SENSORY INTERACTIONS IN DIGITAL AND VIRTUAL REALITIES:

NEW FRONTIERS FOR THE USER EXPERIENCE

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BACKGROUND

We are becoming more and more involved in online experiences, which means more interaction with digital and virtual technologies. Based on such habits, several large organizations have decided to allocate greater investments in artificial intelligence, as well as in virtual reality (VR) applications (Meißner et al., 2020), in which higher levels of presence can be induced, when compared to physical environments (Pizzi et al., 2020). Nevertheless, comparing to vision and hearing, at the moment taste, touch and smell are still less involved in such online environments (Gallace and Spence, 2014). In fact, new sensory-enabling technologies (SETs) are further contributing towards a more complete virtual experience and, thus, opening the way to more digital multisensory interactions (Petit et al., 2019). The continuous evolution of these SETs will most likely enable further engagement with products and services through all of the senses, and depending on personality traits (Han et al., 2020). Evidence comes from new technologies, such as the MetaCookie+ (Narumi et al., 2011), mid-air haptics (Thanh Vi et al., 2017), virtual reality lights (Torrico et al., 2020), digital taste simulators (Ranasinghe et al., 2017), and the Straw-like User Interface (Hashimoto et al., 2008). Interestingly, sensory research has proved the ability of SETs to increase the sensitivity during online experiences, for example, by highlighting the positive impact of augmented reality on consumers' willingness to buy (Yim et al.,2017), as well as the role of rotation in online product presentations (Park et al., 2008). SETs may also be useful while promoting healthier (i.e., Rodriguez et al., 2021), and/or more responsible/sustainable habits (Smith et al., 2021), as well as new approaches on the assessment of mental awareness, such as consciousness.

GOAL

The growing role of the Internet and hi-tech innovations are changing the way we conceive the offline, and principally the online experience. For instance, e-commerce and virtual supermarkets are offering new realities, and where there is plenty of room for novel developments across digital technologies, but also for state-of-the-art research on behavior, consumer psychology, communication strategies, healthcare, marketing, as well as neuro-marketing. At the moment, sensory studies focusing on digital environments are essentially limited to visual, and to a lesser extent, hearing aspects. Hence, the further involvement of hearing, and the other senses besides vision, clearly needs a more detailed attention in order to better understand the impact of the different sensory interactions in a digital experience. All of this in a context where people tend to be absorbed by visual enabling technologies while, for instance, shopping in e-commerce (Animesh et al., 2011; Yim et al., 2017). Researchers interested in such phenomena should strategically analyze how such technology is affecting our behavior (i.e., during specific decision-making processes, such as shopping). In particular, this call invites towards a reflection on the necessity to explore more deeply some aspects relative to the "sensorialization" (Petit et al., 2019) of digital environments, the role of the SETs in this process, the possible connection between the offline and online environments, as well as new possible interactions between the senses in such a context. In fact, multisensory simulations in VR studies, and the implications for behavior, are recommended for contexts such as retail, education, hospitality and destination, and manufacturing (Loureiro et al., 2019).

SCOPE AND INFORMATION FOR AUTHORS

We welcome submissions of leading-edge research on all the declinations of sensory interactions in virtual and digital environments, and especially – but not limited to – those related to consumer behavior. Quantitative analysis, experimental designs and literature reviews/systematic reviews are welcome. Examples of topics may include:

- Sensory interactions in virtual environments
- The role of sensory inputs environments
- New technologies for online multisensory experiences
- Rational and irrational psychological answers of consumers to sensory inputs
- Mixed reality and cross-modality
- Augmented-reality and cross-modality
- The role of audio, visual, haptic, flavor, and olfactory perceptions in digital/virtual environments
- Background music influence in digital/virtual environments
- Online purchases and webmosphere (web atmosphere)
- Differences and similarities between offline and digital/virtual multisensory online experiences
- Neuro-marketing and sensory interactions
- Semantic aspects and cross-modal correspondences
- Consumer psychology in digital and virtual environments
- Product/Service acceptance in digital and virtual environments
- Multisensory digital and virtual retail design
- Decision-making in digital and virtual environments
- Consciousness in digital environments

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