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**Article**

## The illusion of luxury: Augmented reality's clash with brand essence

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# Marketing Review St.Gallen

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# The Illusion of Luxury

Augmented Reality's Clash  
with Brand Essence

Prior research has shown that augmented reality (AR) can enhance consumer experiences. However, little is known about the potential adverse effects of product displays with AR. This article investigates the impact of AR on luxury-brand perception. Two studies show that AR diminishes the perception of luxury brands—but not non-luxury brands—by reducing their brand essence.

Lucas Nann, Dr. David Finken, Dr. Tim Döring, Prof. Dr. Reto Hofstetter

Digital innovation has provided the luxury industry with new avenues for engaging with customers, redefining traditional models of exclusivity and luxury interaction. Recently, luxury brands, particularly in the fashion and jewelry sectors, such as Louis Vuitton, Gucci, and Burberry, have launched several initiatives related to the metaverse or augmented reality (AR). For example, Louis Vuitton sold Treasure Trunk NFTs, which granted purchasers access to their newly introduced Virtual Innovation Avenue (VIA), an exclusive and virtual club for fashion enthusiasts (Brockhaus, 2023). Similarly, Gucci has ventured into the virtual realm by offering customers the opportunity to engage in virtual try-ons of their sneakers through AR technology.

Beyond the luxury sector, consumers have become increasingly familiar with various applications of AR (Chandukala et al., 2022; Finken et al., 2021; Heller et al., 2019). The user base of AR applications is expected to increase to 4.3 billion consumers by 2025—a trifold increase since 2021 (Snap Inc. & Deloitte Digital, 2021). Most of the AR initiatives are designed to promote brand engagement (e.g., Snapchat’s face filters), serve as information tools (e.g., PeakFinder or AR navigation apps), or provide entertainment (e.g., Pokémon Go) (Tan et al., 2022). AR is particularly useful for product display as it allows consumers to superimpose virtual versions of physical products, such as furniture or electronic devices, into their immediate physical environment in real-time, resulting in mixed realities (Azuma et al., 2001). This means that AR provides consumers with a real-time product experience, which can increase their confidence in product choice (Heller et al., 2019) and reduce perceived risk during online shopping (Barta et al., 2023).

These benefits of AR have led to a 19.8% increase in conversion rates for virtual product try-ons, such as cosmetics (Tan et al., 2022). Overall, evidence indicates that both buyers and sellers benefit from AR product displays.

This article introduces a perspective that extends beyond traditional consumer products. Specifically, it seeks to investigate whether the positive effects of AR extend to luxury products and brands. Luxury brands embody unique and essential values that consumers actively seek when engaging with and purchasing products from such brands. These values include attributes such as high quality, exclusivity, prestige, and authenticity (Ko et al., 2019).

This study extends previous qualitative research on the deployment of AR by luxury brands from a managerial perspective (Javornik et al., 2021). It seeks to investigate whether consumers perceive luxury brands and their offerings in AR differently compared to what is known from research on both non-luxury brands and luxury brand perception outside the context of



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virtual settings. Therefore, this research aims to answer the following research question:

*How does an AR product display affect luxury brand perception?*

Prior research in the field of AR has shown that the positive effects of AR do not necessarily progress linearly. Identifying when and why the positive effects of AR carry forward to consumer reactions or brands, and when they do not, is crucial. Factors such as the congruency of AR context embeddings (Finken et al., 2021; Pfaff & Spann, 2023; von der Au et al., 2023), or the settings of AR-packaged goods (Petit et al., 2022) are important considerations. Additionally, research on virtual reality (VR) has shown that virtual experiences may negatively affect consumer behavior in real-world settings (Weihrauch & Schlager, 2020; Jun et al., 2019), highlighting the limitations and conditions of the positive outcomes of virtuality. However, there has been relatively little research on how fundamental characteristics of brands, especially luxury brands, can affect the positive effects of AR on consumers.

Luxury brands have traditionally focused on craftsmanship and human interactions, with new technologies not being part of their agenda (Okonkwo, 2009). However, the recent emergence of technologies such as metaverse, VR, AR, Web 3.0, and artificial intelligence (AI) has forced luxury brands to re-

consider their approach. Concurrently, consumer research has begun to investigate how these technologies affect perceptions of luxury brands. In one study, scholars investigated whether luxury products created by AI could convey the same brand essence as those created by humans. The findings indicated that luxury brands' essence decreases when consumers are informed that an AI was responsible for the design of the luxury product (Xu & Mehta, 2022). Specifically for AR, Javornik et al. (2021) developed strategies to mitigate the negative consequences of virtuality for luxury brands. However, there is a lack of empirical research investigating how luxury consumers perceive brands that present their products in a virtual format (i.e., product displays with AR).

This article aims to address this research gap by building on prior work on essentialism (Gelman, 2003). It argues a luxury brand's essence is at risk due to the characteristics of virtual product displays in AR (i.e., availability to the masses, realistic appearance, and proximate product perception). Consequently, it proposes that product display with AR decreases the perceived brand essence. This reduction in brand essence, in turn, reduces brand perception, particularly concerning a luxury brand's authenticity.

Two controlled online experiments were conducted to test these predictions. The results indicate that the use of AR in product display can have unintended negative consequences for the perception of luxury brands (but not non-luxury brands). This finding supports prior research in the context of new consumer technologies (such as AI) and luxury brand perception (Xu & Mehta, 2022).

In the following sections, we briefly present our theoretical framework and empirical studies. We conclude this article by discussing the study's limitations, future research opportunities, and important managerial implications.

### Management Summary

Many luxury brands have ventured into the virtual realm (e.g., metaverse, AR product displays) to showcase their products. However, prior research has failed to empirically test how virtuality affects luxury brand perceptions. Because the fundamental nature of luxury brands (i.e., high quality, exclusivity, prestige, and authenticity) contradicts the characteristics of AR, adverse effects could occur. This research presents two studies demonstrating that displaying luxury products in AR diminishes the brand essence of the focal brand, resulting in a reduction of brand authenticity.

## Theoretical Framework

This section presents the theoretical framework. It revisits luxury brands' attributes, including authenticity, introduces the theory of essentialism, and discusses why AR product display may harm luxury brand perception.

**Luxury brands** are associated with hedonic experiences and are characterized by superior product quality, craftsmanship, and symbolic benefits, whereas non-luxury brands are generally more utilitarian and meet the basic needs (Hirschman & Holbrook, 1982; Kivetz & Simonson, 2002). However, the values associated with luxury brands may differ depending on the product category (e.g., Xu & Mehta, 2022). Symbolic values of luxury brands convey exclusivity and are associated with high social status and prestige (Dubois et al., 2001; Hansen & Wänke, 2011). Indeed, some research suggests that luxury brands exclude lower-status customers from their stores (Dion & Borraz, 2017). For instance, Dion and Borraz argue that within a luxury servicescape, the cues attract high-status consumers and prescribe certain behaviors to foster a sense of social acceptance among them.

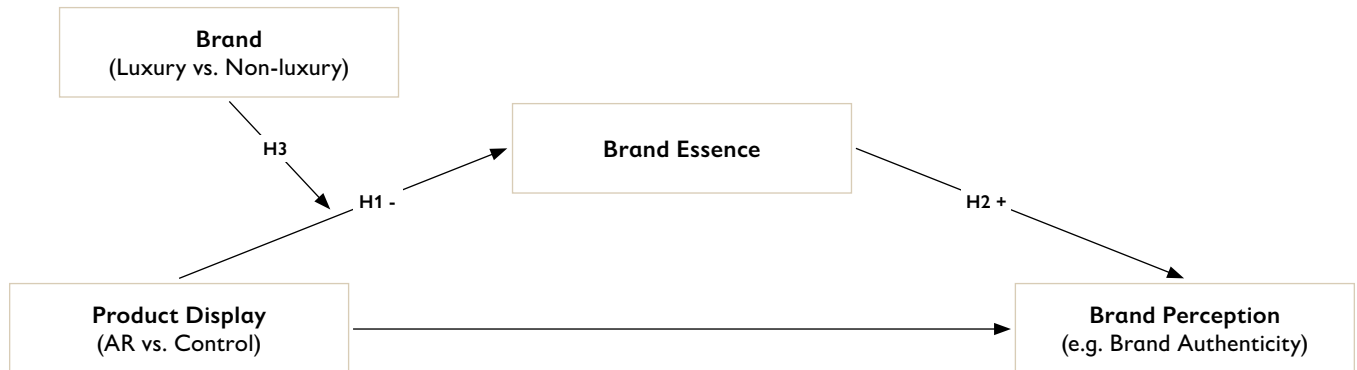
**Authenticity** is one of the central aspects of contemporary marketing, and consumers attribute it to brands (Napoli et al., 2014). For luxury brands, being perceived as authentic is highly relevant because authentic values are necessary to be perceived as luxury (Ko et al., 2019). Thus, an important antecedent of brand authenticity is brand essence, since products with a greater amount of brand essence are perceived as more authentic (Newman & Dhar, 2014).

**Brand essence** is defined as the symbolic identity of a brand, representing its core characteristics or values beyond its functional benefits (Newman & Dhar, 2014). According to the contagion model, brand essence can be transferred to products, resulting in increased value. For example, a product manufactured in the original factory (as opposed to a new one) better captures the brand's essence (Newman & Dhar, 2014). Indeed, recent research shows that luxury brands transfer part of their essence to their products (Xu & Mehta, 2022). But it remains unclear whether the essence of a luxury brand is also transferred to a virtual product offering (i.e., product display with AR).

Based on these fundamental concepts of **essentialism theory** (Gelman, 2003), we argue that presenting a luxury product in AR obstructs the transfer of a luxury brand's essence, because product displays in AR contradict a luxury brand's essence, such as exclusivity, high quality, and symbolic values. Products presented in AR appear realistic, in a known context, are close to the viewer, and available to the masses. This may result in



Figure 1: Theoretical Framework



Source: Own illustration.

a luxury brand being perceived as less scarce, exclusive, or authentic. We argue that product displays in AR deconstruct a luxury brand's essence (consisting of scarcity, exclusivity, or inspiration), thus diminishing brand perception (i.e., brand authenticity).

Therefore, the following hypotheses are proposed:

**H1:** A luxury brand's perceived essence is lower when its product is displayed in AR (as opposed to 3D reality).

**H2:** Perceived brand essence is positively associated with brand authenticity.

Because the values that are deconstructed through AR product presentations are unique to luxury brands, we further propose that this effect accounts only for luxury brands:

**H3:** The negative effect of product display with AR on brand authenticity through brand essence only occurs for luxury brands, while non-luxury brands are not affected.

Figure 1 summarizes the framework.

## Empirical Studies

Participants were randomly assigned to either a product display with augmented reality (AR) or non-mixed display formats. To compare the effects of AR product display, we presented products in both an AR-display video and a 3D-display video, as described in Barhorst et al. (2021) and Hoffmann et al. (2022).

The framework was tested with two controlled online experiments. Participants were randomly assigned to two groups and presented with either a product display with AR or a non-mixed display format. AR product display is a complex technology that can trigger multiple psychological processes. For better controllability, we used an AR-display video and compared it with a 3D-display video as described by Barhorst et al. (2021) and Hoffmann et al. (2022). Study 1 examines the impact of luxury-good product presentation on brand essence. Study 2 tests whether the reduction in brand essence results in lower brand authenticity, and whether this effect is limited to luxury brands (as opposed to non-luxury brands). Both studies focus on luxury brands in the fashion and jewelry sectors, as these product categories have seen many AR initiatives.

Measures from previous literature were used and the dependent variable, *brand perception*, was operationalized with a one-item measure to capture the extent to which a presented brand is authentic (1 = not at all authentic, 100 = very much authentic). Brand essence was measured with three items (Newman & Dhar, 2014; Morhart et al., 2015) using a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree).

### Study 1: Does AR Product Display Affect Brand Essence?

Study 1 examines the main effect of product display (AR vs. 3D) on brand essence. Specifically, the study aims to test whether AR product display diminishes the brand essence of luxury brands.

US Americans ( $N = 198$ , 54% female,  $M_{\text{age}} = 37.38$ ,  $SD = 15.07$ ) were recruited from Prolific and randomly assigned to a two-cell between-subjects experiment (display video: AR vs. 3D). Initially, all participants were introduced to a brand created for this study: the luxury brand PICARD. To ensure that the participants perceived PICARD as a luxury brand, we provided information about the brand's luxury values, such as craftsmanship, high quality, and durability, derived from prior literature (e.g., Ko et al., 2019; Berthon et al., 2009), before showing the product video. An illustrative sentence used to describe PICARD was: "Owning a PICARD leather good is a statement of choosing a high-quality luxury good that lasts and carries beautiful memories in your lifetime." This approach is frequently used in research and has been shown to imbue a brand with luxury values (e.g., Xu & Mehta, 2022).

Perceiving a luxury leather bag in AR (vs. in 3D) has a negative effect on brand essence, thus supporting H1.

Next, participants were shown PICARD's luxury leather bag in a 12-second prerecorded video, virtually in AR or in 3D on a white backdrop, depending on the group they had been assigned to. Afterward, data on brand essence were collected.

The results of a one-way ANOVA showed a significant main effect on brand essence ( $M_{\text{AR}} = 5.04$ ,  $SD = 1.39$ ;  $M_{\text{3D}} = 5.46$ ,  $SD = 1.25$ ,  $F(1, 197) = 4.95$ ,  $p < .027$ ). Perceiving a luxury leather bag in AR (vs. in 3D) has a negative effect on brand essence, thus supporting H1.

## Study 2: Effect of Brand Essence on Brand Authenticity

Study 2 examines whether the reduction in brand essence affects brand authenticity and whether the proposed effect is specific to luxury brands as opposed to non-luxury brands.

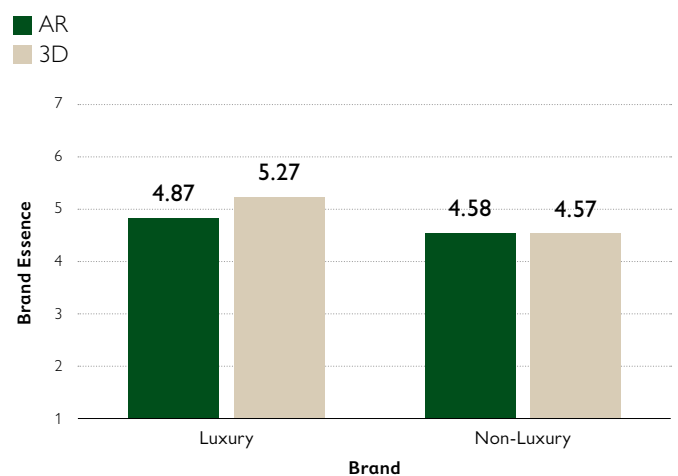
A UK-sample ( $N = 806$ , 64% female,  $M_{\text{age}} = 37.88$ ,  $SD = 13.48$ ) was recruited from Prolific and randomly assigned to one of four conditions using a 2 (display video: AR vs. 3D)  $\times$  2 (brand: luxury vs. non-luxury) between-subjects design. Depending on the manipulation, either the real luxury brand "Rolex" or the fictional non-luxury brand "LaCroix" was presented. The presentation followed the procedure of Study 1 and included a short description of the brand values. The non-luxury item was

created by simply removing the ROLEX logo from the product, while keeping everything else identical.

A manipulation check was carried out using a single item and a 9-point scale (1 = not at all luxurious, 9 = very luxurious). The results indicated a successful manipulation ( $M_{\text{luxury}} = 7.41$ ,  $SD = 1.91$ ;  $M_{\text{non-luxury}} = 6.14$ ,  $SD = 2.07$ ;  $F(1, 804) = 81.06$ ,  $p < .001$ ). Participants who encountered technical issues with the product display ( $N=17$ ) were excluded from the analysis, however, this did not significantly affect the findings. A 2x2 ANOVA was conducted to examine the effects of video display (AR vs. 3D) and brand (luxury vs. non-luxury) on brand essence. It revealed a significant interaction between video display and brand ( $F(1, 785) = 4.43$ ,  $p = .03$ ). Additionally, a main effect of the video display ( $M_{\text{3D}} = 4.92$ ,  $SD = 1.38$ ;  $M_{\text{AR}} = 4.72$ ,  $SD = 1.45$ ;  $F(1, 785) = 3.84$ ,  $p < .05$ ) and of the brand ( $M_{\text{luxury}} = 5.07$ ,  $SD = 1.37$ ;  $M_{\text{non-luxury}} = 4.59$ ,  $SD = 1.42$ ;  $F(1, 785) = 24.54$ ,  $p < .001$ ) was observed. Planned contrasts showed significant differences between exploring the luxury brand's product in AR vs. 3D and no significant differences between exploring the non-luxury product in AR vs. 3D (see figure 2).

A moderated mediation using PROCESS model 7 (Hayes, 2022) with video display as the independent variable, brand as the focal moderator, brand essence as a mediator, and brand authenticity (respectively, product attitude) as the dependent variable was conducted. The results showed that the reduction in brand essence for the luxury brand explained the difference in perceived brand authenticity ( $\omega = 4.68$ , BootSE

**Figure 2: Brand Essence Is Reduced in AR (vs. 3D) for the Luxury Brand**



Source: Own illustration.

= 1.60, 95% CI = [1.60, 7.83]). For the non-luxury brand, the indirect effect was not significant ( $\omega = -.165$ , BootSE = 1.67, 95% CI = [-3.47, 3.03]).

It is important to note that the index of moderated mediation was significant ( $\omega = -4.86$ , BootSE = 2.30, 95% CI = [-9.49, -.42]). Similar results were obtained when product attitude was used as the dependent variable. This result provides evidence for the theoretical framework, showing that brand authenticity for luxury brands (H2)—but not for non-luxury brands (H3) is decreased through brand essence when products are presented in AR.

## General Discussion

As consumers frequently encounter virtual versions of products in their physical realities (Hoffmann & Mai, 2022) and luxury brands are increasingly using mixed-reality settings (e.g., Gucci, Sephora), it is crucial to understand how the display of products with AR affects not only the products themselves but also the perception of luxury brands in general. The two studies presented here show that displaying a luxury product with AR can have detrimental consequences for luxury brand perception. In addition, this research shows that this effect is exclusive to luxury brands (vs. non-luxury brands). Virtuality is less effective in conveying the essential brand identities of luxury products, thus negatively impacting brand perception (i.e., brand authenticity).

### Main Propositions

- 1 Due to the unique characteristics of luxury brands, presenting their products in AR can have adverse effects on luxury brand perception.
- 2 Product displays in AR diminish the brand essence of luxury brands but not of non-luxury brands.
- 3 The reduction in brand essence leads to a decrease in positive brand perception (i.e., brand authenticity).
- 4 Therefore, managers of luxury brands should carefully strategize the entry into virtuality.

### Contributions

This research contributes to two research streams. First, it extends the literature on how technology affects brand perception (e.g., Han et al., 2010; Welte et al., 2022; Xu & Mehta, 2022) by showing how product displays with AR can be detrimental to luxury brands, because it reduces their brand essence. This contribution is important because prior research has mainly focused on the positive effects of product displays with AR and has neglected potential adverse effects on brands. Second,



Source: © Adobe Stock.



this study adds to the large stream of literature on essentialism (Gelman, 2003; Newman & Knobe, 2019) by showing how product display affects product essence. Previous research on essentialism has focused on tangible, physical objects, and it has remained unclear whether effects extend to virtual realms.

## Managerial Implications

This research has several important managerial implications. First, the presented findings highlight the need for luxury brand managers to exercise caution when showcasing their products in virtual environments, as this may negatively affect the brand's perception. However, various strategies can be employed to mitigate the negative effect on brand perception caused by the disparity between AR product presentations and the intrinsic attributes of luxury brands. As a first step, Javornik et al. (2021) suggest ensuring the use of high-quality technology for AR product presentations. However, the present study shows that this may not be sufficient to overcome negative consequences, because certain characteristics of AR, which go beyond the quality of technology, conflict with the essence of luxury brands. Secondly, managers should carefully consider how and where consumers can virtually examine their products in AR. For instance, limiting virtual product trials to

exclusive luxury showrooms may enhance the perceived exclusivity of AR presentations, bringing them closer to the core essence of luxury brands. Additionally, VR can allow managers to control the context of the displayed products. Managers may also consider limiting the virtual access to specific products, such as those within a particular sub-brand, to preserve the authenticity of the core brand and prevent any potential harm. Finally, managers could emphasize technological innovation in product design and presentation as a crucial component of their brand's luxury identity to mitigate adverse effects of innovative product displays on brand perception.

## Limitations and Future Research

This research is not without limitations, and some of them are outlined below.

- The proposed effect was only tested on two product categories, namely a bag and a watch. Given the variation in relevant values among luxury brands and their products, future research could expand the range of luxury products and brands to include those that emphasize advanced technology rather than traditional craftsmanship.
- Both studies used conservative video-based AR, a setting that allowed for control of various AR peculiarities. Future research should investigate actual virtual experiences in AR or VR that involve consumers actively using such technologies.
- It is important to note that the studies involved participants exclusively from the UK and the USA. We cannot exclude that our findings are influenced by cultural differences between Western countries (where the use of consumer AR or VR is relatively low) and Asian countries such as China or Korea. Future research could explore the cultural differences in luxury consumption between Western and Asian cultures.
- This research lacks field evidence, such as secondary data from Twitter or A/B testing on social media channels. Although theory testing is central to this research, some alternative explanations might account for the results. Future research should carefully consider alternative theories and thoroughly test the effects on downstream consequences.

Hopefully, our findings will generate more interest in the use of mixed reality in the context of luxury brands from a conceptual and managerial perspective and inspire further research endeavors. Future studies could explore this emerging field in more detail and provide valuable insights on mixed-reality settings in AR and VR. ■

### Lessons Learned

- 1 Emerging consumer technologies, such as AI or AR, may have unintended adverse effects on luxury brands.
- 2 As a first step, managers should ensure that virtual product presentation technology is of the highest quality to avoid potential adverse effects caused by technological issues.
- 3 An effective strategy for mitigating the adverse implications of AR product presentations may involve regulating the context in which consumers engage with luxury products.
- 4 Luxury brands that employ AR product displays might emphasize technological innovation as a key aspect of their luxury appeal, integrating AR into the essence of their brand.
- 5 Virtual product displays must be thoughtfully integrated into the brand's overall marketing strategy.

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# Declaration of Independence

The authors declare no conflicts of interest. All companies mentioned were selected based on our research and solely for illustrative purposes. This article does not aim to promote any products or services.

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