

The Exclusivity Paradox: Optimizing Online Strategies for Luxury Brands

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Abstract

We examine how luxury brands can navigate the exclusivity (luxury) paradox—the tension between maintaining prestige through scarcity and embracing digital accessibility. Our study integrates choice-based conjoint analysis with equilibrium modeling to develop a rigorous, data-driven framework for determining how online strategies affect both consumer preferences and competitive dynamics in the luxury market. Using data collected from 310 high-net-worth U.S. consumers, we assess responses to varying combinations of offline and digital attributes across three leading brands in the fashion industry: Louis Vuitton, Chanel, and Hermès. Our results challenge the traditional belief that e-commerce and digital openness dilute luxury’s allure. Instead, we find that thoughtfully designed digital strategies—such as immersive technologies and brand-led online communities—can strengthen brand prestige when aligned with a brand’s positioning. Simulations with competitive responses reveal distinct optimal strategies: Louis Vuitton benefits from digital openness, Chanel from selective community engagement, and Hermès from maintaining exclusivity through invitation-only digital experiences. These findings demonstrate that digital transformation is not antithetical to luxury. Rather, it provides new avenues for expressing exclusivity, controlling narrative, and deepening consumer engagement. The study offers both theoretical insight into the evolving nature of luxury branding and practical guidance for managers seeking to optimize their online strategy in a competitive marketplace.

Keywords: luxury goods, online retail, exclusivity paradox, luxury paradox, high-net-worth individuals, conjoint analysis

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1. Introduction

The “exclusivity paradox”—also known as the “luxury paradox”—is a well-known concept in luxury marketing and consumer psychology that captures a central tension in the luxury business: how can a luxury brand increase sales without losing its aura of exclusivity and prestige? Conventional wisdom dictates that brands must maintain exclusivity and scarcity to preserve their aspirational appeal, following “anti-laws of marketing” to limit, rather than expand, accessibility (Kapferer and Bastien 2009). Not surprisingly, e-commerce is one of the biggest strategic tests of the exclusivity paradox because it brings two conflicting forces in the luxury goods industry into sharp focus: e-commerce and online platforms democratize access, but exclusivity depends on controlled scarcity and sensory experience (Baker Retailing Center 2016; Chandon, Laurent, and Valette-Florence 2016; Dall’Olmo Riley and Lacroix 2003; Okonkwo 2009). In this paper, we examine how a luxury brand may face this test and avoid the paradox in formulating their online strategies.

The exclusivity paradox exerts a tangible influence on practitioners and experts in the luxury industry. It appears to be the underlying reason for the resistance of luxury brands to embrace e-commerce in the 1990s. Indeed, many luxury brands did not pursue online sales in earnest until after 2010 (Kapferer 2015; Ko, Costello, and Taylor 2019). This paradox has also inspired some prominent industry experts to advise luxury brands entering the digital era to choose exclusivity over accessibility: “always communicate via the internet, never sell on the internet” (Kapferer and Bastien 2009). To this day, this paradox still guides many industry experts in offering their strategic prescriptions: luxury brands need to take a carefully crafted route in their “digital transformation” in this “accessible digital world” to maintain their exclusivity and aura (Diamond Goose 2025; Greaves, Singer, and Batham 2025). In this study, we take a data-driven, analytical look at the exclusivity paradox to see how the paradox may manifest itself or be overcome in the context of a brand’s decision for its online strategy.

In practice, many luxury brands have now embraced online channels. As of 2025, e-commerce accounts for approximately 20% of global personal luxury goods sales, roughly \$85 billion (Bain & Company 2025), and digital interactions influence nearly 80% of all luxury purchases (McKinsey & Company 2018). Despite this significant market shift, limited research has looked into the incentives that luxury brands face as they adopt the online channel and confront the paradox. The key to understanding those incentives is to move away from abstract discussions of the paradox and instead dive into how real luxury customers approach the online channel and how brands may leverage it to tap into customer preferences in a competitive context. In this paper, we develop a comprehensive conjoint design to capture the preferences of real luxury customers and then apply a game-theoretic analysis using estimated partworths to evaluate a brand’s current and equilibrium online strategy.

Noticeably, luxury brands have adopted markedly different digital strategies (Baker et al. 2018). Some continue to avoid direct e-commerce (e.g., Rolex), while others offer a broad array of products through their website (e.g., Gucci). In the social media space, Burberry is an innovator in high-visibility digital campaigns that have redefined their brand image, while Bottega Veneta famously deleted its social media accounts in 2021. Significant variation also exists in how luxury brands cultivate online communities and virtual events: some host exclusive, invitation-only forums, others offer open-access experiences, and some forego digital engagement altogether. The adoption of technology likewise varies, with some pioneering the use of AI chatbots and immersive metaverse experiences.

Given this wide array of different online strategies, how can a brand evaluate its own strategy in the competitive marketplace? How can a brand find ways to improve on its strategy? Finally, how can a brand optimize its strategy in competition with its rivals? The answer to each of these three questions requires us to investigate the preferences of luxury consumers and the competitive dynamics where rival brands compete online while leveraging their offline positioning. We propose a rigorous, analytical way for brands to design and evaluate their online strategies in a competitive context. To the best of our knowledge, we

are making the first attempt to develop an easily implementable methodology for luxury brands to simulate competitive online strategies on the preferences of real luxury customers.

Specifically, to investigate how consumers value different luxury brand strategies, we employ a choice-based conjoint analysis to gauge the preferences of real luxury customers over strategic options facing luxury brands today. To collect data from real luxury customers, we partnered with the Luxury Institute, a leading provider of market research on affluent consumers. We use a hierarchical Bayes model to estimate the partworths from the conjoint analysis. By embedding individual-level preferences into a competitive market simulation, we can then model how brands' strategic choices interact in response to consumer demand and rival actions. Through this data-driven, rigorous equilibrium-based analysis, a brand can evaluate and optimize its online strategy in a competitive marketplace.

In addition to developing a versatile methodology for luxury brands to formulate their online strategies, the results from our paper also provide three substantive insights that challenge conventional wisdom in luxury marketing. First, the exclusivity paradox can indeed surface in the context of the digital channel to the detriment of a luxury brand. However, our findings reveal that the brand suffers only when it adopts a suboptimal online strategy.

Second, a carefully executed, full-dimensional digital strategy including advanced technology adoption and thoughtfully crafted online community can actually benefit even the most exclusive brand such that the exclusivity paradox is avoided. Fundamentally, the exclusivity paradox does not exist for the online channel because high-net-worth consumers expect sophisticated online experiences from luxury brands and reward innovations that maintain the aura of exclusivity. Relationship-based access and private, invite-only community features remain especially prized by top-tier spenders, in line with the anti-laws of luxury. In addition, the competitive advantage a brand gains over its rivals by embracing the online channel will change the calculus for exclusivity: brands need to hold onto their own exclusive customers while capturing those of competitors.

Third, most interestingly, when all competing brands use their optimal strategies, their

respective digital strategy becomes a differentiating tool enhancing their offline positioning. Moreover, there is no one-size-fits-all approach to digital strategy. Louis Vuitton, for instance, benefits most from aggressive digital expansion, while Hermès secures advantage through a focus on selective exclusivity coupled with digital innovation. Indeed, in equilibrium, Hermès, the most exclusive brand, is better off moving online than not, because it gains more affluent, exclusivity-oriented customers from rivals without sacrificing its exclusivity.

The remainder of the paper is organized as follows. Section 2 surveys the literature on the strategic objectives of luxury brands. Section 3 describes the conjoint design, the data used to estimate consumers' preferences, and the estimation results. Section 4 presents and discusses the results of our market equilibria simulations. Finally, Section 5 concludes with contributions, limitations, and directions for future research.

2. Literature on Luxury Brand Management

The literature on luxury brand management converges on several fundamental objectives that anchor the strategies of leading brands. First, luxury brands are distinguished by their pursuit of exclusivity, which is a carefully curated blend of reduced accessibility, high price points, and tightly controlled distribution channels (Keller 2009; Phau and Prendergast 2000). These decisions reflect the traditional “anti-laws”, which emphasize that luxury should remain scarce, mysterious, and remote from mass-market pressures (Kapferer and Bastien 2009). Wang (2022) extends this argument, articulating that modern luxury brands maintain status through “luxury competencies”, using properties such as sensory appeal, exquisite design and workmanship, and distinct socio-cultural narratives to align with consumer motivations for luxury consumption. The intent is to create an aura that reinforces the consumer’s sense of social distinction and personal achievement (Bagwell and Bernheim 1996; Han, Nunes, and Drèze 2010; Vigneron and Johnson 1999). Our work provides some empirical evidence that although exclusivity continues to shape luxury brand management in the online space, the digital channel offers a great opportunity to pursue exclusivity and

growth.

A second critical goal for brands is the preservation and elevation of the brand’s narrative and experiential coherence. Luxury brands have long exercised tight control over the customer journey, using immersive store design, multi-sensory engagement, and personalization to evoke a sense of exclusivity and sophistication (Atwal and Williams 2009; Hagtvedt and Patrick 2009). However, as digital commerce evolves, luxury brands face the challenge of translating these experiences to online environments without diluting their aura, a tension studied both conceptually and empirically in recent work (Baker Retailing Center 2016; Chandon, Laurent, and Valette-Florence 2016). An open question within this literature concerns whether luxury brands should replicate the offline experience in an online channel or adapt their digital presence to reflect a different kind of luxury experience. To address this gap, we examine empirically the interplay between online and offline strategies in shaping consumer perceptions of luxury brands, highlighting which digital approaches best reinforce a brand’s positioning in the luxury industry.

Third, luxury brand research has increasingly focused on the competitive landscape, especially the threat of counterfeits and brand spillover (Gao, Lim, and Tang 2017; Liu, Yildirim, and Zhang 2022, 2024; Wu, Zhang, and Zhou 2022). Studies reveal that an exclusive brand image can be undermined by imitation, yet strategic responses such as adopting “minimalist” or “quiet” luxury (Berger and Ward 2010; Han, Nunes, and Drèze 2010; Liu, Yildirim, and Zhang 2024), emphasizing product exclusivity (Amaldoss and Jain 2005), raising product quality (Gao, Lim, and Tang 2017), and leveraging social media in brand communication (Baker Retailing Center 2016; Wang 2022) can protect or even enhance the prestige and desirability of the original brand. Lin (2017) further demonstrates that vertical differentiation and creative pricing strategies allow high-end brands to capture affluent segments while preserving the core essence of luxury. We contribute to this literature on strategic competition by considering competition among luxury brands in the digital marketplace and its implications for market segmentation.

3. Methodology and Data

The decision of a luxury brand for its online strategy is complex, which is perhaps why luxury brands were mostly hesitant to move online. The complexity can be characterized along three dimensions: beneficial new capabilities enabled by the internet, customer reactions to a brand's online presence, and the impact of such presence on competition in the marketplace. Many questions arise in relation to this complexity. What do internet technologies empower a luxury brand to do? Do these new capabilities enhance or distract the brand's effort in pursuing its luxury strategy? How do a brand's core customers react to the brand's online presence? Does a brand's online presence enhance or spoil its core customers' luxury experience? How does a brand assess the short-term and long-term impact of its online strategy on competitive dynamics and customer choices, while anticipating the rivals' embrace of different online strategies? Finally, how can a brand evaluate whether its chosen online strategy is the best it can do?

The methodology we propose here will incorporate all three dimensions of complexity and answer all these questions in a managerially relevant, insightful way using data collected from real luxury customers. Our methodology combines conjoint analysis with game theoretical simulations and proposes a versatile way to rigorously develop and evaluate a luxury brand's online strategy in a competitive context.

3.1. Conjoint Design

Conjoint analysis (Green and Rao 1971; Green and Srinivasan 1978, 1990) is uniquely suited for our purpose as it provides an established framework to quantitatively assess how consumers make trade-offs between the attributes of a strategy when evaluating luxury brands. By presenting respondents with brand profiles, we can estimate the utility partworths that consumers assign to different strategy choices and analyze the outcomes of alternative brand strategies.

To construct a comprehensive and relevant set of strategy attributes, we conducted a review of the online and offline strategies of 35 leading luxury brands. For each brand, we cataloged strategy elements observed on official websites, brand social media platforms, and third-party market analyses. To ensure the attributes reflected broader industry dynamics, we corroborated our observations with insights from recent industry reports discussing trends in the physical and digital strategies of luxury brands. In addition, we also consulted extensively with the literature on luxury branding and systematically mapped the strategic objectives identified in prior research to a set of empirically measurable attributes for our conjoint study.

From this comprehensive review, we narrowed the set to four offline and four online attributes that capture the key dimensions along which luxury brands differentiate. The offline strategy dimensions—*product line breadth*, *accessibility*, *distribution control*, and *price positioning*—were selected to operationalize exclusivity and the maintenance of brand prestige. These attributes directly mirror the “anti-laws” proposed by luxury marketing scholars and captures four key strategic elements that are frequently discussed in the literature on luxury goods: exclusivity, experience curation, selective engagement, and price elevation (Chandon, Laurent, and Valette-Florence 2016; Kapferer and Bastien 2009; Kapferer 2015; Keller 2009; Wang 2022).

For online strategy, we extracted attributes encompassing *e-commerce availability*, *brand-led community approaches*, *technological innovation*, and *social media management*. These online strategy elements are broadly recognized by academic marketers and luxury executives.¹ They also reflect what internet technologies enable luxury brands to do and how they are actually used in the luxury goods industry. Furthermore, this attribute selection is conceptually consistent with recent research findings that caution luxury brands to foster consumer engagement and leverage technological advances without compromising brand

¹A report detailing discussions between luxury executives and academic scholars during the 2015 conference on digital opportunities for luxury retail, hosted by the Wharton School’s Baker Retailing Center, can be found at https://bakerretail.wharton.upenn.edu/wp-content/uploads/2016/06/Online_Luxury_Retail.pdf.

mystique (Baker Retailing Center 2016; Chandon, Laurent, and Valette-Florence 2016).

The list of attributes and their descriptions are summarized in Table 1. This comprehensive set of attributes not only helps us to gain insights into the critical components of a brand’s strategy, but also paves the way for our rigorous data analysis on competing strategies in the luxury goods industry, an analysis that has largely been absent in the literature so far.

From these attributes, we can construct a well-defined strategy space where brands make their choices and compete against each other. As an illustration and also as a demonstration of how this set of attributes aligns with practice, Table 2 organizes leading luxury brands by sector and then maps their strategic choices across the aforementioned attributes. The marked heterogeneity both within and across sectors underscores that our chosen attributes are not abstract or redundant, but instead represent genuine areas of competitive differentiation among luxury brands. This empirical mapping showcases the relevance of our selected conjoint variables. Each attribute functions as a strategic action through which brands influence the market and achieve their overall marketing objectives, from exclusivity and control to digital engagement and customer community-building. By cataloging real-world brand behavior on these dimensions, the table demonstrates that our conjoint design directly captures the operational strategies that span across luxury brands.

Then, through conjoint surveys of real luxury customers, we can quantify the relative importance of each strategic element for consumer decision-making, providing a robust link between a brand’s strategic decisions and brand choices by luxury consumers. It is this link that will ultimately allow a brand to measure the consequence of its strategic choice and to optimize its decision in a competitive context, as we will see shortly.

To implement our methodology in a simple, yet insightful way, we focus on the luxury fashion and personal goods industry. The fashion sector is the dominant force within the global luxury market, both in terms of economic value and the breadth of influence on consumer trends. Recent industry rankings and market analyses confirm that fashion accounts

Table 1: Conjoint Design Attributes

<i>Attribute & Levels</i>	<i>Description presented to respondents</i>
Brand	Brand
Louis Vuitton	Louis Vuitton
Hermès	Hermès
Chanel	Chanel
Product Line	The range of products the brand offers.
Broad Range	Offers a wide variety of products across multiple categories.
Focused Core	Offers a limited selection of products within a specific area of expertise.
Accessibility	The requirements for purchasing the brand’s core products.
Financial-only	Products are available to anyone with the means to pay.
Relationship-based	Purchasing requires more than payment—such as a client history or brand approval.
Offline Distribution	Where the brand’s products can be physically purchased.
Brand-controlled	Available only in brand-owned boutiques or exclusive distributors.
Mixed	Also available in select high-end department stores or specialty retailers.
Pricing	The price range of the brand’s core products, relative to the market.
High	High
Ultra-high	Ultra-high
E-commerce	Whether the brand sell its core product line through official online channels.
No	No
Yes	Yes
Brand-led Online Community	How the brand builds and manages its own online spaces for customer interaction.
None	No brand-managed online community spaces.
Open	Brand hosts public forums, live streams, or groups.
Exclusive	Private/invitation-only brand community spaces.
Digital Innovation	The extent to which the brand uses advanced technology in its digital experience.
Standard	Uses a traditional website and social media presence.
Advanced	Incorporates immersive technologies such as VR/AR or metaverse platforms.
Social Media	How the brand approaches content creation on its official social media platforms.
Brand-Only	Brand creates all content shared on its social media platforms.
Co-Created	Brand also features and amplifies user-generated content.

Notes: Product line, accessibility, offline distribution, and pricing constitute the offline strategy attributes. E-commerce, brand-led online community, digital innovation, and social media constitute the online strategy attributes.

for the majority of luxury brand value generated worldwide, with Louis Vuitton, Chanel, and Hermès consistently recognized as market leaders (Bain & Company 2025; Forbes 2024; McKinsey & Company 2025). The strategic relevance of these brands is also underscored by their prominence in reviews where they are routinely cited for their pioneering approaches to maintaining exclusivity, innovating digitally, and leveraging brand heritage (Lieu 2021).

Note that, we deliberately include brand as an additional attribute in the conjoint design to recognize the fact that brand image is an important factor in consumer decision-making in the luxury market (Kapferer and Bastien 2009; Keller 2009). We chose Louis Vuitton, Chanel, and Hermès as they represent the highest-impact exemplars within the sector and each has developed distinctive strategies that set industry benchmarks. Louis Vuitton is renowned for its global expansion and digital innovations, Hermès for its timeless elegance of “quiet luxury” and peerless craftsmanship, and Chanel for its enduring cultural engagement and careful stewardship of brand legacy (Forbes 2024; Lieu 2021).

Our survey included choice sets with each of the three brands embracing a combination of offline and online strategies. In each choice task, respondents were asked to select their most preferred brand-strategy combination among the three options. We used a total of 20 choice tasks: 16 choice sets for estimating consumers’ preferences and four fixed holdout sets for out-of-sample validation. The 16 choice sets assigned for preference estimation were randomly generated to ensure level balance and orthogonality, such that each level appeared equally often and was evenly paired with levels from other attributes.

3.2. Survey Sample

We collaborated with the Luxury Institute², a leading provider of market research on affluent consumers, to collect data for our conjoint survey. Participants were invited via the Institute’s proprietary panel, which is widely tapped by global luxury brands—including Gucci, Bottega Veneta, and The Ritz-Carlton—to better understand their customer segments. Par-

²<https://www.luxuryinstitute.com/>

Table 2: Mapping of Luxury Brands by Sector and Key Strategic Attributes

Sector	Brand	Core Products	Product Line	Accessibility	Distribution	Pricing	E-com.	Community	Digital Innovation	Social Media
Cars	Ferrari	Cars	Focused	Relationship	Brand-controlled	Ultra-High	No	Exclusive	Advanced	Brand-Only
Cars	Rolls-Royce	Cars	Focused	Relationship	Brand-controlled	Ultra-High	No	Exclusive	Standard	Brand-Only
Cars	Porsche	Cars	Focused	Financial	Brand-controlled	High	No	Exclusive	Advanced	Co-Created
Cars	Mercedes-Benz	Cars	Focused	Financial	Mixed	High	No	Exclusive	Advanced	Co-Created
Cars	Lexus	Cars	Focused	Financial	Mixed	High	Yes	None	Advanced	Co-Created
Fashion	Louis Vuitton	Apparel, Leather	Broad	Financial	Brand-controlled	High	Yes	Open	Advanced	Co-Created
Fashion	Chanel	Apparel, Leather	Broad	Relationship	Brand-controlled	High	Yes	None	Advanced	Brand-Only
Fashion	Hermès	Apparel, Leather	Focused	Relationship	Brand-controlled	Ultra-High	Yes	None	Standard	Brand-Only
Fashion	Gucci	Apparel, Leather	Broad	Financial	Mixed	High	Yes	Open	Advanced	Co-Created
Fashion	Dior	Apparel, Leather	Broad	Financial	Mixed	High	Yes	Open	Advanced	Brand-Only
Fashion	Burberry	Apparel, Fragrance	Broad	Financial	Mixed	High	Yes	Open	Advanced	Co-Created
Fashion	Giorgio Armani	Apparel	Broad	Financial	Mixed	High	Yes	None	Advanced	Brand-Only
Fashion	Saint Laurent	Apparel, Leather	Broad	Financial	Brand-controlled	High	Yes	Exclusive	Advanced	Brand-Only
Fashion	Brunello Cucinelli	Apparel	Focused	Relationship	Mixed	Ultra-High	Yes	None	Advanced	Brand-Only
Fashion	Prada	Apparel, Leather	Broad	Financial	Brand-controlled	High	Yes	Exclusive	Advanced	Brand-Only
Fashion	Goyard	Leather	Focused	Relationship	Brand-controlled	Ultra-High	No	None	Standard	Brand-Only
Fashion	Loewe	Apparel, Leather	Broad	Financial	Brand-controlled	High	Yes	None	Advanced	Brand-Only
Fashion	Fendi	Apparel, Leather	Broad	Financial	Brand-controlled	High	Yes	None	Advanced	Brand-Only
Fashion	Bottega Veneta	Apparel, Leather	Broad	Financial	Brand-controlled	High	Yes	Open	Advanced	Brand-Only
Fashion	Tom Ford	Apparel, Beauty	Broad	Financial	Mixed	High	Yes	None	Standard	None
Fashion	Hugo Boss	Apparel, Beauty	Broad	Financial	Mixed	High	Yes	None	Advanced	Brand-Only
Fashion	Ralph Lauren	Apparel	Broad	Financial	Mixed	High	Yes	Exclusive	Advanced	Brand-Only
Jewelry	Van Cleef & Arpels	Jewelry	Focused	Relationship	Brand-controlled	Ultra-High	Yes	None	Standard	Brand-Only
Jewelry	Tiffany	Jewelry	Focused	Financial	Brand-controlled	High	Yes	None	Advanced	Co-Created
Jewelry	Bulgari	Jewelry/Watches	Broad	Relationship	Brand-controlled	Ultra-High	Yes	None	Advanced	Brand-Only
Watches	Audemars Piguet	Watches	Focused	Relationship	Brand-controlled	Ultra-High	No	None	Standard	Brand-Only
Watches	Patek Philippe	Watches	Focused	Relationship	Brand-controlled	Ultra-High	No	None	Standard	Brand-Only
Watches	Richard Mille	Watches	Focused	Relationship	Brand-controlled	Ultra-High	No	None	Standard	Brand-Only
Watches	Rolux	Watches	Focused	Relationship	Brand-controlled	High	No	None	Standard	Brand-Only
Watches	Omega	Watches	Focused	Financial	Mixed	High	Yes	None	Standard	Brand-Only
Watches	Grand Seiko	Watches	Focused	Financial	Mixed	High	Yes	Exclusive	Advanced	Co-Created
Watches	Montblanc	Watches, Stationery	Broad	Financial	Mixed	High	Yes	Open	Advanced	Brand-Only
Watches	Cartier	Watches, Jewelry	Broad	Relationship	Brand-controlled	Ultra-High	Yes	None	Advanced	Co-Created
Others	Estee Lauder	Skincare, Fragrance	Focused	Financial	Mixed	High	Yes	None	Advanced	Brand-Only
Others	Dom Pérignon	Wine	Focused	Financial	Mixed	High	Yes	None	Advanced	Brand-Only
Others	Krug	Wine	Focused	Financial	Mixed	High	Yes	None	Advanced	Brand-Only

participant identities were verified and responses were cross-checked against existing respondent profiles to detect and flag inconsistencies by the panel partner, ensuring the integrity of the sample. The sample consists of 310 U.S. consumers of luxury goods who completed the survey between July 18 and July 31, 2025.

Eligibility was restricted to respondents with a household income above \$150,000, net worth exceeding \$1 million, and at least one luxury purchase within the previous twelve months. These criteria follow established academic standards for defining the core luxury clientele (Kapferer and Bastien 2009) and are routinely used by market research firms such as the Luxury Institute to distinguish high-frequency luxury customers from aspirational or infrequent buyers. Focusing on this high-net-worth segment is essential, as top-tier spenders account for nearly half of global luxury expenditure (Bain & Company 2025) and serve as the foundation of luxury brand prestige and desirability. Accordingly, Boston Consulting Group (2025) reports that brands with a primarily less-affluent, aspirational client base are experiencing steep declines, whereas those serving the wealthy core continue to thrive, suggesting that focusing on high-net-worth consumers yields the most relevant insights for brands seeking long-term growth and reputation.

To ensure high response quality, additional engagement screens were employed prior to data analysis: respondents were required to spend at least 20 seconds reviewing attribute definitions, to spend a median of at least 9 seconds per choice task, and to avoid overtly repetitive or invariant response patterns. Respondents received compensation for participation through the Luxury Institute.

The mean age of respondents is 48.9 years, with females comprising 49.7% of the sample. On average, respondents report a household income (HHI) of \$337,016, a net worth of \$3,430,645, and \$48,500 in annual luxury spending. A complete demographic breakdown is provided in Table 3. The age distribution of our sample broadly aligns with industry reports, in which Generation Z (ages 13–28) contributes 19% of luxury spending, Millennials (ages 29–44) represent 46%, Generation X (ages 45–60) accounts for 25%, and Baby Boomers (ages

Table 3: Demographic Characteristics of Respondents ($N = 310$)

<i>Characteristic</i>	<i>Category</i>	<i>Number (%)</i>
Gender	Male	156 (50.3)
	Female	154 (49.7)
Age	18–24	2 (0.6)
	25–34	31 (10.0)
	35–44	107 (34.5)
	45–54	71 (22.9)
	55–64	44 (14.2)
	≥ 65	55 (17.7)
Household Income (\$)	150,000–200,000	120 (38.7)
	200,000–300,000	110 (35.5)
	300,000–500,000	35 (11.3)
	500,000–750,000	13 (4.2)
	750,000–1,000,000	14 (4.5)
	$\geq 1,000,000$	18 (5.8)
Net Worth (\$)	1,000,000–2,000,000	138 (44.5)
	2,000,000–3,000,000	52 (16.8)
	3,000,000–5,000,000	55 (17.7)
	5,000,000–8,000,000	41 (13.2)
	$\geq 8,000,000$	24 (7.7)
Luxury Spending (\$)	<5,000	120 (38.7)
	5,000–15,000	50 (16.1)
	15,000–30,000	36 (11.6)
	30,000–50,000	20 (6.5)
	50,000–100,000	33 (10.6)
	100,000–200,000	26 (8.4)
	$\geq 200,000$	25 (8.1)

61–79) comprise 10% (Bain & Company 2025). Our sample captures the main generational segments of luxury consumers, though Generation Z consumers are underrepresented, likely due to early-career individuals not meeting income and net-worth thresholds. The sample

spans a broad spectrum of affluence and spending: 38.7% report annual household incomes of \$150,000–\$200,000, while 5.8% exceed \$1,000,000; net worth ranges from \$1–2 million for 44.5% of respondents to over \$8 million for 7.7%; and luxury spending varies from under \$5,000 for 38.7% of respondents to more than \$200,000 for 8.1%. This range ensures representation across both moderately affluent and ultra-high-net-worth luxury consumers. As expected, household income, net worth, and luxury spending are positively correlated; however, the moderate strength of these relationships (the pairwise Pearson correlation coefficients range from $r = 0.47$ to 0.49) suggests that each variable captures a distinct aspect of consumer affluence, justifying their simultaneous inclusion as covariates in the conjoint model.

3.3. Model Estimation

Consider a sample of I consumers, each choosing at most one brand-strategy alternative from a set of J alternatives in a given choice task. Let t indicate a choice task. If consumer i contributes T_i such observations, then the total number of observations in the data is given by $\sum_{i=1}^I T_i$. In our estimation setting, $I = 310$, $J = 3$, and $T_i = 16$ for $i = 1, \dots, 310$. Hence, our estimation set consists of $310 \times 16 = 4960$ observations.

We assume that consumers are utility maximizers. For an individual i , let β_i be their vector of partworths. On choice task t and alternative j , consumer i obtains utility $U_{ijt} = \beta_i^\top \mathbf{x}_{ijt} + \varepsilon_{ijt}$, where \mathbf{x}_{ijt} is a vector describing the attributes in j and ε_{ijt} is a stochastic component. Thus, a consumer would choose alternative j in choice task t if it has the highest utility. We assume ε_{ijt} follows an iid extreme value distribution (Ben-Akiva and Lerman 1985, pp. 104–105). The probability p_{ijt} that consumer i chooses alternative j in task t is governed by a multinomial logit model (Train 2009):

$$p_{ijt} = \frac{\exp(\beta_i^\top \mathbf{x}_{ijt})}{\exp(\beta_i^\top \mathbf{x}_{i1t}) + \dots + \exp(\beta_i^\top \mathbf{x}_{iJt})} = \frac{\exp(\beta_i^\top \mathbf{x}_{ijt})}{\sum_{k=1}^J \exp(\beta_i^\top \mathbf{x}_{ikt})}$$

We use the choice data to estimate the vector of parameters, β_i , for each individual. As it is not possible to obtain sufficient choice data to estimate separate models for each individual, we use a Bayesian multi-level structure that specifies how the individual-level parameters vary in the population and thereby statistically pool information across individuals (Lenk et al. 1996; Rossi and Allenby 2003). We assume that β_i are drawn from a multivariate normal distribution with mean α and covariance matrix \mathbf{D} ; that is, $\beta_i \sim \mathcal{N}(\alpha, \mathbf{D})$. Covariates may be included in the population-level distribution by specifying the population mean to be $\alpha = \Theta^\top z_i$, where Θ are the population-level parameters and z_i is the covariate vector describing consumer i .

3.4. Results and Validation

We estimated the model using Markov chain Monte Carlo (MCMC) sampling. We ran the sampling chain for 30,000 iterations, using the last 10,000 draws for inference after discarding the initial 20,000 draws as a burn-in period to ensure convergence to the posterior distribution (Gelman et al. 1995). The analysis included five demographic covariates: gender, age, household income, net worth, and luxury spending.³

Table 4 reports the estimated coefficients and their 95% credible intervals. The results indicate that luxury consumers have stronger preferences for the availability of e-commerce and access to online community, consistent with industry trends toward expanding online distribution channels (Bain & Company 2025) and the emergence of digital community initiatives (Forbes 2024). These preferences remain significant across most demographic profiles in our sample. This result may not seem so surprising today but is quite interesting in that luxury brands would be a lot more confident in embracing the internet if they know that luxury customers welcome an online experience. Moreover, consumers generally prefer high over ultra-high prices, though this effect is attenuated among heavier spenders, consistent with the top spenders exhibiting less price sensitivity. Other statistically significant parameters

³Age, household income, net worth, and luxury spending are measured in categorical ranges; we assign the midpoint of each range to construct continuous measures.

indicate that wealthier consumers value exclusivity more than the less affluent: higher net worth positively moderates the preference for relationship-based product accessibility and higher household income positively moderates the preference for exclusive online communities, which is consistent with the argument in Kapferer and Bastien (2009) that pursuing exclusivity is essential to maintaining brand appeal for the wealthy core clientele.

The estimated model demonstrates good fit with a McFadden R^2 of 0.382, which is a level typically regarded as excellent for discrete-choice models (Louviere, Hensher, and Swait 2000). We have satisfactory internal validity as the holdout hit rate of 57.58% exceeds naive baselines. Importantly, external validity is encouraging as well. We use the details of each of the three brand’s current online strategy together with the estimated partworths to predict market shares of 49.4% for Louis Vuitton, 32.1% for Chanel, and 18.5% for Hermès, respectively (see Table 5), reproducing the observed market hierarchy reported in industry reports, which place Louis Vuitton well ahead of Chanel and Hermès.⁴ Moreover, the worldwide revenues for the luxury goods industry, consisting of watches & jewelry, fashion, and leather goods, was about \$348 billion in 2023 (Statista 2025), which means that the total revenues from these three brands account for 23% of the total industry revenues. Using this industry share to scale our estimates, the three brands’ estimated market shares in the industry would be respectively 11.4%, 7.4%, and 4.3%, remarkably close to the actual shares of 13.2%, 5.7%, and 4.2%. Thus, the concordance in both rank and scale supports the model ability to replicate real-world market dynamics.

4. Equilibrium Analysis

Given the preferences of luxury consumers, how should a brand choose its strategy in a competitive marketplace and how can it make sure that its strategy is optimal? In this section, we answer these questions by applying a game-theoretic analysis to our conjoint

⁴For instance, Forbes reports 2023 annual revenues of \$45.8 billion for LVMH (led by Louis Vuitton), \$19.7 billion for Chanel, and \$14.5 billion for Hermès.

Table 4: Conjoint Parameter Estimates: Posterior Means And 95% Credible Intervals

<i>Attribute/Level</i>	<i>Intercept</i>	<i>Female</i>	<i>Age</i>	<i>HHI</i>	<i>Net Worth</i>	<i>Luxury Spend</i>
Brand						
Louis Vuitton	<i>(Ref.)</i>					
Hermès	-0.543*** [-0.90, -0.19]	-0.041 [-0.55, 0.47]	-0.000 [-0.02, 0.02]	0.160 [-0.38, 0.70]	0.311 [-0.16, 0.77]	0.001 [-0.19, 0.20]
Chanel	-0.044 [-0.35, 0.27]	-0.569** [-1.00, -0.13]	-0.005 [-0.02, 0.01]	-0.088 [-0.56, 0.39]	0.083 [-0.33, 0.49]	0.048 [-0.12, 0.21]
Product Line						
Broad Range	<i>(Ref.)</i>					
Focused Core	-0.004 [-0.20, 0.19]	-0.070 [-0.34, 0.22]	-0.000 [-0.01, 0.01]	-0.007 [-0.29, 0.28]	0.103 [-0.15, 0.36]	-0.023 [-0.13, 0.08]
Accessibility						
Financial-only	<i>(Ref.)</i>					
Relationship-based	-0.099 [-0.33, 0.13]	-0.021 [-0.34, 0.30]	0.001 [-0.01, 0.02]	-0.091 [-0.44, 0.27]	0.305** [0.01, 0.60]	-0.009 [-0.13, 0.12]
Offline Distribution						
Mixed	<i>(Ref.)</i>					
Brand-controlled	-0.102 [-0.29, 0.08]	0.053 [-0.20, 0.31]	0.003 [-0.01, 0.01]	-0.000 [-0.27, 0.28]	-0.146 [-0.40, 0.10]	0.064 [-0.04, 0.17]
Pricing						
High	<i>(Ref.)</i>					
Ultra-high	-0.789*** [-1.05, -0.54]	0.197 [-0.16, 0.56]	-0.018** [-0.03, -0.00]	-0.000 [-0.37, 0.39]	0.064 [-0.27, 0.40]	0.240*** [0.10, 0.38]
E-commerce						
No	<i>(Ref.)</i>					
Yes	0.491*** [0.27, 0.71]	-0.134 [-0.44, 0.18]	-0.001 [-0.01, 0.01]	-0.041 [-0.38, 0.29]	-0.119 [-0.41, 0.18]	0.038 [-0.08, 0.16]
Online Community						
None	<i>(Ref.)</i>					
Open	0.404*** [0.19, 0.62]	-0.385** [-0.68, -0.09]	0.008 [-0.01, 0.02]	0.103 [-0.20, 0.42]	-0.048 [-0.34, 0.24]	-0.025 [-0.14, 0.09]
Exclusive	0.223* [-0.00, 0.45]	-0.132 [-0.46, 0.20]	-0.001 [-0.01, 0.01]	0.381** [0.04, 0.73]	0.036 [-0.28, 0.34]	-0.030 [-0.15, 0.09]
Digital Innovation						
Standard	<i>(Ref.)</i>					
Advanced	0.087 [-0.10, 0.27]	0.112 [-0.16, 0.39]	-0.001 [-0.01, 0.01]	0.150 [-0.13, 0.45]	0.074 [-0.19, 0.33]	-0.061 [-0.16, 0.04]
Social Media						
Co-Created	<i>(Ref.)</i>					
Brand-Only	0.151 [-0.04, 0.35]	-0.049 [-0.31, 0.23]	-0.004 [-0.02, 0.01]	-0.072 [-0.37, 0.21]	0.011 [-0.24, 0.27]	-0.037 [-0.14, 0.07]

Notes: Gender is dummy-coded (1 = female), age is mean-centered, and household income (HHI), net worth, and luxury spending are log-transformed and mean-centered. The intercept corresponds to partworths for a male of mean age (48.9), HHI (\$337,016), net worth (\$3,430,645), and luxury spending (\$48,500). * $p < .10$, ** $p < .05$, *** $p < .01$.

results and provide a deeper understanding of the competitive dynamics in the luxury market.

We denote each combination of the eight conjoint attributes as a potential strategy that a brand can adopt for its offline and online presence. There are altogether 384 strategies each brand can choose from, given that we have 8 attributes and all but one has two levels (online community has three levels), and these 384 strategies that each brand can independently choose will form the 384^3 strategy space for our game-theoretic analysis. In theory, we can compare how different strategies from each of the three brands affect their respective market shares. However, as the focus of this study is on a brand's competitive online strategy, we can simplify our analysis considerably without loss of generality by assuming that each brand maintains its current offline strategy and only considers adjustments to its online strategy. This assumption is in fact quite realistic as offline strategies are typically stickier and more costly to change owing to factors such as physical infrastructure and entrenched brand practices. Then, in this simpler context, each brand can choose among 24 possible online strategies.

Our game-theoretic analysis proceeds in three steps. We begin by showing the contribution of having an online presence for each of the three brands. Next, we identify the short-run optimal strategy for each brand, assuming that competitors' decisions remain unchanged. Finally, we examine the long-run equilibrium outcomes, identifying the Nash equilibrium that emerges when all three brands optimize their strategies simultaneously. Together, these analyses offer a comprehensive view of how a brand's offline strategies may condition and shape its online strategic choices and how diverse online strategies may emerge naturally in a competitive marketplace.

4.1. Simulations of Brand Competition

As the results in this section rely on conjoint analysis to determine brand market shares under different strategic combinations, we first briefly outline our approach.

Given a set of brand strategies, we use individual-level partworths to estimate the utility

each consumer assigns to every brand–strategy combination. These utilities are then entered into a multinomial logit model to derive the choice probabilities for the three brands. Averaging these probabilities across all consumers yields the share of preference for each brand—a metric that closely tracks market share (Orme 2019).

To determine the short-run and long-run equilibria, we assume that a brand’s best response to its competitors’ strategies is the one that maximizes its own market share.⁵ The short-run (partial) equilibrium for a brand thus represents its optimal response given fixed competitor strategies. The long-run (full) equilibrium corresponds to a Nash equilibrium, in which all brands simultaneously choose their best responses and no brand has an incentive to deviate unilaterally.

4.2. Adoption of Online Strategies

We begin by assessing the incentive of pursuing an online strategy for each of the three brands. To do so, we first predict market shares under a baseline scenario in which all brands maintain only a minimal online presence. Comparing these baseline shares with those generated under the brands’ current strategies reveals which brands gain the most from employing digital channels.

Table 5 reports each brand’s current offline and online strategy attributes along with the predictions of market shares based on our conjoint model. We define the most limited online strategy as one that has no e-commerce, no brand-led online community, standard digital capabilities (e.g., a basic website), and social media content created solely by the brand. We determine the market shares under five alternative scenarios: (A) all brands adopt the limited online strategy, (B–D) one brand deviates by adopting its current online strategy while the other two continue with a limited online strategy, and (E) all brands adopt their current strategies. The resulting market shares are presented in Table 6.

⁵Maximizing a brand’s market share is equivalent to maximizing its profit if pricing is held constant. Given that the luxury goods industry shuns competing for more customers through pricing and we are focusing digital strategies, the market share objective is quite reasonable and realistic. However, the methodology we propose is agnostic with regard to a brand’s objective.

Table 5: Current Strategies and Predicted Market Shares

	<i>Louis Vuitton</i>	<i>Chanel</i>	<i>Hermès</i>
Predicted Market Share	49.4%	32.1%	18.5%
Product Line	Broad Range	Broad Range	Focused Core
Accessibility	Financial-only	Relationship-based	Relationship-based
Offline Distribution	Brand-controlled	Brand-controlled	Brand-controlled
Pricing	High	High	Ultra-high
E-commerce	Yes	Yes	Yes
Online Community	Open	None	None
Digital Innovation	Advanced	Advanced	Standard
Social Media	Co-Created	Brand-Only	Brand-Only

Table 6: Market Shares With and Without Adoption of Current Online Strategies

<i>Scenario</i>	<i>Louis Vuitton</i>	<i>Chanel</i>	<i>Hermès</i>
(A) All brands adopt a limited online strategy	47.48%	32.95%	19.57%
(B) Louis Vuitton adopts its current online strategy	57.15%	26.22%	16.63%
(C) Chanel adopts its current online strategy	40.70%	43.64%	15.67%
(D) Hermès adopts its current online strategy	44.49%	29.46%	26.05%
(E) All brands adopt their current online strategies	49.44%	32.06%	18.49%

There are a few key takeaways. First, each brand has an incentive to adopt an online strategy. When Louis Vuitton, Chanel, or Hermès unilaterally adopt their current online strategy, it expands its market share by about a factor of 1.2–1.3 times relative to Scenario A. Second, Louis Vuitton and Chanel primarily draw from each other’s customer base: in Scenario B, Louis Vuitton gains 9.67 percentage points (pp) in market share, with over two-thirds of that increase (6.73 pp) drawn from Chanel and the remaining (2.94 pp) from Hermès. Likewise, in Scenario C, Chanel’s 10.69 pp gain comes more from Louis Vuitton

(6.78 pp) than Hermès (3.90 pp). In contrast, Hermès’s 6.48 pp gain in Scenario D is more evenly split between Louis Vuitton (2.99 pp) and Chanel (3.49 pp). Taken together, these two findings point to the significance of digital initiatives in the luxury market: as consumers place greater value on online access and engagement, brands that under-invest in their online presence risk losing market share to competitors with more sophisticated digital strategies. They also point to the competitive reality that Louis Vuitton and Chanel compete more with each other than with Hermès and can thus inflict more damage to each other than Hermès could.

When all brands adopt their current online strategies as in Scenario E, Louis Vuitton gains modestly (+1.96 pp), while Chanel (−0.89 pp) and Hermès (−1.08 pp) both lose ground. This outcome is consistent with the conventional view that online expansion tends to favor less exclusive brands such as Louis Vuitton, while more exclusive brands like Hermès face greater challenges in translating their appeal to digital channels.

However, while this conventional view follows directly from the exclusivity paradox and may even reflect the current competitive reality, it need not be rooted in any deep principle that digital technologies are inherently biased against more exclusive brands if those brands are not leveraging the digital channel to the best they could. Are brands doing the best they could? Could any brand improve on its online strategy? We answer these two questions next.

4.3. Short-Run Best Responses

To determine whether a brand is optimally leveraging its online strategy, we can examine each brand’s best response to their competitors’ current strategies, as listed in Table 5. This analysis allows us to isolate the effects of unilateral strategic adjustments on market shares. We present the results along two complementary layers. First, at the market-level, we assess how adopting a best-response strategy changes the shares for the focal brand. Second, at the individual-level, we examine the characteristics of consumers drawn to the focal brand.

Table 7: Short-Run Best-Response Online Strategy: Louis Vuitton

<i>Attribute</i>	<i>Louis Vuitton</i>	<i>Chanel</i>	<i>Hermès</i>
E-commerce	Yes	Yes	Yes
Online Community	Open	None	None
Digital Innovation	Advanced	Advanced	Standard
Social Media	Brand-Only*	Brand-Only	Brand-Only

Note: Asterisk denotes a change in the attribute level relative to Louis Vuitton’s current strategy. Chanel and Hermès retain their current strategy.

Table 8: Short-Run Best-Response Online Strategy: Chanel

<i>Attribute</i>	<i>Louis Vuitton</i>	<i>Chanel</i>	<i>Hermès</i>
E-commerce	Yes	Yes	Yes
Online Community	Open	Open*	None
Digital Innovation	Advanced	Advanced	Standard
Social Media	Co-Created	Brand-Only	Brand-Only

Note: Asterisk denotes a change in the attribute level relative to Chanel’s current strategy. Louis Vuitton and Hermès retain their current strategy.

Table 9: Short-Run Best-Response Online Strategy: Hermès

<i>Attribute</i>	<i>Louis Vuitton</i>	<i>Chanel</i>	<i>Hermès</i>
E-commerce	Yes	Yes	Yes
Online Community	Open	None	Exclusive*
Digital Innovation	Advanced	Advanced	Advanced*
Social Media	Co-Created	Brand-Only	Brand-Only

Note: Asterisk denotes a change in the attribute level relative to Hermès’s current strategy. Louis Vuitton and Chanel retain their current strategy.

Tables 7, 8 and 9 present the short-run best-response strategy for Louis Vuitton, Chanel and Hermès, respectively. In each table, we present the best response for the focal brand when the competitors retain their current strategy. For instance, Table 7 shows the best response for Louis Vuitton when Chanel and Hermès retain their current strategy. The best response calls for Louis Vuitton to change its social media strategy from its current

“Co-Created” to “Brand-Only” content as indicated by the asterisk.

The results across the three tables collectively show that all brands have room to improve their online strategy. In addition to Louis Vuitton’s previously noted change, Chanel should establish an open online community, and Hermès should both create an exclusive online community and invest in advanced digital technologies such as virtual and augmented reality. Notably, the best responses call for Louis Vuitton and Chanel to converge on a similar online strategy, but for Hermès to pursue a more exclusive approach. We can dive into the rationale of these best responses by digging deeper into how these brands’ market shares change and what drives those changes.

The impact of these best-response strategies on overall market shares is reported in Table 10. Louis Vuitton’s adjustments yield a 2.1 pp gain, primarily at the expense of Chanel (−1.3 pp) and, to a lesser extent, Hermès (−0.8 pp). Chanel’s best response produces a 3.4 pp increase, almost entirely by drawing consumers from Louis Vuitton (−3.1 pp), highlighting the stronger competition between these two brands. In contrast, Hermès’s adjustments result in a 3.4 pp gain that is evenly drawn from both Louis Vuitton (−1.7 pp) and Chanel (−1.7 pp). These movements suggest that Louis Vuitton and Chanel compete directly for a similar segment of consumers, while Hermès draws broadly from both, consistent with its more exclusive positioning. Most interestingly, if Hermès uses its best online strategy, its market share would have increased by 3.4 pp. Then, Hermès would have increased its market share from 19.57% with all brands having minimum online presence to 21.89% when Hermès uses the best response and Louis Vuitton and Chanel stay at their current strategies.

Table 10: Changes in Market Share from Short-Run Best Responses

<i>Brand Changing Strategy</i>	$\Delta Share_{Louis\ Vuitton}$	$\Delta Share_{Chanel}$	$\Delta Share_{Hermès}$
Louis Vuitton	+2.1	−1.3	−0.8
Chanel	−3.1	+3.4	−0.3
Hermès	−1.7	−1.7	+3.4

Notes: Values represent additive changes in market share (percentage points).

To see what drives the market share changes when a brand changes to its best response, we now examine individual-level decisions, focusing on the characteristics of consumers that respond positively to a brand implementing their short-run best response. For each individual, we compute whether a brand’s short-run strategy increases their predicted choice probability (coded as 1 = increase, 0 = no increase) and employ a linear probability model to assess which factors are correlated with this outcome.⁶ Specifically, we estimate two sets of regressions for each brand: one with consumer demographics and another with individual-level partworths. Table 11 contains the estimated coefficients and their robust standard errors.

The results show that the demographic predictors are generally modest: Chanel’s short-run strategy changes primarily attract female consumers, while Hermès draws higher-income individuals. Louis Vuitton exhibits minimal demographic effects. Preference-based predictors show more statistical significance and align with the online strategy element that each brand adjusts. That is, Louis Vuitton attracts consumers who prefer brand-only social media content, Chanel draws those responsive to an open online community, and Hermès appeals to consumers valuing an exclusive community and advanced digital innovation. Louis Vuitton also attracts consumers who are more price-sensitive relative to Hermès and Chanel, as reflected in the negative coefficient on ultra-high pricing, and consistent with its comparatively less exclusive market positioning. Meanwhile, Hermès, pursuing a distinctly more exclusive strategy than the other two brands, draws a more affluent, exclusivity-oriented segment.

All these analyses suggest that by attracting the right customers, the digital channel can favor the more exclusive brand, in contrast to the conventional view. This is because a brand like Hermès can draw similarly exclusive, high-end luxury customers from rivals without sacrificing its exclusivity. Of course, the real test comes only when all brands use their best responses in a Nash equilibrium, to which we now turn.

⁶We use linear probability models rather than logistic regression due to complete separation in the latter. Linear probability models provide a robust and more interpretable alternative that captures the relevant correlational patterns.

Table 11: Profile of Consumers Drawn to Each Brand’s Short-Run Best-Response Strategy

	<i>Brand Under Consideration:</i>					
	Louis Vuitton		Chanel		Hermès	
	(1)	(2)	(3)	(4)	(5)	(6)
Female	0.104*		0.302***		-0.021	
	(0.057)		(0.051)		(0.055)	
Age	-0.002		0.004*		-0.0004	
	(0.002)		(0.002)		(0.002)	
Household Income	-0.069		0.055		0.254***	
	(0.061)		(0.057)		(0.049)	
Net Worth	0.039		-0.023		-0.003	
	(0.052)		(0.046)		(0.049)	
Luxury Spending	-0.013		-0.029		-0.035*	
	(0.021)		(0.019)		(0.021)	
Product Line:		0.001		0.006		-0.037
Focused Core		(0.033)		(0.035)		(0.036)
Accessibility:		0.028		-0.010		0.026
Relationship Based		(0.018)		(0.017)		(0.020)
Offline Distribution:		0.003		-0.025		0.048
Brand Controlled		(0.039)		(0.042)		(0.041)
Pricing:		-0.030**		-0.006		-0.019
Ultra High		(0.014)		(0.015)		(0.016)
E-Commerce:		0.019		-0.025		-0.013
Yes		(0.021)		(0.022)		(0.026)
Online Community:		-0.046		0.711***		-0.014
Open		(0.036)		(0.037)		(0.040)
Online Community:		0.067**		-0.0001		0.368***
Exclusive		(0.031)		(0.029)		(0.038)
Digital Innovation:		-0.106***		-0.043		0.414***
Advanced		(0.038)		(0.036)		(0.044)
Social Media Content:		0.684***		0.034		-0.013
Brand Only		(0.041)		(0.034)		(0.037)
Intercept	0.550***	0.503***	0.505***	0.510***	0.626***	0.500***
	(0.041)	(0.022)	(0.040)	(0.024)	(0.038)	(0.026)

Notes: Gender is dummy-coded (1 = female), age is mean-centered, and household income, net worth, and luxury spending are log-transformed and mean-centered. Robust standard errors are reported in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$.

4.4. Long-Run Equilibrium

The previous analysis shows that given the current online strategies for three chosen brands, each brand has an incentive to change to its best response to gain on its rivals. This means that all brands want to change and those changes will trigger more changes ultimately ending up in the Nash equilibrium where the online strategies of all three brands are the best responses to each other such that no brand has incentive to unilaterally change.

To calculate the equilibrium, we identify the set of strategies for each brand that optimizes their expected outcomes given the choices of their competitors, using the estimated brand choice probabilities from our conjoint analysis. The process involves iteratively evaluating each brand's strategy until no brand can improve its position by unilaterally changing its decision in the $24 \times 24 \times 24$ strategy space. Since brands (players) have a finite set of discrete strategy options, Nash's Theorem (Nash 1950) guarantees the existence of at least one equilibrium such that a stable strategic outcome can always be determined for luxury branding competition under discrete choices.

Our simulations reveal a single, unique Nash equilibrium. Table 12 summarizes this equilibrium, showing each brand's predicted market share along with the corresponding change relative to their current positions. Three important insights come from this equilibrium analysis. First, all three brands have much in common in their online equilibrium strategies and none of them uses the minimum online strategy. All three brands embrace online shopping, reflecting consumers' general preferences to also use digital channels to browse and purchase luxury goods. All three brands also embrace advanced digital innovation. Our simulations indicate that luxury consumers respond positively to advanced digital technologies, such as augmented and virtual reality or metaverse experiences, which allow brands to replicate the multisensory richness of in-store interactions. Furthermore, all three brands want brand-only content as their social media strategy. By retaining control over social media content, brands preserve their ability to shape the luxury narrative and maintain the aspirational quality of

the brand. Brand-led online communities and events further attract consumers who value exclusivity and engagement, giving brands a way to cultivate personal relationships and exclusivity even in the digital realm.

Table 12: Long-Run Nash Equilibrium Strategies

<i>Attribute</i>	<i>Louis Vuitton</i>	<i>Chanel</i>	<i>Hermès</i>
Predicted Market Share	47.0%	32.4%	20.6%
Change in Market Share	-2.4 pp	+0.3 pp	+2.1 pp
Product Line	Broad Range	Broad Range	Focused Core
Accessibility	Financial-only	Relationship-based	Relationship-based
Offline Distribution	Brand-controlled	Brand-controlled	Brand-controlled
Pricing	High	High	Ultra-high
E-commerce	Yes	Yes	Yes
Online Community	Open	Open*	Exclusive*
Digital Innovation	Advanced	Advanced	Advanced*
Social Media	Brand-Only*	Brand-Only	Brand-Only

Notes: Asterisk denotes a change in the attribute level relative to the brand's current strategy.

Second, the digital channel provides good opportunities and mechanisms for brands to differentiate and yet stay aligned with their market positioning. In equilibrium, both Louis Vuitton and Chanel choose to keep its online communities open accessible to all, while Hermès makes its community exclusive consistent with its pursuit of a distinctly more exclusive strategy.

Third, relative to their current online strategies, all three brands will have to fine-tune their online strategies. If they do, Hermès has the most to gain, increasing its market share by 2.1 percentage points, while Louis Vuitton declines by 2.4 pp and Chanel gains a modest 0.3 pp. At first glance, these results may appear counterintuitive: one might expect online channels to undermine exclusivity and thus may not favor brands like Hermès. Instead, we find that the most exclusive brand, Hermès, gains the most precisely because its optimal online strategy strengthens its exclusivity positioning rather than compromising it.

To understand which consumers are purchasing from each brand when the market is at the

equilibrium, we estimate linear probability models of predicted brand choice probabilities on consumer demographics and part-worths. Estimated coefficients and their robust standard errors are reported in Table 13.

Demographic variables and preferences for specific brand strategy elements reveal which consumers are more likely to buy from each luxury brand. In particular, a brand’s positioning on openness (e.g., open communities, accessible pricing, and unrestricted opportunities to purchase products) versus exclusivity (e.g., invite-only communities, ultra-high prices, relationship-based access) shapes the consumer segment it attracts.

Hermès attracts a distinctive, high-end segment: wealthier clients who have stronger preferences for relationship-based accessibility, ultra-high pricing, and exclusive communities. These are prestige-seeking consumers who value exclusivity reinforced through selective access both offline and online. Hermès’ strategy underlines that digital innovation—if aligned with exclusivity—can amplify, rather than dilute, luxury appeal. On the other hand, Louis Vuitton appeals to a wider set of consumers: those with lower net worth who prefer ungated accessibility, moderate pricing, and open online communities. Louis Vuitton’s appeal reflects its positioning as a more accessible luxury brand. Chanel occupies an intermediate position, attracting female consumers who prefer relationship-based access, but favor more moderate pricing and open communities. In doing so, Chanel balances exclusivity in product offering with accessibility in pricing and community.

Thus, our equilibrium analysis sheds a good deal of light on the exclusivity paradox: it is an imaginary paradox arising from viewing the application of digital and internet technologies to the luxury goods industry from a distance without any analytical depth based on customer preferences. What our analysis has shown is that the paradox is nonexistent or goes away when luxury goods customers actually care about and embrace the online channel, when a rival brand can leverage the online channel to gain competitive advantages over laggard brands, and when a brand can design its online strategy to enhance its offline market positioning and to counter competitive encroachments. Thus, our research highlights

Table 13: Profile of Consumers Drawn to Each Brand in Full Equilibrium

	<i>Brand:</i>					
	Louis Vuitton		Chanel		Hermès	
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.047 (0.033)		0.105*** (0.028)		-0.059** (0.025)	
Age	0.002 (0.001)		0.001 (0.001)		-0.003*** (0.001)	
Household Income	0.0003 (0.035)		-0.048 (0.032)		0.048* (0.028)	
Net Worth	-0.107*** (0.029)		0.016 (0.026)		0.091*** (0.023)	
Luxury Spending	-0.010 (0.012)		-0.006 (0.011)		0.016* (0.009)	
Product Line:		0.014		-0.073***		0.060***
Focused Core		(0.025)		(0.021)		(0.018)
Accessibility:		-0.173***		0.123***		0.050***
Relationship Based		(0.011)		(0.012)		(0.010)
Offline Distribution:		0.083***		-0.048*		-0.035*
Brand Controlled		(0.029)		(0.029)		(0.018)
Pricing:		-0.044***		-0.053***		0.097***
Ultra High		(0.011)		(0.009)		(0.008)
E-Commerce:		-0.064***		0.023		0.041***
Yes		(0.016)		(0.014)		(0.012)
Online Community:		0.115***		0.076***		-0.191***
Open		(0.026)		(0.023)		(0.020)
Online Community:		-0.078***		-0.075***		0.153***
Exclusive		(0.019)		(0.017)		(0.017)
Digital Innovation:		-0.032		0.012		0.021
Advanced		(0.026)		(0.023)		(0.019)
Social Media Content:		-0.024		-0.051**		0.075***
Brand Only		(0.025)		(0.022)		(0.018)
Intercept	0.487*** (0.023)	0.446*** (0.018)	0.269*** (0.017)	0.279*** (0.015)	0.244*** (0.019)	0.275*** (0.014)

Notes: Gender is dummy-coded (1 = female), age is mean-centered, and household income, net worth, and luxury spending are log-transformed and mean-centered. Robust standard errors are reported in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$.

the importance of developing a rigorous analytics tool for making strategic decisions in the luxury goods industry.

5. Conclusion

Our study takes a comprehensive look at the exclusivity paradox facing luxury brands as they navigate digital transformation: the need to preserve exclusivity while embracing innovations demanded by modern, high net-worth consumers. Our research strategy goes beyond merely conceptually speculating on how the paradox may or may not be present when luxury brands formulate their online strategies in a competitive context or why a brand should or should not be reluctant to embrace a channel that is inherently democratizing access. Our approach develops a methodology that enables brands to optimize their online strategy within a competitive context by combining conjoint analysis with game-theoretic modeling applied to data collected from real luxury customers. The elements of this methodology are not radically new, which means that it is easily implementable and can readily become a decision aid. More importantly, by implementing this methodology, we have generated three important, substantive insights.

First, our empirical analysis shows that the exclusivity paradox is only in the imagination of a luxury brand’s executives, as luxury consumers want the digital channel. In this study, we collected data from high-net-worth U.S. consumers about their preferences for brand-strategy combinations in the luxury fashion and personal goods industry. We used the data to determine how consumers make trade-offs among key attributes including exclusivity, accessibility, pricing, digital innovation, and community engagement. Our results clearly indicate that luxury customers embrace the online channel and gain more utility from a brand’s online presence. If a brand’s customers appreciate its online presence, its absence simply means the exclusion of these customers rather than the enhancement of the brand’s exclusivity.

Second, by embedding the estimated conjoint partworths within an equilibrium frame-

work, we model the strategic interplay among leading brands competing in real markets. We show that it is inevitable that competing brands also embrace the online channel given that luxury customers do so. Our analysis shows that each of the top three brands can shore up its existing customers and gain more luxury customers from competition if it unilaterally adopts the online channel. This competition analysis not only reveals the competitive dynamics among different brands, but also demonstrates that in a competitive context, the trade-off between exclusivity and accessibility at the heart of the exclusivity paradox can actually be the trade-off between excluding a brand's existing customers and holding on to their exclusive customers.

Third, by applying game-theoretic analysis, we introduce a rigorous, optimal way for luxury brands to choose its online strategy. Our analysis shows that each of the three competing brands has much to improve on its current online strategy. When they all use their respective optimal strategies in Nash equilibrium, the impact of digitalization varies across brands: Louis Vuitton benefits from digital openness, Chanel from balanced community engagement, and Hermès from selective exclusivity supported by advanced digital experiences. These differences confirm that no single digital strategy suits all luxury brands; instead, each must tailor its approach to its heritage, clientele, and market position. In this context, our findings dissolve the perceived contradiction between exclusivity and accessibility in the digital domain. The exclusivity paradox can surface to the detriment of a luxury brand, but our analysis shows that this happens when the brand chooses its online strategy sub-optimally. When leveraging its online channel optimally, a brand's online strategy offers new opportunities in a competitive context to achieve differentiation and to enhance the brand's long-standing market positioning. Indeed, our analysis shows that the most exclusive brand, Hermès, can benefit from a well-crafted online strategy and gain more exclusive customers from the rival without sacrificing exclusivity. In other words, in the competitive context, exclusivity can have multiple dimensions and digital accessibility can open up alternative pathways to exclusivity.

Our findings thus show that embracing digital innovation is not antithetical to maintaining luxury brand prestige, but rather essential for meeting contemporary consumer expectations and for effective competitive strategy. The exclusivity paradox is not a constraint but an opportunity. Digital transformation allows luxury brands to reinterpret exclusivity for the 21st century—elevating both brand aura and consumer experience in a connected world. Luxury managers should carefully calibrate their online presence and community-building efforts to reinforce exclusivity while delivering enriched digital experiences. In this regard, there is no one-size-fits-all optimal digital strategy for luxury brands. For that reason, the methodology we propose here is especially timely and valuable in helping luxury brands to find their best competitive strategy.

Our study has a few limitations that future research can address. First, our respondents were U.S.-based high-net-worth consumers and the findings may not fully generalize to other markets with different cultural dynamics. Second, the conjoint design and competitive simulation, while rich, abstract away from the full complexity of real-world competitive dynamics to focus on three top brands. Future research can easily expand on this to include more brands and other sectors of the luxury industry. The methodology proposed here does not limit the number of competing brands. Third, in our conjoint analysis, a non-choice is not included so that the market shrinkage or expansion effect due to brands adopting the digital channel is ignored. For all practical purposes, this effect should be very small for the top luxury brands, but future research can also look in this direction with a slightly modified conjoint survey.

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