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Augmented Reality and Authenticity: An Experimental Study to Investigate their Impact on Luxury Perception

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CONTENT

Abstract

In recent years, studies about luxury perception have proliferated. Nonetheless, few of these have investigated both product internal and external factors that may have an impact on it. On one side, a large body of research has focused on the internal elements that constitute a high-end brand, such as authenticity. On the other side, little research has investigated whether external factors, such as the way a product is displayed (e.g., photo, video, augmented reality), may influence luxury perception. The current study sought to merge these two distinct streams of research, by shedding light on the impact of both internal and external factors. More specifically, we studied how authenticity shapes luxury perception and whether this relationship is influenced by presenting a product through different modes of visualization. In our study, we presented a Gucci bag through Augmented Reality (AR) and 2-Dimensional (2D) modes of visualization. We manipulated authenticity by using elements that recalled Italy (high authenticity, considering the brand's origin) and Brazil (low authenticity, unrelated brand origin). The research focused on three main objectives: 1) confirm that origin, and thus authenticity, affects individuals' luxury perception of the product; 2) test if this relationship is influenced by different modes of visualization; 3) investigate which characteristics of mode of visualization create such a perceptual difference. We first conducted a pre-test to ensure a common ground for authenticity. We employed a within subject design, priming participants with six different scenarios representing different sources of authenticity (heritage and pedigree, craftsmanship and country of origin). Then, we conducted a 2 x 2 between participants experiment, with factors authenticity (low vs. high) and visualization mode (2D vs. AR). 198 respondents were randomly assigned to one of the four conditions and they were asked to judge the products, as well as the experience itself. Our findings suggest that both authenticity and mode of visualization positively affect luxury perception. In our discussion we propose how this study can lead the way for an all-round exploration of AR in the communication of luxury brands' authenticity. Finally, we explain the contribution of these findings to existent literature and the managerial insights that can be gained.

Keywords: Luxury perception, mode of visualization, authenticity, Augmented Reality, interactivity.

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Introduction

The recent growth of the luxury market has resulted in increasing interest among researchers to study its multi-faceted dynamics. This market comprises several segments, such as clothing, cosmetics, jewellery, and multiple luxury goods, which vary in terms of size. The top ten companies in the multiple luxury goods sector are by far the largest with an average company size of US$ 7.59 billion (Deloitte, 2019). In particular, luxury fashion enjoys the highest concentration of luxury goods companies and represented the segment with the largest market volume in 2019 (Deloitte, 2019). Given the high profitability of this segment, it is important to investigate which factors may influence and enhance luxury perception.

The fast growth comes with several changes in terms of customer base and distribution channels. Luxury brands are starting to see a big potential in young customers. In particular, Generation Z and Y accounted for 47% of luxury consumers in 2018 and this figure is expected to increase up to 55% by 2025 (D'Arpizio et al., 2018). In addition to that, while older consumers are showing a decline in purchasing luxury goods, younger generations are expected to contribute up to 130% of the market growth between now and 2025 (D'Arpizio et al., 2018). They can be classified as HENRYs (High-Earners-Not-Rich-Yet) and they represent a new consumer class that is rising and will become increasingly relevant in the future. HENRYs are big spenders, they are digital savvy, and love online shopping. Recently, Holmqvist, Wirtz, and Fritze (2020) highlighted the need for luxury brands to leverage digitization when serving younger customer segments, as their purchases are increasingly driven by digital interactions. Younger customers are willing to shop in physical stores, but also expects a digitally enhanced experience (D'Arpizio et al., 2018). Up to now, 10% of the total personal luxury market is online and it is expected to increase further to 22% by 2025 (Achille, 2019). Thus, companies need to re-think their strategy in light of a shifting balance from physical to digital. Today, if luxury brands want to gain new competitive edge, they should focus in the so-called "*digical*" (synthesis between digital and physical) strategy, which reflects the fusion between online and offline activities. By doing so, companies add links and strengthen existing linkages in the customer experience.

Given these changes, luxury brands also need to re-examine their core values and adapt them to new generations. The long-held belief that exclusivity and high prices are essential brand characteristics may fade. Notwithstanding, recent studies found a line of continuity when it comes to weight the importance of authenticity. The Luxury Institute (2019) reports that when customers make purchasing decisions, they give more prominence to quality, customer service, design, craftsmanship, and product exclusivity. As a matter of fact, some of these concepts are constitutive factors of authenticity. This leads us to recognize the growing importance of authenticity as fundamental factor of a luxury brand. Consequently, high-end brands can gain a competitive advantage in this market if they find a way to better express authenticity. In this regard, our focus is on the role played by the environment that surrounds the product. One of the multiple aims of this study is to investigate whether enclosing a product with elements that recall authenticity has an impact on customers' luxury perception of the product.

Another fundamental element in our research is mode of visualization, that refers to the mean through which brands present their products. When dealing with online channels, retaining brand's prestige represents a major challenge for luxury brands. As a matter of fact, aggressive marketing contradicts the sense of exclusivity, explaining why many high-end brands tend to be cautious when crafting their online presence. Despite this, recent researches are highlighting the potential gains that the implementation of digital multi-actor interactions offer to luxury brands (Holmqvist et al., 2020). Emerging technologies, such as Augmented Reality (AR), may represent a good way of differentiation, given their novelty and aura of exclusivity, and help to improve the authenticity perception of luxury products. An extensive stream of research reported the growing impact of AR on customer behaviour (Javornik, 2016). In particular, it has been shown that it positively affects customer experience, customer engagement and willingness to buy (Patrício et al., 2011; Scholz & Smith, 2016; Poushneh & Vasquez-Parraga, 2017). AR enriches the physical environment with digital elements, providing a more vivid representation of a product. Its superior level of interactivity, and the consequent greater level of imagery, facilitate the experience the customer has with the product. Consequently, it may represent an optimal tool to depict product's authenticity, which in turn can enhance the overall luxury perception. AR might also be used to address the lack of physical presence in

the digital environment. Given the rise of experiential luxury, this new technology might improve the digital shopping experience.

Despite the increasing interest in marketing studies, academic literature still lacks research on both authenticity and mode of visualization. Although prior research has investigated luxury drivers, there are no relevant studies on how authenticity affects luxury perception in light of new technologies. The purpose of this study is two-fold. On one side, it seeks to understand whether changes in authenticity lead to differences in luxury perception. On the other side, it investigates the role and the impact of AR when designing a communication strategy based on authenticity.

The research is organized as follows: first, the study presents an overview of the literature on the main concepts used and from which hypotheses are deducted. Next, the methodology of the studies is described, followed by a presentation of the key results and discussion. Finally, theoretical and managerial implications, limitations, and directions for future research are discussed.

1. Theoretical background

1.1 The role of authenticity in the luxury industry

Luxury has been studied from several perspectives, most of which define luxury brands based on consumer perceptions and/or managerially determined dimensions. After an extended literature review, Ko et al. (2019) concluded that it is the consumer evaluations of multiple dimensions that define whether a brand is or not a luxury brand. According to this research, luxury brands rely on quality, authenticity, prestigious image, premium price, and resonance. Heine, Phan and Atwal (2016) highlighted the essential role played by authenticity and prestige in building luxury brands. Accordingly, Beverland (2005) found that authenticity is a critical factor in reinforcing the status of high-value, commanding price premiums, and warding off competitors. Thus, our project will focus on authenticity as main driver of luxury.

Nowadays, imitation and dilution with mass producers are threatening the credibility of luxury industry (Pathak et al., 2019). From this perspective, leveraging on authenticity represents a good practice for high-end brands who want to differentiate themselves from the image of providing commodity products. In addition to that, it is necessary to highlight that luxury customers are more and more demanding and search for the true value behind the product (Anders, 2014). Thus, authenticity represents a way to remark the exclusive status of luxury and lock in customers. But what is authenticity in the first place? The origin of authenticity is to be found in the Greek adjective “authentikòs", which conveys the sense of trustworthiness (Cappannelli & Cappannelli, 2004). Due to its pertinence to the human and social sciences, it covers a wide field of conceptual associations. Authenticity mainly relies on individual judgments, one’s own identity and the given circumstances (Leigh, 2006). In marketing research, authenticity has been used in different ways to imply different meanings. It is defined in terms of sincerity and originality (Fine, 2003) and it is also related to concepts such as being natural, honest, and simple (Boyle, 2003).

Authenticity has been investigated from two research streams as an attribute of a subject (Grazian, 2013) or an object (Beverland, 2006). In this regard, Beverland (2006) found that authenticity consists of six attributes: heritage and pedigree, stylistic

consistency, quality commitments, relationship to place, method of production and downplaying of commercial considerations. Authenticity is closely connected with the brand's past (Chevalier & Mazzalovo, 2012), since it adds a further nuance to the brand's meaning (Beverland, 2006). In fact, it is common for long-established luxury brands to continually refer to the date and place where they were created and to the name and story of their founders (Peterson, 2005).

In addition to a brand's perceived connection with the past, the assurance of uncompromising dedication to premium quality is a critical factor in assessing authenticity. Gilmore and Pine (2007) suggested that the use of the finest raw materials contributes just as much as practicing traditional production methods when it comes to shape authenticity. Hence, quality commitment can be achieved in two ways: by using superior raw materials and by true craftmanship (Zainol et al., 2015; Napoli et al., 2014). Research showed that both these ingredients positively affect brand evaluation. More specifically, authenticity of raw materials leads to positive brand attachment and authentic artisan skills generate positive attitudes toward the brand (Zainol et al., 2015). This is consistent with Newman and Dhar (2014) who demonstrated that perception of authenticity is positively affected by the manufacturing location.

As reported by Beverland (2006), also the relationship a brand has with a place of origin plays an important role in shaping the perception of authenticity. More specifically, Zainol et al. (2015) found that both the country where raw materials are extracted and the country where the brand is known for positively impact the perception of authenticity. The current literature review suggests us which are the main cues that luxury brands can leverage on to communicate authenticity. Accordingly, authenticity is shaped by: i) history of the brand; ii) quality of the products; iii) relationship to a place; iv) method of production.

Generally speaking, authenticity is a core component of brands because it contributes in generating a unique brand image. This is particularly important in the luxury industry, where the demand for uniqueness and exclusivity is a priority. This is consistent with Turunen and Laaksonen (2011), who found that authenticity is the most important factor in differentiating luxury from counterfeit products. In other words, a brand needs authenticity and prestige to gain luxury value and to evoke a sense of high quality and rarity. The key role of authenticity among the different dimensions of

luxury brands get us to draw our main hypothesis. We expect that a change in perceived authenticity leads to a change in luxury perception, that is:

H_1: Presenting a product together with high authenticity content leads to higher luxury perception than presenting it with low authenticity content.

We do not exclude that perception of luxury may be influenced by factors others than authenticity. In this regard, Wymer and Akbar (2017) suggested that brand strength may have an impact on perceived authenticity. Adopting a customer-based perspective, we consider brand strength in terms of brand equity, referring to the the differential effect of brand knowledge on consumer response to the marketing of the brand (Keller, 1993). We expect that participants may be influenced by their familiarity with the brand. Hence, we will investigate the relationship between authenticity and luxury perception while controlling for brand familiarity.

1.2 Authenticity representation via visual-enabling technologies

The manner a product is presented impacts the consumer shopping experience both online and offline. In one way or another, consumers now live in a form of mixed reality, considering that many use smartphones, computers, and tablets to interact with brands. As a matter of fact, innovation in interactive technologies is dramatically changing the retail landscape by providing a new environment where physical and digital objects are integrated at different levels (Velasco et al., 2019). The idea that consumers are increasingly experiencing enriched, mixed reality environments (Velasco & Obrist, in press), drove our interest in exploring the impact that mixed realities have on luxury perception. Despite the great interest among both researchers and retail practitioners, there is still a lack of knowledge on the role that new visual-enabling technologies have on online product evaluations (Watson, Alexander and Salvati, 2018).

The first formulation of how these technologies may contribute to in terms of the environments that interface with, dates back to Milgram and Kishino (1994), who proposed the "Reality-Virtuality Continuum", where different interfaces and

environments range from real to virtual. While Real Environments (RE) encompass the reality itself and include either direct or indirect views of a real scene, Virtual Environments (VE) are completely computer-generated and users interact in real-time through a technological interface. Between these two extremes there is Mixed Reality (MR), which includes both Augmented Reality (AR) and Augmented Virtuality (AV), that are technology-mediated realities where physical and virtual objects are integrated at different levels. In the former, digital contents are superimposed on the user's real environment, while in the latter reality overlaps virtuality.

Recent research has adjusted the aforementioned continuum by differentiating the concept of Pure Mixed Reality (PMR). Here, real and virtual objects are merged simultaneously in real-time, so that the user can interact with both but cannot distinguish to which reality they belong (Flaviàn et al., 2019). According to the authors, different kind of technologies can be classified on the basis of Embodiment, Presence, and Interactivity (EPI Cube). Embodiment refers to those situations in which the technology becomes an extension of the human body and helps to interpret, perceive, and interact with the environment. Presence, instead, is defined as the user's sensation of being transported to a mediated environment, other than where the physical body is located (Biocca, 1997). Finally, interactivity refers to the "extent to which users can participate in modifying the form and content of a mediated environment in real-time" (Steuer, 1992, p. 84).

In other words, each of these factors relates to different dimensions: *Technological* for embodiment, *perceptual* for presence, and *behavioural* for interactivity. Thus, new technologies can have a physical, sensorial, and behavioural impact on customers' experience, which is defined as a multidimensional construct that encompasses the cognitive, emotional, physical, sensorial and social elements which mark the customer's direct or indirect interaction with a firm (Keyser et al., 2015). As a consequence, new technologies can be seen as tools that firms might use to directly interact with their customers and design superior customer experiences.

Given the great expansion of new technologies such as VR and AR, much research is now devoted to investigate their effects in the context of marketing. There is enough evidence that AR and VR have rapidly evolved and have been increasingly used in retailing (Javornik, 2016). Nevertheless, there is still a lack of knowledge about the role of AR in the luxury industry. The current study sought to examine how AR

may actually enhance brand differentiation given its ability to enrich the customer experience by projecting virtual products onto the physical environment of consumers. In particular, we wanted to assess whether and how AR performs better than 2D representation in terms of authenticity and luxury perception. While previous researchers have highlighted how AR positively impacts customers' attitudes and behaviours (Watson et al., 2018), other studies showed the growing importance of this technology on building a superior customer experience (Ostrom et al., 2015). As reported by Yim, Chu, and Sauer (2017), the advantages of such technologies in retail contexts mainly rely on the fact that they provide an interactive experience that appeals and enjoys customers.

Broadly speaking, VR, AR and MR technologies have been proven to boost the customer experience (Flavián et al., 2019) and lead to a higher perception of value (Patrício et al., 2011). Experiential value is created through product simulation, media richness, sound, GPS data and videos (McCormick et al., 2014). The various technologies leverage different aspects of the experience. While VR can generate a great sense of engagement, AR is able to create a feeling of interactivity. By doing so, AR provides customers with more vivid cues, facilitating product evaluation (Poushneh & Vasquez-Parraga, 2017). AR-enriched experiences are also able to produce high levels of satisfaction and, as a consequence, a higher willingness to buy a product or a service. This is due to the fact that they enhance hedonic values by blending virtual information with real one. As a consequence, AR creates the impression that the virtual object exists in the consumers' actual surroundings, providing a more realistic representation (Scholz & Smith, 2016).

An extensive stream of marketing research has already shown the positive effect that the use of these technologies has on luxury retailing and luxury brands (Bonetti et al., 2018; Pantano et al., 2018). What is still unknown is whether and how they also have an impact on the perception of luxury. When it comes to communicate a product's authenticity in an online environment, brands may face some challenges. This is due to the fact that authenticity is related to concepts, such as quality of raw materials, craftmanship, and origin that are difficult to represent without the physical presence of the product. AR might play a crucial role since it compensates for this lack of information by providing a more vivid and real representation. Customers have the possibility to digitally place the product into their real environment, zoom in on its

details or look at it through the 360° function. Recent research (Beuckels & Hudders, 2016) partially explored these features. They found that, with respect to a 2D image, image interactive technology positively affects luxury perception thanks to the higher feeling of telepresence it provides. It also has been shown that image interactivity positively affects the unique value of the product. These findings lead us to recognize the great potential of AR technologies. In particular, the enhanced level of interactivity allows the customer not only to evaluate the quality of the materials, but also to assess the place of production and judge the level of craftsmanship. AR can provide the customer with more multisensory rich and compelling cues for the evaluation of the product's authenticity, leading to a higher luxury perception. Yet, one key feature of AR is its ability to create flow, which is a "complete immersion into the virtual consumption experience" (Watson et al., 2018, p.6). Huang and Liao (2017) found that this is due to the vivid and realistic embodiment of spatial vision that creates a first-person perspective and sense of self-location, which in turns leads to an authentic experience. Thus, because the AR is superior in terms of vividness to 2D in presenting products information, we expect this to affect consumer perception of authenticity, leading to our second hypothesis:

H_2: AR visualization mode leads to higher perception of product's authenticity than 2D visualization mode.

In addition to that, academic literature also lacks knowledge about the interaction effect that can occur between authenticity and mode of visualization. We believe that the medium through which we present a product and the context in which it is located have an impact on luxury perception. By immerging a product in a high authentic context through the use of an interactive tool such as AR, luxury perception will be enhanced. On one side, AR provides the user with more compelling cues that reinforce the evaluation of the product. On the other side, an environment that recalls the authenticity of the brand may enhance the brand image. In other words, given the fact that authenticity is one of the crucial dimensions of luxury and that AR allows luxury brands to better communicate their authenticity, we expect that taken together they have a strong and positive impact on the overall luxury perception. Therefore, we postulate the following hypothesis:

H_3: There is an interaction effect between the authenticity content (high vs. low) and modes of visualization (AR vs. 2D) such that presenting a product enriched by authentic elements in AR leads to higher luxury perception as opposed to presenting it with non-authentic elements in 2D.

1.3 Factors influencing the relationship between mode of visualization and luxury perception

After having clarified the relationship that occurs between mode of visualization, authenticity, and luxury perception, we wanted to build a model able to explain the determinants of luxury perception in a digital environment. We considered four key variables, namely interactivity, imagery, hedonism, and realism. We believe that these concepts may overcome the lack of sensory inputs and impact the way consumers perceive products in a digital setting. After an extensive review of the available literature, we found that AR is able to enhance these concepts and create a superior customer experience. First, by creating a feeling of telepresence, AR generate high interactivity. Second, by providing more compelling cues, AR gives a more vivid mental imagery. Third, thanks to its entertaining nature, AR moves hedonic values. Finally, AR overlays digital elements on the real world, making the experience of the product more tangible and real. In the next paragraphs, we describe each of the factors in more detail.

Interactivity

Recent research has investigated the core characteristics of AR to explore the potential impact of this technology on consumer response (Javornik, 2016; Poushneh & Vasquez-Parraga, 2017). In particular, interactivity has received much attention by academics and it has been defined as the "extent to which users can participate in modifying the form and content of a mediated environment in real time" (Steuer, 1992, p. 84). Interactivity relates not only to AR but, as proposed by Javonik (2016), AR technologies provide a unique form of interactivity through augmentation, which refers to the "ability to overlay physical environments with virtual elements" (Javornik, 2016,

p.259). Hence, augmentation represents the most relevant characteristic of AR in understanding its influence on consumers.

Past research studied interactivity from several perspectives. It has been shown that interactivity mediates the website effects on satisfaction, loyalty, and perceived quality (Song & Zinkhan, 2008), it generates positive attitudes toward mobile ads (Gao, Rau, and Salvendy, 2009) and brands (Noort et al., 2012) and it has a positive effect on fashion purchase intention (Watson et al., 2018). Fiore, Kim and Lee (2005) highlighted that interactive and immersive experience creates a positive affective response, leading to an increased experiential value. Based on that finding, Watson et al., (2018) demonstrated that AR creates a rich sensory experience, resulting in stronger emotional responses.

Researchers have already demonstrated that image interactivity positively affects luxury perceptions (Beuckels & Hudders, 2016). In the latter research, image interactivity referred to the possibility of zooming and looking at the product through a 360° function. The current study, instead, attempts to transfer these findings to AR technologies. More specifically, we believe that interactivity through augmentation positively impacts luxury perception.

Imagery

As previously mentioned, the way a product is presented impacts the consumer shopping experience. Prior research supports the idea that well-presented products lead to positive shopping outcomes in offline retailing (Schlosser, 2003). When we move to an online environment, the lack of sensory experience represents one of the main drawbacks and generates several challenges. One way to overcome them is by leveraging on mental imagery, which has been defined as "a mental event involving visualization of a concept or relationship" (Lutz & Lutz, 1978, p. 611). Yet, MacInnis & Price (1987) related mental imagery to the process by which sensory experience is represented in an individual's memory in terms of ideas, feeling and memory. Accordingly, it plays a crucial role in information processing, regardless of whether individuals are looking to be entertained or gather facts (Scholsser, 2003). In particular, researchers found that when consumers experience a high level of mental imagery, they may be able to acquire enough information to make a purchase decision even without direct product experience (Yoo & Kim, 2014).

A high level of mental imagery can be achieved through vividness, which refers to the clarity of the imagined scenario. As a matter of fact, vividness of mental imagery appears as a key resource for persuading consumers in a virtual environment (Fiore et al., 2005). In particular, the illusion of actually interacting with the product may evoke more vivid imaginations of trying and using it (Choi & Taylor, 2014). Interestingly for our study, Schlosser (2003) found that vivid mental imagery mediates interactivity's effect on attitudes and purchase intentions by closely simulating actual product usage. These findings lead us expecting that a vivid mental imagery also has an impact on luxury perception. In fact, providing customers with an enriched and vivid scenario will lead them to form a positive perception of the product.

Specifically, since AR provides a more vivid mental imagery than 2D, it will be more persuasive on attitudes formation and, hence, have an impact on the relationship between mode of visualization and luxury perception. Thus, we expect that the greater vividness of mental imagery, due to interactivity, will have a positive impact on luxury perception.

Hedonism

AR technology as well as luxury goods provides emotional benefits to customers. Hedonic values are defined as the values that a customer receives in terms of subjective experiences of fun and playfulness (Holbrook & Hirschman, 1982). In other words, the hedonic value "comprises of the expected emotional reactions as sensory pleasure, aesthetic beauty and excitement that is experienced by the consumer" (Beuckels & Hudders, 2016)

On the one hand, Dubois and Duquesne (1997) highlighted that luxury goods are acquired for what they symbolize, which is consistent with the hedonic consumption model. On the other hand, according to Javornik (2016), AR provides a more hedonically oriented experience, and this is what makes it different from other forms of interactive technologies. More recently, Holmqvist et al. (2019) provided arguments supporting the idea that the experience of a luxury product matters at least as much as buying it. In other words, perception of luxury depends on both the product's features and the way it is experienced. Interestingly, they argued that active consumer participation, which is related to engagement and immersion, is beneficial for the luxury experience. In the same way, AR technologies transport the user to an

immersive and interactive environment, leading to an all-encompassing experience. According to Fiore et al. (2005), image interactivity has a positive influence on the degree of fun while online shopping. This led other research (Heuckels & Hudders, 2016) to assess the positive relationship between image interactivity, level of pleasure, and perceived hedonic value.

Given the fact that AR, with its higher level of interactivity, leads to a higher hedonic values and that luxury consumers are usually motivated by hedonism, we believe that the level of perceived hedonic values can affect the relationship between mode of visualization and luxury perception.

Realism

One last element that needs to be taken into consideration is realism. The level of realism varies in different types of AR technologies. Abstract augmentation consists of texts or 2D images overlaid on the real world, while 3D objects create more realistic augmentations (Wang & Dunston, 2005). In particular, high levels of realism convey extra information and enhance our experience. This is due to the fact that a more realistic representation of an object increases its tangibility (Olsson, 2012), that is the capability of being perceived concrete. Interestingly, Verhagen et al. (2016) demonstrated that high levels of tangibility facilitate product evaluations and aid consumers in making more informed purchase decisions. Tangibility can lead to feelings of presence and unity with the surrounding and allow the users to concentrate on the augmented environment itself (Olsson, 2012). Thus, high levels of realism can enhance the luxury perception by providing more compelling cues for the evaluation of the product.

2. Methodology

2.1 Pre-test

We ran a pre-test with two main objectives. First, we wanted to identify the attribute that better expressed authenticity as to use it in the main experiment. Second, the pre-test gave us a first hint about how different levels of authenticity impact luxury perception. Below, we describe its design, methods, and results.

Participants

We decided that the sample would have included only Italian participants. Even though the Italian market for luxury goods is one of the world's leaders in terms of number of companies, it still faces growth challenges (Deloitte, 2019). Therefore, understanding what affects the Italian consumers' perception of authenticity and which is the best way to communicate it, may represent a significant strategic move for luxury firms. In addition to that, we believe that luxury and authenticity are embedded in the culture of a country and thus the sample should be nationally homogeneous so to have valid and reliable results. Finally, the brand used in the experiment is an Italian brand. It may benefit of a strong resonance and the understanding of its brand's image is clear and unique for this population.

We recruited 50 participants from Italy (28 females, mean age=25.42 years) through personal network. Participants were quite familiar with the brand (M=3.58; SD=1.10) and, on average, they bought luxury items once a month (M=2.68; SD=.89). The study was conducted via Qualtrics software and participation was voluntary. The full questionnaire is available in Appendix B.

Methods and measurements

Three attributes for authenticity have been selected based on previous literature, namely heritage and pedigree (history), quality commitments (craftmanship) and relationship to place (country of origin). The aim was to establish which of the proposed variables represented a better driver of authenticity. Six different scenarios were designed, each either depicting a high or low authenticity version of each attribute. An overview of the stimuli is available in Appendix A. The different stimuli

were all presented to all participants, in random order. After being exposed to each scenario, we asked the same questions to all participants. Specifically, we included: degree of association with the scenario at issue, perceived authenticity, and luxury perception. Below, we describe each of them.

Our main objective was to find which of the six scenarios better conveyed authenticity. Thus, we asked participant to rate on a 5-points Likert scale the extent to which they associated the stimuli to the scenario at issue.

Then, perceived authenticity was measured through a single item on a 5-points Likert scale. Participants were asked the following question: "In relation to the image, how much do you perceive the product to be authentic?"

Luxury perception was measured by using a 4-items scale of Ko et al. (2019). For each scenario, participants were asked to assess to which extent they agreed to the following statements "the product is of high quality", "the product is a symbol of prestige", "I am willing to pay a higher price for this product", and "I love this product". For the sake of completeness, we also included an association task, where participants were asked to express the first word that came to their mind while watching each scenario. Finally, we asked for demographics, frequency of luxury purchasing, and familiarity with the brand.

Results

First, we conducted a one-sample t-test to examine whether our variables, namely heritage and pedigree (history), quality commitments (craftmanship) and relationship to place (country of origin), differed from the center of the scale. As reported in Table 1, we found a significant difference in the score for high (M=3.98; SD=1.11) and low (M=2.04; SD=1.27) conditions in history. There was a significant difference in the score for high (M=4.22; SD=1.16) and low (M=1.66; SD=1.23) conditions in country of origin. We found a non-significant difference in the score for high (M=4.04; SD=1.17) and low (M=2.80; SD=1.22) conditions in craftmanship. These results suggest that history and country of origin stimuli depicted the related concepts and participants recognized the difference between high and low version of them.

Table 1

One-sample t-test. Significant values are highlighted in bold.

	Test value = 2.5					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
History High	**9,381**	**49**	**<,001**	**1,480**	**1,16**	**1,80**
History Low	**-2,547**	**49**	**,014**	**-,460**	**-,82**	**-,10**
Craftmanship High	9,249	49	,000	1,540	1,21	1,87
Craftmanship Low	1,726	49	,091	,300	-,05	,65
Country of Origin High	**10,434**	**49**	**<,001**	**1,720**	**1,39**	**2,05**
Country of Origin Low	**-4,794**	**49**	**<,001**	**-,840**	**-1,19**	**-,49**

Next, we conducted a paired-sample t-test to compare authenticity perception in high and low conditions for each variable. Table 2 shows a significant difference in the score for high (M=3.96; SD=.96) and low (M=2.42; SD=1.37) conditions in history. There was a significant difference in the score for high (M=4.10; SD=1.05) and low (M=2.00; SD=1.14) conditions in country of origin. There was a significant difference in the score for high (M=4.00; SD=1.08) and low (M=2.72; SD=1.21) conditions in craftmanship. Overall, we found the greater difference in means in country of origin (M=2.10; SD=1.52). These results suggest that the variable that drove the most the difference in authenticity perception is country of origin.

Table 2

Paired sample t-test

	Paired Differences							
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Authenticity History High vs Low	1,540	1,515	,214	1,110	1,970	7,189	49	<,001
Authenticity Craftmanship High vs Low	1,280	1,565	,221	,835	1,725	5,782	49	<,001
Authenticity Country of Origin High vs Low	2,100	1,529	,216	1,666	2,534	9,714	49	<,001

We also measured luxury perception using a multi-item scale. Reliability scores were examined using Cronbach's alpha to ensure the appropriateness of the research instrument. We found that the Cronbach's alpha value was higher than .7, which is considered the minimum level (Cortina, 1993), except for the high version of heritage and pedigree (α=.605). This led us to exclude heritage and pedigree from further analysis. Furthermore, we found that the exclusion of the *resonance* item increased the level of internal consistency for both craftmanship and country of origin. Thus, we calculated Cronbach's alpha coefficients excluding that item. Specifically, $\alpha_{craftmanship\_high}$ = .836; $\alpha_{craftmanship\_low}$ = .804; $\alpha_{country\_high}$ = .718; $\alpha_{country\_low}$ = .818. Then, we calculated four new variables as a mean of each item. After that, we first conducted a paired sample t-test to compare luxury perception in high and low conditions for each variable. There was a significant difference in the score for high (M=3.69; SD=.98) and low (M=2.69; SD=.98) conditions in craftmanship (t=5.66; p<.001). There was a significant difference in the score for high (M=3.74; SD=.84) and low (M=2.54; SD=1.01) conditions in country of origin (t=6.07; p<.001). As expected, presenting

products with a high authenticity contents led to a higher luxury perception. In fact, when participants were primed with high authenticity contents their overall luxury perception was significantly higher than their low counterparts.

We also conducted a one-sample t-test to examine the difference from the center of the scale. As showed in Table 3, there was a significant difference in the score for high condition in both craftmanship and country of origin. Nevertheless, we found non-significant results for low condition in both variables, specifically craftmanship (M=2.69; SD=.84) and country of origin (M=2.54; SD=1.01).

Table 3

One sample t-test for Luxury Perception. Significant values are highlighted in bold.

	Test di test = 2.5					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Craftmanship High	**8,549**	**49**	**<,001**	**1,19333**	**,9128**	**1,4739**
Craftmanship Low	1,395	49	,169	,19333	-,0852	,4719
Country of Origin High	**10,462**	**49**	**<,001**	**1,24667**	**1,0072**	**1,4861**
Country of Origin Low	,325	49	,747	,04667	-,2422	,3355

These results reveal that low authenticity contents did not significantly affect the overall luxury perception. Two main reasons may be identified in order to explain the rationale behind this finding. On one side, there may have been a carryover effect that led participants to not accurately ponder their answers. Even though we randomized the order, participants may have been influenced by their previous ratings and answered to the luxury scale without considering the stimuli at issue. On the other side, given the fact that our sample resulted extremely familiar with the brand (M=3.58; SD=1.10), it may have been biased by considering Gucci as a high-end brand with or without any external stimuli. Further investigations will be made in the main experiment.

Finally, the word association allowed us to rule out if there was any other explanation for differences in perceptions of the scenarios. This investigation helped

us to overcome the following limitation. When designing the pre-test we did not ask participants to rate how much they associated each scenario to the others (i.e., in the country of origin condition we only asked to assess the extent to which they associated the image to country of origin and not also to method of production and history). Hence, we cannot be certain about the effectiveness of our manipulation. Nevertheless, the word association showed that participants understood the different scenarios as we did. In particular, the word clouds showed us that heritage and pedigree has been associated with history, tradition, and vintage; method of production has been linked to craftsmanship, quality, and production; country of origin has been associated with made in Italy, prestige and origin. These results confirm that participants had a relatively clear understanding of the concepts behind the stimuli. Wordclouds are presented in Appendix A.

2.2 Main experiment

Participants

198[1] participants from Italy, aged between 18 and 45 years (84 females, mean age=26.48 years) took part in the online survey. The survey was designed and conducted on Qualtrics (https://www.qualtrics.com/). Participants were recruited through Prolific Academic (https://www.prolific.co/) and were paid an average of £13.78/hr. The participants took approximately 5 minutes to complete the experiment. We considered participants on Prolific Academic as appropriate for studying the effects of AR because they are computer-literate and comfortable with new technology and, therefore, more likely to try or use the features under investigation.

Apparatus and materials

We created four scenarios involving our experimental manipulations, authenticity (high vs low) and mode of visualization (AR vs 2D). In each scenario we presented the same Gucci 1955 Horsebit bag. Regarding mode of visualization, the AR groups were presented with a video simulation of the Gucci AR app

[1] Power analysis for a two-way ANOVA was conducted in G*Power to determine a sufficient sample size using an alpha of 0.05, a power of 0.80, and a medium effect size (f = 0.25). Based on the aforementioned assumptions, the desired sample size obtained was 180.

(https://youtu.be/Y9d3Ouzuzhc; https://youtu.be/gE20ARBbkpc), which allows users to project the bag onto their own environment. We used a recorded simulation instead of the real app because when we conducted the experiment the pandemic COVID-19 was underway. This particular situation limited lab studies, forcing us to find a digital solution. We believe that this limitation should be addressed by future research. The video of the Gucci AR app simulation showed a 3D bag on a table which could be observed in detail through zooming and rotation. The 2D version, instead, consisted in a static picture of the same bag on a table, see Figure 1. Although the user could zoom in on different part of the image, the image was static. Thus, the 2D version had similar content to the AR app simulation, but without AR features. In this sense, we could control for augmentation.

Figure 1

2D Stimuli

2D - High authenticity *2D - Low authenticity*

Authenticity, instead, was controlled through the elaboration of two different scenarios reflecting high and low authenticity elements. The pre-test we ran beforehand suggested us that the main driver of authenticity is country of origin. In particular, we

found out that people perceived the Gucci bag associated with Italy as more authentic as compared to who saw the same Gucci bag associated with Brazil. Thus, we printed two panels portraying objects related to either Italy or Brazil and we used them as surroundings for both the conditions of mode of visualization.

Methods and Measurements

In this study, we included several measures: luxury perception, interactivity, imagery, hedonism, and realism. Below, we describe each of them.

Luxury perception was measured by using a 5-items scale of Ko et al. (2019). The scale measures the luxury perception of a certain product and treats luxury as a construct based on consumer perception and managerially determined dimensions, such as marketing activities and product attributes. Accordingly, a luxury brand is perceived to be of high quality, to offer an authentic value, to have a prestigious image, to be worthy of commanding a premium price and to be capable of inspiring resonance. We asked participants to express their evaluation of the bag as this includes perception towards the brand as well as towards the product itself (see Appendix A for this and all the other scales).

Subsequently, the level of interactivity was measured by means of an adaptation of Fiore et al. (2005), consisting of 5-items on a 7-point Likert scale. Questions were preceded by "The bag representation …", followed by "let me easily visualize what the actual garment is like," "give me as much sensory information about the product as I would experience in a store," "create a product experience similar to the one I'd have when shopping in a store," "allow me to interact with the product as I would in the store," and "provide accurate sensory information about the products".

To measure imagery, we modified a scale developed by Walter, Sparks & Herington (2007) to consider both the elaboration and the quality of the mental image. The scale consists of 5-items on a 7-point Likert scale. Participants were asked how much they agreed with the following sentences "I felt as though I was actually experiencing the bag", "I fantasized about having the opportunity to wear the bag", "I could easily construct a story about myself and the bag", "The mental images that came to mind were very clear and specific", "Overall the images that came to mind were vivid".

We also measured hedonism by using an adaptation of Babin, Darden & Griffin (2004), consisting of 3-items on a 7-point Likert scale. Participants were asked whether the stimulus let them feel a sense of escape, excitement, and enjoyment.

We examined reliability using Cronbach's alpha to ensure the appropriateness of the research instrument. As expected, results showed values higher than .7 in each scenario (See Appendix B), which is generally considered as the minimum acceptable level to assess internal consistency (Cortina, 1993). Thus, we were able to create a single variable for each concept, namely "*luxury", "interactivity", "imagery",* and *"hedonism".*

Realism was investigated using an adaptation of Olsson (2012), consisting of 2-items on a 7-points scale. Olsson proposed a scale which captured various aspects of AR, ranging from UX quality, cognitive experiences, and emotional and sensory experiences. In particular, sensory experiences refers to "instinctive, non-cognitive sense related experiences, such as pleasure from touch" (Olsson, 2012). We believe that the ability to stimulate the senses has a direct impact on the perception of realism. Therefore, we chose *captivation* and *tangibility* as the two items that depict realism. More specifically, captivation refers to peoples feeling of being immersed in the environment, whereas tangibility describes the sense of concreteness. Taken together, captivation and tangibility outline the feelings of presence and unity with the surroundings, expressing the perception of realism. Thus, we asked participants to assess whether the bag seemed concrete and organic to the environment. Issues raised when we examined the correlation between the two items. As reported in Table 4, we found out very low scores in each scenario. Hence, we decided to include the two variables separately.

Table 4

Correlation table for Tangibility and Captivation

		Tangibility	Captivation
AR Low	Tangibility	1	,44*
	Captivation	,44*	1
AR High	Tangibility	1	,48*
	Captivation	,48*	1

2D Low	Tangibility	1	,12**
	Captivation	,12**	1
2D High	Tangibility	1	.,8*
	Captivation	,28*	1

*p<,05; **p>,05

For the attention check, participants were explicitly asked to assess if they were exposed to the 2D or AR scenario. Finally, we asked for demographics, frequency of luxury purchasing, and familiarity with both the brand and AR technology. This last section enabled us to get a general sense of the sample's characteristics and to assess whether there were similarities between the samples used in the pre-test and in the main experiment. Full questionnaire is available in Appendix A.

Design and procedure

The experiment followed a 2 x 2 between participant experimental design, with factors authenticity (low vs. high) and visualization mode (2D vs. AR). As showed in Table 5, respondents were randomly assigned to one of the four conditions.

Table 5

Sample distribution

Mode of visualization	*Authenticity*		*N*	*M*	*SD*
AR	High	Age		28,00	8,82
		Male	28		
		Female	23		
		N	51		
	Low	Age		25,63	6,32
		Male	36		
		Female	10		
		N	46		
2D	High	Age		25,73	6,82
		Male	27		
		Female	24		

	N	51		
Low	Age		26,48	6,06
	Male	23		
	Female	27		
	N	50		

The experimental session comprised four parts. First, we informed the participants about the aim of the research and asked for their consent through a statement of informed consent. Next, participants were randomly assigned to one of the scenarios and asked to carefully interact with it. After being presented with the stimuli, participants completed questions including luxury perception, interactivity, imagery, hedonism, realism, and willingness to buy. Finally, they completed demographic questions, followed by questions about luxury purchase frequency, and familiarity with both the brand and AR.

Results

We ran multiple 2 (mode of visualization: 2D vs AR) x 2 (level of authenticity: high vs low) ANOVAs, to investigate whether these two variables had an impact on both sample's characteristics and our DVs, namely luxury perception, interactivity, imagery, hedonism, tangibility, and captivation. Below we describe each of them.

Sample and manipulation check

On a 5-point Likert scale, participants' reported to be quite familiar with the brand (M=3.45; SD=1.20) and, on average, they reported being used to buy luxury items less than once a month (M=1.58; SD=.89). Their familiarity with AR was measured through a 7-point Likert scale, showing that, on average, they were very familiar with the technology at issue (M=4.09; SD=1.67). Our first task was to investigate whether there were any differences between the groups in terms of the aforementioned variables. For this purpose, we ran a 2 x 2 ANOVAs for each sample's characteristics, whose results were not significant. Specifically, familiarity with the brand, $F(1,3)=.69$; $p=.55$, familiarity with AR, $F(1,3)=2.73$; $p=.05$, purchase frequency, $F(1,3)=2.28$; $p=.08$. See Appendix for full analysis.

We then compared the samples employed for the pre-test and the main experiment to see if there were any similarities between them. We saw that, on average, participants had the same age ($M_{pre\text{-}test}$=25.42 vs $M_{main\ experiment}$=26.48). This result is also coherent with the cohort we wanted to focus on. In addition to that, both samples were quite familiar with the brand ($M_{pre\text{-}test}$=3.58; SD=1.10 vs $M_{main\ experiment}$=3.45; SD=1.20). The two samples differed in their luxury purchase frequency, since results showed that pre-test participants were used to buy more luxury items as compared to those in the main experiment ($M_{pre\text{-}test}$= 2.68; SD = .89 vs M_{main} experiment=1.58; SD = .89). Broadly speaking, we can observe that the two samples were largely similar, thus pre-test results can be considered valid also for the main test participants.

Luxury perception

Both main effects were significant, though the interaction was not (see Table 6). As one can see in Figure 2, as expected, surrounding the Gucci bag with a high authenticity elements led to a higher luxury perception as compared to low authenticity (M_{high}=4.35; SD=.854; M_{low}=3.37; SD=.12). In addition, presenting the Gucci bag though AR led to a higher luxury perception as compared to 2D (M_{AR}=4.39; SD=.89 vs. M_{2D}=3.33; SD=.16). Their interaction, instead, was not significant. Both variables, however, presented high scores in effect size.

Figure 2

Mean luxury ratings

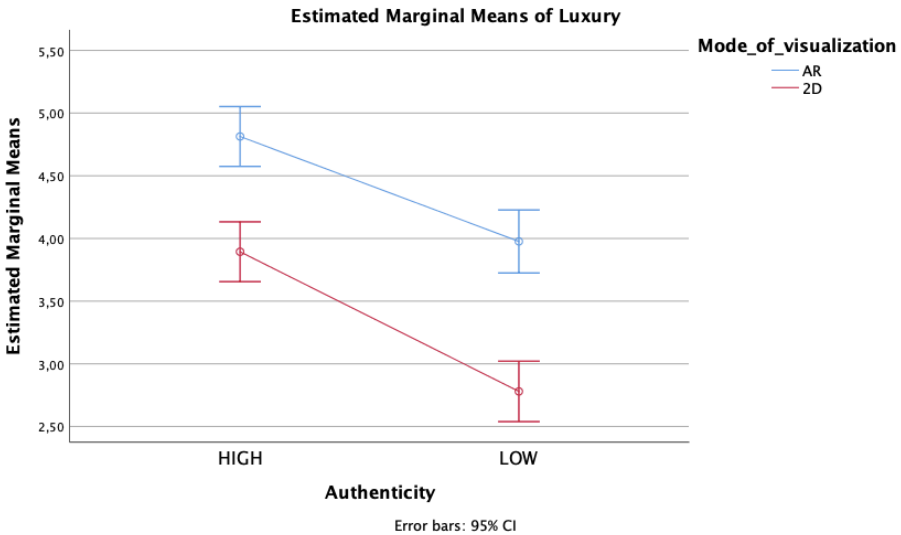


Table 6 shows ANOVA results for significant variables only, see Appendix B for full results.

Table 6

ANOVAs Tables. Significant values are highlighted in bold.

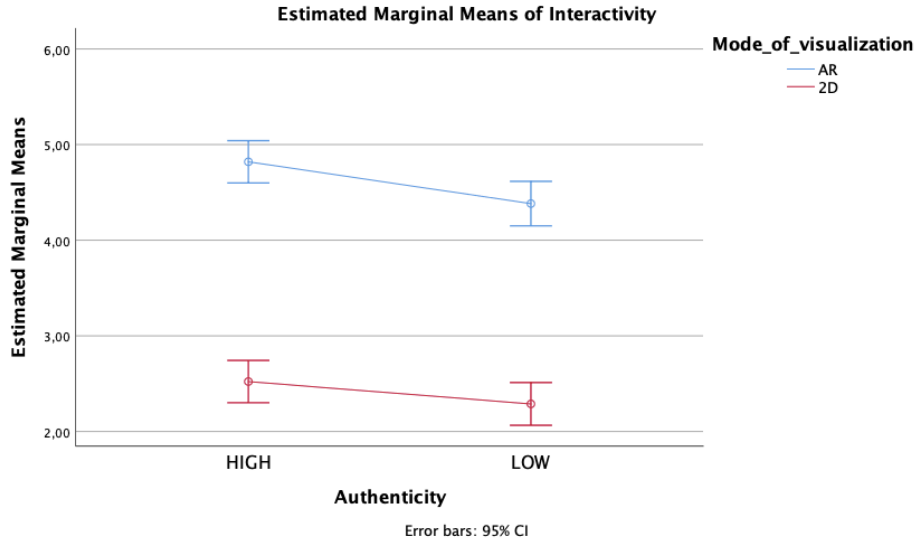
	Luxury perception			*Interactivity*			*Imagery*			*Tangibility*		
	F	*p*	*η2*	*F*	*p*	*η2*	*F*	*p*	*η2*	*F*	*p*	*η2*
Mode of Visualization	**74,03**	**<,001**	**,276**	**371,32**	**<,001**	**,657**	**63,61**	**<,001**	**,247**	**16,61**	**<,001**	**,079**
Authenticity	**63,00**	**<,001**	**,245**	**8,65**	**<,001**	**,043**	,50	,477	,003	,022	,883	,000
Mode of Visualization* Authenticity	1,26	,262	,006	,79	,373	,004	,50	,503	,003	,82	,365	,004

Interactivity

ANOVA results showed significant values for both main effects, while the interaction was not significant (p=.373). Note, however, that mode of visualization revealed a larger effect size as compared to authenticity. As expected, interactivity was higher for AR as compared to 2D (M_{AR}=4.60; SD=.08 vs. M_{2D}=2.40; SD=.08), and high authenticity contents were found to be slightly more interactive as compared to its lower counterpart (M_{high}=3.67; SD=.07 vs. M_{low}=3.33; SD=.08).

Figure 3

Mean Interactivity ratings

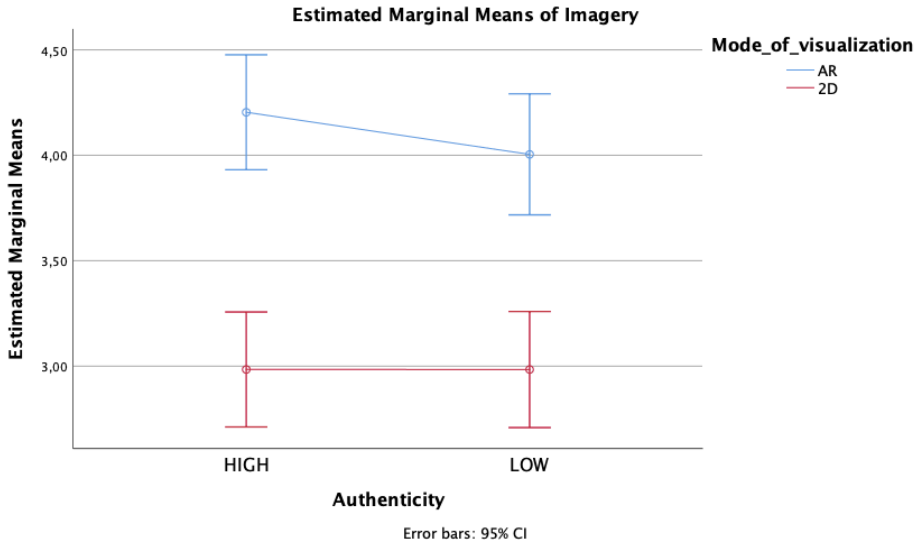


Imagery

We found a significant difference in mode of visualization. More specifically, the use of AR led to higher scores in imagery, relative to 2D (M_{AR}=4.10 *SD*=.10 vs. M_{2D}=2.98; *SD*=.09). There was a not significant difference in authenticity (*p*=.477) nor the interaction between the two variables (*p*=.479).

Figure 4

Mean Imagery ratings



Hedonism

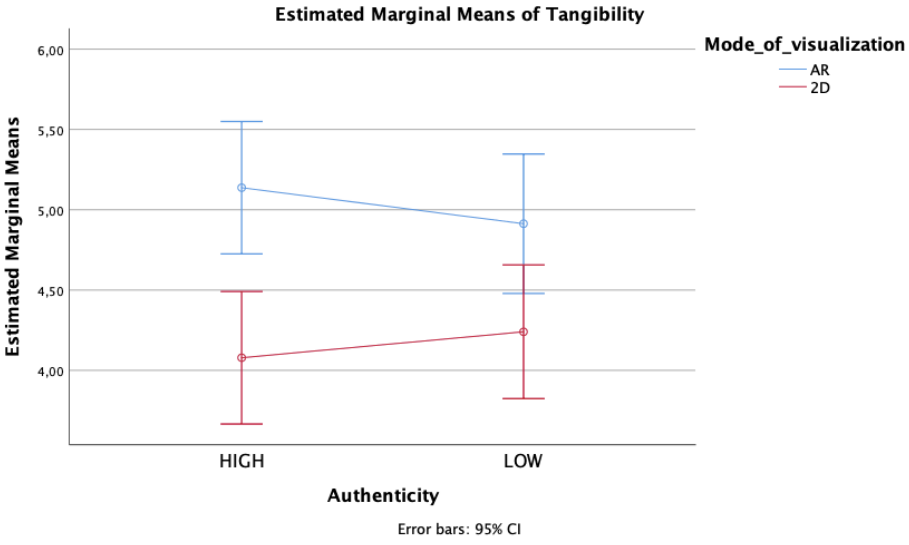
ANOVA results were not significant, F(1,3)=.265; *p*=.850, see Table 11 in the Appendix B.

Tangibility and captivation

As mentioned above, we analysed the two items representing realism separately. Figure 5 depicts the estimated marginal means of tangibility. We found a significant difference in mode of visualization, while there was a not significant difference in authenticity (*p*=.883) nor in the interaction between the two variables (*p*=.365). Regarding captivation, results were not significant, F(1,3)=.213; *p*=.887), see Table 12 in the Appendix B.

Figure 5

Mean Tangibility ratings



Understanding the determinants of luxury perception

After having a general view of the impact of mode of visualization and authenticity on the various variables under investigation, we aimed to build a model that explained the determinants of luxury perception as studied in the present research. We ran an ANCOVA analysis (see Table 7), with luxury perception as dependent variable, and interactivity, imagery, hedonism, tangibility, and captivation as covariates. Results revealed that, except for tangibility and captivation, all the variables

have a significant effect on luxury perception. It must be noted, however, that when we controlled for these variables, the p value of mode of visualization reached the value of .05. Even if its effect was still statistically significant, this result led us concluding that the true reason of the variation between different modes of visualization was the level of interactivity, imagery, and hedonism. Thus, what created the effect on luxury perception was not the technology at issue, but rather the different characteristics of the experience that it was able to influence.

Table 7

ANCOVA analysis. Significant values are highlighted in bold.

	F	*p*	η^2
Mode of Visualization	**3,601**	**,050**	**,019**
Authenticity	**6,.338**	**<,001**	**,254**
Mode of Visualization*Authenticity	2,518	,114	,013
Interactivity	**9,447**	**,002**	**,048**
Imagery	**8,206**	**,005**	**,042**
Hedonism	**18,282**	**<,001**	**0,88**
Tangibility	,001	,978	,000
Captivation	,048	,827	,000

R^2_{adj}=.578

We included mode of visualization, authenticity, interactivity, imagery, and hedonism in our final model. A regression analysis was used in order to see the direction of effects of all the variables on luxury perception. We started by stating that the model may be taken into consideration as it is significant, $F(5,197)=55.239$; $p<.001$. It must be noted that the model can explain 58% of variance (R^2_{adj}=.579). Following the field's standards, this is a moderate result, hence, the model may be considered as valid (Henseler et al., 2009). As showed on Table 8, all elements have a significant and positive impact on luxury perception ($p<.05$). Authenticity, in particular, has the largest effect (β=.383). The rationale behind this result is quite intuitive since authenticity is one of the main components of the concept of luxury. The effect of mode of

visualization has also been analyzed and proven to have a positive and significant effect on luxury perception (β=.358). Given the fact that mode of visualization has been reported as dummy variable (0=2D; 1=AR), results showed us that participants primed with AR reported a higher luxury perception than who was primed with the 2D version. Then, we investigated the effect of interactivity (β=.216), imagery (β=.184) and hedonism (β=.191), which all resulted to have a positive and significant effect on luxury perception.

Table 8

Regression analysis on luxury perception.

	Unstandardized β	*Std. Error*	*Standardized β*	*t*	*p*
Intercept	2,55	,34		7,48	<,001
Mode of Visualization	,35	,18	,15	1,98	,048
Authenticity	,86	,10	,38	8,10	<,001
Interactivity	,21	,07	,26	3,02	,003
Imagery	,18	,06	,28	2,93	,004
Hedonism	,19	,04	,23	4,65	<,001

R^2_{adj}=.579

Exploring the dimensions of luxury

To further explore the effect of mode of visualization and authenticity on luxury perception, we ran a 2x2 MANOVA considering each single item that built up the concept of luxury, namely high quality, perceived authenticity, prestige, premiumness, and resonance. As one can notice from Table 9, general results are consistent with previous analysis: while both mode of visualization and authenticity manipulation have significant and strong effects, their interaction does not. More specifically, mode of visualization showed significant results for high quality, perceived authenticity, and prestige, confirming its positive impact on delivering quality information, authentic

value, and prestigious image. Authenticity manipulation showed significant results also for premiumness and resonance, highlighting its ability to build a strong connection with customers, which increase their willingness to pay a premium price. Finally, by looking at Partial Eta Squared, we noticed that both mode of visualization and authenticity manipulation have the greatest relative impact on high quality *(η^2_{mov}=.352, η^2_{aut}=.449)*.

Table 9

MANOVA analysis. Significant values are highlighted in bold.

	Dependent Variable	*F*	*p*	η^2
Mode of visualization	**high quality**	**108,747**	**<,001**	**,359**
	perceived authenticity	**56,559**	**<,001**	**,296**
	prestige	**86,977**	**<,001**	**,310**
	premiumness	2,665	,104	,014
	resonance	2,122	,147	,011
Authenticity	**high quality**	**158,036**	**<,001**	**,449**
	perceived authenticity	**80,860**	**<,001**	**,294**
	prestige	**79,642**	**<,001**	**,291**
	premiumness	**7,447**	**,007**	**,037**
	resonance	**3,959**	**,048**	**,020**
Mode of visualization* Authenticity	high quality	9,676	,262	,006
	perceived authenticity	8,578	,503	,002
	prestige	5,437	,093	,012
	premiumness	4,709	,081	,024
	resonance	,451	,503	,002

Willingness to buy

In addition to our main analysis, we also explored the variable willingness to buy. We conducted a regression analysis to see whether mode of visualization and authenticity had an impact on willingness to buy. As showed in Table 10, the general model is significant, $F(3,197)=28.38$; $p<.001$. It must be noted, however, that it only explains 29% of variance (R^2_{adj}=.294). Hence, the fit is not optimal.

We shall now consider every single variable. While mode of visualization had a positive and significant effect on willingness to buy, we found a non-significant effect for authenticity (p=.08). Interestingly, however, the interaction between these two variables had a positive and significant effect (β=.98). This means that, when taken together, mode of visualization and authenticity do have an effect on willingness to buy. Figure 5 clearly shows the interaction between the two variables. The interaction plot suggests that the impact of mode of visualization depends on the authenticity level. While for low authenticity there is not so much difference between AR and 2D ($M_{AR\text{-}LOW}$=4.17; $M_{2D\text{-}LOW}$=2.84), for high authenticity there is a big gap ($M_{AR\text{-}HIGH}$=4.67; $M_{2D\text{-}HIGH}$=2.36). In fact, the willingness to buy of a person primed with AR under high authenticity condition is significantly higher.

Table 10

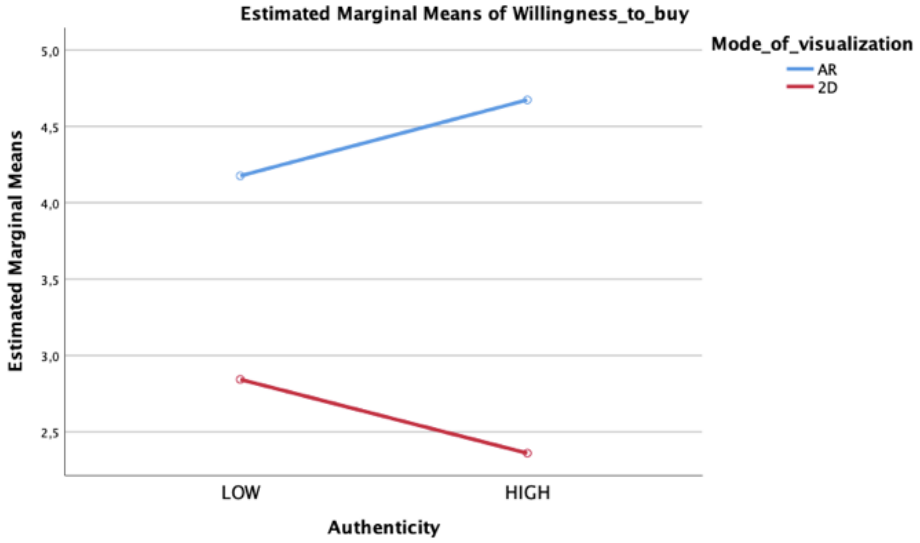
Regression analysis on willingness to buy. Significant results are highlighted in bold.

	Unstandardized β	*Std. Error*	*Standardized β*	*t*	*p*
Intercept	**5,17**	**,20**		**20,88**	**<,001**
Mode of Visualization	**1,33**	**,28**	**,39**	**4,71**	**<,001**
Authenticity	,49	,29	,14	1,71	,088
Mode of Visualization* Authenticity	**,98**	**,40**	**,25**	**2,41**	**,017**

R^2_{adj}=.294

Figure 5

Means willingness to buy ratings


Estimated Marginal Means of Willingness_to_buy
Mode_of_visualization
AR
2D
Estimated Marginal Means
5,0
4,5
4,0
3,5
3,0
2,5
LOW
HIGH
Authenticity

3. General Discussion

3.1 Summary of Main Findings

The current study sought to understand the effect of different modes of visualization combined with different levels of authenticity on luxury perception. In particular, we were interested in exploring the application of new visual-enabling technologies, such as AR, in the luxury industry, where the demand for authenticity is a priority.

Our first hypothesis was related to the role of authenticity. Is it possible to influence luxury perception by surrounding a high-end product with elements that reflect authenticity? After an extensive literature review, we assumed that high authenticity contents would have led to a higher luxury perception. Results clearly showed that authenticity has a positive effect, confirming the hypothesis according to which luxury perception is higher when the product is presented with high authenticity elements. Second, we investigated different modes of visualization and we hypothesized that AR might have enhanced authenticity. We found that participants' authenticity perception was higher when they were primed with AR, as compared to 2D, confirming our second hypothesis. Third, we considered the joint effect of authenticity and mode of visualization, assuming that the use of AR combined with high authenticity elements would have led to higher luxury perception. We did not find evidence in our data in support of this prediction, thus we had to reject our third hypothesis. Fourth, we examined the role of some visual characteristics, such as interactivity, imagery, hedonism, and realism, in order to see whether they had an impact on luxury perception and help us explaining why AR was better than 2D representations. Results revealed interesting insights: except for realism, all the other variables showed positive effects on luxury perception. Finally, for exploratory purposes, we investigated whether mode of visualization and authenticity had an effect on behavioral responses. We found that, whilst authenticity alone did not influence purchase intention, both mode of visualization and the joint effect between the two variables do have a positive impact on buying behavior.

3.2 Theoretical Implications

Authenticity and luxury perception

Authenticity represents one of the main drivers of luxury perception. It expresses the commitment to quality and delivers the customers an image of prestige. As highlighted by previous research, authenticity plays an essential role in building luxury brand (Heine et al., 2016) and it may help in warding off competitors (Beverland, 2005). High-end brands can communicate authenticity in several ways. They might leverage on history and tradition, their attention for details through craftsmanship or their relationship with a place. By comparing these different aspects, we found out that the element that better delivers a sense of authenticity was country of origin, confirming recent research (Zainol et al., 2016). In our main experiment, we exposed participants to two different scenarios: one reflecting Italy, Gucci's country of origin, and the other Brazil, which does not have any link with Gucci nor with luxury industry in general. Results clearly showed that people exposed to the Italian setting disclosed a higher score of luxury perception, confirming our first hypothesis. In addition to that, the size of the effect that authenticity had in the model was high, meaning that its impact on luxury perception was not only present but also strong. This finding is consistent with Cinelli and LeBoeuf (2019), whose research reported that authenticity contributes in generating a unique brand image, and as a consequence, shapes the status of a luxury brand.

To the best of our knowledge, the current research represents the first study that analyzes the role of place of origin alone in crafting authenticity. We can conclude that strengthening the link between a high-end brand and its country of origin has a powerful impact on its brand image, at least, as far as authenticity is concern. In relation to this topic, we also assumed that familiarity with the brand would have had an impact. We did not find evidence in our data in this direction, leading us to drop our initial assumption.

Mode of visualization and luxury perception

The manner a product is presented has an effect on how the consumer perceives it. In our study we compared the effects of 2D and AR on luxury perception. Results showed that presenting a product in AR lead to higher luxury perception as compared

to its 2D counterpart, confirming our second hypothesis. There may be multiple reasons behind this finding.

First, AR delivers a clear and neat image of the product, whose sensory details can be examined as it were physically real. Mental imagery is stimulated and the consumers perception of trying and use the product is increased. It must be noted that especially for luxury goods, assessing product quality is extremely important. Thus, we believe that luxury perception can be enhanced by providing more sensorial cues for the product evaluation. This is consistent with Poushneh and Vasquez-Parraga (2017), who found that perception of value can be increased by providing customers with more vivid product information. Our results also confirm the findings according to which AR is able to overcome mental intangibility and thus has a strong effect on consumers' experience (Heller et al., 2019).

Second, by making the experience of the product entertaining, AR creates a feeling of joy and playfulness that leverages on hedonic values. As a consequence, the virtual shopping experience results enriched by experiential elements that get etched in memory.

Third, AR produces a higher degree of interactivity. It means that the user is sensorially stimulated, through a sense of immersion. As showed by Beuckels and Hudders (2016), image interactivity per se positively affects luxury perception. Our study contributes to the existent literature confirming that the specific technology that is AR, thanks to its higher degree of interactivity, positively impacts luxury perception.

Finally, our results showed that the way the product is presented has a greater impact respect to authenticity. In particular we noticed that, the size of the effect of mode of visualization is extremely high, even more than authenticity, underlining its importance in shaping the perception of luxury. One final note must be made regarding to familiarity with the technology. We found not significant results, leading us to exclude the possible moderating role of consumers' level of familiarity with AR on luxury perception.

Interaction effect of authenticity and mode of visualization

Interaction effect between authenticity and mode of visualization was examined. ANOVA results were not significant, meaning that we did not find evidence in our data that indicated an interaction between these variables. In other words, the

impact of mode of visualization does not change according to different levels of authenticity. One explanation of this finding might be that, given the fact that both authenticity and mode of visualization already have a strong impact on luxury perception individually, their effect did not depend on the presence of the other. This result led us concluding that different mode of visualization and levels of authenticity are independent of each other. One final note must be made regarding to the coefficient of determination. We noticed that when we ran the 2x2 ANOVA, without taking into consideration any covariates, the model explained only 41% of variance. Such a low score highlights the fact that these two variables alone are not enough in explaining the variation of luxury perception. We used this outcome as starting point for our further analysis.

Understanding the determinants of luxury perception

We built a model whose aim was to explain the determinants of luxury perception in a digital environment, by retaining both our manipulations, as well as key variables associated with consumers' experiences and different visualization modes.

We first analyzed interactivity, considered as the media ability to engage users through a two-way flow of information. When dealing with AR, interactivity is created through augmentation. We allowed for augmentation by overlaying a virtual element – the Gucci bag – into a physical environment. In addition to that, we zoomed in and rotated the bag as to make the interaction more compelling. Results showed a positive effect of interactivity on luxury perception, confirming Beuckels and Hudders (2016). This may be explained by the experiential value created by AR-enriched experience. Interactivity leverages on hedonic values, that refer to feelings such as fun, amusement and playfulness. It means that when people use AR technologies, they perceive the experience to be entertaining and pleasant. Similarly, luxury goods are bought for what they symbolized. In other words, the luxury industry is rooted in the hedonic consumption. This led us concluding that hedonic values influence both interactivity and luxury perception. Our model, in fact, clearly show this relationship, revealing that both interactivity and hedonism positively impact luxury perception. Note that, these results highlight the fact that what matter the most is how some characteristics of new technologies influence specific aspects of the consumer's experience, rather than technologies themselves. In other words, while new technologies come and go,

understanding the consumer in relationship to the technologies is what may provide brands with competitive advantages.

We also considered the role of imagery, that is the mind's ability to visualize a product experience. We assumed that AR, by providing a more compelling and neater image, was able to create a more vivid mental image and, as a consequence, increase the luxury perception. Results helped to understand the importance of mental imagery by providing empirical evidence that elaboration of vivid mental imagery increases the positive product evaluation. Findings confirm our hypothesis, showing that imagery had a positive impact on luxury perception. This may be explained by the fact that the simulation of interaction with the product may evoke more vivid imagination of trying it (Schlosser, 2003). We believe that facilitating mental imagery of a product can help in shaping the luxury perception, given the fact that a person may be able to imagine better the consumption and use of the product.

A special note must be made regarding to realism. We hypothesized that the greater level of realism provided by AR would have had a positive impact on luxury perception. Although previous research provided many arguments in support of this assumption (Verhagen et al.,2016; Olsson, 2012), our results were not significant. It means that we cannot advance anything about the effect of realism. We believe that this result is related to the way we measured the concept. We used a single-item scale for both captivation and tangibility, which may be resulted insufficient to capture the nature of these concepts. For this reason, we suggest future research to replicate the study and better define the measurement scale.

Exploring the concept of luxury

The growing interest of researchers and practitioners on the use of new technologies in the luxury industry led us to explore more in depth the phenomenon. Our results confirm that both AR and high authenticity contents positively impact various luxury dimensions. On one side, the use of AR leads to higher perception of quality, authenticity, and prestige. In light of its richer contents, AR is able to deliver a greater amount of product information, it better expresses authentic value and enhances the prestigious brand image. Consistent with previous analysis, these results highlight the differential effect that mode of visualization has not only on luxury perception as a whole, but also on each single dimension. Interestingly, the way the product is

presented has the greatest impact on perceived quality. This might be due to the different level of interactivity provided by the two modes of visualization. The higher the level of interactivity, the more information about the product are provided. This means that interactivity allows customer to better see features and details, facilitating their product evaluation. This finding is consistent with Watson et al. (2018), who demonstrated that image interactivity empowers customers to evaluate a product. On the other side, different authenticity contents lead to different perceptions of the product. In particular, high authenticity demonstrated to have a positive impact on all the dimensions of luxury, including premiumness and resonance. According to Cinelli and LeBoeuf (2019), authenticity is a critical element when it comes to craft the brand image of a high-end brand. Our results confirm that providing clues about country of origin strengthens customers' perception of luxury. In particular, authenticity builds a strong connection with customers, which translates in willingness to pay a premium price.

Exploratory analysis on purchase intention

Purchase intention was included in our analysis for exploratory purposes. Previous research has already studied the impact of AR on purchase intention, highlighting the positive effect that interactivity has on behavioral responses (Heller et al., 2019). The current study sought to contribute to the existent literature by shedding lights on the combined effect of AR and authenticity on willingness to buy. Our results are extremely interesting and we suggest future research to deepen this topic. In fact, we saw that while the use of AR led to higher purchase intention as compared to 2D, authenticity alone did not show significant results. Interestingly, however, when participants saw the Gucci bag in AR with high authenticity elements, their willingness to buy increased. These results open up to several questions that might be addressed by future research. For example, it would be interesting to investigate the rationale behind our results and see whether there is evidence that authenticity, when taken individually, does not influence purchase intention. Again, researchers may compare AR in relation to other types of visual enabling-technologies and investigate their differential effect.

3.3 Limitation and Future Directions

Our study sought to contribute to our understanding of the potential impact that different visual-enabling technologies and different levels of authenticity have on luxury perception. Although we observed interesting and promising results, this research is not without limitations. We shall now highlight the most relevant limitations that future research may address in order to deepen the knowledge of such rapidly emerging theme.

The first limitation refers to the type of sample used. It was composed only by Italian participants because of the strong relationship that elapses between culture, luxury perception and brand association. Therefore, this study employed convenience sampling, principally drawn from Prolific platform population. Although the sample may be considered an appropriate audience of target customers, the sample composition does limit the external validity of the study. Replication of the study with participants from other nationalities would undoubtedly add to the generalizability of the findings and enable further exploration of the potential effect of culture.

Second, we investigated luxury perception in relation to a specific brand, which was chosen among others mainly because it was the only one that had developed a branded app with different AR features. Although we controlled brand influence through familiarity with the brand, which showed non-significant results on luxury perception, there might be some other aspects that we did not consider. For example, luxury perception might be influenced by secondary sources of brand associations. In our experiment, we manipulated authenticity through country of origin of the brand, but Italy is more than that. It is usually associated with rare artisanal skills, fine arts, and commitment to quality thus it may be strong for the category under investigation. We suggest future research to carefully consider this issue, which may be address by either adding secondary sources of brand associations in the analysis or replicating the study using a comparative method and multiple brands. In particular, the latter may add to the generalizability of the results.

Third, the experiment was conducted online. It implied that what participants experienced was more a simulation rather than a real interaction with the AR technology. This means that some characteristics of AR, such as real-time interaction, have been lost. We suspect that this may be the main reason for which tangibility and captivation showed non-significant results. Although our findings showed high scores

on interactivity, we believe that replicating this study on a physical experimental setting, allowing participants to directly use and control the AR technology may increase the validity of the findings.

Fourth, we considered few aspects of AR, such as interactivity, imagery, hedonism, and realism. Given our results, we suggest having a particular focus on realism and examine more specifically its influence. In addition to that, we also recommend investigating a larger set of features with the aim of exploring more in depth which AR characteristics impact the most luxury perception.

Fifth, although we contributed to existent research by investigating AR, future research may compare other visual-enabling technologies such as VR and MR through different tools. For example, they might use smart glasses and see whether its magnitude of effect on luxury perception is greater than AR. They might also include in the model other variables and control for specific features related to the technology at issue.

Sixth, another potential limitation may be detected on different exposure time. Participants may have been exposed longer to the videos than the images, leading to a differential effect on the responses. Future research may address this issue by imposing the same exposure time for both conditions.

Finally, it must be noted the special conditions under which we conducted the study. The experiment was conducted in March 2019, when the pandemic COVID-19 was underway. On one side, these particular circumstances did not allow us to run the experiment in a real environmental setting as we expected to do. On the other side, it may have had an impact on the results. It might be argued that the health emergency may have shifted people's attention on more relevant issues, such as health concerns, economic crisis, and international safety. As a consequence, we suggest replicating the current study under normal conditions in order to isolate the experiment from extraordinary circumstances.

3.4 Managerial Implications

The current research offers several insights for high-end brands that want to better express their unique value. As we empirically showed, luxury perception might be enhanced through both augmentation and authenticity. Starting from the former, we

proved that the employment of AR is suitable and successful. It creates a feeling of actual interaction with the product, even if it is not physically present. This feeling in turns has shown to lead to a higher luxury perception. Thus, we suggest luxury brands to develop their mobile apps and websites with the inclusion of interactivity features, such as AR, because they may lead to higher levels of involvement and enjoyment for consumers, increasing their positive attitudes toward the product. We also empirically demonstrated that AR positively impacts authenticity, quality evaluation and prestigious image of the brand. In a digital environment, where there is a lack of physical presence, AR may overcome trust issues about product authenticity and provenance as well as its composition in terms of material and fabric. In addition to that, the extraordinary circumstances created by the lockdown after the COVID-19 pandemic demanded a huge change in the relationship with customers, highlighting the need for a new balance between digital and physical retail. In this sense, AR and other new visual-enabling technologies might play a crucial and strategic role. They will transform the online shopping experience by placing consumers in quasi physical-store conditions. In other words, these new technologies represent fruitful and promising tools for luxury brands to retain a high luxury value.

Regarding authenticity, instead, we demonstrated its crucial role in shaping luxury perception. Leveraging on authenticity allows high-end brand to communicate their commitment to quality, linking them with tradition, heritage, and excellence. In particular, authenticity contributes in creating a stronger reputation and a better image in customers' mind. Authenticity can indeed allow brands to express brand identity in a more creative way, and the product accuracy could also be improved. We recommend luxury brands to develop marketing campaigns promoting authenticity to instill a positive product judgement, which in turns can help in preserving their highly valued uniqueness and prestige. A final note must be made regarding to purchase intentions. Our exploratory analysis provides empirical evidence that the mix of AR and authenticity leads to a higher willingness to buy. Although this result requires further investigation, it gives us fruitful insights. In order to influence consumers behavioral intentions, such as willingness to buy, we suggest luxury brands not only to include AR features in their apps, but also to enrich them with elements that recall authentic values of the brand.

3.5 Conclusions

The contribution of the current study is two-fold. On one side, it adds to existent literature by offering empirical evidence that, within the online retailing context, consumers' perception of luxury could be improved by the use of interactive technologies, such as AR. The greater feeling of interactivity is able not only to sensorially stimulate consumers, creating a sense of consumption of the product but also to overcome intangibility, providing more cues for product evaluation. On the other side, it gives interesting and useful managerial implications for high-end brands that want to retain their unique value, by finding ways in which they can convey their authenticity without appearing disingenuous. We demonstrated that authenticity have a positive impact on all the dimensions of luxury. More specifically, providing clues about country of origin strengthens customers' perception of luxury. This helps to build a strong connection with customers, which translates in willingness to pay a premium price. In addition to that, we also showed that the role of interactive technologies goes far beyond their entertaining nature. They allow brands to communicate their authentic values in a more creative way, provide product specific and detailed information, and lock in customers into an immersive and pleasant experience.

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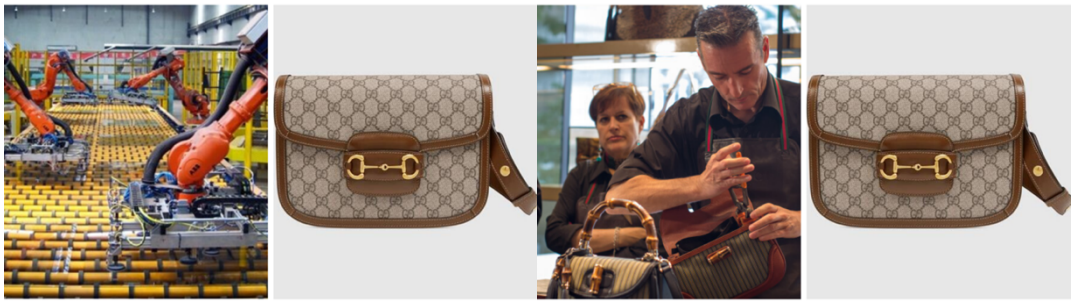
Appendix A

Stimuli pre-test

Place of origin

Method of production



History and heritage

Word clouds

Place of origin – high

Place of origin – low

Method of production – high

Method of production – low

History and heritage – high

History and heritage – low

Questionnaire pre-test

In una scala da 1 (per niente) a 5 (molto), quanto associ il prodotto alla storia/metodo di produzione/paese d'origine del brand?

Con riferimento all'immagine, in una scala da 1 (per niente) a 5 (molto), quanto ti sembra autentico il prodotto?

Con riferimento all'immagine, quanto sei d'accordo con le seguenti affermazioni?
Il prodotto è di alta qualità
Il prodotto è simbolo di prestigio
Sono disposto a pagare un prezzo superiore rispetto a un prodotto simile
Amo questo prodotto

Per favore, scrivi la prima parola che ti viene in mente guardando l'immagine

Con quale frequenza compri prodotti di lusso?
In una scala da 1 (per niente) a 5 (molto), quanto conosci Gucci?

Genere
Età

Questionnaire main experiment

Prima di iniziare, leggi la seguente liberatoria e indica la tua preferenza. Per qualsiasi informazione, puoi contattare il Dr. Carlos Velasco qui: carlos.velasco@bi.no

1. Ho letto e capito le informazioni riguardanti l'esperimento e il suo scopo generale.
2. Ho capito che posso ritirarmi dal questionario in qualsiasi momento, per qualsiasi motivo e senza alcuna sanzione a che, così facendo, eliminerò i miei dati. (NB - ricorda che i dati registrati sono anonimi - se cambi idea dopo aver completato l'esperimento, saremmo impossibilitati a rintracciare i tuoi dati ed eliminarli).
3. Ho capito come segnalare una richiesta o presentare un richiamo (vedi sopra).
4. Ho capito che le mie risposte sono anonime.
5. Do il mio consenso a prendere parte a questo esperimento online.

Dai il tuo consenso a prenderne parte?

Quanto sei d'accordo con le seguenti affermazioni?
Il prodotto è di alta qualità
Il prodotto riflette un design senza tempo
Il prodotto è simbolo di prestigio
Sono disposto a pagare un prezzo superiore rispetto a un prodotto simile
Amo questo prodotto

La rappresentazione della borsa ...
Mi permette di visualizzare facilmente il prodotto
Mi da gli stessi stimoli sensoriali che avrei se fossi in un negozio fisico
Crea un'esperienza simile a quella che avrei se fossi in un negozio fisico
Mi permette di interagire con il prodotto come se fossi in un negozio fisico
Fornisce stimoli sensoriali specifici per il prodotto

Quanto sei d'accordo con le seguenti affermazioni?
Mi sono sentito come se stessi effettivamente "vivendo" in prima persona l'acquisto della borsa

Ho sognato l'opportunità di indossare la borsa
Ho potuto facilmente immaginarmi con la borsa
La rappresentazione mentale della borsa è molto chiara e specifica
In generale, la rappresentazione mentale della borsa è molto vivida

Quanto sei d'accordo con le seguenti affermazioni?
Ho sentito un senso di liberazione
Ero emozionato
Ero contento

Quanto sei d'accordo con le seguenti affermazioni?
La borsa sembrava concreta
La borsa sembra essere un tutt'uno con l'ambiente circostante

Quanto, in una scala da 1 (per niente) a 7 (molto), saresti propenso a comprare il prodotto?

Quanto ti sembra autentico il prodotto?

In che modo hai visualizzato la borsa?

Con quale frequenza compri prodotti di lusso?
Quanto conosci Gucci?
In una scala da 1 (per niente) a 7 (molto), quanta esperienza hai con la realtà aumentata?

Genere
Età

Appendix B

Pre-test

Table 1

One sample t test history and heritage

	t	df	Sig.	Mean	Std. Deviation
History High	9.381	49	.000	3.98	1.116
History Low	-2.547	49	.014	2.04	1.277

Table 2

One sample t test method of production

	t	df	Sig.	Mean	Std. Deviation
Production High	9.249	49	.000	4.04	1.177
Production Low	1.726	49	.091	2.80	1.229

Table 3

One sample t test place of origin

	t	df	Sig.	Mean	Std. Deviation
Origin High	10.434	49	.000	4.22	1.166
Origin Low	-4.794	49	.000	1.66	1.239

Table 4

Paired sample t test

		N	Mean	Std. Deviation
Pair (History)	1	History High	3.96	.968
		History Low	2.42	1.372
Pair 2 (Production)		MOP High	4.00	1.088
		MOP Low	2.72	1.213
Pair 3 (Origin)		POO High	4.10	1.055
		POO Low	2.00	1.143

	t	df	Sig.	Mean	Std. Deviation
History	7.189	49	.000	1.540	1.515
Production	5.782	49	.000	1.280	1.565
Origin	9.714	49	.000	2.100	1.529

Table 5

Paired sample t test – luxury

	N	Mean	Std. Deviation
Pair 1 (Production)	MOP High	3.693	.987
	MOP Low	2.693	.980
Pair 2 (Origin)	POO High	3.746	.842
	POO Low	2.546	1.016

	t	df	Sig.	Mean	Std. Deviation
Production	5.621	49	.000	1.000	1.258
Origin	6.076	49	.000	1.200	1.396

Table 6

One sample t test – luxury

	t	df	Sig.	Mean	Std. Deviation
Production High	8.549	49	.000	3.693	.987
Production Low	1.395	49	.169	2.693	.980
Origin High	10.462	49	.000	3.746	.842
Origin Low	.352	49	.747	2.546	1.016

Main experiment

Table 7

Internal Consistency

	Cronbach's alpha	N items
Luxury AR - Low	.770	5
Interactivity AR - Low	.868	5
Imagery AR - Low	.771	5
Hedonism AR - Low	.897	3
Luxury AR - High	.784	5
Interactivity AR - High	.866	5
Imagery AR - High	.805	5
Hedonism AR – High	.901	3
Luxury 2D - Low	.793	5
Interactivity 2D - Low	.847	5
Imagery 2D - Low	.813	5
Hedonism 2D - Low	.847	3
Luxury 2D - High	.810	5
Interactivity 2D - High	.849	5
Imagery 2D - High	.859	5
Hedonism 2D - High	.941	3

Table 8

ANOVA Familiarity with the brand

Dependent Variable: Familiarity with the brand

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3,063[a]	3	1,021	,697	,555
Intercept	2362,485	1	2362,485	1613,654	,000
Mode_of_visualization	1,338	1	1,338	,914	,340
Authenticity	,105	1	,105	,072	,789

Mode_of_visualization * Authenticity	1,676	1	1,676	1,144	,286
Error	284,028	194	1,464		
Total	2650,000	198			
Corrected Total	287,091	197			

a. R Squared = ,011 (Adjusted R Squared = -,005)

Table 9

ANOVA Familiarity with AR

Dependent Variable: Familiarity with AR

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	22,458[a]	3	7,486	2,730	,050
Intercept	3309,297	1	3309,297	1206,989	,000
Mode_of_visualization	13,662	1	13,662	4,983	,082
Authenticity	7,314	1	7,314	2,668	,104
Mode_of_visualization * Authenticity	1,161	1	1,161	,423	,516
Error	531,905	194	2,742		
Total	3868,000	198			
Corrected Total	554,364	197			

a. R Squared = ,041 (Adjusted R Squared = ,026)

Table 10

ANOVA Purchase Frequency

Dependent Variable: Purchase Frequency

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5,359[a]	3	1,786	2,289	,080
Intercept	681,877	1	681,877	873,777	,000
Mode_of_visualization	,011	1	,011	,014	,906
Authenticity	,040	1	,040	,052	,820

Mode_of_visualization * Authenticity	5,335	1	5,335	6,837	,010
Error	151,393	194	,780		
Total	837,000	198			
Corrected Total	156,753	197			

a. R Squared = ,034 (Adjusted R Squared = ,019)

Table 11

ANOVA Hedonism

Dependent Variable: Hedonism

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1,592[a]	3	,531	,265	,850
Intercept	1447,669	1	1447,669	723,262	,000
Mode_of_visualization	,278	1	,278	,139	,710
Authenticity	1,006	1	1,006	,503	,479
Mode_of_visualization * Authenticity	,278	1	,278	,139	,710
Error	388,307	194	2,002		
Total	1840,889	198			
Corrected Total	389,899	197			

a. R Squared = ,004 (Adjusted R Squared = -,011)

Figure 1

Means Hedonism ratings

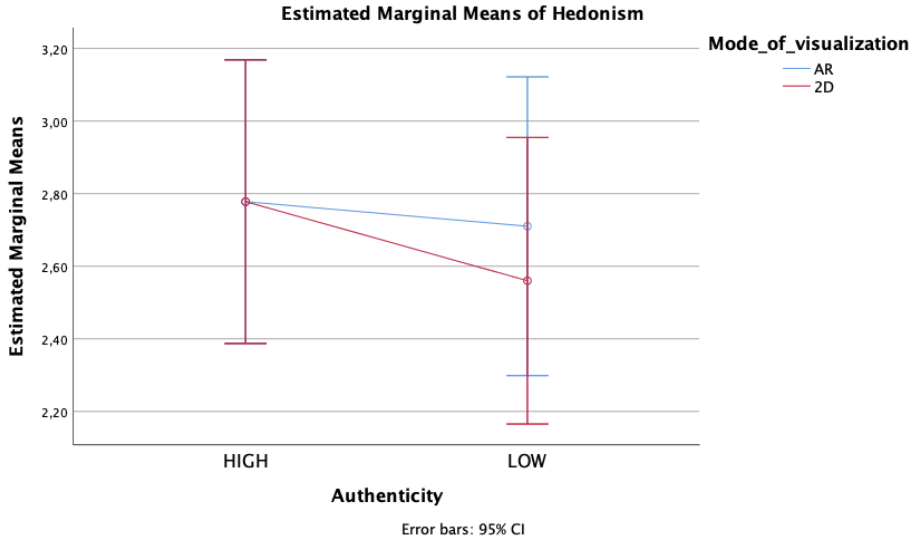


Table 12

ANOVA Captivation

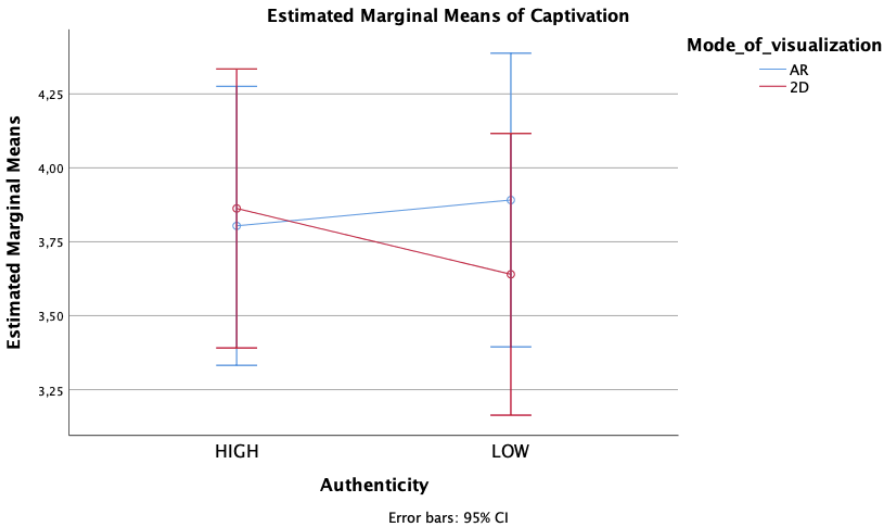
Dependent Variable: Captivation

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1,864[a]	3	,621	,213	,887
Intercept	2853,176	1	2853,176	977,849	,000
Mode_of_visualization	,458	1	,458	,157	,693
Authenticity	,226	1	,226	,078	,781
Mode_of_visualization * Authenticity	1,188	1	1,188	,407	,524
Error	566,055	194	2,918		
Total	3424,000	198			
Corrected Total	567,919	197			

a. R Squared = ,003 (Adjusted R Squared = -,012)

Figure 2

Means Captivation ratings


Estimated Marginal Means of Captivation
Mode_of_visualization
AR
2D
Estimated Marginal Means
4,25
4,00
3,75
3,50
3,25
HIGH
LOW
Authenticity
Error bars: 95% CI