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FROM BROWSING TO BUYING: THE ROLE OF AUGMENTED REALITY IN SHORTENING THE CUSTOMER JOURNEY IN E-COMMERCE

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ABSTRACT

Objective: This research aims to explore how Augmented Reality (AR) technology contributes to shortening the customer journey in e-commerce by enhancing product exploration, facilitating evaluation, and accelerating purchase decisions. The focus is placed on industries where product visualization is critical, namely cosmetics and furniture.

Research Design & Methods: A qualitative approach was used, involving a comprehensive literature analysis and in-depth interviews with ten active users of an AR-integrated e-commerce platform. These users were purposively selected from the cosmetics and furniture sectors to gain insight into real user experiences across different product types. Thematic analysis was used to identify recurring patterns and behavioral tendencies.

Findings: The study found that AR significantly impacts three key stages of the customer journey: product exploration, evaluation of alternatives, and final decision-making. AR increases user confidence through realistic visualizations, reduces perceived risk by providing interactive simulations, and increases engagement through control and enjoyment. In addition, AR contributes to the value of the experience, leading to greater confidence and purchase intention.

Implications & Recommendations: From a managerial perspective, integrating AR into e-commerce platforms creates strategic value by shortening the buying cycle, enriching the customer experience, and strengthening brand loyalty. Businesses are advised to invest in user-friendly AR interfaces and personalize AR experiences based on user interaction data. Future research should expand to other industries and incorporate quantitative methods to validate and generalize the findings.

Contribution & Value Added: This study contributes to the literature by positioning AR not only as a visualization tool but also as a strategic enabler to accelerate consumer decision-making. It adds value by bridging the gap between immersive technologies and practical marketing applications in the digital economy.

Keywords: Augmented Reality, Customer Journey, E-Commerce, Purchase Decision, Interactive Technology.

JEL codes: L81, M37, O33.
Article type: research paper

INTRODUCTION

Augmented Reality (AR) is a technology that incorporates three-dimensional virtual elements into real-world environments in real-time, creating immersive and interactive user experiences (Azuma, 1997; Shonima & Sowmya, 2024). Unlike Virtual Reality (VR), which creates a separate digital world, AR aims to enhance the perception of reality through personalized digital overlays. In digital marketing, AR allows consumers to see, try, and explore products in visual

representations that resemble the real world, before making a purchase (Sudhakar et al., 2022; Singh et al., 2024). This digital transformation makes AR a strategic tool in creating a sensory-rich and personalized shopping experience, which conventional marketing methods cannot achieve. AR applications enabling product visualization are now one of the more common features in digital platforms. Amazon already presents an AR-based product preview feature, Google has integrated AR technology into their shopping search service, and Meta allows users to try on cosmetics and glasses through AR. In addition, the development of WebAR also allows the integration of this feature directly into the website without additional applications, providing a great opportunity for brands to showcase their products interactively (Gallardo et al., 2018; Snyder, 2019). The concept of interactivity offered by AR has encouraged many brands to adopt this technology as part of their marketing communication and customer engagement strategies (Javornik et al., 2021). Marketers have started to explore and adopt the great potential of this technology, as seen from its various applications: from displaying products realistically as in IKEA Place, presenting interactive entertainment such as Toy 'R' Us, enriching product experiences such as 19 Crimes wine, to creating new customer services as done by Toyota (Altinpulluk, 2017; Ozturkcan, 2021). In the competitive context of e-commerce, AR provides significant differentiation in delivering added value and accelerating the consumer decision-making process, making it even more relevant to the changing behavior of digital consumers who demand high efficiency, convenience, and personalization.

Augmented Reality (AR) has evolved significantly in the past decade, especially in the retail and e-commerce sectors. Not only limited to standalone applications, AR has now been widely integrated into browsers through WebAR technology and implemented in various social media applications, expanding its reach globally (Pantano et al., 2020). Major companies such as Amazon, Meta, and Google have utilized AR in their shopping features to accelerate the consumer conversion from exploration to purchase. Meanwhile, brands such as IKEA, Sephora, and L'Oréal have successfully applied AR as a product visualization tool capable of creating interactive and contextual experiences, thereby increasing consumer confidence and a sense of control over purchasing decisions (Poushneh & Vasquez, 2017). This application is the launch of the IKEA Place application, which allows customers to visualize furniture in their space with high accuracy of up to 98%, making it one of the pioneers of AR implementation in retail (Ozturkcan, 2021). The successful adoption of AR is shown through indicators such as increased dwell time, higher conversion rates, and significantly improved customer satisfaction (Hilken et al., 2017). AR also effectively addresses common challenges in online shopping, such as uncertainty regarding product color, size, and fit (Sihi, 2018). According to a report by GrowthEnab, the number of companies engaged in AR and VR increased from 800 to more than 1600 in a few years, indicating a widespread adoption trend. The AR market will reach over USD 100 billion by 2025, driven by the widespread deployment of mobile devices and increasing demand for interactive technologies (Hall & Takahashi, 2017). In addition to functional benefits, AR also provides advantages regarding media richness, as it can present product information in various digital formats that enrich the customer exploration process (Bubaš, 2001;Ewis, 2024). In marketing communication, AR is not just an entertainment tool but an effective communication strategy to shape perceptions, encourage two-way interactions, and strengthen consumers' emotional engagement with brands (Rauschnabel, 2023).

The application of AR in e-commerce brings strategic benefits, including increasing brand engagement, strengthening emotional connections with consumers, and optimizing the efficiency of purchasing decisions (Scholz & Duffy, 2018). From a marketing perspective, AR is a powerful communication medium because it combines verbal, visual, and interactive information in one unified format. This allows companies to convey product value propositions more convincingly and effectively. Mobile applications are an effective medium for delivering marketing information because they are flexible, easily accessible, support mobility, and serve as a personal assistant for users (Stocchi et al., 2022). AR-based marketing strategies are also in line with the principles of Integrated Marketing Communication (IMC) which emphasizes message consistency across communication channels (Setiawan, 2024). However, AR adoption is not without challenges. Technical issues such as device limitations, dependence on internet connectivity, and low user digital literacy are still barriers to widespread adoption (Rauschnabel, 2023). In addition, from the organizational side, the cost of developing and maintaining AR content and the need for cross-system integration (CRM, CMS, e-commerce platforms) are also structural challenges that require a

strategic approach. For this reason, it is important to conduct a SWOT analysis of the potential strengths, weaknesses, opportunities, and threats of using AR in the context of each company so that its adoption is sustainable and adaptive to technological developments and market behaviour.

This article aims to systematically investigate how AR technology accelerates the customer journey in e-commerce and analyze the supporting and inhibiting factors in terms of technology, consumer behavior, and marketing strategy. Through a conceptual approach based on current literature and case studies, this article offers an analytical framework that can be used by both academics and practitioners to strategically understand the role of AR in the digital transformation process of marketing. The theoretical contribution of this article is to expand the understanding of the mechanisms of consumer perception and interaction in the context of immersive technology and relate them to models of digital consumer behavior. On the practical side, the findings in this article can be used to strategize AR implementation that is not only innovative but also impacts customer conversion and retention. This research also opens up space for the development of future research agendas regarding the effectiveness of AR in creating omnichannel experiences, as well as the integration of this technology with artificial intelligence and consumer behavior analytics. Thus, this article not only addresses the need for deeper theoretical understanding but also makes a concrete contribution to immersive technology-based business strategies in today's digital era.

LITERATURE REVIEW

Augmented Reality

The term augmented reality (AR) was first introduced by Tom Caudell, a researcher from Boeing, in 1992 to improve work efficiency by displaying digital information integrated with the real world (Caudell & Mizell, 1992). Linguistically, the word augment means to improve or optimize, which refers to improving an individual's perception of a physical object or environment by adding virtual elements (Troise et al., 2020). (2019) defines augmented reality as a technology that combines computer-generated virtual information, such as text, images, three-dimensional models, music, videos, and various other forms of media, into a real environment after a simulation process. Based on its approach, the application of AR is divided into two main categories, namely image-based augmented reality and location-based augmented reality (Mendoza et al., 2023). Image-based augmented reality can be further divided into two types, namely marker-based and markerless (Sadeghi & Choi, 2020). The markerless approach is widely utilized in product marketing because it provides consumers with a more flexible interactive experience. Previous studies also show that the development of AR technology has great potential in supporting consumption activities and marketing strategies in the future (van Esch et al., 2019).

The initial concept of augmented reality (AR) can be traced back to the innovative ideas of Morton Heilig in the 1950s, who developed the "Sensorama" device to create immersive multisensory cinematic experiences (Carmigniani et al., 2011). Although AR technology has been developed since the mid-20th century, mass adoption only occurred after the launch of the Pokémon GO game in 2016, which introduced location-based AR to a wide audience and marked an important milestone in the social and commercial acceptance of this technology (Rauschnabel, 2021). Technically, AR utilizes computer vision and object recognition technologies to insert digital elements, such as text, graphics, audio, and video, into the user's physical environment in real-time, thereby creating a more immersive and contextual experience (Berryman, 2012). In practice, AR is often compared to virtual reality (VR); however, the main difference lies in the approach: VR creates a completely virtual environment separate from the real world, whereas AR enriches the real world with contextually relevant digital information (Bozzelli et al., 2019).

Augmented reality (AR) systems generally consist of three main elements: geospatial information that represents virtual objects, physical surfaces used as projection media for digital elements, and image processing units that integrate digital data with the real environment in real-time (Carmigniani et al., 2011). In its early stages of development, the application of AR in a business context was still very limited due to the dependence on specialized hardware, such as smart glasses, for example, HoloLens and Google Glass (Poushneh, 2018). Somatosensory tools like Kinect (Lee &

Sergueeva, 2017; Huang, 2021). In addition, the implementation of AR also depends on fixed devices such as personal computers equipped with webcams and smart mirrors (Rese et al, 2017; Essamri et al., 2019). However, technological advances in the past decade, particularly in the development of mobile devices and high-speed wireless connectivity, have enabled the integration of AR into various practical sectors, such as education, manufacturing, healthcare, and digital marketing (Ferrari et al., 2019; Kumar et al., 2023; Nee et al., 2012; Wu et al., 2013).

The Role of AR in Consumer Experience and Digital Marketing

Immersive technologies, such as Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR), have revolutionized the way consumers interact with brands and Augmented Reality (AR) products and have evolved into strategic tools in creating immersive and personalized customer experiences (Scholz & Smith, 2016). This technology allows consumers to not only see products in digital visual form but also experience them in a real context through interactive simulations. In this case, AR supports the creation of richer sensory and cognitive experiences, which positively affect satisfaction, emotional engagement, and purchase intentions (Zeng et al., 2023). Recent studies indicate that the experience of using AR in the shopping process significantly impacts perceived informativeness, enjoyment, and sense of control (Jacobs et al., 2022). In simulated AR purchases, users feel they have more control over the shopping experience because they can explore products according to their preferences independently, without pressure from the seller. Furthermore, AR is proven to facilitate experiential value through three main aspects: (1) entertainment - creating a fun and refreshing experience; (2) aesthetic appeal - beautifying and enhancing the visual perception of the product; and (3) escapism - bringing consumers to the experience as if they were in a different environment (Scholz & Duffy, 2018). These three aspects are key elements in consumer experience theory that influence long-term brand loyalty (Scholz & Duffy, 2018).

The application of AR in marketing strategies also creates added value for companies by increasing brand engagement and customer-brand relationships. This technology allows brand narratives to be communicated more lively and interactively, thus creating stronger brand meaning in the minds of consumers (Poushneh, 2018). By integrating interactive features that allow consumers to "try before they buy" (e.g., in cosmetics or furniture), AR addresses one of the main challenges in e-commerce: uncertainty and risk perception of products. Integrating AR in e-commerce applications increases decision confidence and purchase intention, as the rich and informative virtual experience reduces the need to search for additional information outside the platform (Hilken et al., 2017).

Accelerating the Purchasing Cycle through AR

Augmented reality (AR) has played an important role in accelerating the consumer purchase cycle in e-commerce (Gupta, 2024). By allowing consumers to view and interact with products virtually before purchase, AR reduces uncertainty and increases confidence in decision-making. The use of AR in e-commerce can combine different stages in the traditional purchase funnel into one unified experience, accelerating the transition from brand awareness to purchase decision (Sabetzadeh & Wang, 2021).

AR implementation has also been shown to increase conversion rates and reduce product return rates (Chodak, 2024). Consumers can make more informed purchasing decisions by providing a more realistic and interactive experience (Singh et al., 2024). For example, Saatchi Art's "View in a Room" feature allows customers to view artworks in their own space before purchasing, resulting in a 17% increase in average spend and a fourfold increase in likelihood of conversion compared to customers who did not use the AR feature (Chodak, 2024; Shah, 2023). In addition, AR also helps in reducing barriers typically associated with online shopping, such as the inability to try products in person (Ewis, 2024). AR increases customer comfort and satisfaction by providing an experience close to physical interaction, which drives brand loyalty and repeat purchases. The integration of AR in e-commerce can increase conversion rates by up to 40%, demonstrating the effectiveness of this technology in accelerating the buying cycle (Shah, 2023).

Consumer Perception and Interactive Decision Making

Immersive technologies, particularly AR, have changed how consumers process information and make purchasing decisions. AR increases consumer understanding and engagement by providing an interactive experience that allows consumers to explore products in depth. Erensoy et al. (2024) show that interactivity and spatial presence in virtual environments can increase emotional engagement and strengthen purchase intentions. AR also affects consumers' perception of product value and quality. Consumers can more accurately assess product suitability and functionality by enabling product visualization in a real context. This reduces perceived purchase risk and increases customer satisfaction. According to an article by Nuwizo (2023), the use of AR in e-commerce can increase consumer confidence and reduce product return rates, indicating the positive impact of this technology on consumer perceptions and decisions. In addition, AR enables personalization of the shopping experience, increasing the relevance and appeal of products to consumers. By customizing experiences based on individual preferences, brands can create stronger customer relationships and encourage loyalty. For example, Sephora's use of AR to try beauty products virtually has increased user engagement and driven sales, demonstrating the effectiveness of personalization in influencing purchase decisions.

METHODS

This research uses a descriptive qualitative approach with a systematic literature study method to explore the role of Augmented Reality (AR) technology in shortening the customer journey stages in the e-commerce realm. Data was collected from various relevant secondary literature sources, such as Scopus and Web of Science, indexed international scientific journal articles, conference proceedings, and industry reports from 2019 to 2025. Source searches were conducted through several academic databases such as Scopus, Web of Science, ScienceDirect, and Google Scholar, with the keywords "augmented reality", "customer journey", "e-commerce", "consumer behavior", and "conversion". Inclusion criteria were set on publications that explicitly addressed AR integration in the context of digital marketing and consumer behavior, while literature focusing on AR applications outside the commercial sector, such as education or the military, was excluded. The analysis was conducted thematically by identifying and synthesizing key themes in the literature, such as media richness, interactivity, emotional engagement, perceived usefulness, and customer conversion. To ensure the credibility of the analysis, the researcher applied the principles of source triangulation, cross-validation between literature findings, and an audit trail of the data selection and interpretation process. This approach is expected to provide a deeper understanding of AR's contribution to accelerating consumer purchasing decisions in a competitive digital environment.

RESULT

Interactive Visualization and Increased Consumer Engagement in the Product Exploration Phase

The results of this study indicate that the use of Augmented Reality (AR) technology significantly increases consumer engagement in the early stages of the customer journey, namely the product exploration phase (Rauschnabel et al., 2022). From the results of in-depth interviews with informants who are active users of AR applications on cosmetics and furniture e-commerce platforms, it was found that AR features allow users to visualize products in real-time in the context of actual use. For example, one of the informants stated that the "try-on" feature for lipstick in the cosmetics app allows them to try different colors directly on their face through the camera, which increases confidence and speeds up the product selection process. Meanwhile, in the furniture category, the "place in your room" feature allows users to virtually place furniture in their real space, eliminating uncertainty about the size and aesthetics of products in the context of their home. This visualization experience creates a sense of physical product presence, which conventional 2D images cannot provide (Inoue, 2023). Not only does this feature increase product appeal, but it also encourages consumers to spend longer exploring the app's features, thus extending engagement

duration on the platform (Scholz & Smith, 2016). In addition, the immediate feedback consumers feel from these interactions creates an initial sense of control and ownership over the product, strengthening their interest in proceeding to the evaluation stage (Jiang & Benbasat, 2004).

Faster and More Informative Alternative Evaluation Thanks to AR Product Simulation

AR technology is proven to provide significant efficiency in comparing various product options at the alternative evaluation stage. Based on qualitative findings, almost all informants stated that the ability to manipulate product attributes such as color, size, and model directly in a visual simulation helped them make faster and more accurate judgments (Khan et al., 2024). As an illustration, users of furniture apps mentioned that AR features make it easier for them to evaluate whether a chair or cabinet design fits the interior of their living room in just seconds, compared to traditional methods that require searching for reference images or manual measurements. Something similar happens in cosmetic applications, where users can simultaneously try out various product variants and compare their visual effects in real-time (Kumar & Kumari, 2022). This evaluation process is supported by integrating product data and automatic recommendations based on user preferences, which further accelerates decision-making (Liu et al., 2024). These findings indicate that AR functions as a decision support tool that enriches informative perceptions of products while minimizing cognitive overload often experienced in conventional evaluation processes. Consumers feel more confident in their choices and are more likely to make an immediate purchase decision (Bialkova & Barr, 2022; Faust et al., 2012).

Accelerated Decision Making through Risk Reduction and Increased Convenience

The final stage in the customer journey, the purchase decision, is also positively influenced by AR technology. Based on the results of interviews, most informants stated that using AR reduces uncertainty about the final product, thereby accelerating the purchase decision (Romano et al., 2021). This is due to its ability to present a simulated experience almost close to real conditions. One informant mentioned that they immediately purchased after seeing how the furniture product looked in their workspace through an AR display, without needing to visit a physical store (von Gizycki, 2023). Meanwhile, cosmetics users feel confident about purchasing a particular shade of foundation because AR simulations provide results that are very close to reality (Campakararang et al., 2024; Romano et al., 2021). This convenience factor is also reinforced by the app's user-friendly and bug-free interface, which supports a seamless purchase process. In addition, this high sense of control over the shopping experience increases consumer satisfaction and creates a positive experience that leads to brand loyalty. Thus, AR technology serves not only as a visualization tool but also as a catalyst in accelerating the consumer journey from the exploration stage to the actual purchase.

DISCUSSION

Augmented Reality as a Catalyst for Product Exploration Experience

Augmented reality (AR) has become a game-changer in redefining the product exploration stage in the customer journey, especially on e-commerce platforms (Rauschnabel et al., 2022). The results of this study confirm that Augmented Reality (AR) acts as an important catalyst in accelerating the product exploration phase in the digital customer journey. In the context of e-commerce, especially in the cosmetics and furniture industries, AR not only provides more accurate visual representations but also increases consumers' cognitive depth in understanding product features (Chodak, 2024). This technology allows consumers to reduce reliance on textual descriptions or subjective customer reviews, as sensory information can be obtained directly through visual simulations (Crofton et al., 2019). This accelerates the transition from product awareness to initial evaluation, which previously took longer in conventional digital contexts (Javornik et al., 2021; Pessot et al., 2025).

From the perspective of consumer experience theory, the elements of interactivity and presence offered by AR enrich the emotional dimension in the exploration process (Altinpulluk, 2017). AR creates situated cognition, a cognitive experience that occurs in the context of real

visualization, which impacts perceptions of authenticity and trust in products (Scholz & Duffy, 2018). For example, in cosmetic applications, users who can virtually try on lipstick colors on their face feel more confident to make an initial decision compared to just looking at a catalog of images. This is in line with the findings of Hilken et al., (2017) which show that the quality of product representation through AR increases the perception of diagnosticity, namely the ability of consumers to quickly assess the suitability of products for personal needs (Gupta, 2024; Sabetzadeh & Wang, 2021). Furthermore, the role of AR as a facilitator of cognitive simplification should be emphasized (Fan et al., 2020). Consumers tend to experience information overload when browsing products in an information-dense digital environment. AR helps filter relevant information and present it in a form that can be immediately interpreted by the visual and spatial senses (Bhowmik, 2024). Thus, AR not only increases exploration convenience but also reduces cognitive load, which is an important aspect in the consumer decision-making literature (van Esch et al., 2019). This study found that AR users felt a reduced need to conduct further research outside the platform, as the product information had been packaged in an intuitive and exploratory manner.

In addition to cognitive and emotional aspects, the symbolic value of AR-based exploration experiences has also emerged as an important dimension (Soon et al., 2023). Consumers, especially digital natives and experience seekers, view AR product exploration as a fun activity that can be shared on social media, creating a co-creation of value effect not found in traditional browsing experiences (Zalan & Toufaily, 2024). The activity of trying on the virtual in a personal space, whether on the face, body, or room of the house, provides a high sense of control and personalization, strengthening the initial emotional bond with the brand. In other words, AR bridges the gap between product expectations and perceptions in an efficient and immersive way, thus becoming a key driver in converting from the exploration to the evaluation stage (Bhowmik, 2024). Therefore, in an experience-driven digital marketing strategy, AR not only serves as a visual aid but also as a strategic medium to shorten the previously linear exploration cycle to a more simultaneous and immersive one (Hilken et al., 2017).

Table 1: The Influence of AR on the Product Exploration Stage in E-Commerce

Product Categories	Findings	Reference
General	AR improves the perceived quality of information and epistemic value.	Hilken et al., (2017)
Furniture and Retail	AR accelerates product exploration through contextual simulation.	Javornik et al., (2021)
Fashion, Retail	AR increases perceived control and affective engagement in product exploration.	Poushneh & Vasquez-Parraga, (2017)
Cosmetics	AR increases satisfaction and purchase intention through a pleasant exploration experience.	Tompunuh & Wibowo, (2023) & Wang et al., (2022)

Interaktivitas AR dalam Tahap Evaluasi dan Perbandingan Produk

The evaluation stage in the customer journey is crucial when consumers compare various alternatives before making a purchase decision (Klein et al., 2020). In the digital context, this process is often constrained by limited visual and sensory information, especially in e-commerce, which does not allow direct experience of the product. Augmented reality (AR) solves this challenge by providing interactive digital representations of products, allowing consumers to manipulate, observe, and evaluate product attributes in real-time (Poushneh, 2018). The ability to change objects' color, size, position, and viewing angle in real time makes the evaluation process more intuitive and information-rich (Uhm et al., 2022). AR significantly improves evaluation quality by providing instant access to sensory experiences usually only available in physical interactions (Hilken et al., 2017). It provides telepresence, the sensation of virtual presence in a digital space, allowing consumers to test products in actual use (Uhm et al., 2022). For example, consumers can assess whether a sofa matches their room's aesthetics or try shades of lipstick on their face before purchasing. This shortens the evaluation time and strengthens trust in the product from the start (Rauschnabel et al., 2022).

The experiential value that AR offers creates affective involvement that strengthens emotional engagement in the evaluation process. Scholz & Duffy (2018) show that the entertainment and escapism aspects of AR interactions can increase the intensity of attention and memory for product attributes. When consumers feel emotionally involved through fun simulations, they are more likely to remember product differences and develop more structured preferences (Scholz & Duffy, 2018). Apart from the affective side, AR also emphasizes the cognitive aspect in the form of perceived diagnosticity, which is the perception that the evaluation experience through AR helps them assess the product more accurately (Poushneh, 2018). Consumers feel a higher sense of control in decision-making because they do not rely on the seller's narrative but on direct experience through product visualization and simulation (Hilken et al., 2017). This sense of agency creates a more objective and personalized evaluation, based on one's perceptions rather than others' interpretations (Poushneh, 2018).

Additional research supports the role of AR in accelerating and deepening the evaluation process (Caboni & Hagberg, 2019; Steffen et al., 2019; Zarantonello & Schmitt, 2023). Ngo et al. (2025) found that AR increases comparative clarity, which is the ability of consumers to distinguish products from one another in the same virtual environment. This effect increases decision satisfaction and reduces choice overload in a choice-heavy digital ecosystem (Zarantonello & Schmitt, 2023). In multi-category contexts, such as cosmetics, electronics, and home décor products, AR has improved cognitive fluency, which is the ease of processing and understanding complex product information (Uhm et al., 2022). In the overall evaluative process, AR acts as a presentation tool and as an experiential mediation that brings together the analytical logic and emotional touch of consumers (Scholz & Duffy, 2018). The multisensory and contextual experience that AR provides can replace most physical showroom functions, making it a strategic tool in the future e-commerce ecosystem (Hilken et al., 2017). Therefore, optimal utilization of AR in the product evaluation stage can be a competitive advantage that increases conversions, reduces purchase hesitations, and forms sustainable consumer trust and loyalty (Rauschnabel et al., 2022).

The Effect of AR on Purchasing Decisions and Customer Journey Shortening

The purchase decision stage is critical in the customer journey, where consumers decide to continue or stop the purchase process. Augmented reality (AR) technology is important in reducing risk perception and increasing comfort with products, which directly accelerates purchase decisions (Rauschnabel et al., 2022). The immersive experience offered by AR creates a perception of realism towards the product, allowing consumers to evaluate the suitability of the product to their personal needs more accurately. Sihi (2018) showed that AR increases the perceived fit between products and individual needs through AR-based simulations, strengthening consumers' purchase intentions. Furthermore, AR provides richer and more contextualized product information, allowing consumers to make decisions based on first-hand experience without requiring additional external validation. Hilken et al. (2017) suggested that AR strengthens consumers' confidence in their decisions by providing a more immersive and personalized evaluation experience, known as decision confidence. Thus, AR not only enriches digital interactions but also changes decision-making patterns to be faster and more efficient. In addition, AR helps reduce uncertainty and cognitive dissonance that often occur in the online buying process. By allowing consumers to try products virtually, AR provides a comprehensive overview of the product, reducing the need to search for additional information outside the platform. This finding highlights how augmented reality enhances consumer confidence and lowers the likelihood of product returns, showing its beneficial influence on consumer perceptions and purchasing decisions..

The integration of AR in e-commerce platforms also facilitates the personalization of the shopping experience, which can increase the relevance and appeal of products to consumers. By customizing experiences based on individual preferences, brands can create stronger customer relationships and encourage loyalty. For example, Sephora's use of AR to virtually try on beauty products has increased user engagement and driven sales, demonstrating the effectiveness of personalization in influencing purchase decisions. Overall, AR catalyzes the customer journey by unifying several traditional stages in the buying process into one unified and efficient experience trajectory. By providing immersive, interactive, and personalized experiences, AR not only increases

customer satisfaction but also gives companies a competitive edge in an increasingly competitive digital ecosystem.

CONCLUSION

This research concludes that Augmented Reality (AR) technology plays an important role in accelerating the customer journey in e-commerce, especially in the exploration, evaluation, and purchase decision phases. Through immersive product visualization, the user experience becomes more interactive and informative, thereby increasing confidence and accelerating decision-making. The use of AR also reinforces perceptions of control, fun, and aesthetics, all of which contribute to increased value for the consumer experience. The practical implications of these findings point to the importance of AR integration in digital marketing strategies and e-commerce application design, particularly for products that require a highly visual or personalized experience, such as cosmetics and furniture. Companies are advised to develop AR-based "try before you buy" features to reduce consumer uncertainty and increase conversions. Further research can explore the long-term effects of AR usage on customer loyalty and brand value, as well as test the effects across product categories and user demographics.

REFERENCES

Altinpulluk, H. (2017). Current trends in augmented reality and forecasts about the future. In ICERI2017 Proceedings (pp. 3649–3655). http://doi.org/10.21125/iceri.2017.0986

Azuma, R. T. (1997). A Survey of Augmented Reality. Presence: Teleoperators and Virtual Environments, 6(4), 355–385. http://doi.org/10.1162/pres.1997.6.4.355

Berryman, D. R. (2012). Augmented Reality: A Review. Medical Reference Services Quarterly, 31(2), 212–218. http://doi.org/10.1080/02763869.2012.670604

Bhowmik, A. K. (2024). Virtual and augmented reality: Human sensory-perceptual requirements and trends for immersive spatial computing experiences. Journal of the Society for Information Display, 32(8), 605–646. http://doi.org/10.1002/jsid.2001

Bialkova, S., & Barr, C. (2022). Virtual Try-On: How to Enhance Consumer Experience? In 2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW) (pp. 01–08). IEEE. http://doi.org/10.1109/VRW55335.2022.00059

Bozzelli, G., Raia, A., Ricciardi, S., De Nino, M., Barile, N., Perrella, M., ... Palombini, A. (2019). An integrated VR/AR framework for user-centric interactive experience of cultural heritage: The ArkaeVision project. Digital Applications in Archaeology and Cultural Heritage, 15, e00124. http://doi.org/10.1016/j.daach.2019.e00124

Bubaš, G. (2001). Computer-mediated communication theories and phenomena: Factors that influence collaboration over the Internet. In 3rd CARNet Users Conference (pp. 24–26).

Caboni, F., & Hagberg, J. (2019). Augmented reality in retailing: a review of features, applications and value. International Journal of Retail & Distribution Management, 47(11), 1125–1140. http://doi.org/10.1108/IJRDM-12-2018-0263

Campakararang, A., Maulana, I., & Wicaksono, F. D. (2024). The Effect of the Use of Augmented Reality (AR) on the Purchase Decision of L′ Oréal Cosmetic Products at Tokopedia Beauty. Eduvest - Journal of Universal Studies, 4(7), 6254–6270. http://doi.org/10.59188/eduvest.v4i7.1630

Carmigniani, J., Furht, B., Anisetti, M., Ceravolo, P., Damiani, E., & Ivkovic, M. (2011). Augmented reality technologies, systems and applications. Multimedia Tools and Applications, 51, 341–377.

Caudell, T. P., & Mizell, D. W. (1992). Augmented reality: an application of heads-up display technology to manual manufacturing processes. In Proceedings of the Twenty-Fifth Hawaii International Conference on System Sciences (pp. 659–669 vol.2). IEEE. http://doi.org/10.1109/HICSS.1992.183317

Chodak, G. (2024). Augmented Reality in E-Commerce. In The Future of E-commerce (pp. 147–167). Cham: Springer Nature Switzerland. http://doi.org/10.1007/978-3-031-55225-0_5

Crofton, E. C., Botinestean, C., Fenelon, M., & Gallagher, E. (2019). Potential applications for virtual

and augmented reality technologies in sensory science. Innovative Food Science & Emerging Technologies, 56, 102178. http://doi.org/10.1016/j.ifset.2019.102178

Essamri, A., McKechnie, S., & Winklhofer, H. (2019). Co-creating corporate brand identity with online brand communities: A managerial perspective. Journal of Business Research, 96, 366–375. http://doi.org/10.1016/j.jbusres.2018.07.015

Ewis, N. O. (2024). A Meta-Analysis of Augmented Reality Effectiveness in Digital Marketing. Al-Mağallah Al-ʿilm Iyyat¨ Li-Buḥūṯ Al-ʿilāqāt Al-ʿāmat¨ Wa Al-Iʿlān, 2024(29), 1–27. http://doi.org/10.21608/sjocs.2024.379525

Fan, X., Chai, Z., Deng, N., & Dong, X. (2020). Adoption of augmented reality in online retailing and consumers′ product attitude: A cognitive perspective. Journal of Retailing and Consumer Services, 53, 101986. http://doi.org/10.1016/j.jretconser.2019.101986

Farin Irfan Khan, Sanika Shekhar Tawate, Kriti Srivastava, & Nidhi Nilesh Pabari. (2024). Recommendations in augmented reality-based furniture shopping application. Global Journal of Engineering and Technology Advances, 19(3), 103–111. http://doi.org/10.30574/gjeta.2024.19.3.0102

Faust, F., Roepke, G., Catecati, T., Araujo, F., Ferreira, M. G. G., & Albertazzi, D. (2012). Use of augmented reality in the usability evaluation of products. WORK: A Journal of Prevention, Assessment & Rehabilitation, 41(S1), 1164–1167. http://doi.org/10.3233/WOR-2012-0298-1164

Ferrari, V., Klinker, G., & Cutolo, F. (2019). Augmented Reality in Healthcare. Journal of Healthcare Engineering, 2019, 1–2. http://doi.org/10.1155/2019/9321535

Gallardo, C., Rodr\′\iguez, S. P., Chango, I. E., Quevedo, W. X., Santana, J., Acosta, A. G., ... Andaluz, V. H. (2018). Augmented reality as a new marketing strategy. In Augmented Reality, Virtual Reality, and Computer Graphics: 5th International Conference, AVR 2018, Otranto, Italy, June 24--27, 2018, Proceedings, Part I 5 (pp. 351–362).

Gupta, R. (2024). The Role of Augmented Reality in Enhancing the Retail Shopping Experience. International Journal for Research in Applied Science and Engineering Technology, 12(4), 5012–5018. http://doi.org/10.22214/ijraset.2024.61081

Hall, S., & Takahashi, R. (2017). Augmented and virtual reality: The promise and peril of immersive technologies. In World Economic Forum (Vol. 2).

Hilken, T., de Ruyter, K., Chylinski, M., Mahr, D., & Keeling, D. I. (2017). Augmenting the eye of the beholder: exploring the strategic potential of augmented reality to enhance online service experiences. Journal of the Academy of Marketing Science, 45(6), 884–905. http://doi.org/10.1007/s11747-017-0541-x

Huang, Y. (2021). USING MOBILE AUGMENTED REALITY IN PERFORMANCE SUPPORT. Performance Improvement, 60(8), 9–17. http://doi.org/10.1002/pfi.21998

Inoue, Y. (2023). Effects of haptic imagery on purchase intention. Experimental Results, 4, e4. http://doi.org/10.1017/exp.2023.1

Javornik, A., Duffy, K., Rokka, J., Scholz, J., Nobbs, K., Motala, A., & Goldenberg, A. (2021). Strategic approaches to augmented reality deployment by luxury brands. Journal of Business Research, 136, 284–292. http://doi.org/10.1016/j.jbusres.2021.07.040

Jiang, Z., & Benbasat, I. (2004). Virtual Product Experience: Effects of Visual and Functional Control of Products on Perceived Diagnosticity and Flow in Electronic Shopping. Journal of Management Information Systems, 21(3), 111–147. http://doi.org/10.1080/07421222.2004.11045817

Klein, J. F., Zhang, Y., Falk, T., Aspara, J., & Luo, X. (2020). Customer journey analyses in digital media: exploring the impact of cross-media exposure on customers′ purchase decisions. Journal of Service Management, 31(3), 489–508. http://doi.org/10.1108/JOSM-11-2018-0360

Kumar, A., & Kumari, M. (2022). Real-Time Product Visualization using Augmented Reality. In 2022 2nd International Conference on Innovative Sustainable Computational Technologies (CISCT) (pp. 1–5). IEEE. http://doi.org/10.1109/CISCT55310.2022.10046658

Kumar, H., Gupta, P., & Chauhan, S. (2023). Meta-analysis of augmented reality marketing. Marketing Intelligence & Planning, 41(1), 110–123. http://doi.org/10.1108/MIP-06-2022-0221

Lee, S. H. (Mark), & Sergueeva, K. (2017). Chewing increases consumers′ thought-engagement during retail shopping. Journal of Retailing and Consumer Services, 35, 127–132.

http://doi.org/10.1016/j.jretconser.2016.12.010
Liu, R., Balakrishnan, B., & Erni Marlina Saari. (2024). How AR Technology is Changing Consumer Shopping Habits: from Traditional Retail to Virtual Fitting. Academic Journal of Science and Technology, 9(2), 140–144. http://doi.org/10.54097/n5fk7m44
Mendoza-Ramírez, C. E., Tudon-Martinez, J. C., Félix-Herrán, L. C., Lozoya-Santos, J. de J., & Vargas-Martínez, A. (2023). Augmented Reality: Survey. Applied Sciences, 13(18), 10491. http://doi.org/10.3390/app131810491
Nee, A. Y. C., Ong, S. K., Chryssolouris, G., & Mourtzis, D. (2012). Augmented reality applications in design and manufacturing. CIRP Annals, 61(2), 657–679. http://doi.org/10.1016/j.cirp.2012.05.010
Ngo, T. T. A., Tran, T. T., An, G. K., & Nguyen, P. T. (2025). Investigating the influence of augmented reality marketing application on consumer purchase intentions: A study in the E-commerce sector. Computers in Human Behavior Reports, 18, 100648. http://doi.org/10.1016/j.chbr.2025.100648
Ozturkcan, S. (2021). Service innovation: Using augmented reality in the IKEA Place app. Journal of Information Technology Teaching Cases, 11(1), 8–13.
Pantano, E., Pizzi, G., Scarpi, D., & Dennis, C. (2020). Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak. Journal of Business Research, 116, 209–213. http://doi.org/10.1016/j.jbusres.2020.05.036
Peng, P., Jacobs, S., & Cambré, B. (2022). How to create more customer value in independent shops: A set-theoretic approach to value creation. Journal of Business Research, 146, 241–250. http://doi.org/10.1016/j.jbusres.2022.03.066
Pessot, E., Zangiacomi, A., & Sacco, M. (2025). Exploring SMEs innovation paths with augmented and virtual reality technologies. European Journal of Innovation Management, 28(3), 1181–1201. http://doi.org/10.1108/EJIM-02-2023-0118
Poushneh, A. (2018). Augmented reality in retail: A trade-off between user's control of access to personal information and augmentation quality. Journal of Retailing and Consumer Services, 41, 169–176. http://doi.org/10.1016/j.jretconser.2017.12.010
Poushneh, A., & Vasquez-Parraga, A. Z. (2017). Discernible impact of augmented reality on retail customer's experience, satisfaction and willingness to buy. Journal of Retailing and Consumer Services, 34, 229–234. http://doi.org/10.1016/j.jretconser.2016.10.005
Rauschnabel, P. A. (2021). Augmented reality is eating the real-world! The substitution of physical products by holograms. International Journal of Information Management, 57, 102279.
Rauschnabel, P. A. (2023). Boosting Brands with Augmented Reality: Why and When it Works. NIM Marketing Intelligence Review, 15(2), 24–29. http://doi.org/10.2478/nimmir-2023-0013
Rauschnabel, P. A., Babin, B. J., tom Dieck, M. C., Krey, N., & Jung, T. (2022). What is augmented reality marketing? Its definition, complexity, and future. Journal of Business Research, 142, 1140–1150. http://doi.org/10.1016/j.jbusres.2021.12.084
Rese, A., Baier, D., Geyer-Schulz, A., & Schreiber, S. (2017). How augmented reality apps are accepted by consumers: A comparative analysis using scales and opinions. Technological Forecasting and Social Change, 124, 306–319. http://doi.org/10.1016/j.techfore.2016.10.010
Romano, B., Sands, S., & Pallant, J. I. (2021). Augmented reality and the customer journey: An exploratory study. Australasian Marketing Journal, 29(4), 354–363. http://doi.org/10.1016/j.ausmj.2020.06.010
Sabetzadeh, F., & Wang, Y. (2021). Demystifying Augmented Reality (AR) in Marketing From the E-Commerce Perspective. In Cases on Virtual Reality Modeling in Healthcare (pp. 215–242). http://doi.org/10.4018/978-1-7998-8790-4.ch010
Sadeghi-Niaraki, A., & Choi, S.-M. (2020). A Survey of Marker-Less Tracking and Registration Techniques for Health & Environmental Applications to Augmented Reality and Ubiquitous Geospatial Information Systems. Sensors, 20(10), 2997. http://doi.org/10.3390/s20102997
Scholz, J., & Duffy, K. (2018). We ARe at home: How augmented reality reshapes mobile marketing and consumer-brand relationships. Journal of Retailing and Consumer Services, 44, 11–23. http://doi.org/10.1016/j.jretconser.2018.05.004
Scholz, J., & Smith, A. N. (2016). Augmented reality: Designing immersive experiences that maximize

consumer engagement. Business Horizons, 59(2), 149–161. http://doi.org/10.1016/j.bushor.2015.10.003
Setiawan, B. (2024). The Augmented Reality (AR) Based on Artificial Intellegence (AI) in Integrated Marketing Communication (IMC) in Tourism Villages. Media Wisata, 22(2), 341–352. http://doi.org/10.36276/mws.v22i2.695
Shah, R. (2023). Augmented Reality in E-Commerce: The New Era of Online Shopping. In In Lecture notes in networks and systems (pp. 775–783). http://doi.org/10.1007/978-981-19-7663-6_72
Shonima, & Sowmya. (2024). Augmented Reality: Transforming Learning Landscapes in Education. International Journal of Research Publication and Reviews, 5(1). http://doi.org/10.55248/gengpi.5.0124.0213
Sihi, D. (2018). Home sweet virtual home: The use of virtual and augmented reality technologies in high involvement purchase decisions. Journal of Research in Interactive Marketing, 12(4), 398–417.
Singh, B., Kaunert, C., & Malviya, R. (2024). Modernizing Customer Experience Through Augmented-Virtual Reality in Emerging Markets. In Advances in Marketing, Customer Relationship Management, and e-Services (pp. 308–335). http://doi.org/10.4018/979-8-3693-4236-7.ch015
Singh, P., Khullar, P., Singh, S., & Kaur, A. (2024). Augmented Reality (AR) and Virtual Reality (VR) in Online Shopping: A Review of Current Research. International Journal For Multidisciplinary Research, 6(4). http://doi.org/10.36948/ijfmr.2024.v06i04.25659
Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. Journal of Business Research, 104, 333–339. http://doi.org/10.1016/j.jbusres.2019.07.039
Soon, P., Lim, W. M., & Gaur, S. S. (2023). The role of emotions in augmented reality. Psychology & Marketing, 40(11), 2387–2412. http://doi.org/10.1002/mar.21884
Steffen, J. H., Gaskin, J. E., Meservy, T. O., Jenkins, J. L., & Wolman, I. (2019). Framework of Affordances for Virtual Reality and Augmented Reality. Journal of Management Information Systems, 36(3), 683–729. http://doi.org/10.1080/07421222.2019.1628877
Stocchi, L., Pourazad, N., Michaelidou, N., Tanusondjaja, A., & Harrigan, P. (2022). Marketing research on Mobile apps: past, present and future. Journal of the Academy of Marketing Science, 50(2), 195–225. http://doi.org/10.1007/s11747-021-00815-w
Sudhakar, R, K. M., S, D. K., V, K., & S, P. (2022). AR Based Product Visualisation for Online Shopping. International Journal of Engineering Research in Computer Science and Engineering, 9(8), 25–29. http://doi.org/10.36647/IJERCSE/09.08.Art005
Tompunuh, G. S., & Wibowo, A. P. (2023). "Skincare and Make-Up Introduction. Why not use Augmented Reality?" Presentation of AR-based Application Implementation. International Journal of Computer Applications, 185(44), 8–13. http://doi.org/10.5120/ijca2023923252
Troise, C., O' Driscoll, A., Tani, M., & Prisco, A. (2020). Online food delivery services and behavioural intention – a test of an integrated TAM and TPB framework. British Food Journal, 123(2), 664–683. http://doi.org/10.1108/BFJ-05-2020-0418
Uhm, J.-P., Kim, S., Do, C., & Lee, H.-W. (2022). How augmented reality (AR) experience affects purchase intention in sport E-commerce: Roles of perceived diagnosticity, psychological distance, and perceived risks. Journal of Retailing and Consumer Services, 67, 103027. http://doi.org/10.1016/j.jretconser.2022.103027
van Esch, P., Arli, D., Gheshlaghi, M. H., Andonopoulos, V., von der Heidt, T., & Northey, G. (2019). Anthropomorphism and augmented reality in the retail environment. Journal of Retailing and Consumer Services, 49, 35–42. http://doi.org/10.1016/j.jretconser.2019.03.002
von Gizycki, V. (2023). Augmented Reality in der Customer Journey. In: Augmented Reality im Marketing. In Springer Gabler, Wiesbaden (pp. 7–38). http://doi.org/10.1007/978-3-658-42177-9_2
Wang, Y., Ko, E., & Wang, H. (2022). Augmented reality (AR) app use in the beauty product industry and consumer purchase intention. Asia Pacific Journal of Marketing and Logistics, 34(1), 110–131. http://doi.org/10.1108/APJML-11-2019-0684
Wu, H.-K., Lee, S. W.-Y., Chang, H.-Y., & Liang, J.-C. (2013). Current status, opportunities and challenges of augmented reality in education. Computers & Education, 62, 41–49. http://doi.org/10.1016/j.compedu.2012.10.024

Zalan, T., & Toufaily, E. (2024). A nascent market for digital assets: Exploration of consumer value of NFTs. Digital Business, 4(2), 100084. http://doi.org/10.1016/j.digbus.2024.100084

Zarantonello, L., & Schmitt, B. H. (2023). Experiential AR/VR: a consumer and service framework and research agenda. Journal of Service Management, 34(1), 34–55. http://doi.org/10.1108/JOSM-12-2021-0479

Zeng, J.-Y., Xing, Y., & Jin, C.-H. (2023). The Impact of VR/AR-Based Consumers′ Brand Experience on Consumer–Brand Relationships. Sustainability, 15(9), 7278. http://doi.org/10.3390/su15097278