

**New technologies in luxury consumption experiences:
The role of individual differences**

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Abstract

Technology represents a relevant challenge for today's luxury brands. However, although new technologies like smart objects might be useful to improve luxury consumption experiences, their effectiveness from a consumer perspective is still unexplored. In particular, no studies have to date investigated the role of status consumption into the acceptance of new technologies in luxury settings. To fill this gap, two experiments have been conducted to investigate the perceived usefulness of Voice Assistants (VAs) in the contexts of luxury hotels and luxury yachts. The experiments examined the interactive effect of consumers' openness to technological innovation - operationalized as either consumer's risk propensity or openness to change - and status consumption orientation on perceived usefulness of VAs. Results showed that openness to technological innovation exerted a positive effect on perceived usefulness, yet this effect decreases in magnitude when consumers have a greater status consumption orientation. Relevant managerial implications for luxury marketers interested in implementing new technologies are discussed.

Keywords: Luxury experiences; IoT; Voice Assistants; Luxury hotels; Luxury yachts

1. Introduction

Luxury is steadily showing new opportunities coherently with new emerging consumers' needs, desires and with the new meanings that such consumption is assuming (Seo & Buchanan-Oliver, 2019). New technologies have become sharper and might represent a fundamental source of growth and a powerful way to increase luxury experiences. For instance, tourism research has long acknowledged the centrality of consumers' experience, qualifying it as a situation in which consumers escape from ordinary and everyday life (Larsen, 2007), as in the desire for an extraordinary experience than mere need satisfaction, as in hotel stay experience (Walls et al., 2011), or yachting experiences for leisure (Spence, 2016). Past studies (i.e. Kapferer, 2014) recognized how technological progress might change the way consumers interact with luxury environments. Today, the introduction of sophisticated technologies could enhance the whole customer experiences, for example, by improving the quality of stay in luxury environments (Atwal & Williams, 2017). Among these technologies, the Internet of Things (IoT) – which comprises all those smart objects that can auto-organize, share information, data, as well as act and react to different situations – show the potential of enabling new business digitalization strategies (Sestino et al., 2020). Given the relevance that smart objects may have in the context of experiential luxury and the lack of research on this topic, this research focuses on *status consumption orientation*, an individual trait that captures the extent to which consumers buy luxury goods and services to express their status (O'Cass & McEwen, 2004). We investigate

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the influence of status consumption orientation on consumers' *openness to technological innovation* on the *perceived usefulness* of VAs. By building on prior literature, in our two studies we operationalized *openness to technological innovation* as consumers' *risk propensity*, that is, individuals' tendency to assume risks (Meertens & Lion, 2008), or *openness to change*, as a personal degree of changes' acceptance (Wanberg & Banas, 2000).

2. Theoretical framework

Technological innovations, such as IoT devices or smart objects, can become an integral part of products or services, which may thus offer augmented experiences: For instance, many luxury hotels are beginning to be equipped with innovative locking systems, digital room keys, room automation, voice control, offering a seamless, fully automated experience that allows consumers to complete their entire stay without ever speaking to a person (Buhails & Sinatra, 2019), contributing to a new scenario in which human and technologies components coexist. Among the IoT devices, Voice Assistants (VAs), which comprise those “software agents that run on purpose-built speaker devices or smartphones” (Hoy, 2018, p. 82), may have a relevant role in luxury accommodation services as they could help consumers enjoy the luxury experiences, services and facilities. Through VAs, consumers can easily ask to a “technological assistant” to adjust the lighting of the room, the temperature, the humidity, the opening and closing of the curtains, to provide customized fly-fishing trip aboard a luxury yacht, simply using their voice, also benefitting services independently of the employees' involvement (Meuter et al., 2003). Recent studies highlighted two interesting main factors such as personalization and Despite this new emerging factors in technology adoption such as personalization and intrusiveness (Gutierrez et al., 2019), little is still known about role of *status consumption* in technological service delivery. Based on Rogers (2003), technology involves risk assumption derived from the uncertainty of goal achievement, in a new way. Previous studies also suggest that risk-takers are more inclined to take risks because they believe that they have greater control over risks: According to Myers et al., (1997), the risk and concern perceived by the use of technology are related to individual difference variable, also showing how perceived risk and concern differentially predicted the desire for regulation and the willingness to act to reduce the risk associated with technological hazards. Thus, it appears that perceived risk may play a significant role in technology adoption. Considering these premises, we assume that consumers' openness to technological innovation can be operationalized through two fundamental aspects: *risk propensity* (Meertens and Lion, 2008; Myers et al., 1997) and *openness to change* (Wanberg & Banas, 2000). These two aspects capture individuals' tendency to assume risks (Meertens & Lion, 2008), and their general proneness to accept change (Wanberg & Banas, 2000), respectively. Although these aspects capture different nuances of a same phenomenon, they are logically correlated; thus, we considered them separately in our two experimental studies to avoid collinearity. Furthermore, our work also considers the role of *status consumption orientation*, which refers to the extent to which consumers buy luxury goods and services to express their status (O'Cass & McEwen, 2004). It reflects consumer's “desires to gain prestige from the acquisition of status-laden products and

brands” (O’Cass and McEwen, 2004, p. 27). Consumers characterized by higher levels of *status consumption orientation* may be attracted by different communication messages and offerings Eastman et al. (1999). In the same way, *status consumption* may play a central role in the context of luxury hospitality, even in terms of tendency to adopt technology when integrated into the hospitality offering. On the basis of the theories discussed above, we reason that consumers’ openness to technological innovations may have a positive effect on *perceived usefulness* of VAs, but we also expect that such effect is moderated by consumers’ *status consumption orientation*. Thus, we hypothesize that, in the context of luxury yachts and luxury hotels, openness to technological innovations may increase the perceived usefulness of VAs. However, this effect may be significant only among consumers with a low status consumption orientation. Indeed, we expect that such *perceived usefulness* is diluted when consumers are high in *status consumption orientation* as these consumers typically keen to show off their social status (O’Cass & McEwen, 2004), prioritizing the status-signaling aspects of their experiences over technological ones. For our purpose we suggest to consider individuals’ *openness to technological innovations* to investigate the role of *status consumption*, in two luxurious settings such as luxury hotels and yacht.

3. Study 1: Luxury yachts

To provide empirical support to our hypothesis we conducted a survey with 102 participants ($M_{age} = 34.59$, $SD = 10.42$, 59.9% males and 40.1% females) recruited online via social-network specialized fan-pages or groups. Most of participants (49%) declared to travel about twice a year, while only 31,4% declared to travel every month, and 9,8% of them every week; the rest of them (9,8%) declared to travel less than once a year. First, participants read a scenario that described a situation regarding a luxury yacht equipped with VAs. Then, participants reported their risk propensity using one item (“I don't like taking risks”), adapted from Meertens and Lion (2008) (assessed on a 7pt. Likert scale, 1= “Strongly disagree”; 7= “Strongly agree”). Next, they reported the perceived usefulness of the VAs in luxury yacht using five items drawn from Mathwick et al. (2010) (Likert 7 pt, $\alpha = 0.83$, i.e. “Using VAs in luxury yacht I will enhance the effectiveness of the tasks I have in mind”), and their status consumption orientation using five items (adapted from O’Cass & McEwen, 2004) scale (on a 7pt. Likert scale, 1= “Strongly disagree”; 7= “Strongly agree”, i.e. “I would buy a product just because it has status”;), $\alpha = 0.65$, acceptable according Hair et al., 2014, and due to the exploratory nature of our study). As a control measure, we asked participants about how often they travel using a 4 pt. ad-hoc measure (1 = Less than once a year; 2 = Twice a year; 3 = Each month; 4 = Each week). We employed the PROCESS SPSS macro for conducting a moderation analysis according to Model 1 (Hayes, 2017). Results show that participants’ risk propensity ($b = 0.038$; $t = 5.70$, $p < 0.001$) and *status consumption orientation* ($b = 0.54$; $t = 5.47$, $p < 0.001$) exerted a significantly positive effect on VAs’ *perceived usefulness*. Moreover, there was a significantly negative effect of the interaction between *openness to change* and *status consumption orientation* ($b = -0.15$; $t = -2.73$, $p < 0.01$). To probe the nature of this interaction, we looked at the conditional effects of *risk propensity* on the dependent variable at different levels of *status consumption orientation*. Consistent with our hypothesis, the obtained

results showed that the effect of *riks propensity* on *perceived usefulness* was significantly positive at a lower level of *status consumption orientation* ($M - 1SD$: $b = 0.22$; $t = 7.66$; $p < 0.001$) and significantly negative at a higher level of this variable ($M + 1SD$: $b = -0.26$; $t = 2.11$; $p < 0.05$). Therefore, *status consumption orientation* influences the effect of *risk propensity* on the *perceived usefulness* of VAs in luxury yacht. This means that potential consumers with different levels of *status consumption orientation* may exhibit different attitudes toward VAs as a function of different levels of *risk propensity*.

4. Study 2: Luxury hotels

In the Study 2 we conducted a structured survey investigating the role of *openness to change*. We run a survey with 106 participants ($M_{age} = 40.01$, $SD = 14.26$, 58.49% males and 41.51% females) recruited online on social-network fan-pages or groups related to luxury hotels. Most of participants (39.6%) declared to travel about twice a year, while only 36.8% declared to travel every month, and 10.4% of them every week; the rest of them (13.2%) declared to travel less than once a year. Following the same procedure as in Study 1, participants read a scenario describing a luxury hotel room equipped with a VA. Thus, they reported their *perceived usefulness* of VAs, according to Mathwick et al., (2010, on a 7pt. Likert scale, 1= “Strongly disagree”; 7= “Strongly agree”, $\alpha = 0.90$), *openness to change*, assessed based on Wanberg and Banas (2000) (7pt. Likert scale, 1= “Strongly disagree”; 7= “Strongly agree”, $\alpha = 0.63$, i.e. “I am inclined to change”), and *status consumption* as in Study 1 (7pt. Likert scale, 1= “Strongly disagree”; 7= “Strongly agree”, $\alpha = 0.85$). Again, we asked participants about how often they travel using 4 pt. ad-hoc measure as in Study 1. We employed the PROCESS SPSS macro (Model 1, by Hayes, 2017). The obtained results showed that participants’ *openness to change* ($b = 0.42$; $t = 5.70$; $p < 0.001$) and *status consumption orientation* ($b = 0.33$; $t = 5.47$; $p < 0.001$) exerted a significantly positive effect on *perceived usefulness* of VAs. Interestingly, there was also a significantly negative effect of the interaction between *openness to change* and *status consumption orientation* ($b = -0.13$; $t = -2.73$; $p < 0.01$). Consistent with Study 1, results showed that the effect of *openness to change* on *perceived usefulness* was higher at a lower level of *status consumption orientation* ($M - 1SD$: $b = 0.59$; $t = 7.66$; $p < 0.001$) than at a higher level of this variable ($M + 1SD$: $b = 0.24$; $t = 2.11$; $p < 0.05$). Therefore, *status consumption orientation* influences the effect of *openness to change* on the *perceived usefulness* of VAs in luxury hospitality. Data suggest that consumers with different levels of *status consumption orientation* may reveal different attitudes toward VAs in response to different levels of *openness to change*. Consumers with greater, as compared to smaller, *openness to change* consider VAs more useful in the presence of lower, rather than higher, levels of *status consumption orientation*.

5. General discussion

This research focused on the use of smart objects in the context of luxury experience and investigates, through two studies, the perceived usefulness of VAs in luxury hotels and luxury yachts by shedding light on the role of some relevant consumer-related characteristics. We particularly focused on consumers’ openness to technological

innovation - in terms of either risk propensity or openness to change - and their status consumption orientation. Results showed that both *risk propensity* and *openness to change* have an effect on the *perceived usefulness* of VAs in a luxury experience environment; however, such an effect is influenced by *status consumption orientation*. Specifically, a significant negative interaction between the two variables related to consumers' openness to technological innovation and status consumption emerged, suggesting that the positive effect of *risk propensity* and *openness to change* on *perceived usefulness* decreases in magnitude as the level of consumers' *status consumption orientation* increases. This finding suggests that *openness to technological innovation* and *status consumption orientation* are two potentially alternative factors on which marketers and managers could intervene to encourage the *perceived usefulness* of new technological tools, such as VAs in the context of luxury experiences. However, luxury consumers' *openness innovation* may be a necessary but not sufficient condition for acceptance of these devices, and therefore, luxury managers should also consider their consumers' level of *status consumption orientation*. This work contributes to the literature on smart objects by investigating how the perception of usefulness of technological tools such as VAs may change on the basis of consumers' *status consumption* and *openness to technological innovation*. Moreover, we contribute to the literature on risk averseness and openness to change by showing that such converging consumer traits may play a central role in such technologies adoption considered in conjunction with consumer level of status consumption. Managerially, our results suggest, before investing in new technological tools, like VAs, luxury managers should seek to understand to what extent their consumers are open to technological innovations and to what extent they look for status. Thus, luxury companies in the field of luxury experiences should be able to preliminarily segment their markets on the basis of consumers' *risk propensity* or *openness to change* and on the basis of *status consumption orientation*.

References

- Atwal, G., & Williams, A. (2017). Luxury brand marketing-the experience is everything! In *Advances in luxury brand management* (pp. 43-57). Palgrave Macmillan, Cham.
- Buhalis, D., & Sinarta, Y. (2019). Real-time co-creation and oneness service: lessons from tourism and hospitality. *Journal of Travel & Tourism Marketing*, 36(5), 563-582.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science*, 35(8), 982-1003.
- Eastman, J. K., Goldsmith, R. E., & Flynn, L. R. (1999). Status consumption in consumer behavior: Scale development and validation. *Journal of Marketing Theory and Practice*, 7(3), 41-52.
- Gutierrez, A., O'Leary, S., Rana, N. P., Dwivedi, Y. K., & Calle, T. (2019). Using privacy calculus theory to explore entrepreneurial directions in mobile location-based advertising: Identifying intrusiveness as the critical risk factor. *Computers in Human Behavior*, 95, 295-306.

- Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM). *European business review*, 106-121.
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications: New York.
- Hoy, M. B. (2018). Alexa, Siri, Cortana, and more: an introduction to voice assistants. *Medical reference services quarterly*, 37(1), 81-88.
- Kapferer, J. N. (2014). The future of luxury: Challenges and opportunities. *Journal of Brand Management*, 21(9), 716-726.
- Larsen, S. (2007). Aspects of a psychology of the tourist experience. *Scandinavian Journal of Hospitality and Tourism*, 7(1), 7-18.
- Mathwick, C., Wagner, J., & Unni, R. (2010). Computer-mediated customization tendency (CMCT) and the adaptive e-service experience. *Journal of Retailing*, 86(1), 11-21.
- Meertens, R. M., & Lion, R. (2008). Measuring an Individual's Tendency to Take Risks: The Risk Propensity Scale 1. *Journal of Applied Social Psychology*, 38(6), 1506-1520.
- Meuter, M. L., Ostrom, A. L., Bitner, M. J., & Roundtree, R. (2003). The influence of technology anxiety on consumer use and experiences with self-service technologies. *Journal of Business Research*, 56(11), 899-906.
- Myers, J. R., Henderson-King, D. H., & Henderson-King, E. I. (1997). Facing technological risks: The importance of individual differences. *Journal of Research in Personality*, 31, 1-20
- O'Cass, A., & McEwen, H. 2004. Exploring consumer status and conspicuous consumption. *Journal of Consumer Behaviour*, 4 (1), 25-39.
- Seo, Y., & Buchanan-Oliver, M. (2019). Constructing a typology of luxury brand practices. *Journal of Business Research*. 99, 414-421.
- Sestino A., Prete M. I., Piper L., & Guido G., Internet of Things and Big Data as enablers for business digitalization strategies, *Technovation*, in press.
- Spence, E. (2016). *Performing wealth and status: Observing super-yachts and the super-rich in Monaco*. In Handbook on Wealth and the Super-Rich. Edward Elgar Publishing.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science*, 46(2), 186-204.
- Walls, A., Okumus, F., Wang, Y., & Kwun, D. J. W. (2011). Understanding the consumer experience: An exploratory study of luxury hotels. *Journal of Hospitality Marketing & Management*, 20(2), 166-197.
- Wanberg, C. R., & Banas, J. T. (2000). Predictors and outcomes of openness to changes in a reorganizing workplace. *Journal of applied psychology*, 85(1), 132.