

AI (vs. Human) Recommendation on Luxury Services

ABSTRACT

Despite Artificial Intelligence (AI)'s emerging trend in luxury services, recent research shows mixed findings regarding its impact. This paper builds upon the optimum distinctiveness theory and the need for uniqueness to examine AI's effects on consumers' willingness to accept luxury suggestions. Four studies reveal that using AI recommendations in the luxury sector reduces consumers' differentiation, which has downstream effects on luxury services and causes brand dilution. Findings further indicate that when specific characteristics of luxury, such as uniqueness, are enhanced, it damages consumers' willingness to accept luxury recommendations, and thus, AI backfires. The study findings have important theoretical and managerial implications, suggesting when AI should be used to provide recommendations for luxury experiences.

Keywords: artificial intelligence, luxury, recommendation, services, differentiation.

1. Introduction

By customizing services and experiences (Bleier et al., 2020; Hoyer et al., 2020), Artificial Intelligence (AI) is revolutionizing and reshaping many industries (Acquisti et al., 2020; van Doorn et al., 2017), including the luxury services. AI applications in luxury services have shown to be promising and key (Shin & Jeong, 2022), becoming a norm to satisfy their key target markets and enrich guest experience (SGEI International, 2020). For instance, Radisson Blu Edwardian Hotels, an affiliation brand of a UK-based luxury hotel chain, launched in 2016 the Chatbot Edward. The chatbot can answer text messages from guests seeking information about maintenance concerns, amenities, directions, and travel advice (Burns, 2016).

Although using AI seems like a growing trend (J. J. Li et al., 2019; Lv et al., 2022), prior academic studies fail to guide the effects of AI on consumers in the luxury services landscape. On the one hand, previous studies show that using AI allows luxury hotels to provide personalized services, thus enhancing the customer experience (Nam et al., 2021) or that AI is perceived as more competent than human recommendation systems (Li et al., 2021; Longoni & Cian, 2020). However, on the other hand, recent research suggests that consumers negatively evaluate AI applications in the luxury sector (Nozawa et al., 2022) or that human (vs. AI) recommendations are more effective (Wien & Peluso, 2021).

Drawing on the optimum distinctiveness theory (Pickett et al., 2002; Pickett & Brewer, 2001) and the need for uniqueness (NFU) (Abosag et al., 2020; Ruvio et al., 2008), we suggest that differentiation is the underlying mechanism of the impact of the use of AI in luxury services. We further show that differentiation motives, through uniqueness cues, damage the AI (vs. human) recommendation effect on consumers' willingness to accept luxury recommendations (e.g., fancy restaurants, exclusive wines, VIP concerts, and luxury massages). Recent research in the psychology of luxury consumption indicates that luxury consumption often generates status and signals uniqueness (Dubois et al., 2021). Notably, there is a general perception that humans have a stronger ability than AI to account for individual characteristics (i.e., uniqueness) (Longoni et al., 2019). Therefore, our research proposes that consumers are less willing to accept luxury recommendations through AI vs. human when differentiation motives, through uniqueness cues, are salient. In addition, we postulate that AI threatens differentiation and consequently causes detrimental effects on luxury services.

By doing so, the current research makes three significant contributions to the literature. First, we bridge two theories, namely, the optimum distinctiveness theory (Brewer, 1991; Pickett et al., 2002; Pickett & Brewer, 2001) and the need for uniqueness (NFU) (Abosag et al., 2020; Snyder & Fromkin, 2012; Ruvio et al., 2008) to explain when AI recommendations can boost or damage luxury services. Second, we add to recent studies on luxury consumption (e.g., Dubois et al., 2021; J. C. Kim et al., 201) by showing how differentiation motives are the underlying mechanism of the detrimental effect of AI on consumers' willingness to accept luxury recommendations from AI. Third, this research contributes to recent studies on AI-human interactions (e.g., Ahn et al., 2022; Longoni & Cian, 2020; Wien & Peluso, 2021) to explain how the use of AI in the luxury services landscape can result in brand dilution only when uniqueness cues are salient.

2. Literature Review

2.1 Artificial intelligence in Luxury Services

Artificial intelligence (AI) has recently shaped services, as AI technology advancements are changing the industry's operations and consumers' experiences (Tussyadiah, 2020). Generally, AI entails system-based computers that interact with and provide client services (Wirtz et al., 2018) that may learn independently by continually refining and upgrading the content (Kumar et al., 2021). This paper positions AI-powered tools as computer/machine-enabled services that cater to customers like other commercial services online (e.g., employee service online) and benefit all parties involved (de Kervenoael et al., 2020). The application of AI is growing across various luxury and service contexts (Luxe Digital, 2021). For example, Hilton and InterContinental use voice technology to make their rooms smarter through a smartphone app or an in-room system, and Marriott has created high-tech showers with touch-sensitive glass for writing ideas (Matter of Form, 2019).

Luxury symbolizes high quality and prestige based on unique hedonic experiences that offer personalized services, increasing consumers' sense of uniqueness (Kapferer et al., 2012). Numerous research has demonstrated that luxury consumption aids consumers in their quest for status, improves their social position, and creates connection or disassociation with other consumers and social groups, i.e., driven by extrinsic benefits (Gao et al., 2016). By contrast, consumers can also be motivated intrinsic aspects when they are more involved and interested in the distinctive characteristics of luxury, such as design and craftsmanship, sensory appeal, and sociocultural story (Woolley & Fishbach, 2018). Nevertheless, recent research in the psychology of luxury consumption reaffirms that luxury consumption often generates status and signals uniqueness (Dubois et al., 2021). Hence, luxury consumption patterns continue to be a source of discussion, with the world of luxury rapidly changing (Y. Wang, 2021). One of the sources connected with the changes in the luxury landscape is related to AI through its democratization (Ramadan, 2019). Since it gives each client the impression that the company understands their unique demands, personalization has become an essential component of the customer experience (Bilgihan et al., 2016).

2.2. Optimum Distinctiveness and Need for Uniqueness

Need for uniqueness theory (NFU) is concerned with people's perceptions of and reactions to their resemblance to others which argues that people continually evaluate their degree of similarity or dissimilarity to others (Snyder & Fromkin, 1977, 2012). Individuals experience varying NFU levels as a result of their concern for societal norms (Snyder & Fromkin, 2012) as the majority of the individuals seek to exhibit their uniqueness within public standards to avoid social isolation or rejection as a result of their uniqueness disposition (Lynn & Harris, 1997; Tian & McKenzie, 2001). Hence, the desire for uniqueness might be constrained by the need for social assimilation and social approval (Snyder & Fromkin, 2012). Optimum Distinctiveness Theory (ODT) may be used to describe and understand the relevance of social circumstances in shaping people's desire to be unique. According to this theory, there are two primary incentives for social identification: the need for assimilation and differentiation working in opposition to each other (Brewer, 1991). The need for assimilation, i.e., to belong or "fit in" is balanced by the need for differentiation, i.e., the need to stand out or be distinctive from others (Pickett & Brewer, 2001). Nevertheless, research postulates that CNFU enables individuals to fulfill their needs for assimilation and differentiation (Ruvio, 2008).

Past research has shown that the need for uniqueness (NFU) is an essential driver of consumer behavior in luxury (Bian & Forsythe, 2012; Ruvio et al., 2008). Consumers who

need uniqueness tend to avoid popular choices or similarities with other consumers (Tian et al., 2001). In the digital age of AI proliferation, some research suggests that consumers might resist AI recommendations (Longoni et al., 2019). Specifically, AI (vs. human) recommendations might be less effective in conveying the uniqueness of their offerings. Despite advances in AI capability over the years, it continues to underperform humans in many tasks. These tasks are mainly connected to reading, replicating, and responding to human sentiments and other interpersonal cues or feeling tasks (Rust & Huang, 2021). Consequently, consumers are averse to relying on AI to perform tasks typically done by humans, especially if they seem subjective (Castelo et al., 2019). Customers tend to prefer human (vs. AI) recommendations when they are concerned about the unique attributes of the products or services (Longoni & Cian, 2022; Wien & Peluso, 2021). In addition, consumers have shown to prefer human labor when it comes to symbolic consumption due to consumers' stronger unique motives in more symbolic consumption contexts and the perception that humans are better at satisfying this need for uniqueness (Granulo et al., 2021).

Our research proposes that consumers are less willing to accept luxury recommendations through AI vs. human when differentiation motives, through uniqueness cues, are salient. In addition, we postulate that AI threatens differentiation and consequently causes detrimental effects on luxury services.

3. Overview of Studies

In four experimental studies, we tested in which circumstances AI (vs. human) recommendations are more effective in providing luxury experiences and when it increases consumers' willingness to accept them. We focus our studies in luxury hospitality as it is one of the services where the application of AI is growing to a great extent (Luxe Digital, 2021). Study 1 shows that AI (vs. human) recommendations reduce consumers' differentiation, having no impact on assimilation. Findings further reveal that AI's detrimental effects impact luxury services, causing brand dilution. Consumers' differentiation motives mediate these effects, and, therefore, we focus our theorizing on the need for uniqueness (i.e., differentiation motives). In line with our theorizing, Studies 2 shows that highlighting differentiation (vs. assimilation) motives reduces consumers' willingness to accept AI (vs. human) luxury services recommendations. Study 3 confirms the previous results by considering a new stimulus, namely, uniqueness cues. In the last study, instead of assigning the participants to the AI vs. human conditions, like in the previous studies, we allow participants to choose between AI (vs. human) providers. Study 4 tests whether uniqueness motives vs. control, by giving to participants a uniqueness recall task, shapes preference for AI (vs. human) recommendations.

We targeted a minimum of 50 participants per cell, excluding responses with missing values. We collected additional responses until the target sample size was achieved (van Selm & Jankowski, 2006). In addition, participants who failed the attention checks were excluded.

Study 1: The underlying effect of differentiation

Study 1 aims to provide an initial understanding of the effect of the different recommendation systems on consumers' perception in the luxury hospitality context and capture its underlying mechanism.

Participants and Design

The participants for this study were recruited online from the United States of America. They had traveled as a hobby and owned at least two luxury items. Our sample consisted of 100 participants (70% women; $M_{age}=38.51$, $SD=12.659$). The study employed a single-factor (recommendation system: AI vs. human) design. 49 participants were randomly allocated to the AI condition (66.7% men; $M_{age}=39$; $SD=11.97$), the remaining to the control condition (50.8% women; $M_{age}=38.04$; $SD=13.39$).

Procedure and Stimuli

Participants were randomized to one of two conditions. In the beginning, all of them were informed that "The Six Senses Hotels Resorts Spas was considered the World's Best Luxury Hotel Brand for 2021. It counts 16 hotels and resorts and 25 spas in 19 countries worldwide. At the Six Senses, it is never just about a place to stay. It is a luxury place that helps customers reconnect and explore what it means to be mentally, physically, spiritually, and emotionally happy", and they were asked to imagine that they had already booked on of Six Senses luxury spas". Later, in the AI (vs. human) condition, participants were presented with the following: "Dear Customer, we are very pleased to welcome you soon at our Six Senses Spa. We would like to take this opportunity to let you know that we are developing a new online concierge service that relies on the help of an AI assistant (vs. employee) to provide you with recommendations regarding luxury experiences. With this online concierge service and the help of the AI assistant (vs. employee), you can get recommendations about, for example, the best treatments at our luxurious spa. We are at your entire disposal to make your stay as pleasant as possible. We look forward to seeing you soon."

Measures

To measure self-brand connection, seven items adapted from (Ferraro et al., 2013) were considered: "Six Senses reflects who I am", "Six Senses suits me well", "I (can) use Six Senses to communicate who I am to other people", "I can identify with Six Senses", "I consider Six Senses to be "me" (it reflects who I consider myself to be or the way I want to present myself to others)", "I feel a personal connection to Six Senses", "I think Six Senses (could) help me become the type of person I want to be".

The differentiation motives were captured with three items adapted from (Yan et al., 2021): "This concierge service makes you feel different from others", "This concierge service makes you feel like someone that stands out", "This concierge service makes you feel differentiated from the group".

Assimilation was captured by considering three items adapted from (Yan et al., 2021): "This concierge service makes you feel assimilated into the group", "This concierge service makes you feel like the majority of customers", "This concierge service makes you feel like someone that's part of the group".

As a manipulation check, we asked respondents to indicate whether the hotel concierge service had the help of an AI assistant or an employee (1=AI assistant to 9=Employee).

Results

The manipulation check worked as expected as the participants in the AI condition perceived that the concierge service had help on an AI assistant, and the other participants in the human conditions were aware that the concierge service had help on an employee.

The results show a significant main effect of the recommendation system on the self-brand connection ($M_{AI}=4.31$ vs. $M_{human}=5.45$, $t_{(98)}=-2.830$, $p=0.003$). In addition, the results reveal also a main effect on differentiation ($M_{AI}=4.42$ vs. $M_{human}=5.62$, $t_{(98)}=8.248$, $p=0.005$), but no significant interaction on assimilation ($M_{AI}=5.53$ vs. $M_{human}=5.35$, $t_{(98)}=0.305$, $p=0.582$).

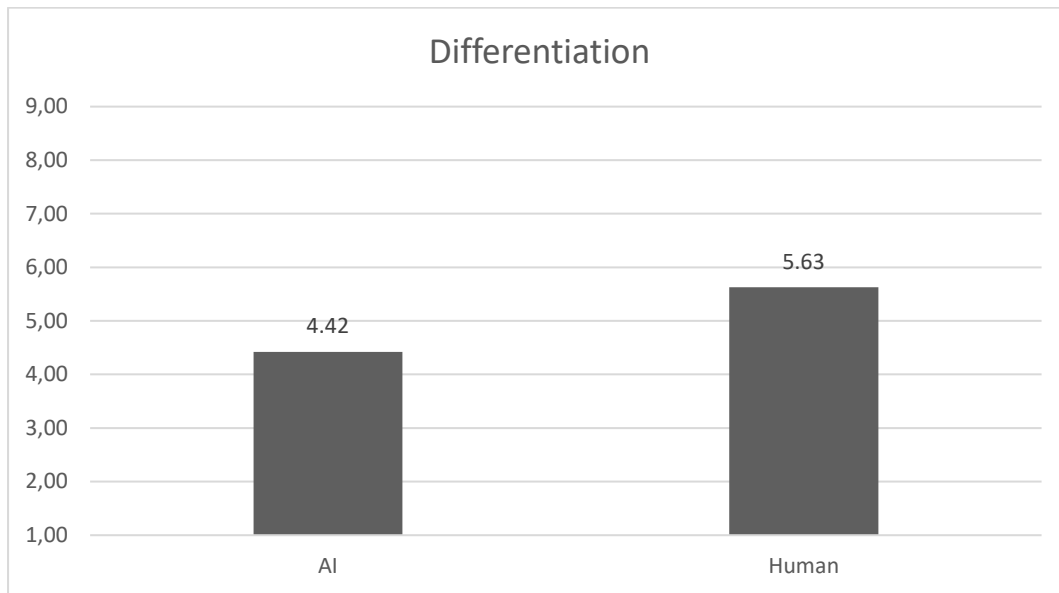


Fig. 1- The effect of the recommendation system on differentiation

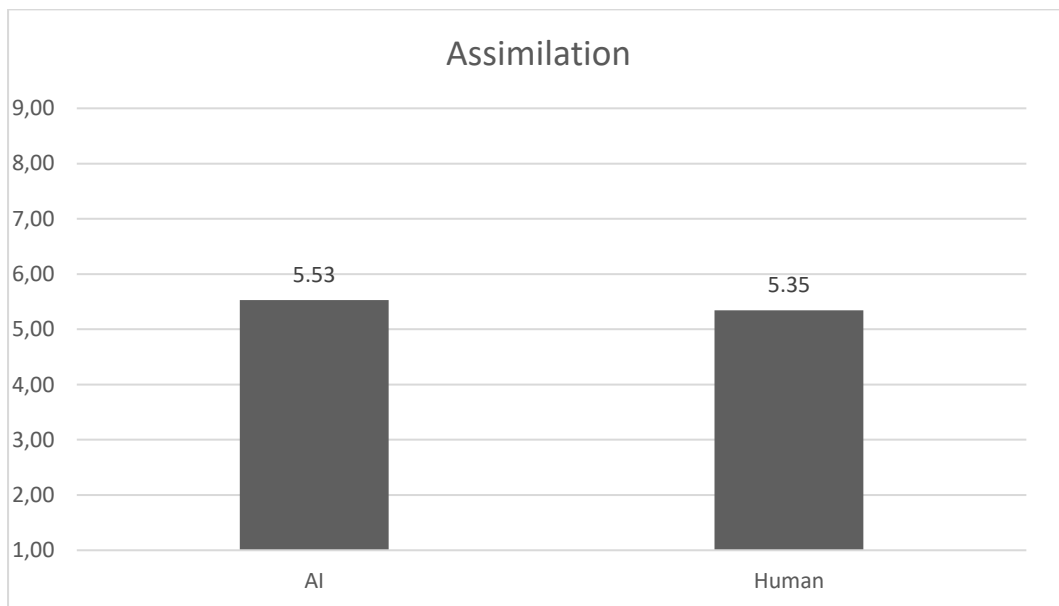


Fig. 2- The effect of the recommendation system on assimilation

Mediation analysis

The mediation analysis used the macro-PROCESS (model 4; 5000 samples; Hayes, 2017), and the effects were tested using a bootstrap estimation approach with 5000 samples. The mediator was differentiation, the independent variable was the recommendation systems, and the dependent variable was the self-brand connection. Mediation results indicated that the recommendation system was a significant predictor to differentiation ($b=1.2057$, $SE=0.4198$, $p=0.005$), and that differentiation was a significant predictor of self-brand connection ($b=$

0.4933, SE =0.0805, $p=0.0000$). The results indicate a significant indirect effect of recommendation systems on differentiation ($b = 0.5947$, BootSE = 0.2428, BootLLCI = 0.1798 and BootULCI=1.1165) and a no significant total effect of recommendation systems on self-brand connection ($b =0.5828$, SE = 0.3486, $p=0.0978$). These results suggest that differentiation mediates the relationship between recommendation systems and self-brand connection.

Discussion

Study 1 provides initial support for our theorizing. First, our findings indicate that AI vs. human recommendations exclusively impacts differentiation, which is not significant for assimilation motives. In addition, we show that AI vs. human recommendation causes detrimental effects on luxury services by harming the self-brand connection. Finally, provide evidence for the underlying mechanism, i.e., differentiation. Our study is aligned with the previous studies, which have shown that AI recommendations might be less effective in conveying uniqueness (Longoni et al., 2019).

Study 2: Do AI recommendations increase willingness to accept luxury recommendations when differentiation motives are present?

Study 2 provides further evidence that differentiation motives damage AI (vs. human) recommendation systems' effects on consumers' willingness to accept luxury recommendations. To extend the results of the previous study, the unique cues were stimulated differently.

Participants and Design

We recruited online participants from the United States who had booked a hotel in the previous two years. Our sample consisted of 383 participants (49.9% women; $M_{age}=38.39$, $SD=11.77$). The study design was a 2 (recommendation system: AI vs. human) x 2 (differentiation vs. assimilation) between-subjects experiment. 97 participants were randomly allocated to the AI and assimilation condition (50.5% men; $M_{age}=58.45$; $SD=197.30$), 91 participants to the AI and differentiation condition (51.6% men; $M_{age}=38.43$; $SD=11.387$), 100 participants to the human and assimilation condition (52% women; $M_{age}=38.07$; $SD=12.18$), and the remaining to the human and uniqueness condition (50.5% women; $M_{age}=38.58$; $SD=11.58$).

Procedure and Stimuli

Participants were randomly assigned to one of the four conditions. In the AI (vs. human) and unique (vs. control) conditions, participants were presented with the following: *"You checked in at the hotel you booked for your travel. To plan your activities for the day, you open the hotel's concierge app. The R&D department of the hotel has spent the past 2 years developing an Artificial Intelligence assistant to improve customer service [vs. You are being greeted by John, Senior Customer Manager, who spent the past 2 years in this hotel to improve customer]. The Artificial Intelligence assistant [vs. John] greets you with the following: Dear Guest, I've been very much looking forward to welcoming you today. For you to enjoy a luxury experience, we would like to provide you with the most visited and popular recommendations chosen by the majority of our guests [vs. tailored and special experiences exclusive for our VIP guests]. Please do not hesitate to ask any questions."*

Measures

The extent to which the participants would like to receive recommendations from the hotel concierge service (AI vs. human) was rated on a 9-point scale (1= Strongly disagree to 9= Strongly agree). Participants evaluated the following luxury recommendations: a "fancy restaurant downtown", "most exclusive wines in the region", "special VIP concerts and shows", "best concerts/shows in town", "luxury shops", "premium local gifts to buy", "the best massage and spa salon", "a private driver" ($\alpha = 0.90$). The different activities chosen were adapted from the principles of the experience economy (HBR, 1998) and were considered all together into a variable for the purpose of the analysis.

Regarding the manipulations checks, participants had to indicate whether the experience with hotel concierge service was either with an AI assistant or human (1=Human to AI=9). In addition, as a manipulation check for differentiation vs. assimilation, participants rated whether the recommendations were based on popular guest choices or tailored to VIP guests (1=Assimilation to 9=Differentiation).

Results

Manipulation checks worked as intended, as participants in the AI condition were more likely to agree that the service was provided by AI ($M_{AI}=7.52$, $SD=1.61$) than their counterparts in the human condition ($M_{human}=5.07$, $SD=3.08$, $t(297.72)=9.93$, $p < .001$). In addition, participants in the unique condition perceived the recommendations as more exclusive ($M_{Exclusive}=6.95$, $SD=1.69$) than participants in the control condition ($M_{Popular}=5.61$, $SD=2.62$, $t(337.60)=-5.99$, $p < 0.001$).

A two-way ANOVA using 2 (recommendation system: AI vs. human) X 2 (assimilation vs. differentiation) show the predicted interaction effect on willingness to accept luxury recommendations ($F(1, 381) = 4.17$, $p = .042$). Specifically, AI was higher ($F(1,381)=4.168$, $p = 0.042$, $M=6.5$, $SD = 0.211$) than human ($M=5.895$, $SD=0.208$) when assimilation motives were present. However, when differentiation was salient, AI and human recommendations yielded similar results ($F(1,381)=0.943$, $p=0.332$, $M_{human}=6.253$, $SD=0.214$; $M_{AI}=5.957$, $SD=0.217$). Results show no significant main effects of recommendation systems ($F(1, 381)=0.0528$, $p=0.468$) and assimilation vs. differentiation ($F(1, 381)=0.191$, $p =0.662$) on luxury recommendations.

Discussion

Study 2 further confirms consumers' willingness to receive luxury services recommendations provided by AI, showing that the preference for AI is more evident when there is no promotion regarding differentiation motives. On the other hand, when they are prominent, consumers do not show a significant difference between the two. Therefore, our theorizing applies only to the AI recommendations. Consumers are averse to relying on AI to perform tasks that seem subjective (Castelo et al., 2019).

Study 3: What is the impact of uniqueness cues?

Study 3 provides further evidence that differentiation motives, through uniqueness cues, damage consumers' willingness to receive luxury service recommendations provided by AI (vs. human).

Participants and Design

We recruited US participants online who had booked a hotel in the last two years and owned at least two luxury products. This condition was guaranteed by including two questions in the survey about traveling and a filter in the systems that recruited the participants. Our final sample consisted of 406 participants (50% *female*; *Mage*=38.84; *SD*=12.40). The study design was a 2 (recommendation system: AI vs. human) x 2 (uniqueness vs. control) between-subjects experiment. 97 participants were randomly allocated to the AI and uniqueness cues condition (56.1% women; *Mage*=41.81; *SD*=12.53), 115 participants to the AI and control condition (50.4% men; *Mage*=36.59; *SD*=10.73), 88 participants to the human and uniqueness condition (52.3% women; *Mage*=42.03; *SD*=12.69), and the remaining to the human and control condition (54.7% men; *Mage*=39.75; *SD*=13.13).

Procedure and Stimuli

Participants were randomly assigned to one of the four conditions. In the AI (vs. human) and unique (vs. control) conditions, participants were presented with the following: *"You have already checked in at the 5-star luxury hotel [vs.hotel] you have booked before your travel. In order to plan your visit and experiences throughout the day, you go to the concierge service of the hotel activities for the day, you open the hotel's concierge app. The AI assistant has been developed over the last 2 years to provide customer service [vs. John has two years of customer service]. The Artificial Intelligence assistant [vs. John] greets you with the following: Dear Guest, I've been very much looking forward to welcoming you today. To make your stay pleasant, we would like to help and assist you with some recommendations. Please do not hesitate to ask further questions."*

Measures

The extent to which the participants would like to receive recommendations from the hotel concierge service (AI vs. human) was rated on a 9-point scale (1= Strongly disagree to 9= Strongly agree). Participants evaluated the following luxury recommendations: *"a fancy restaurant downtown"*, *"most exclusive wines in the region"*, *"special VIP concerts and shows"*, *"luxurious shops"*, *"luxurious local gifts to buy"*, *"luxurious massage and spa salon"*, *"sophisticated private driver"* ($\alpha = 0.905$).

As a manipulation check, we asked respondents to indicate whether the hotel concierge service was a hotel staff member (human) or an AI assistant (1=Hotel Staff to 9=AI assistant). In addition, we asked the participants to rate the hotel of the scenario from 1 to 5 stars.

Results

The effectiveness of our manipulation was confirmed using an independent samples *t*-test. Participants in the AI condition were more likely to agree that the service was provided by AI ($M_{AI}=8.89$, $SD=0.91$) than their counterparts in the human condition ($M_{human}=1.19$, $SD=1.15$, $t(404) = -75.079$, $p < 0.001$). In addition, participants who were presented with uniqueness cues perceived the hotel with a higher ranking ($M_{Unique}=4.83$, $SD=0.43$) than participants the participants of the control group ($M_{Control}=4.08$, $SD=0.72$, $t(404)=12.547$, $p < 0.001$).

A two-way ANOVA using 2 (recommendation system: AI vs. human) X 2 (uniqueness cues vs. control) show the predicted interaction effect on willingness to accept luxury recommendations ($F(1, 402) = 6.577, p=0.011$). Specifically, AI was higher ($M_{AI}=6.20$) than human ($M_{human}=5.36$) when the uniqueness cues were not present. However, when uniqueness cues were salient, consumers preferred the human employee ($M_{human}=4.96, M_{AI}=4.79$), even though that difference was not significant. In addition, results show no significant main effects of recommendation systems ($F(1, 402)=2.807, p=0.095$), but a main effect of uniqueness ($F(1, 402)=21.312, p<0.001$) on luxury recommendations.

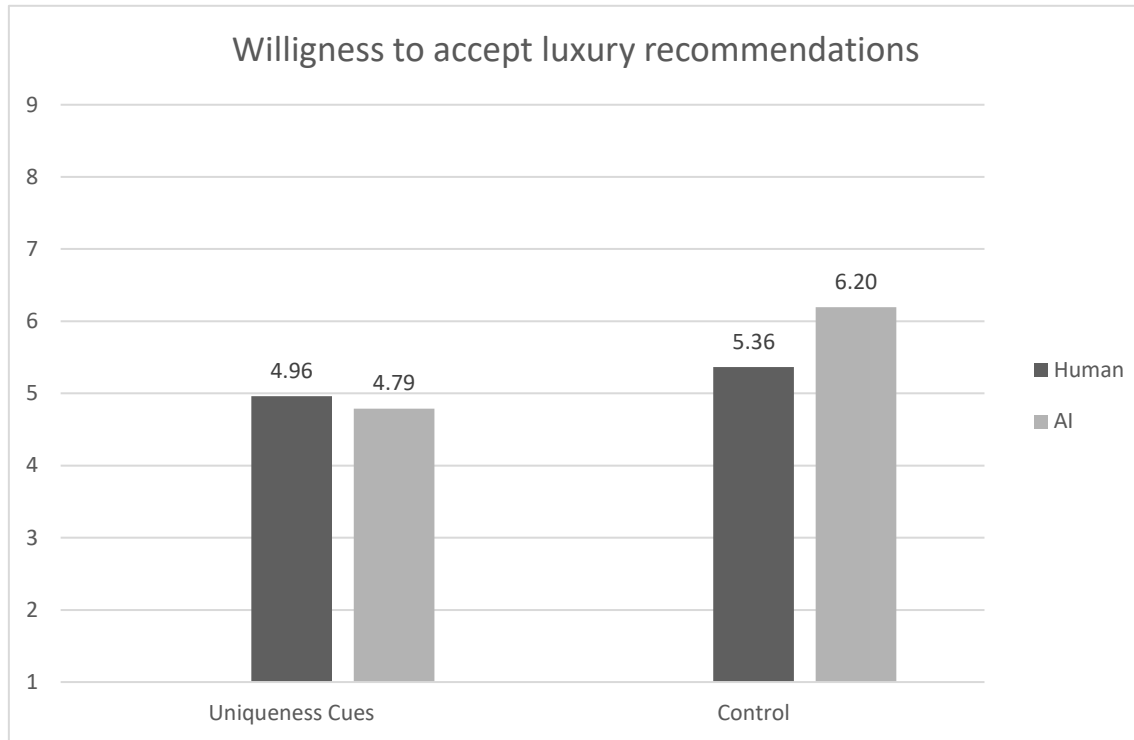


Fig. 3- Effect of uniqueness cues and recommendation systems on willingness to accept luxury recommendation.

Discussion

Study 3 reveals that consumers are prone to receive luxury services recommendations provided by AI. However, when unique characteristics are salient, it changes their preference. Naturally, consumers rely more on humans to account for their unique and individual characteristics and circumstances (Longoni & Cian, 2022) and experience a unique value through perceived exclusivity and scarcity of a product, resulting in increased desire or preference for luxury service (Liu et al., 2022).

Study 4: Do consumers prefer AI or human?

Study 4 examines whether participants' preferences for AI (vs. human) suggestions are influenced by uniqueness motives vs. control in an effort to clarify the conflicting results from earlier experiments.

Participants and Design

We gathered data from online participants in the United States who had booked a hotel room in the preceding two years and owned at least two luxury products. Our sample consisted

of 105 participants (49.2% women; $M_{age}=37.77$, $SD=13.92$). The study employed a single-factor (uniqueness vs. control) design. 55 participants were randomly allocated to the unique condition (52.7% men; $M_{age}=38.85$; $SD=15.10$), the remain to the control condition (50.8% women; $M_{age}=36.83$; $SD=13.00$).

Procedure and Stimuli

Participants were randomly assigned to one of the two conditions. In the unique (vs. control) condition, participants were primed to recall unique [vs. regular] service experience, for example, at a hotel or a restaurant, and write it down.

Measures

The participants were asked to think of unique [vs. regular] luxury service experiences, chose the provider, namely, AI or human employee, for each of the services listed (Fuchs et al., 2013). The services listed were based on the scenarios used on the previous studies, and, therefore, "*doing check-in at the hotel*", and "*recommending accommodation*".

As for manipulation checks, participants were asked to indicate whether, at the beginning of the study, they had to recall any experience or a unique experience (1= regular, 9= unique).

Results

The effectiveness of our manipulation was confirmed using an independent samples t-test. Participants in the unique condition were more likely to recall a unique experience ($M_{unique}=8.83$, $SD=0.509$) than their counterparts in the control condition ($M_{control}=1.38$, $SD=0.820$, $t(103) =56.01$, $p < 0.001$).

A Chi-Square test was used to test the preference of the consumers in having AI or human employee doing different services. Regarding check-in in a hotel, the test showed a preference for AI when the uniqueness cues were not salient ($\chi^2(1) = 4.888$, $p= 0.027$). The uniqueness cues reduced the preference for AI from 59% to 38%. In terms of recommending accommodation, the Chi-Square test showed a preference for AI in the control condition ($\chi^2(1) = 2.915$, $p= 0.088$). However, the presence of uniqueness reduced that preference from 54% to 38%.

Discussion

Study 4 provides evidence for the preferences of consumers when choosing AI vs. human in the service context and, consequently, provides insights into when AI can help or backfire. Once again, the presence of unique cues damaged the preference of choosing AI (vs. human) in different services. It was shown that uniqueness clearly impacts the choice of AI (vs. human).

4. General Discussion

Our studies confirm our theorizing that differentiation motives (or uniqueness cues) damage AI (vs. human) recommendation systems' effects on consumers' willingness to accept suggestions for luxury experiences confirming our predictions. Therefore, our findings explain some of the mixed feelings that have risen with previous research (e.g., Luo et al., 2019, Nam et al., 2021, Nozawa et al., 2022) by revealing the underlying mechanism of differentiation. Furthermore, even though there was past research showing different perceptions of consumers' preferences regarding recommendation systems, our research shows in which circumstances consumers prefer AI recommendations over human ones and vice-versa, therefore extending

previous studies about the preference of AI (vs. human) (Granulo et al., 2021). Finally, this research reveals that AI's detrimental effects have downstream effects on luxury services, causing brand dilution and adding to research on the challenges of AI (de Bruyn et al., 2020).

4.1 Theoretical Implications

This research deepens our understanding of the effect of the exploitation of AI in the luxury services context. To do that, our research bridges the optimum distinctiveness theory (Brewer, 1991; Pickett et al., 2002; Pickett & Brewer, 2001) and the need for uniqueness (NFU) (Abosag et al., 2020; Snyder & Fromkin, 2012; Ruvio et al., 2008) to clarify how AI suggestions might boost or damage luxury services. Our findings highlight the detrimental effects of AI on differentiation motives regarding luxury consumption. In particular, our results indicate that the luxury recommendations from artificial (vs. human) agents damage consumers' differentiation motives, ruling out alternative explanations (i.e., assimilation motives).

Our research also contributes to recent studies on luxury consumption (e.g., Dubois et al., 2021; J. C. Kim et al., 201) by examining the underlying mechanism of differentiation. Drawing from the literature on the need for uniqueness (Ruvio et al., 2008), we contribute by showing that specific consumer motives (i.e., differentiation motives) mediate these effects. Therefore, by expanding on recent studies regarding the psychology of luxury (Dubois et al., 2021), we also add to the negative effects of using AI in the luxury context, showing that these negative consequences occur only when uniqueness cues are present.

Finally, this study provides insights into recent studies on AI-human interactions (e.g., Ahn et al., 2022; Longoni & Cian, 2020; Wien & Peluso, 2021) to demonstrate how the application of AI in the luxury industry may lead to brand dilution only when uniqueness cues are prominent. Hence, we contribute to the literature by showing how uniqueness cues shape AI effects on luxury services. When uniqueness cues are evident (vs. control), AI vs. human recommendations reduces consumers' willingness to receive luxury recommendations.

4.2 Practical Implications

From a managerial perspective, the findings of this study offer management strategies for the luxury industry through crafting AI or traditional (human) recommendation systems. AI and human recommendation systems are important for hotels to deliver luxurious customer experiences. AI is important in the luxury industry since it boosts consumers' willingness to accept luxury recommendations. However, that effect is damaged when differentiation motives or unique cues are present. Therefore, hotel managers should rely on traditional recommendation systems for this circumstance. AI is a powerful tool. However, when not applicable to its strengths, it can backfire and dilute luxury, implying that the more or less use of AI vs. human is based on what kind of service the hotel introduces. Therefore, within the different services of a hotel, it would be more efficient to use human employees in activities where unique cues are more salient and take advantage of AI to the other (Fan et al., 2022).

This study offers a fresh perspective for marketers to attract potential luxury customers through promotions provided through AI recommendations. Yet, personalized offers signaling exclusiveness should be delivered through sales agents focusing on loyal customers (Chung et al., 2020). The human recommendation system might be more effective when luxury experiences depict uniqueness or are framed as exclusive.

4.3 Limitations and Future Research

Despite this research's contribution to the luxury services literature, it is also essential to acknowledge its limitations. First, the findings of this research are not expandable to all of the luxury service landscape. In our studies, we focused our attention on hospitality online services that happen "pre-hospitality" experience (i.e., online check-in, online concierge service). Future studies could explore the impact of the use of AI vs. human in services that occur during or post- the hospitality experience or in order services non-hospitality related. In addition, the data collection was done through online studies limited to the US market (Goodman et al., 2013). Therefore, it would be interesting for future research to cover other geolocations and examine if the results can be replicated. The study's findings are also limited to AI assistant technology, thus ignoring features such as AI voice, physically embodied machines (e.g., robots), or virtually embodied machines (Kim et al., 2021). Such features may influence consumers' perceptions of AI (Murphy et al., 2019). Therefore, future studies should consider different forms of AI to examine people's perceptions of machines when choosing luxury travel. In addition, a field study with real travelers would be highly insightful. Finally, this study explored individuals' preferences for human vs. AI recommendations. Further research is needed to examine the behavioral psychology of travelers (L. Wang et al., 2020), which could potentially influence their willingness to accept AI recommendations for luxury services.

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