



Strategic approaches to augmented reality deployment by luxury brands

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ABSTRACT

Luxury brands' pioneering digital strategies now incorporate augmented reality (AR), which offers new opportunities thanks to AR unique characteristics. Luxury brands differ from other brands in their specific attributes, such as authenticity, exclusivity, hedonism, and aesthetic expression. This research investigates how AR characteristics can support luxury brands by drawing on illustrative cases of AR deployment by luxury brands and in-depth interviews with executives and senior managers. Specifically, it identifies how luxury brands deploy AR through four distinct strategic approaches focused on: ephemeral elevation; auratic amplification; bespoke personalization; and effortless continuation. The study contributes to literature on digital technologies and luxury brands by offering, first, a focused analysis of how AR uniquely conveys luxury attributes, and second, by conceptualizing how AR enables brands to enhance customer journeys and brand experiences through four strategic approaches. Finally, it provides managerial guidance on how luxury brands can effectively deploy AR to build brand equity.

1. Introduction

The strategic importance of experiences is well documented for luxury brands (Dion & Borraz, 2017; Kapferer & Bastien, 2009). Such efforts can reach new heights thanks to augmented reality's (AR) unique capacity characteristics to intertwine the virtual and the physical, meaning luxury consumers can immerse themselves in virtually enhanced experiences wearing Rolex watches, fantasizing in the world of Swarovski jewelry, or exploring Coco Chanel's Paris atelier through AR applications. This paper argues that AR deployment offers fresh possibilities for conveying the unique attributes of luxury brands, contributing not only to brand experience, but also to the customer journey (Kuehnl, Jozic, & Homburg, 2019), and consequently growing brand equity.

Luxury brands represent the fastest growing sector among top global brands (Conti, 2018), partially due to the strategic efforts invested in digital marketing: Bain (2019) predict that by 2025 digital purchases will represent 25% of the luxury market's value. The importance of

digital was further catalysed in 2020 by the effects of the Covid-19 pandemic (Achille & Zipser, 2020). A key component of the recent marketing digitalization agenda is AR (Dwivedi et al., 2020), defined as a technology that visually integrates virtual elements into physical surroundings with real-time interactivity (Javornik, 2016). Much of AR marketing research has so far remained general rather than specific to an industry or brand type. However, the luxury sector draws on unique attributes: authenticity, aesthetic expression, exclusivity, high quality, hedonism, prestigious image, premium price, and a deep resonance with consumers (Kapferer & Bastien, 2009; Ko, Costello, & Taylor, 2019). This paper therefore asks: *How do luxury brands strategically approach and harness the value of AR technology given their distinctive attributes?* The question is addressed through an analysis of in-depth interviews with executives and senior managers in the luxury sector, who are working closely with AR. The research is also informed by AR cases from leading luxury brands (e.g. Gucci, Dior, Burberry, Tiffany).

This study contributes, first, by expanding prior research on AR, which has focused primarily on consumer responses (Barhorst, McLean,

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Shah, & Mack, 2021; Petit, Javornik, & Velasco, 2021), but has not explained how brands should approach AR strategically, especially in specific contexts such as luxury. This work addresses this omission by discussing how AR characteristics (Heller, Chylinski, de Ruyter, Mahr, & Keeling, 2019; Javornik, 2016) allow luxury brands to convey luxury attributes in novel ways. Second, this research conceptualizes four distinct strategic approaches that luxury marketers pursue when deploying AR, allowing them to build brand equity (Chandon, Laurent, & Valette-Florence, 2016) in ways that are explicitly relevant to luxury (Holmqvist, Wirtz, & Fritze, 2020). Specifically, AR enhances: a) brand experience through encounters that either focus on creating ephemeral elevation or amplifying brand aura; or b) customer journey by permitting bespoke personalization or effortless continuation. As such, this study marks the first in the luxury literature to identify how digital technologies, specifically recent additions such as AR, contribute differently to customer journey as opposed to brand experience (Kuehnl et al., 2019) – a distinction previously not addressed in the luxury sector.

2. Background

2.1. Digital technologies' impact on luxury brand equity

Prior research has consistently shown that luxury branding draws on specific logic (Dion & Borraz, 2017; Kapferer & Bastien, 2009), firmly grounded in key luxury attributes. Specifically, luxury brands stand out in terms of *high quality* and *premium price* as well as the uniqueness of their inherent qualities, creating the perception of *authenticity* (Chandon et al., 2016; Ko et al., 2019). The concept of luxury is strongly associated with *exclusivity* and *prestigious image* (Beverland, 2006; Kapferer & Bastien, 2009), linked to luxury's orientation towards exceptional services (Wirtz, Holmqvist, & Fritze, 2020). Recent focus on experiences (Thomsen, Holmqvist, von Wallpach, Hemetsberger, & Belk, 2020) extended the core notion of luxury to encapsulate *hedonism* and *aesthetics* – drawing on the principles of art, magic, and charisma (Dion & Arnould, 2011) – and a *deep resonance with consumers* (Holmqvist, Ruiz, & Peñaloza, 2020).

Managing luxury brand attributes allows managers to build luxury brand equity – specifically, brand loyalty, brand quality, brand associations, and brand awareness (Yoo & Donthu, 2001). Growing brand equity while incorporating digital technologies has proved challenging due to concerns about how this may have an adverse impact on luxury brands that are steeped in tradition and heritage (Chandon et al., 2016; Pantano, Passavanti, Priporas, & Verteramo, 2018) and that rely on awe-inspiring retail encounters (Dion & Borraz, 2017). An important focus for luxury brands is how to incorporate digital technologies that support, rather than undermine, the luxury attributes (Holmqvist et al., 2020) and contribute to brand equity (Chandon et al., 2016). A growing body of research investigates how luxury brands can strategically use digital technologies (see Table 1). Much of this work focuses on social media: Godey et al. (2016) showed how trendiness, customization, and entertainment built brand equity; Lee and Watkins (2016) demonstrated that consumer interactions with YouTube vloggers improved luxury-brand perceptions and purchase; and Bazi, Filieri, and Gorton (2020) uncovered consumer motivations for engaging with luxury brands on social media, which are in part related to luxury attributes. Beyond this focus on social media, evidence of how other digital technologies – especially immersive technologies such as AR – can build luxury brand equity are sparse. Some research has shown that the ability to customize luxury products via an online tool (Yoo & Park, 2016) or based on one's own DNA (Rosenbaum, Ramirez, Campbell, & Klaus, 2019) can embody perceptions of luxury attributes. Pantano et al. (2018) note that luxury retailers are interested in immersive technologies, but there is limited overall adoption of smart technologies. In short, while existing research considers AR to “be a breakthrough for luxury retailers in both online and offline channels” thanks to applications such as virtual fitting rooms (Lee, Rothenberg, & Xu, 2020, p. 255), the potential role that AR can

play for luxury brands is far from fully understood. This is, at least in part, because of the following reasons.

First, prior literature has not clearly specified *if and how digital technologies support luxury brands in conveying luxury attributes*. Existing research on luxury branding (Holmqvist et al., 2020; Lee et al., 2020; Pantano et al., 2018) considers immersive technologies principally as product visualization tools, exploring AR only peripherally, without considering how the unique characteristics of AR can convey luxury attributes to build brand equity. Second, few have examined the role of digital technologies in building brand experience (Holmqvist et al., 2020; Leban, Seo, & Voyer, 2020), missing a key research area of luxury (Thomsen et al., 2020) associated with brand equity (Lemon & Verhoef, 2016). Building these connections is vital, as it helps uncover how AR may support experiences that are crucial for luxury (Holmqvist et al., 2020). Finally, luxury research has not yet distinguished between customer journey and brand experience, two distinct facets of customer participation that each drive brand-equity elements, such as loyalty (Kuehnl et al., 2019). Brand experience concentrates on specific touchpoints and consumer responses to brand-related hedonic stimuli (Brakus, Schmitt, & Zarantonello, 2009), whereas effective customer-journey design relies on utilitarian aspects and creates a perception of thematically cohesive, context-consistent touchpoints (Kuehnl et al., 2019). Holmqvist et al. (2020) note that digital tools can speed up in-store processes, but such utilitarian uses do not convey luxury attributes. There is a strong need for further clarity in how newer digital technologies with distinct characteristics, such as AR, could support the customer journey for luxury brands.

2.2. AR characteristics and their potential for luxury branding

Identifying technological characteristics is an established approach to studying technologies in marketing (Hoffman & Novak, 1996), including AR (Javornik, 2016; Scholz & Smith, 2016). Related approaches investigate the user's perspective – for instance, what value consumers derive from AR through a “desired enhancement of reality” (Rauschinabel, 2018, p. 558). Based on prior literature, four AR characteristics are now identified and discussed in relation to prominent AR cases in luxury¹, presented in Table 2.

Virtuality refers to the visual simulation in AR (Javornik, 2016). The degree of virtuality in AR can vary and is lower than in virtual reality (VR) (Milgram & Kishino, 1994), since, unlike VR, AR combines simulated elements with physical surroundings. In the context of luxury, such virtual simulation can deliver powerful momentary illusions (Hietanen, Rokka, & Schouten, 2014) by, for instance, simulating branded products (e.g. projecting Louis Vuitton bags) or augmenting a sunset over New York's skyline (e.g. Prada – Table 2).

Virtual-physical overlay refers to virtual representations superimposed on physical surroundings, the extent of which can fluctuate. Similarly, Heller et al. (2019) identified imagery generation as an AR affordance allowing consumers to envision 3D product representations against the real world. However, such elements do not need to be tied solely to products; rather, such overlay can create captivating aesthetic simulations. Examples include Burberry's artistic drawings overlaid in physical surroundings, or the ‘Hermès girls’ aesthetic universe overlaid on the Rue du Faubourg.

Virtual-physical alignment allows for real-time interactivity with virtual elements and occurs when virtual and physical elements appear visually aligned. However, the degree of alignment can vary, depending on the quality of the tracking. Heller et al. (2019, p. 98) define this affordance as allowing for a “mental transformation” of user perception. Examples include AR face filters, such as the virtual try-on of Dior's

¹ Twenty top luxury brands were identified from *Business Insider* (2020), *Luxe Digital* (n.d.), *Statista* (n.d.), and *YouGov* (n.d.) rankings. Of these, 15 brands had activities employing AR.

Table 1

Selected literature on luxury brands and digital technologies.

Authors	Luxury brands' or customers' digital marketing activities	Conceptual underpinning	Methodology	Contribution (Links to luxury attributes and brand experience/customer journey <i>highlighted</i> if existing)
Social media				
Lee and Watkins (2016)	Promotion via YouTube vloggers	Social comparison theory	3 studies: Online survey of 396 US participants; 88 US female students; 423 US participants	Interpersonal involvement with YouTube vloggers impacts luxury brand perceptions and purchase intentions
Godey et al. (2016)	Social-media marketing efforts (entertainment, interaction, trendiness, customization, word-of-mouth)	Relationship between social-media marketing, brand equity, and consumer responses	Cross-cultural survey of 845 luxury consumers	Social-media marketing efforts grow brand equity (brand preference and loyalty)
Bazi et al. (2020)	Social-media engagement	Motivations underpinning engagement with luxury brands	Interviews with 25 luxury customers	Identified consumer motivations, some of which are related to <i>luxury attributes – aesthetics, hedonism, deep connection</i>
Mandler, Johnen, and Gräfe (2020)	Social-media communication	Consumer engagement, luxury dimensions	Field study; Experiment with 1888 US consumers	Non-personal <i>luxury attributes (quality, heritage, uniqueness)</i> significantly increase consumer affect, while personal (<i>hedonism</i> and extended self) do not; these effects can be moderated by <i>experience</i>
Leban et al. (2020)	“Lurking” on social media	Dematerialization of luxury brands’ consumption	Interviews with 16 European aspirational consumers	Consumers “lurk” social-media practices to access intangible luxury <i>experience</i>
Other digital technologies				
Yoo and Park (2016)	Product customization via e-commerce	Consumer-Perceived Value Tool	Survey of 303 South Korean female participants	E-customization creates utilitarian, hedonic, self-expressive, and social values, which impact satisfaction and brand loyalty
Rosenbaum et al. (2019)	Product personalization based on customer’s DNA	Hyper-personalized products as unconventional luxury	3 experimental studies with 100 high-end mall Latino shoppers	Hyper-personalization embodies <i>luxury attributes</i>
Pantano et al. (2018)	Smart technologies’ adoption (e-commerce; mobile; immersive and pervasive in-store tech) in luxury retailing	Smart-retailing capabilities	Case study of five B2C luxury companies	Smart technologies can support organizational processes and selling activities (such as <i>deep connection</i> with customers)
Lee et al. (2020)	Comparison of online and offline channels	Product and channel attributes	Survey of 240 fashion consumers	Younger luxury consumers value channel attributes (e.g. virtual fitting room) and <i>experience</i> more than products’ attributes
Holmqvist et al. (2020)	Online, in-store, and frontline technologies deployment	Multi-actor approach	Conceptual	Digital technologies enable multi-actor interactions and enhance <i>customer experience</i>
This research	AR deployment	AR characteristics; Luxury attributes; Brand experience; and Customer journey	Interviews with 17 luxury/digital-marketing executives	Luxury brands strategically deploy AR to convey <i>luxury attributes</i> , which enhances <i>brand experience</i> or <i>customer journey</i>

sunglasses on Instagram, but also more aesthetically and experientially oriented AR lenses such as Swarovski’s filter that adorns users with branded crystals.

Seamless activation permits AR visualizations to be autonomously activated via geolocation, marker recognition, or markerless tracking without explicit user input (Azuma et al., 2001; Javornik et al., 2019). The degree of ‘seamlessness’ can depend on the reliability and immediacy of the tracking system. Seamless activation of virtual elements through physical elements or location is particularly relevant for luxury retail: the Hugo Boss AR installation used a retail window as a content trigger, while Harrods tied the AR experience to their flagship store. Next, this more nuanced understanding of AR now allows to examine how *luxury brands can strategically harness AR to build brand equity*.

3. Methodology

3.1. Research design and data collection

The auhtors conducted a qualitative study in which interview data was collected with industry experts. The study adopted a discovery-oriented approach (Muninger, Hammedi, & Mahr, 2019; Wells, 1993) to gain understanding of the strategic deployment of AR by luxury brands. This allowed for depth of understanding and a focus on participant insights (Wells, 1993).

The research used purposive sampling (Miles & Huberman, 1994; Patton, 1990) to actively recruit key participants, drawn from networks and industry contacts. Sampling criteria included management responsibility, substantial experience in digital and the luxury sector, and

active engagement in strategic decision-making. The study comprised experts from brands, agencies, and technology companies working across premium, masstige, entry-, medium-, and high-level luxury categories (Kapferer & Bastien, 2009). Phenomenological (Frechette, Bitzas, Aubry, Kilpatrick, & Lavoie-Tremblay, 2020) interviews were conducted with 17 managers, whose profiles are provided in Table 3. Based on prior literature, a semi-structured interview guide was created (McCracken, 1988; Patton, 1990), informed by the research questions. The interviews began with grand tour questions (McCracken, 1988) regarding the luxury brands’ digital marketing strategies (e.g.: *how digital was used to support luxury brand strategy; the main objectives of current digital marketing strategies; decision-making surrounding technological investment*). The focus then shifted to the deployment of AR (e.g.: *understanding of AR; current uses of AR within the company; a strategic value of AR; integration across touchpoints; implementation challenges*). Finally, the study considered AR’s future direction in the luxury sector (i.e. *challenges and opportunities*). The interviews lasted on average 60 min, were audio-recorded and transcribed verbatim (226 pages in total). They were conducted face-to-face in the UK between November 2018 and March 2019.

3.2. Analytical procedures

First, the researchers immersed themselves in the data via an inductive approach that involved identifying and interrelating thematic codes across all interviews (Dubois & Gadde, 2002; Miles & Huberman, 1994). They discussed and circulated analysis memos which summarized initial reflections. The aim was to gain a holistic interpretation of

Table 2
AR cases by luxury brands (chronological overview).

Luxury brand	Description of AR	Strategic relevance for luxury brand
Tiffany	Ring virtual try-on via smartphone application (2010)	Ring visualization and customization to support customer journey
Louis Vuitton	AR application visually transforming LV bags with artistic elements of Yayoi Kusama (2012)	Part of campaign promoting handbag collection
Hugo Boss	AR marker-based, brand-related visualization displayed in window of London's brand store (2014)	Location-specific visualization of brand world outside the store
Chanel	AR interactive visualization of Coco Chanel's workshop at Chanel's 'Mademoiselle Privé' exhibition, accessed via smartphone; Saatchi gallery (2015)	Immersive depiction of brand heritage
Burberry	AR Burberry smartphone application overlaying on physical surroundings fantasy-like, Burberry-inspired drawings by the artist Danny Sangra (2017)	Interactive engagement with brand aesthetics
Hermès	AR visualization of young women dancing on Rue du Faubourg (Hermès flagship store); accessed via smartphone (2017)	Visualizing brand aesthetics to appeal to younger segment 'Hermès girls'; Part of perfume campaign
Swarovski	AR face filter visualizing curated looks (e.g. <i>Dragon Queen</i>), initially exclusively in New York #crystalsfromswarovski pop-up stores (2017)	Immersive visualization of brand aesthetics
Fendi	Real-time visualization fashion shows and catwalks via AR smartphone application (2018)	Visualization of brand's exclusive events; Promoting new collection
Armani	High-end lipstick virtual try-on on Armani Beauty WeChat (2019)	Offering purchase optimization via social media
Chanel	AR Snapchat lens; Virtual gifts in Chanel Snowglobe in a holiday ski lodge activated at Manhattan location (2019)	Part of campaign celebrating the iconic perfume
Dior	Dior So Light sunglasses virtual try-on filter on Instagram, accompanied by branded headband and fun backgrounds (2019)	Innovative product visualization on social media
Gucci	Gucci Ace sneakers' virtual try-on via smartphone application (2019); Features include special stickers and wallpapers on Gucci media	Immersive brand experience to engage with millennials 'Gucci Gang'
Harrods	AR smartphone application, AR visualization of animals on the secret trail through in-store safari at Harrods (2019)	AR gamification enhancing store experience; Part of Harrods' Christmas campaign
Harrods	AR makeup try-on accessed via mirrors in the store (2019)	Product personalization to improve luxury store experience and purchase journey
Lancôme	AR game on smartphone app; Lancôme's signature virtual products hidden at exclusive Hong Kong locations to win prizes (2019)	Part of brand's 'Chinese New Year' campaign
Louis Vuitton	Snapchat AR filter activated via markers; Visualization of handbags that change colours and display visual effects; Presented at Viva Technology conference (2019)	Preview of LV Men's Fall-Winter collection by Virgil Abloh
Prada	#PradaAugmentedSunset; Visualization of New York skyline, recorded in Prada headquarters (2019)	Part of Prada Resort 2019 collection
Rolex	Rolex watch virtual try-on via AR smartphone application (2019)	Supporting product consideration and customer journey
Tiffany	AR visualization of NYC craftsmen's workshop at brand's exclusive location in Seoul (2019)	Immersive visualization of brand's craftsmanship

luxury brands' understanding of AR characteristics, as well as the role of AR for luxury brands and how it differs from other digital technologies.

The team then conducted a structured in-depth analysis, where the first author identified and interpreted quotes related to the manager's understanding of AR characteristics in the luxury context and then discussed the findings with the second and third author, who kept an outsider perspective during this stage (Kazadi, Lievens, & Mahr, 2016). This approach was designed to gain insights into the importance of AR characteristics to the luxury sector.

Next, the analysis examined how the deployment of AR strategically supports luxury brands, as well as focusing on general brand digital-marketing activities to understand if and how exactly AR supports luxury brands in ways that other digital technologies cannot. The study followed an inductive approach (Gioia, Corley, & Hamilton, 2013), basing the analysis on established luxury attributes. Founded on the literature (Holmqvist et al., 2020; Ko et al., 2019), a code sheet with attribute descriptors was prepared. The next step then involved an identification of the interview quotes referring to how AR relates to luxury attributes and also how the brand's general digital-marketing activities are linked with these attributes. A total of 121 quotes were collected and then divided according to specific luxury attribute(s). Inter-rater reliability demonstrated a highly satisfactory agreement (Cohen's Kappa = 0.804, Cohen (1960)). The discovery stage (Klag & Langley, 2013) of this study focused on identifying how AR supports luxury brands specifically regarding luxury attributes, resulting in four strategic approaches contributing to brand equity (see Fig. 1).

4. Findings

4.1. AR characteristics in the luxury sector

The interviewees demonstrated that rather than simplifying their understanding of AR to the level of 'try before you buy', they adopt a more nuanced understanding of AR characteristics, also noting how they are improving and what is still lacking, with a special focus on sector requirements.

First, in terms of *virtuality*, participants focused on the quality of the visualization. Several noted how advances in photogrammetry allow for progressively more hyper-realistic visuals. High-fidelity 3D models are crucial for luxury product visualization and brands are focusing their efforts on these advances to deliver high-quality product simulation, as Devansh explains: "*Being able to represent reflections and gloss and matte and texture is a really hard problem.*" Participants explicitly referred to a layering of the virtual content onto physical surroundings, which implies not only a visual change, but also expands existing meaning: "*The augmented layer can be anything, anything that changes the meaning of a scene*" (Timothy). This change can entail a visualization of hidden elements or a transformation of existing objects, as Kimberley notes: "*It's about making visible what's previously been hidden, whether that's content or information or connection to something.*"

For precise *virtual-physical alignment*, the reactions of virtual content should instantly adapt to one's face, movements, or specific environmental cues such as light. This is not always fully achieved: "*Being able to accurately model the impact of ambient lighting and how it interacts to your skin tone and the product is a hard problem to solve*" (Devansh). Such alignment is crucial for linking the virtual and the physical, as Jakob highlights: "*It's tangibly tied into your physical presence... physical location in a meaningful way.*"

Finally, *seamless activation* was noted for its potential to link brand content to a specific location: "*If you are outside the retail store or maybe the store is closed and you can see a runway on your phone like models appearing in 3D with the runway of those garments like surrounding you in the street*" (Carlos). Importantly, according to Jeremy, such activation is expected to happen across a range of technologies, as AR is increasingly more integrated: "*AR will become a much better platform (...), like the web to augment things around you regardless of the tool that you decide to utilize*

Table 3
Interview participants.

Participant pseudonyms	Role, Region	Company (if permitted to disclose), sector, and number of employees	Years of experience in digital marketing	Luxury category (masstige, premium, entry-, medium-, and high-level)	Involvement with luxury brand	Technology company/Brand/Agency
James	Marketing Director, Global	Zerolight; Real-time visualization platform for car industry; 51–200	12	Categories across the sector	Technology development	Technology company
Jakob	Agency Founder, Global	HoloMe; AR software developer; 1–10	2 in luxury		Strategy management	Technology company
Daniel	Director of Technology, Global	anonymized; Multinational luxury goods conglomerate; >10,000	Not a digital marketer – 17 in luxury	Categories across the sector Premium, High-level	Consultancy	Brand
Elsa	Senior Director of Digital Innovation, Europe and America	Coty; Multinational beauty; >20,000	15	Masstige, Premium	Consultancy	Brand
Kara	Brand Marketing Director, EMEA	anonymized; Global luxury fashion; >10,000	15	Entry-level	Consultancy	Brand
Ivy	Innovation Program Manager, Global	anonymized; Luxury jewellery; >30,000	10	Premium	Technology development	Brand
Devansh	CTO, Global	anonymized; Luxury beauty; 501–1000	10	Entry-, Medium-level	Technology development and strategy	Brand
Carlos	R&D Business Innovation Manager, Global	anonymized; Online luxury retailer; > 5000	7	Premium, High-level	Consultancy	Brand
Sarah	Marketing Manager, EMEA	anonymized; Luxury jewellery and speciality retailer brand; >14,000	6	Premium	Brand management	Brand
Jeremy	CEO, Global	Holition; Innovation agency; 11–50	30	Categories across the sector	Experience design	Agency
Gary	Director of Products, Global	anonymized; Global luxury digital agency; 1001–5000	23	Premium, High-level	Consultancy	Agency
Theo	Founder, Global	King & Partners; Marketing and brand agency; 11–50	22	Categories across the sector	Research and Consultancy	Agency
Kimberley	Head of Retail for Trends, Insights & Innovation, Global	Stylus; Trend intelligence service; 51–200	15		Brand strategy management	Agency
Martin	Agency Director, Global	Fashion innovation agency; Creative agency; <50	15	Categories across the sector	Brand management	Agency
Lisa	Innovation Director, Global	JWT; Creative, Data and Technology agency; >20,000	14	Categories across the sector	Brand management (technology)	Agency
Timothy	Head of Innovation, Global	Zenith; ROI agency; 5001–10,000	11	Categories across the sector	Innovation strategy	Agency
Adam	Head of Innovation, UK	Isobar; Global digital agency; >5000	3	Categories across the sector	Digital marketing strategy	Agency

(...) and make it much more accessible and exciting.”

Building on this understanding of AR characteristics in the luxury sector, the analysis concentrated on how AR is strategically deployed with a specific focus on luxury attributes.

4.2. Strategic approaches

This study identifies four strategic approaches for AR deployment by luxury brands. Conceptually, these approaches rely on how AR characteristics enable brands to convey luxury attributes in novel ways, enhancing a) brand experience as brand-related AR stimuli impact consumer responses (Brakus et al., 2009), or b) customer-journey design as AR offers new opportunities for integrating brand touchpoints (Kuehnl et al., 2019). The analysis also pinpoints links with brand equity

for each approach. The *supporting material* in Appendix A demonstrates how the proposed approaches are unique to AR deployment as opposed to general digital-marketing strategy.

4.2.1. Enhanced luxury-brand experience

The study identifies two strategic approaches that are deployed to enhance brand experience – *ephemeral elevation* and *auratic amplification*. They rely on episodic encounters created by AR and are concentrated around brand touchpoints. Compared to traditional digital technologies (Appendix A), AR creates more transformational moments by representing luxury attributes in an immersive and sensory-rich manner. In both approaches, AR characteristics make brand elements proximal and visually prominent in physical surroundings, although the nature of the associated experiences differs.

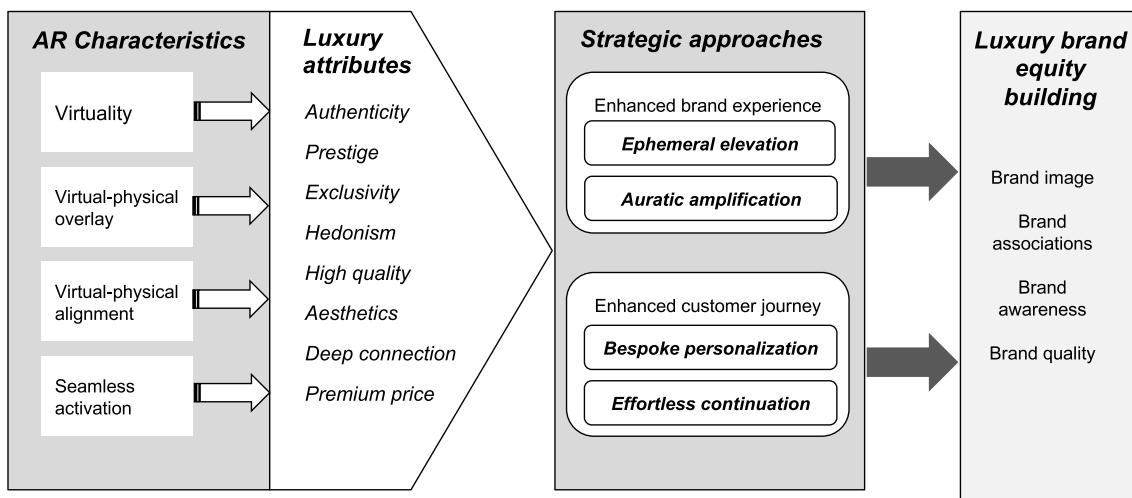


Fig. 1. Conceptual framework.

Ephemeral elevation – In this approach, AR is deployed to create moments that are elevated from reality and anchored in the production of intense affective and sensory consumer responses (Hirschman & Holbrook, 1982). New forms of brand hedonism arise through episodes of short-term excitement: “*It's allowing you to have a really incredible sensory emotion. (...) that real kind of surprise and delight. (...) So those might be more event-led moments*” (Sarah).

Elevation can be achieved in different ways – for instance, through technological innovations affording novel ways to seamlessly activate brand-related content in one's physical environment. Further, AR brand experience can be built around ‘coolness’ (Appendix A) based on the exclusivity of virtual content associated with specific locations (such as flagship stores), time-limited AR experiences (holiday seasons), or product launches (see Table 2).

Kimberley emphasizes AR's creation of fantasy-like brand experiences through a “*visually subterranean world, where it is there and it is not there, (...) elevating reality*”. Through enchanting encounters, the brand forges deeper connections with consumers:

“There's a sense of wonder, of excitement. When you create amazing content and deliver it in a way that hasn't been seen before, that emotional connection you build is so incredibly powerful... You build something you will go and tell everyone about and you will never forget” (Martin).

Such experiences are often campaign-driven and can «activate» the luxury brand by increasing brand-talkability, awareness, and positive brand associations.

Auratic amplification – In this approach, AR-fueled interactions at touchpoints extend the aura of luxury, which encapsulates its uniqueness (Dion & Arnould, 2011). AR visually focuses the customer on brand-aura via sensory-rich cues, “*creating a visual vocabulary*” (Theo) and new meanings, evoking affective and sensory, as well as cognitive responses.

In comparison to ephemeral elevation, focusing on hedonism or exclusivity, auratic amplification centres on brand distinctiveness, such as craftsmanship:

“The beauty of AR, is you can get close to it, you can see seams, you can see the technical details, and of course theoretically that's something that every luxury brand should be winning on as well, that their products inherently should be much more specialized, much more beautiful” (Kimberley).

The simulations overlaid on, or integrated as part of, physical surroundings can visually emphasize the exquisite materials and craftsmanship. Also, they have the capacity to cultivate luxury aura by

visualizing brand heritage. Participants praised the Chanel ‘Mademoiselle Privé’ exhibition (Table 2), where AR was central in bringing the artisanal nature of the product to life, amplifying the Chanel world.

“It was probably Coco [Chanel], where they built a whole experience around her. And it was beautiful, it was an application, you went into a store and it was almost like an art exhibition. And that was a great brand story” (Gary).

A similar example is the Tiffany workshop (Table 2), where consumers enter an AR simulation that depicts the labor and creative process behind every Tiffany piece, thus magnifying brand heritage. AR experiences of this type allow brands to build intimacy with the consumer (Scholz & Duffy, 2018). At Swarovski, for instance:

“We have the crystal world...like a Disneyland of Swarovski, and you get completely immersed into the Swarovski world...we are really trying to get the customer to feel what it is like to be a part of Swarovski” (Ivy).

Similarly to ephemeral elevation, auratic amplification builds favorable brand associations. Crucially, though, auratic amplification contributes to brand equity through customers learning about brand values, which increases the perceived brand quality.

4.2.2. Enhanced customer journey

The analysis revealed that AR offers new possibilities for luxury brands in the context of customer journey, the enhancement of which crucially goes beyond the solely utilitarian aspect (Holmqvist et al., 2020). In comparison to other digital technologies, AR integrates virtual and physical elements simultaneously, which enables the luxury attributes to persist seamlessly. This uncovered two distinct approaches – *bespoke personalization* and *effortless continuation* – which focus on context-sensitivity and consistency respectively as the key dimension of customer-journey design (Kuehnl et al., 2019) as well as occurring at different phases of the journey.

Bespoke personalization – This approach deploys AR to personalize luxury products' exclusivity, high quality, and prestigious image in the consideration phase. Consequently, such a customer journey is more sensitive to the needs of luxury customers, which ultimately commands the premium price.

AR's virtuality realistically simulates and intensifies the superior quality of products when they are overlaid on the real world or aligned with consumers' appearance:

“It could be used for showing product in context in high quality which means zoomable to a high degree so you can see the quality of the materials. I think that is particularly important for luxury and is something

that requires close-up inspection. So AR should probably be used in place of or as part of the consideration phase in a run-up to a purchase” (Timothy).

The process of aligning virtual high-quality materials with customers' appearance features is key for adapting touchpoints to customer needs and personalizing the product trial in a truly bespoke manner, as Gary explains: “*It probably is going to be embedded in a mirror, but you're there, you've got the dress on and you just press the other size and you can see the other size and it's perfect fitted...it has to be perfect and when you move it has to find you.”*

Such personalized configurations will be further supported if AR can simulate brand representatives, creating new forms of exclusivity within the service:

“AR can deliver that same bespoke instore service... your personal shopper can appear in the living room and speak directly with you and show models of various fashion items... Or you can use a mobile app and choose garments and then within a very short space of time, models wearing those garments, will be in your living room” (Devansh).

Bespoke personalization allows for brand-equity building in terms of luxury-brand image and perceived brand quality, where the latter is related to both products and service.

Effortless continuation – This approach relies on AR to dynamically extend the brand's authenticity, aesthetics, high-quality service, and exclusivity throughout the customer journey. AR characteristics such as seamless activation enable the luxury brand to remove friction between the virtual and physical.

The luxury brand's appeal is maintained through AR's virtuality and virtual-physical overlay, which ensure the consistency and authenticity of the brand aesthetics across touchpoints. Crucially, AR should be fully integrated as “*something that just happens as part of your normal e-conscious action, or as part of your normal engagement with the brand”* (Daniel) to maintain the luxury illusion, which is “*about suspension of disbelief, about being immersed into a world that's more than you could have imagined”* (Kimberley).

AR-fueled consistency reduces the effort required by customers to navigate across touchpoints. But the desired effortlessness goes beyond mere speed or ease of use, which are taken for granted in luxury. Crucially, for luxury brands, the overlaid or integrated virtual content is an extension of exclusivity and high-quality service: “*AR is a service which allows you to get more content in minimal time in a personalized way... it is really a form of luxury itself*” (Elsa). Virtual content can be time- or location-specific, as Lisa explains: “*It could have lots of applications – not only as a service guiding people but also in terms of, ‘We know that you love the Dior Spa. Well, it's this way.’ So as a service tool it could be really compelling.”*

In contrast to bespoke personalization, effortless continuation through AR is not bound to a specific journey phase, but upholds brand quality and exclusivity as the journey unfolds. In addition to positive brand image, the key brand-equity effect of *effortless continuation* is related to perceived service quality.

5. Discussion

This study uncovers how luxury-brand managers can strategically deploy AR to grow brand equity, as specific AR characteristics allow the brand to convey luxury attributes in new ways. The interviews with luxury-brand managers and experts revealed that AR can enhance brand experiences or customer journeys (Kuehnl et al., 2019) via four strategic approaches, offering three theoretical contributions.

First, this work reveals how deploying AR can support the unique nature of luxury brands. Prior research on luxury brands mainly focused on the effects of digital technologies and social media on consumer responses (Leban et al., 2020). Also, Holmqvist et al. (2020) underlined that digital interactions designed by luxury brands should enable

escapism and hedonism. However, prior research did not thoroughly investigate how digital technologies – especially emerging technologies such as AR – can convey luxury attributes. Our findings address this gap and demonstrate how AR characteristics offer fresh opportunities for enacting luxury attributes. Specifically, virtual representations can convincingly simulate the quality and craftsmanship of luxury products in a manner not previously possible via a regular website; a perfected alignment of a virtual luxury product with a customer conveys a new form of exclusivity; the overlay of virtual brand-related content on physical surroundings can create brand proximity and therefore a deeper resonance with consumers than online browsing. Prior literature has identified how AR fosters sensorial aspects and builds brand relationships (Petit et al., 2021; Scholz & Duffy, 2018), but has not been specific to the luxury sector (Chandon et al., 2016). This research responds to calls by Pantano et al. (2018) and Holmqvist et al. (2020) to advance knowledge of digital interactions in the luxury sector.

Second, this study demonstrates that AR deployment by luxury brands can be classified in terms of four strategic approaches that all draw on luxury attributes, but are distinct in the way that they either enhance brand experience or the customer journey, and therefore contribute to brand equity. Regarding brand experience, this research identifies two strategic approaches where AR enables a concentration of brand stimuli around specific touchpoints (Brakus et al., 2009). Specifically, *ephemeral elevation* allows luxury brands to evoke powerful emotions in consumers through AR-enabled, short-term encounters that can be intensively hedonic because of the ‘cool’ factor, and fantastical as they transport consumers into the brand's world; or that unlock surprising and exclusive content for specific locations or products. On the other hand, *auratic amplification* enables a fresh approach to building a brand's unique aura – for instance, by visualizing the brand's authentic craftsmanship and prestige in an immersive manner and by facilitating access to the brand world. Leban et al. (2020, p. 519) emphasized how social-media users consume “intangible luxuries” through visual representations on Instagram, whereas this work demonstrates that AR allows for new ways to simulate the dematerialized aspects of brand experience.

Third, this analysis offers the first detailed account that specifically explains how technologies such as AR enable luxury brands to enhance the customer journey by extending luxury attributes dynamically via different touchpoints across the journey itself. This can be achieved through *bespoke personalization*, where the consideration phase is anchored around the exclusivity of the luxury purchase ritual as AR visualizes products' high-quality materials and craftsmanship. E-commerce and manufacturing procedures allowed the actual products to be tailored to customer needs (Rosenbaum et al., 2019), but this research demonstrates that the value of AR lies in the personalization of customer interactions with the brand and products in the consideration phase. Moreover, brands can deploy AR to ensure the *effortless continuation* of the journey through the brand world, facilitating less jarring differences between virtual and physical touchpoints. This reduces effort on the part of the consumer, which is a key objective of luxury service (Roper, Caruana, Medway, & Murphy, 2013). This work emphasizes how AR supports luxury brands in providing high-end services that do not merely revolve around product purchase and decision-making; rather, AR aids absorption and involvement in the unique brand world, which intensifies exclusivity, a fundamental component of luxury service (Wirtz et al., 2020). Kuehnl et al. (2019) demonstrate that journey-design is loaded with utilitarian considerations, but these are not what capture and retain the attention of luxury customers (Holmqvist et al., 2020); for them, the journey should go beyond optimization and effectiveness. This study demonstrates that by removing friction and convincingly translating luxury attributes such as aesthetics and exclusivity across touchpoints, AR delivers a new type of journey consistency (Kuehnl et al., 2019) that is distinct to luxury.

6. Managerial implications

This study provides ample reasons for luxury managers to deploy AR, but suggests it should be utilized in ways that are congruent with the specific requirements of the luxury industry. Across the strategic approaches uncovered by this research, *bespoke personalization* is most similar to how AR is typically deployed by non-luxury brands, i.e., supporting the product consideration phase. Thus, luxury-brand managers must pay special attention to creating visualizations that convey the luxuriousness of their products in order to continue to differentiate from mainstream brands. Rather than using emerging (semi-) automated processes for creating AR content, managers should explore how to capture the exceptional craftsmanship and superior material textures of products. Advances in photogrammetry may be a particularly important area to consider. To that end, brand managers should collaborate with experts who possess relevant technical expertise, either in-house or through external partners.

The three other strategic approaches may provide even greater opportunities for luxury brands to grow brand equity through AR deployment. A common theme of these approaches is that they are less focused on product simulation and more on enabling luxury attributes through AR, either in relation to brand experience or across touchpoints to remove friction. To deploy AR for *effortless continuation*, brand managers should invest in AR holograms that are capable of virtually delivering a high-end service beyond the flagship retail space in order to extend exclusivity. They should be careful not to use AR as a replication of the retail-based service and interpersonal interactions, but in conjunction with these and in ways that were not previously possible (such as an AR service tied to exclusive locations and aiding personal consultations).

Ephemeral elevation and *auratic amplification* hold particular promise for luxury brands. Rather than deploying AR to drive conversion, as with many non-luxury brands, these approaches utilize AR to create transformative moments of brand-related excitement and inspiration for customers. AR is particularly well-suited to capturing the artistic, magical, and fantastical elements of luxury brands. This research therefore encourages luxury-brand managers to deploy AR to draw out broader meanings of luxury (Rokka, 2021), both in their stores and beyond. The potential of AR technologies to tell stories of provenance and craftsmanship, possibly in connection with product labelling, runway shows, or fitting rooms, has not yet been fulfilled.

In terms of evaluating the success of strategic approaches, managers should consider that campaign-driven *ephemeral elevation* might more clearly translate into direct effects, such as product and brand awareness and associations, contributing to wider audience reach and a potentially larger market share than other short-term luxury initiatives, such as pop-up stores (Klein, Falk, Esch, & Gloukhovtsev, 2016). Similarly, *bespoke personalization* can be more directly evaluated in terms of perceived product and brand quality, and even conversion. However, *auratic amplification* and *effortless continuation* might be more difficult to capture with established measures, given that the former is associated with brand uniqueness, and the latter with persistence of luxury quality across channels. Thus, luxury-brand managers might need to seek new, more unconventional measures.

Emerging trends such as digital twins, non-fungible tokens (NFTs), and metaverses make it feasible to think that luxury products will consistently have both physical and virtual manifestations (in AR) in the near future. They underline the need for luxury brands to master AR deployment in order to build differentiation from non-luxury brands in unforeseen ways.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Authors' contribution

The first, second, fifth, sixth and seventh author developed research design. The first, fifth, sixth and seventh author conducted data collection. The first, second and fourth author conducted data analysis. The first, second, third and fourth author developed the conceptualisation and wrote the paper. All the authors contributed to manuscript revision and all the authors read and approved the final manuscript.

Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jbusres.2021.07.040>.

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