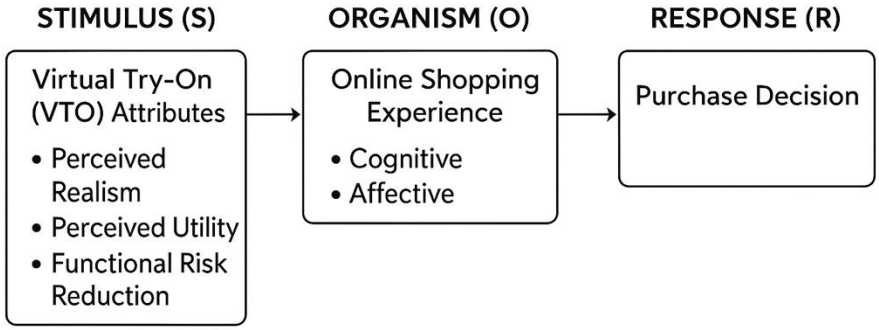

Figure 1.
SOR model framework in the context of Virtual Try On

The proposed conceptual framework positions Virtual Try-On (VTO) as a key technological stimulus within the Stimulus Organism Response (SOR) model, which functions to shape consumers' online shopping experiences and purchasing decisions. From a digital marketing perspective, VTO provides visual and interactive affordances that aim to reduce the sensory gap, which is consumers' limitations in physically evaluating products on e-commerce platforms (Scholz & Duffy, 2018). Attributes such as perceived realism,

perceived utility, and functional risk reduction make VTO not merely a decorative feature, but a strategic mechanism that strengthens consumers' information quality, perceptual accuracy, and initial evaluation of a product (Kim & Forsythe, 2008; Poushneh & Vasquez-Parraga, 2017). Thus, VTO acts as a cognitive and affective stimulus capable of intervening in consumers' evaluation processes from the pre-purchase stage.

At the Organism stage, this framework emphasizes the crucial role of the Online Shopping Experience (OSE) as a psychological mediator that internalizes the technological stimulus. OSE comprises a cognitive dimension, encompassing information clarity, decision confidence, and perceived utility, and an affective dimension encompassing enjoyment, engagement, and immersion during VTO use (Izogo & Jayawardhena, 2018). As the visual representations generated by VTO become more realistic and accurate, consumers will process product information more effectively, increasing trust in the product, and minimizing cognitive conflict during the evaluation process (Javornik, 2016). At the same time, AR-based immersive interactions foster emotional engagement, enriching the hedonic value of the digital shopping experience (Lavoye et al., 2023). The convergence of these two dimensions strengthens OSE as a mediating construct that is central to the SOR model.

Furthermore, the relationship between VTO and OSE demonstrates a causal dynamic that is not merely linear but also contains mutually reinforcing psychological components. When consumers experience a high level of virtual realism, for example, a lipstick color that matches their skin tone, a cognitive response occurs in the form of increased product confidence (Plotkina & Saurel, 2019). Conversely, when interactions with VTO are enjoyable and allow consumers to experiment with various styles, affective responses in the form of pleasure and deep engagement (Hwangbo et al., 2020). These two responses work synergistically to strengthen OSE, creating a psychological environment conducive to driving purchasing behavior. This flow also aligns with the environmental psychology theory of Mehrabian and Russell (1974), which explains that environmental stimuli influence internal states, which then produce behavioral responses.

In the final stage, this conceptual framework explains how OSE generates a response in the form of a purchase decision. Through an informative, enjoyable, and risk-free shopping experience, consumers are more motivated to make faster, more confident, and more positive purchasing decisions (Nguyen et al., 2025; Sekri et al., 2024). When OSE acts as a mediator, the relationship between VTO and purchase decisions becomes stronger because the positive experience consumers experience strengthens the transition from intention to action. Recent empirical evidence shows that VTO technology increases purchase intention, reduces decision uncertainty, and decreases the likelihood of product returns (return rates), thus providing strategic implications for digital marketing management (Akter et al., 2024; Samy et al., 2025).

Overall, this conceptual framework confirms that VTO is an experiential driver that functions as a strategic stimulus in the modern e-commerce ecosystem. Its advantages in providing visual realism, high utility, and functional risk reduction enable VTO to comprehensively shape OSE through cognitive and affective processes. When OSE is optimally formed, consumer purchasing decisions will be naturally driven as a positive behavioral response. Thus, the causal relationship of VTO → OSE → Purchase Decision provides a strong theoretical foundation for further empirical research and strategic implications for practitioners seeking to enhance the effectiveness of immersive technology

in digital marketing (Scholz & Duffy, 2018; Kim & Forsythe, 2008; Poushneh & Vasquez-Parraga, 2017).

Theoretical and Practical Implications

Theoretical Implications

This study makes a significant theoretical contribution by strengthening and extending the application of the Stimulus–Organism–Response (SOR) framework in the context of Augmented Reality (AR) and Artificial Intelligence (AI)-based marketing technologies. By positioning Virtual Try-On (VTO) as the primary stimulus, this article demonstrates that technological stimuli serve not only as visual stimuli but also as triggers of multidimensional psychological responses that influence consumer evaluations. The core attributes of VTO, including perceived realism, perceived utility, and functional risk reduction, demonstrate that technology-based stimuli now have the additional capacity to fill the sensory gap in online shopping, thereby enriching theoretical understanding of how consumers process information and form perceptions when physical contact with the product is not possible (Scholz & Duffy, 2018; Kim & Forsythe, 2008). This contribution expands the initial scope of the SOR theory introduced by Mehrabian & Russell (1974), by demonstrating that immersive digital stimuli not only create emotional reactions but also activate complex cognitive processes, including increased clarity of information, reduced uncertainty, and strengthened beliefs about product suitability. Thus, this study strengthens the relevance of SOR theory in the era of interactive technology and opens up new understanding of how digital stimuli work simultaneously on consumers' cognitive and affective domains (Javornik, 2016; Poushneh & Vasquez-Parraga, 2017).

Furthermore, this study provides an important theoretical contribution by positioning the Online Shopping Experience (OSE) as a mediating mechanism linking VTO technological stimuli to purchase decisions, thus enriching the literature on consumer experiences in digital shopping environments. Unlike previous studies that viewed OSE as a stand-alone construct, this article explains that OSE is formed through the integration of two main dimensions (cognitive and affective) triggered directly by consumers' interactions with VTOs (Izogo & Jayawardhena, 2018). OSE created through high visual realism and AR-based interactivity creates a more stable, informative, and enjoyable psychological state, theoretically strengthening the causal relationship between digital stimuli and consumers' behavioral responses (Lavoye et al., 2023). By demonstrating that OSE plays a crucial mediating role in the relationship between VTO and purchase decisions, this study not only extends the conceptual model of SOR but also enriches the theoretical understanding of how high-quality digital shopping experiences lead consumers to stronger purchase intentions and decisions (Hwangbo et al., 2020; Sekri et al., 2024; Nguyen et al., 2025). This conceptual model provides a solid theoretical foundation for future research exploring individual moderators such as technology readiness, visual inclination, or digital interaction preferences in shaping consumer experiences.

Practical Implications

Practically, the findings of this study provide strategic direction for e-commerce companies and digital marketers to optimize the use of Virtual Try-On (VTO) as a tool to enhance the shopping experience and strengthen consumer purchasing decisions. The implementation of VTO with a high level of visual realism, fast responsiveness, and precise accuracy has been proven to increase consumer confidence in product suitability while

reducing functional risks that have been a major barrier to online shopping, especially in the cosmetics and fashion product categories (Kim & Forsythe, 2008; Plotkina & Saurel, 2019). Therefore, companies need to invest in AI–AR technology that can produce real-time facial and body renderings with more accurate color, proportion, and lighting adjustment features. By providing interactive experiences that are not only informative but also enjoyable, marketers can increase consumer engagement, which has been shown to contribute to increased purchase intention (Hwangbo et al., 2020) and strengthen emotional attachment to the brand (Lavoye et al., 2023), thus directly impacting sales conversion.

In addition to enhancing product communication effectiveness, the use of VTO also has important operational implications, particularly in reducing product return rates and improving logistics efficiency. By enabling consumers to more accurately visually evaluate product suitability before purchasing, VTO serves as an effective verification mechanism to reduce mismatches between expectations and actual product experiences, as demonstrated in a study by Poushneh & Vasquez-Parraga (2017). Companies can strategically place VTO on product pages through Try Now buttons, AI-based personalized product recommendations, or automatic integration with camera features to maximize the use of this feature. Furthermore, findings from Nguyen et al. (2025) and Sekri et al. (2024) confirm that virtual product try-on experiences increase consumer confidence and comfort, which can practically translate into more effective marketing strategies in increasing conversion rates and customer loyalty. Thus, implementing VTO not only provides added value for consumers but also creates a significant competitive advantage for companies in the increasingly fierce e-commerce environment.

Research Limitations and Recommendations

This study has several important limitations that are worth noting. As a conceptual study based on a literature review, this research did not empirically test the causal relationship between Virtual Try-On (VTO), Online Shopping Experience (OSE), and purchase decisions. Therefore, the inferential strength of the theoretical model still relies on the findings of previous studies and has not been validated through primary data in a specific context. Another limitation arises from the methodological heterogeneity in the VTO literature, where various studies use different measures of realism, utility, and functional risk (Kim & Forsythe, 2008; Plotkina & Saurel, 2019). Furthermore, most previous research was conducted in specific product contexts, particularly cosmetics and fashion, so generalization to other product categories is still limited (Hwangbo et al., 2020). Several studies in the bibliography also highlight that consumers' level of technology experience and individual visual preferences can influence the effectiveness of VTO use (Nguyen et al., 2025), indicating potential individual biases that have not been fully considered. Factors such as aesthetic preferences, the variety of devices used, and lighting conditions when using VTO also have the potential to influence user perception, but have not been systematically accommodated in theoretical models.

Based on these limitations, further research needs to develop comprehensive empirical tests to validate the mediation relationship between OSE in the VTO–purchase decision model. Future research can use quantitative approaches such as Structural Equation Modeling (SEM) to evaluate the strength of the relationships between variables across various consumer segments and product categories. Furthermore, follow-up studies can consider moderating variables such as technology readiness, visual/verbal cognitive style,

and user experience with AR technology, referring to the findings of Javornik (2016) and Lavoye et al. (2023) which indicate variations in immersive experiences between individuals. It is also recommended to conduct real-time AR-based experiments to test how the level of realism, rendering quality, and tracking accuracy affect information believability and clarity (Scholz & Duffy, 2018). With the emergence of new-generation technologies such as FITMI (Samy et al., 2025), further research can test the effectiveness of advanced AI-based VTO in more complex product personalization contexts. Qualitative research is also needed to delve deeper into consumers' emotional motives, more subtle risk perceptions, and the psychological dynamics during VTO use, thereby refining the overall conceptual model. Thus, a combination of quantitative and qualitative approaches in the future will strengthen the external and internal validity of the proposed theoretical model.

CONCLUSION

This conceptual research confirms that Virtual Try-On (VTO) based on Augmented Reality and Artificial Intelligence plays a strategic role as a technological stimulus capable of addressing the sensory gap in the online shopping process. By integrating key findings from previous literature within the Stimulus Organism Response (SOR) framework, this study demonstrates that VTO attributes, such as perceived realism, perceived utility, and functional risk reduction, trigger consumers' initial evaluation process through a more accurate, personalized, and informative visual experience (Scholz & Duffy, 2018; Kim & Forsythe, 2008). VTO not only improves the quality of product information delivery but also provides an immersive exploratory experience that encourages positive cognitive and affective responses (Javornik, 2016; Lavoye et al., 2023). Therefore, VTO can be positioned as a strategic experiential driver capable of enhancing the effectiveness of digital marketing communications, while strengthening the theoretical foundation regarding how technology-based stimuli can profoundly modify consumers' evaluative processes.

Furthermore, this study clarifies the role of Online Shopping Experience (OSE) as an intermediary mechanism that bridges the relationship between VTO and purchase decisions. OSE has been shown to function as a mediating construct that integrates cognitive reactions, such as information clarity and decision confidence, with affective reactions such as enjoyment, emotional engagement, and immersive experiences elicited by interactions with VTO (Izogo & Jayawardhena, 2018; Poushneh & Vasquez-Parraga, 2017). The empirical studies reviewed in this article also confirm that positive OSE contributes to increased purchase intention and actual purchase decisions in an e-commerce context (Hwangbo et al., 2020; Sekri et al., 2024; Nguyen et al., 2025). Thus, these findings provide a strong theoretical basis for further research while also providing practical implications for companies to optimize VTO implementation as a strategy to enhance shopping experiences and sales conversions. This study also emphasizes the urgency of developing next-generation VTO technology to enhance visual personalization and accuracy, thereby meeting consumer demands in the increasingly dynamic digital era.

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