



# The virtual takeover: The influence of virtual reality on consumption

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## Abstract

Looking to current trends, this paper explores the influence of Virtual Reality (VR) on consumption. Specifically, we focus on the influence that VR has on consumer spending by suggesting that identities created in VR will influence consumption behaviour in the real world. While other forms of technology allow consumers to create alternative identities, we suggest that the unique aspects of VR, bolstered by forthcoming advances, will make identities created in VR relatively more self-important and more salient in real world consumption. We also propose implications for marketing research and practice.

## KEYWORDS

consumption, identity, technology, virtual reality

## JEL CLASSIFICATION

M30; M37; M38

## Résumé

En examinant les tendances actuelles, les auteurs de cet article explorent l'impact de la réalité virtuelle (RV) sur la consommation. Plus précisément, ils se concentrent sur l'influence que la RV exerce sur les dépenses de consommation et suggèrent que les identités créées dans la RV influencent le comportement de consommation dans le monde réel. Alors que d'autres formes de technologie permettent aux consommateurs de créer des identités nouvelles, ils montrent que les aspects uniques de la RV, renforcés par les progrès à venir, rendront les identités créées en RV relativement plus importantes et plus prépondérantes dans la consommation au niveau du monde réel. Ils proposent également des implications pour la recherche et la pratique du marketing.

## MOTS CLÉS

réalité virtuelle, technologie, identité, consommation

## 1 | INTRODUCTION

### 1.1 | Virtual reality

Looking to current trends, this paper explores the influence of virtual reality on consumption. Virtual reality (VR) is an artificial environment experienced from a first-person point of view through sensory stimuli (Lanier & Biocca, 1992). By providing a surrounding environment and accommodating many sensory modalities, VR has a unique ability to transport people to novel contexts and allow users to experience them as if they were real (Van Laer, de Ruyter, Visconti, & Wetzels, 2014). This unique aspect of VR is best illustrated by the subjective experience of presence, which is being in one place or environment, even when one is physically situated in another (Slater, 1999). VR's ability to transport people to novel and desirable contexts has significant positive consequences for their emotional state (Riva et al., 2007).

While existing VR technology already provides exceptional experiences relative to other technologies on the market (Schuemie, van der Straaten, Krijn, & van der Mast, 2001), we focus on two areas of advancement that will influence consumption. The first area of advancement is related to the quality of the VR experience. Technology is being developed that provides full-body haptics in VR, creating an even more realistic experience by allowing players to feel everything in VR, including temperature and touch (Horwitz, 2018; Shin, 2018). Advancements are also being made to increase the social nature of VR, enhancing the ability to replicate real life. For example, VR systems like HTC Vive and Oculus have started to create experiences that provide more opportunities for identity expression in VR, through such things as digital home spaces that are highly customizable. VR social networks like VRChat allow users to interact with others and offer them the near-unlimited ability to alter their physical appearance.

The second area of advancement is related to the accessibility of the technology. Many of the technological advancements in VR are currently weak on accessibility due to high costs and to the technical expertise required to use them. While ease of use and pricing are current hurdles for the VR industry, both of these issues are being rapidly overcome as increasingly affordable and simpler systems are entering the market (Orland, 2017; Shilov, 2018). Next generation trends utilize stand-alone or wireless devices, which like smartphones, are self-contained systems requiring no use or expertise related to traditional computers. We suggest that the advances related to VR technology and accessibility will influence consumption outside of VR. We articulate this relationship in the following section.

### 1.2 | VR and consumption

We explore how advances in VR will influence consumption through identity, which is a temporarily enduring self-definition exemplified by cognitions in response to the question "Who am I?" (Stryker & Serpe, 1992). Consumers have multiple identities that make up their overall sense of self, based on such things as relation to others and social roles (such as mother, athlete, and so on), which can be made salient (that is, temporarily activated) by contextual factors (Forehand, Deshpandé, & Reed, 2002). Consumer attitudes and purchase decisions are often influenced by identity, such that information and products are evaluated based on congruence with some identity (Reed, 2002). When an identity is made salient it will have a higher likelihood of influencing consumers' perceptions of information and the decisions they make (Reed, 2004). VR technology allows consumers to explore and develop radically different identities. While other forms of technology (such as online activities or gaming systems) also offer this opportunity, we suggest that identities developed in VR will have a stronger influence on real world consumption relative to existing technologies. We explain why, based on VR's unique ability to make identities developed in VR more self-important and salient in the real world.

The likelihood of an identity being used in decision-making is partly based on the self-importance of that identity (Reed, 2002). The self-importance of a given identity is derived from such things as future aspirations (Markus, 1981) and appraisals from social groups (Laverie, Kleine, & Kleine, 2002). For example, teammates suggesting that you played well in a soccer game or friends commenting that you are a caring mother are appraisals from social groups that would increase the self-importance of a soccer player and a mother identity respectively. Advances in VR should enhance the self-importance of identities relative to other technologies by facilitating both social-group appraisals and aspirations. Advances in the social nature and accessibility of VR gaming to a wider audience should enhance self-importance by increasing both the amount and relevance of appraisals from others. In addition, providing the ability to accomplish goals in a context that feels similar to real life should enhance aspirations. For example, performing well in a hockey game in VR should enhance aspirations of being a hockey player relative to a regular video game, which is less realistic.

The use of an identity in decision-making is also largely based on the salience (that is, the relevance) of that identity to a decision (Forehand & Deshpandé, 2001). As discussed above, the primary distinction of VR from other technologies is the ability to simulate real life. Given the similarity

between VR and real life, identities created in VR should be more likely to be salient and ultimately influence consumption in real life. Relatedly, the amount of contextual factors in the real world that could activate an identity developed in VR will be higher, because the identity developed in VR is associated with sensations. Consider the example of creating a VR character who loves to race cars. Unlike other forms of technology, in VR you actually feel yourself driving the car—the twists in the road, the braking, and the accelerations. Removing yourself from the game and having these experiences while driving in real life can now activate that car-racer identity. Moreover, consumers will seek out similar types of experiences in real life after experiencing them in VR.

While we expect identities developed within VR to influence consumption beyond VR, we suggest that the effects will be most prominent for adolescents. Adolescents have a relatively unstable sense of self (Kidwell, Dunham, Bacho, Pastorino, & Portes, 1995). With significant physical and social changes happening in their lives, adolescents explore and experiment with different identities (Klym & Ciecuch, 2015). Experimenting with different identities increases the relative likelihood that identities developed in VR will have greater self-importance, as opposed to identities that are relatively stable.

The discussion of the relationship between identity and consumption also suggests some areas for future study. Perhaps the most fruitful exploration would be to determine the exact nature of the influence that virtual consumption has on real world spending, including the overall balance of consumer spending on digital versus real physical goods. Do VR experiences increase or decrease spending outside of VR? One might imagine that with the advancements coming to VR consumers can satisfy many of their consumption needs within that space, which could have a negative influence on the purchase of related experiences in the real world. However, VR experiences could also increase the desire for real world goods through exposure, by leaving something desired. There are likely several important contextual and individual variables that should be explored for their influence of the relationship between VR and consumption.

### 1.3 | VR and marketing

The advances in VR will also impact marketing professionals. It seems evident that VR will encourage the exploration and application of a wider range of consumer identities, especially for adolescents. The proliferation of identities may increase the difficulty of targeting consumers outside VR, since homogenous groups will be relatively scarce. However, the opposite will be true of

advertising and marketing within VR, as marketers will know which identity is activated based on which character/avatar are embodied in a VR experience. Moreover, marketers will have more control over environmental factors in VR.

VR will provide marketers with an unprecedented level of information about consumers, allowing them to test and develop marketing materials more effectively. VR elicits physiological responses that simulate real life, including heart rate, blood pressure and cortisol levels (see for instance Dotsch & Wigboldus, 2008). There is also a high congruence between behaviour in VR and that observed in real life (McCall, Blascovich, Young, & Persky, 2009). While existing technologies such as Google and social networks (such as Facebook) currently provide access to information related to preferences and interactions, VR will add the potential to capture physical movements and physiological data.

Combining data related to body haptics and eye movements within social interactions and decision tasks will allow marketers to capture behaviour and to obtain insights into its underlying mechanisms. The added value of insights from VR data, beyond that of current social networks and search trends, may be an underlying factor contributing to Facebook's purchase of VR-company Oculus for \$2 billion (Kovach, 2014). The ability to combine behavioural data with underlying psychological and physiological mechanisms will also have strong implications for learning environments such as product trials. In product trials, VR will provide marketers with more accurate insights related to why people like their product and how they would use it. Whereas traditional product trials require consumers to speak about or write down what they think, VR can capture this information implicitly with physiological measures. This is important because VR mitigates presentation bias and the limitations of consumers' inability to imagine how they would use a product or understand why they like something.

While VR provides great benefits to marketers with regards to their ability to target consumers and to the advanced information they receive about consumers, there are also drawbacks from a consumer-privacy perspective, which have implications for policy-makers concerned with consumer protection. Consumers should understand what information they are providing to marketers while using VR and how that information will be used, as the information may be sensitive or reveal vulnerabilities that could be exploited by marketers. Moreover, they should be made aware of any potential physical, cognitive, or emotional dangers related to the use of VR. Studying the potential dangers of VR and how consumers feel about providing such rich information is an important and fruitful endeavour that should inform public policy.

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