SCHEMA REDAZIONE PROGETTO DI RICERCA

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(si veda Allegato A del bando)

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TITOLO DEL PROGETTO: Enhancing Customer Experience: Leveraging AI-generated Content for brand promotion in luxury creative industries
RICERCA PROPOSTA (attenersi a quanto indicato nell'allegato A del bando) **Presentation of the project and State of the art** The luxury business includes the production, marketing, and distribution of high-quality, exclusive, and prestigious goods and services that are associated with superior craftsmanship, exceptional materials, and a high level of aesthetic appeal (Aliyev & Wagner, 2018; Chevaler, 2012). It targets a niche market characterized by consumers with significant purchasing power and that are willing to pay premium prices for products or experiences providing them with a sense of status, exclusivity, and personal satisfaction (Atwal & Williams, 2017; Kapferer & Bastien, 2009; Vigneron & Johnson, 2004). According to the 21st edition of the Bain & Company Luxury Study, released in collaboration with Fondazione Altagamma (i.e., the trade association of Italian luxury goods manufacturers), the global luxury market took a leap forward in 2022, despite uncertain market conditions. Moreover, the industry will see further expansion for the rest of the decade, up to 2030, even in the face of economic turbulence. Indeed, after a decline in 2020 due to the Covid-19 pandemic, the market returned to €1.15 trillion in 2021 and surprised everyone in 2022 with further growth of 19%–21%. According to the Bain & Company's report, Americas regained the top position for personal luxury goods sales with an estimated €113 billion (25% growth compared to 2021), followed by Asia and Europe, in second and third place respectively. The overall luxury market tracked by Bain & Company includes nine segments: luxury cars, personal luxury goods, luxury hospitality, fine wines and spirits, gourmet food and fine dining, high-end furniture and housewares, fine art, private jets and yachts, and luxury cruises. Luxury cars, luxury hospitality, and personal luxury goods together account for 80% of the total market. In recent years, the luxury business has been undergoing a profound transformation under the effect of multiple factors, including the global pandemic, the accelerated technological innovation, and the growing emergence of new virtual experiences, which are influencing the final demand and the marketing strategies that companies implement to connect with their markets (e.g.; Bala & Verma, 2018; Duma &

Studer, 2020; Hoekstra & Leeflang, 2020; Rathi et al., 2022; Romão et al., 2019; Jiang et al., 2023; Rangel & López, 2022; Roggeveen & Sethuraman, 2020). Notably, Covid-19 has accelerated the shift towards online sales and e-commerce, prompting luxury brands to invest heavily in their digital presence (Hoekstra & Leeflang, 2020; Rangel & López, 2022; Roggeveen & Sethuraman, 2020). Moreover, with the rise of the metaverse and virtual experiences, luxury brands are increasingly exploring innovative ways to engage with customers, by offering virtual showrooms and immersive brand experiences (Jiang et al., 2023).
Overall, the increasing use of digital technologies is rapidly changing the luxury sector, providing both opportunities and important challenges for companies. Technology helps omnicanality, by enhancing the integration of contact channels, so that people can live an inclusive shopping experience by accessing to the same products, services or information anytime and anywhere (Lorenzo-Romero et al., 2021). Omnicanality still represents a great novelty in the luxury fashion industry, in which the physical experience has always been essential (Wang, 2021). It does not imply changing the strategy and definitively shifting from the offline to the online world, but integrating the shopping experience and brand contacts by means of the digital technologies. Cloud-based services, big data, artificial intelligence, IoT and blockchain technologies are also enabling a multitude of new business solutions, including for luxury fashion brands (Jain & Shultz, 2019). In their recent study on digital transformation of luxury brands, Celia Rangel and Belén López (2022) analysed the top ten international luxury groups based on sales in order to identify the different areas of digital transformation in which they worked in 2020. The development of e-commerce platforms is the area where luxury fashion brands have invested the most resources due to the movement and trade restrictions caused by Covid-19 (Rangel & López, 2022). Moreover, all the examined companies believe in digitization to reduce the environmental impact of their business. For example, to optimize water and energy consumption or to create new products and solutions that promote sustainability, through the circular economy (Rangel & López, 2022).

Among the various technologies, Artificial Intelligence (AI) received a lot of attention, in recent years, from both companies and academic research, given its ability to analyze and process a large amount of data that is difficult to manage by hand (Wichert, 2020). AI can be defined as “a system’s ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation” (Haenlein et al., 2019 p.17). The beginning of the AI era was announced at Code Conference 2016 when IBM CEO, Ginni Rometty, predicted that AI would affect every business decision within the next 5 years. Indeed, market research and analysis based on AI enable businesses to have a better understanding of their customers' preferences and to offer specific solutions based on that data (Hermann, 2022). The author brings the examples of Netflix and Amazon, both adopting AI to propose customized programs and items. Recent AI advances are evident in many products, including the journalism software QuillTM, self-driving cars from Google and Tesla, and both speech (Google Now, Siri personal assistant) and image (face,thumb, OCR, and gesture) recognition technology (Omar et al., 2017). By 2030, the PwC report (2017) is expecting a significant development of AI, which would produce a notable 14% boost to the global GDP.

Given the large diffusion and increasing pervasiveness of AI, a growing number of scholars investigated how to introduce it into companies’ business models and, in particular, within the marketing function (Dwivedi et al., 2021; Faruk et al., 2021; Huang & Rust, 2018; Nozawa et al., 2022; Pradeep et al., 2018; Tanveer et al., 2021). According to Tanveer (2021), AI is particularly helpful to automate marketing operations. Notably, the AI-based deep learning allows marketers to recognize user behaviour in a more precise way, giving them the possibility to capture which groups are most likely to become consumers and which leads are most likely to convert. Moreover, it enables the personalization of items and the sales improvement (Tanveer et al., 2021). Indeed, the huge amount of data that are collected by various

platforms on consumers enables companies to better identify consumers' needs and interests, thus improving their ability to provide products and services that better fit customers expectations (Dwivedi et al., 2021). Furthermore, AI contributes to functions previously performed by humans such as communicating with final customers: intelligent virtual assistants are just an example of this ongoing trend and some companies are already using it (Faruk et al., 2021). Further examples highlight the growing use of AI by luxury companies. For instance, Levi's recently announced the collaboration with Lalaland to create virtual models generated by AI that will be used for clothing advertising within the end of 2023. Additionally, from the collaboration between Unsigned and the virtual production studio Dimension, the digital avatar of Eva Herzigová has been created. Carolin Rush, CEO of the British Council Foundation defined the launch of the first "metamodel" as: «A revolutionary moment for the fashion industry». AI tools are also able to create complete promotional messages. Recently some web users have published hilarious images and videos such as that of Pope Francis looking dapper in a white puffer jacket, or the video of Harry Potter characters wearing Balenciaga.
AI can also play an important role in creating a sustainable luxury system. In a recent study, Tiwari and Tomar (2023) bring some interesting examples: (1) Marketing Campaigns and Fashion Shows going virtual. Physical samples would be used less often than virtual samples and many fashion shows have already gone virtual in creative ways. (2) Virtual Fitting Room and better customization reducing returns and enhancing customer experience. (3) Propelling Second-hand market and Rental fashion. (4) Sales prediction preventing stockpiling: The fast fashion industry creates enormous waste as fashion trends change day by day. In this respect, one of the most obvious use of AI concerns advanced data analytics and machine learning sales forecasting, which allow to be cost-saving and environmentally friendly at the same time.

Notwithstanding the above examples and despite the increasing attention by firms and academics towards digital transformation, Mastropetrou and colleagues (2019), in their systematic mapping study wrote: "it seems that the link between the luxury goods sector and digital transformation is either ignored or misconceived. In fact, most studies do not consider the impact that digital transformation can have for the future of the luxury goods sector" (Mastropetrou et al., 2019 p.728).
Especially, there is a lot of room for research analyzing how the consumer experience changes in the luxury business context, when moving from a traditional to a more digitalized business model based on the adoption of AI and other emerging technologies (Altarteer & Charissis, 2019; Mastropetrou et al., 2019; Nozawa et al., 2022; Rangel & López, 2022; Rathi et al., 2022).

Research objectives
Starting from the above scenario, the purpose of this project is to understand the impact of AI on the marketing strategies that creative-luxury industries can use to attract their customers. Particularly, the analysis will focus on the study of all the potential and already existing fields of application of AI related to marketing, by specifically investigating the consumer side. The study will analyse the differences in behavior when consumers act in a real context *vs*. a virtual one, reproduced by means of AI. Furthermore, the project will analyze the *pros* and *cons* that consumers perceive in interacting with virtual models entirely recreated with AI or with well-known characters digitally recreated in a virtual context.

Methodology
The analysis will be mainly focused on the market and consumer perspective, by using different research methods.

Neuroscientific tools will be employed to understand the cognitive processes of consumers, such as attention and perception that are associated with the use of AI and digital technologies applied to the luxury context. Neuromarketing methods, unlike conventional methods, allow scientists to measure the subconscious reactions in response to certain stimuli, thereby giving insight into decision-making processes, consumer preferences or motivations, which can help marketing strategies to be more effective (Białowąs & Szyszka, 2019).
Brain activity in neuroscientific research can be measured by a variety of tools (Raiesdana & Mousakhani, 2022). In this project, we will utilize electroencephalogram (EEG), eye-tracking (ET) and facial recognition technology (FRT) to investigate the differences in behaviour when consumers move in a real context or in a virtual one, completely recreated with AI.
EEG has gained extensive usage in these kind of analysis because its simplicity, accessibility, affordability, and informative nature. Empirical evidence derived from EEG analyses has demonstrated that specific elements of consumers' cognition and emotional reactions towards advertising messages, even at subconscious levels, can be effectively monitored and comprehensively described in real-time (Raiesdana & Mousakhani, 2022).
Similarly, ET can provide valuable information regarding the visual processing of stimuli (Białowąs & Szyszka, 2019), showing how the consumer distracts visual attention to various forms of advertising or other marketing stimuli. Notably, visual attention is essential in examining the consumer behavior and understanding his/her decision-making process, providing valuable knowledge that enables to design effective and customized marketing activities (Białowąs & Szyszka, 2019).
This project will also employ FRT in order to observe consumers' emotional responses to stimuli through the analysis of micro facial expressions. This analysis will be especially helpful to assess customer satisfaction within a physical and virtual store, or during the actual usage of a product or service, effectively eliminating any interference between the user and the experience.

Besides neuroscience, qualitative research techniques will be also used in this project. The subjects of this study will be asked to participate in semi-structured interviews, which are more powerful than other types of interviews for qualitative research because it allows for researchers to acquire in-depth information and evidence while considering new and emerging issues, such as the complex phenomenon of AI applied to the luxury industry (Ruslin et al.,2022). Semi-structured interviews allow flexibility and adaptability for researchers to hold their track as compared to an unstructured interview, where its direction is not fully considered (Ruslin et al.,2022).
The idea is to conduct semi-structured interviews with different age groups: baby boomers (around 60 y.o), millennials (around 30 y.o.) and generation Z (around 20 y.o.), in order to understand how the different generations perceive AI and the new technologies applied to marketing in the world of luxury.

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- Abstract obbligatorio della ricerca proposta (massimo 800 caratteri, spazi inclusi)

The luxury business has been undergoing a profound transformation. The purpose of this project is to understand the impact of AI on the marketing strategies that creative-luxury industries can use to attract their customers, and how AI can be applied to support luxury business growth in a sustainable and market-oriented perspective. In particular, the study will analyse the differences in behavior when consumers act in a real context *vs*. a virtual one. Neuroscientific tools based on electroencephalogram, eye-tracking and facial recognition technology will be employed to understand the cognitive processes of consumers. Besides that, in-depth interviews will be developed to investigate how consumers perceive and use the new technologies applied to the world of luxury.