A Serial Mediation Effect of Immersive Virtual Reality on Purchase Intention in Real Estate and the Moderating Role of Psychological Distance

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While real-estate companies have begun applying virtual reality (VR) as a marketing medium, no research has examined effectiveness of using VR technologies. This research shows that immersive-VR, vs non-immersive-VR has a positive effect on purchase intention through perceived novelty and satisfaction sequentially. However, psychological distance moderates the serial mediation effect.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/1700306/volumes/ap12/AP-12

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EXTENDED ABSTRACT

Real estate continues to attract capital from overseas investors, and residential properties in cities such as Vancouver, Berlin, Los Angeles, and Shanghai are in great demand (PwC and Urban Land Institute report, 2018). In the real estate industry, getting a client into the space is the most important stage for closing a sale. However, for a homebuyer located overseas, scheduling multiple property viewings is very challenging. The real estate industry has started to adopt virtual reality (VR) technology to make the discovery and viewing of properties more effective.

The effect of VR in the context of real estate has not yet been investigated. Moreover, most of these studies compared the difference between VR and non-VR stimuli (e.g., pictures, video, real environment). Studies comparing the effect of different types of VR, to our knowledge, is non-existent. To fill this gap, we focused on the buyer’s intention to purchase a residential property (i.e., condominium) located in psychologically distant versus proximate areas. In this paper, we investigated how showing the property using immersive VR affects the purchase intention (PI) of buyers versus showing it with non-immersive VR. We found that using immersive VR (vs. non-immersive VR) to show the property enhanced PI through higher perceived task novelty and higher user satisfaction.

We theorized, based on Construal Level Theory (CLT), that for real estate located far away geographically (vs. nearby), presenting the property through immersive VR (vs. non-immersive VR) technology has a positive effect on the consumer’s purchase intention through perceived task novelty and satisfaction.

Depending on the extent of immersion, VR-based experiences can be classified into non-immersive and immersive. In non-immersive VR, a user interacts with a virtual world displayed on a computer screen using a computer mouse, touchscreen, touchpad, or handheld controls. In non-immersive VR, the user interacts with a virtual world displayed on a computer screen using a computer mouse, touchscreen, touchpad, or handheld controls (Parong and Mayer, 2018). There is almost no sense of immersion in non-immersive VR (Kalawsky, 1996). The sense of immersion is higher in immersive VR (Kalawsky, 1996). The user is completely immersed in the virtual environment and does not feel any interaction with the real world (Witmer and Singer, 1998). Immersive VR typically includes a head-mounted display (HMD) controlled by a computer that allows the user to move through the 3D virtual environment (VE). So feelings of presence and engagement exist in immersive VR (vs. non-immersive VR).

Novelty is the degree of newness (Miettinen, 2006). We believed that the degree of newness, excitement and unfamiliarity associated with an immersive VR task (vs. a non-immersive VR task) would be generally higher for many consumers. Consequently, in contrast to the stimuli of non-immersive VR, we believed that consumers would perceive the stimuli of immersive VR as original, different, exciting, new, and unexpected. Hence, we hypothesized:

Hypothesis 1 Showing the condominium through immersive VR (vs. non-immersive VR) will increase the perceived novelty.

We believed that the novel experience of viewing a condominium through immersive VR using HMD (vs. through non-immersive VR using a mouse), and the ability to interact with the object in the mediated environment would result in users’ arousal from enjoyment. Additionally, since users are affectively engaged in immersive VR, user engagement should be higher in comparison to non-immersive VR. User engagement and enjoyment are significant factors in user satisfaction (e.g., Jiang et. al., 2010). User satisfaction positively influences behavioural intentions (e.g., Brady et al., 2001, Dunman et al., 2005). Accordingly, we hypothesized:

Hypothesis 2 Showing the condominium through VR (vs. non-immersive VR) will have a positive effect on purchase intention through perceived novelty and satisfaction sequentially.

Overseas property (i.e., located far away geographically) is perceived as more psychologically distant, according to Construal Level Theory (CLT). In contrast, a local property (i.e., situated nearby geographically) is perceived as psychologically proximate. The use of immersive VR to directly view a psychologically distant property (i.e., a condominium situated overseas) should lead to an unexpected experience, which will result in novelty. Specifically, we hypothesized:

Hypothesis 3 The sequential mediation effect will be moderated by the (geographic) distance of the apartment.

Hypothesis 3a For the geographically distant apartment, showing the apartment through immersive VR (vs. non-immersive VR) will have an effect on purchase intention through perceived novelty and satisfaction, sequentially.

Hypothesis 3b For the geographically close apartment, the serial mediation model will not be valid.

We conducted an experiment and told participants that they were going to see a condominium from a real estate company. The condominium was located in Shenzhen (psychological proximity condition) or Sydney (psychological distance condition). They could check the condominium through an immersive or non-immersive VR system called Focus360.

Stimuli: Participants were shown a condominium through an immersive or non-immersive VR device.

Measures: We measured perceived novelty, satisfaction and purchase intention. The scale to measure perceived novelty was adopted from the study by Argo, Popa, and Smith (2010, a = .95). This scale contained five items rated on a seven-point Likert scale (1=strongly disagree and and 7=strongly agree). Satisfaction was assessed using a 6-item Likert scale extracted from the study by Chin, Diehl, and Norman (1988, a =.89). To measure purchase intention, participants rated two statements (a = .82). We controlled for participants’ personality traits, uncertainty avoidance, and risk aversion.
because consumers’ response to the stimuli of immersive and non-immersive VR might be subject to optimum stimulation levels (OSL theory, Hebb, 1955). Uncertainty avoidance (α = .67) was measured using a four-item scale from House et al. (2004). Risk aversion (α = .80) was assessed by the scale developed by Sharma (2010).

Compared to non-immersive VR, our analyses found that immersive VR increased the perceived novelty, thereby enhancing user satisfaction and PI sequentially. However, the effect of immersive VR on novelty is moderated by psychological distance. Showing a condominium via immersive VR is more advantageous only when that condominium was located in a psychologically distant (vs. proximate) area.

**REFERENCES**


Kalawsky R (1996). Exploiting virtual reality techniques in education and training. Loughborough University, Technological Issue


