



Digital Media

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Inside the advertising: brand communication in virtual reality

Eduardo Zilles Borba

Abstract. This work presents a mapping of audiovisual, interactive and plot engagement in brand's experiences in Virtual Reality (VR). It seeks to articulate and to raise questions about brand communication, immersive environments and user imaginary. The work starts with a theoretical approach, in order to present fundamental characteristics of VR as a medium. In a second moment, an exploratory and qualitative methodology is applied to a sample of ten advertising pieces from different brands. In short, results point to directions for the creation and/or analysis of advertising on immersive media.

Keywords: Virtual reality · Advertising · Metaverse · Brand communication · Immersion.

1. Introduction

The potential use of Virtual Reality (VR) for brand communication has proven to be increasingly important in terms of building experiences and engagement of the consumers (Kim, 2021). In fact, the immersive characteristics intrinsic to the VR modus operandi allow the exploration of creative content to be developed for digital media, not only for commercial purpose (Qin & Lei, 2019), but also to strengthen the brand's positioning regarding any pertinent social debate in a contemporary society (Borba, 2022) or even, simply, to generate a sense of belonging, participation and cooperation of people who identify with the brand's product, services, style or philosophy (Kotler *et al.*, 2017).

Based on the understanding that VR platforms produce a kind of perceptive conflict on the user's notion of reality (Slater & Wilbur, 1999), due to their characteristics of producing sensorial stimuli for immersion and mental stimulation for sense of presence in a 360-degree media context (Bolter & Grusin, 1999; Thon, 2008), this work is focused in the ways in which brands can appropriate attributes originated from (and in) the relationship among user, devices and VR environment (Kerrebroeck *et al.*, 2017; De Gauquier *et al.*, 2019). That said, the following problem is raised: how do advertising pieces in VR use audiovisual, interactive and plot engagement aspects to create imaginaries with the brand universe?

To conduct the work, initially, a theoretical approach to VR is presented, highlighting fundamental characteristics, such as: immersion (Slater & Wilbur, 1997), sense of presence (Bolter & Grusin, 1999; Thon, 2008), audiovisual realism/vividness (De Gauquier *et al.*, 2019; Qin & Lei,

2019), interactivity (Kataoka *et al.* 2019) and plot engagement in a 360-degree stage (Pausch *et al.*, 1996; Pausch *et al.*, 1997; Longhi, 2018; Kotler *et al.*, 2021).

In a second moment, as an empirical practice, an exploratory and qualitative methodology is applied to a sample of ten advertising pieces in VR. In order to verify peculiarities in the audiovisual, interactive and plot engagement composition of these pieces, it was decided to select brands from different sectors (automobiles, food, beverages, entertainment, and more). Each piece is observed individually using VR devices (Oculus Rift S, Oculus Touch and Oculus Sensor), and data is collected through descriptive notes, screenshots and, at the end of each experience, a data coding sheet is completed by the researcher (Castro Alves, 2022; Borba, 2022). In order to carry out the qualitative analysis, a table summarizing the main information verified in each of the ten experiences is formatted to consolidate the reflections in this mapping exercise of brand's communication in VR.

Addition to solving the research problem which is related to brand appropriations of VR to produce imaginaries in the advertising experience, the results point to directions to think about creation and/or analysis of advertising pieces on these innovative platforms, such as: videogames, performing arts, cinema, simulators and metaverses.

2. Creative advertising in virtual reality

Advertising practices reveal significant transformations in their actions, as advertising is increasingly involved with creative industries (video games, design, cinema, public

relations, performing arts, social media, metaverses, and more) (Zilles Borba, 2023). In fact, nowadays, brand's persuasive communication techniques go beyond formats known by the general public, such as advertisements, to seek strategic communication actions on multiplatform that encourage the use of a wide variety of media languages (video, text, sound, 2D animation, design 3D, and more).

Those changes in the medium platforms, in special the digital ones, stimulate a greater horizontal relationship between senders and receivers of the communication messages (Kotler *et al.*, 2017), in addition to strengthening the invitation to the user's participation actively in the relationship channels with any brand (Davis, 2013) and, so on, increasing engagement of communities that are interested in certain brands through open discussions on issues relevant to our society (Atem *et al.*, 2014).

In this transmutation of advertising, it is also clear that it expands beyond commercial objectives (advertising products or services), to gain a relevant space in the production of informative or entertainment content through branded content (Covaleski & Ataíde, 2023), creating of innovative creative products for organizations (Kotler *et al.*, 2021) and offering communicational representations that provide positive experiences for potential consumers with the brand representational universe (Qin & Lei, 2019; De Gauquier *et al.*, 2019; Kim, 2021).

One of the points of these intersections in advertising practices that currently generates pertinent scientific and marketing debate, especially from the moment that the company Meta signaled its interest in developing a metaverse totally mediated by VR immersive devices, is the creation of brand experiences in VR environments

(Kim, 2021). De Gauquier *et al.* (2019) complement this idea by stating that a possible way to strengthen brand's personality with the audience is producing participative experiences with opinion makers. Thus, a brand experience in VR involves sensory, affective, intellectual factors or consumer behavioral responses (Brakus *et al.* 2009 *cit in.* De Gauquier *et al.*, 2019).

From the perspective of Qin and Lei (2019, p. 74), “immersive experiences can make the consumer truly feel the quality of the advertised product, because in them the person can experience the functions of this product”. So, VR advertising invites audience to delve into the content (before only seen it on a computer flat screen) to explore the space using their full body. In Zilles Borba (2020), the full body narrative is reinforced as fundamental characteristic of VR as a media, as several senses of the user's body participate in the media stage in a more complex way than a simple audiovisual flat screen content.

At this point, it is imperative to discuss some aspects related to the appropriation of the characteristics of the VR medium by advertising. In Zilles Borba (2022), for example, a proposal is presented to continue Pausch *et al.* (1996) and Slater (1999) studies, about believability in VR. In this case, the term believability indicates any (and all) complexity existing in the phenomena of immersion (Slater & Wilbur, 1997) and sense of presence (Bolter & Grusin, 1999; Thon, 2008) when both act concurrently in the user experience in VR. “Currently, believability is understood as the sum of the phenomena of immersion (sensorial) and the sensation of presence (subjective), as they act in a coalescent way”, (Zilles Borba, 2023, p. 77). In order to seek ways to understand the potential for cre-

ating brand communication in VR environment, it was conducted a theoretical-practical exercise culminating in a communication structure for believability in VR based on three dimensions: realism, interactivity and engagement (Zilles Borba, 2023).

The dimension of ‘Realism’ demonstrates high importance in VR experiences, precisely because they simulate aspects of the visual and sound culture of the physical world within immersive scenarios, in a 360-degree field and perceived by users from the perspective of the first person eyes (scales, shapes, proportions, textures, colors, lighting and shadows). Kerrebroeck *et al.* (2017) and De Gauquier *et al.* (2019) based on empirical research results suggest visual innovation in VR provide a much more convincing sense of believability than that one mediated by flat screens of computers or smartphones. “The degree of realism is immensely higher in a 3D experience supported by the VR HMD than in a video supported by the flat screen of the smartphone, as indicated by the users who lived the different experiences”, (Kerrebroeck *et al.*, 2017, p. 185).

In turn, the dimension of ‘Interactivity’ is directly linked to the ability of interactional devices to modulate the sensorial of the subject’s physical body in their persona representation in the virtual context (feeling what their avatar feels). In this sense, the fusion between subject’s natural body movements and her/his avatar (Kataoka *et al.*, 2019) could be manipulated in the experience to increase or decrease the believability of the VR experience (virtual embodiment techniques).

And, finally, the ‘Engagement’ dimension is linked to mental and subjective aspects of each person’s experiencing the virtual context. That is, the plot proposes by the brands

in an immersive environment is absorbed in different ways by each person, because it stimulates memories, joys, fears, curiosities and other subjective feelings (Pausch *et al.*, 1996; Pausch *et al.*, 1997). In fact, according Longhi (2018), the construction of a 360-degree storytelling in VR has potential to capture the subject's attention, whether using 360° filming techniques, emotive narratives together with virtual characters or, simply, creating missions and rankings (Thon, 2008).

3. Methodology

Considering the research problem raised to this work – how do advertising pieces in VR use audiovisual, interactive and plot engagement aspects to create imaginaries with the brand universe? – an empirical approach was applied through exploratory and qualitative methodology with ten advertising pieces in VR.

In order to verify peculiarities in the audiovisual realism/vividness, interactivity and plot engagement of those ten pieces, it was select brands from different sectors (automobiles, food, beverages, entertainment, and more). The sample was composed through a netnographic exercise (Kozinets, 2007), in which pieces were mapped because they stood out in public opinion (news, reports, interviews, social media posts, scientific articles).

Each piece was observed individually using VR devices (Oculus Rift S, Touch, and Sensors) and data was collected through descriptive notes, screenshots and, at the end of each experience, a data coding sheet was completed based on Castro Alves (2022) and Zilles Borba (2022) recommen-

dations. The analysis was characterized by a qualitative discussion, where besides evaluating the believability dimensions in a 5-points Likert-scale (realism/vividness, interactivity, and engagement), the empirical findings were crossed with theoretical aspects to construct a reflection on brand communication in VR.

4. Data analysis and discussion

After exploring the VR pieces, a table summarizing the sample main information was formatted to consolidate the qualitative analysis (Table 1).

The first think to stands out in data analysis was related to the main communication objective. It means, five of the advertising pieces in the sample had the intention of demonstrating products or services (Lufthansa, Volvo, Audi, Colgate, Sony Entertainment Pictures), while four were related to the creation of an entertainment experience (Old Irish, Oreo, Six Flags, Mountain Dew), and only one presented an innovation process by creating a VR experience to make the vaccinating act less stressful for children (Hermes Pardini).

When looking at the sample it was also evident that majority of experiences extrapolate the traditional actions of advertising to cohabit spaces of a creative industry. That is, VR as a communication environment for these brands proved to be favorable for audience engagement. So, that far beyond making an advertisement, users could actually actively participate as protagonists inside the advertising environment (through avatars), triggering the imagination about the brand universe (Pausch *et al.*, 1997; Slater, 1999).

N.	Ad title	Brand	Market	Image	Audio
1	Lufthansa VR Experience ¹	Lufthansa	Flight company	CPU and 360° video	Stereo
		Realism	Interactivity	Engagement	Type of Experience
		3-points	3-points	4-points	Service demonstration
2	Volvo Reality ²	Volvo	Car company	CPU and 360° video	3D Audio
		Realism	Interactivity	Engagement	Type of Experience
		4-points	1-points	2-points	Product demonstration
3	Audi A4 Experience ³	Audi	Car company	CPU, 360° video and photo	3D Audio
		Realism	Interactivity	Engagement	Type of Experience
		5-points	2-points	2-points	Product demonstration
4	100% Real Virtual Reality – Old Irish ⁴	Old Irish	Beer	360° video	3D Audio
		Realism	Interactivity	Engagement	Type of Experience
		5-points	3-points	5-points	Brand personality (entertainment)
5	Virtual Reality 360°: Colgate ⁵	Colgate	Oral health	CPU	Stereo
		Realism	Interactivity	Engagement	Type of Experience
		2-points	1-points	2-points	Product demonstration

Table 1. Data collected during the exploration to the advertising pieces in VR. Source: developed by the author

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1. Lufthansa VR video available at: <https://www.youtube.com/watch?v=OPRcbFrp9Y4>
 2. Volvo VR video available at: <https://www.youtube.com/watch?v=oTCZlrurfq>
 3. Audi VR video available at: <https://www.youtube.com/watch?v=7vdgx8aOU3Y>
 4. Old Irish VR video available at: <https://www.youtube.com/watch?v=3-MMJ-in8AI>
 5. Colgate VR video available at: <https://www.youtube.com/watch?v=-3PuGWF1-Sq8>

N.	Ad title	Brand	Market	Image	Audio
6	PSVR – The Walk VR ⁶	Sony Pictures Entertainment	Movies	CPU	Stereo
		Realism	Interactivity	Engagement	Type of Experience
		5-points	4-points	5-points	Movie/Product demonstration
7	Oreo Wonder Vault ⁷	Oreo	Food	CPU	Stereo
		Realism	Interactivity	Engagement	Type of Experience
		2-points	1-points	2-points	Playful adventure (entertainment)
8	Superman: the ride virtual reality coaster ⁸	Six Flags	Adventure Park	CPU	Stereo
		Realism	Interactivity	Engagement	Type of Experience
		2-points	3-points	3-points	Entertainment
9	VR Vaccine ⁹	Hermes Pardini	Health clinic	CPU and 360° video	Stereo
		Realism	Interactivity	Engagement	Type of Experience
		3-points	4-points	5-points	Service process innovation
10	Dew 360 Snow Experience: backcountry snowboarding ¹⁰	Mountain Dew	Soft drink	360° video	Stereo
		Realism	Interactivity	Engagement	Type of Experience
		5-points	3-points	4-points	Entertainment

Table 1 (cont.). Data collected during the exploration to the advertising pieces in VR. Source: developed by the author

6. The Walk VR video available at: https://www.youtube.com/watch?v=7m_z2njEaSs&t=47s

7. Oreo VR video available at: <https://www.youtube.com/watch?v=ENau7AkayN8>

8. Six Flags VR video available at: <https://www.youtube.com/watch?v=ZBY5M0bRLfo>

9. Hermes Pardini VR video available at: <https://www.youtube.com/watch?v=P9JwAH0298w>

10. Mountain Dew VR video available at: <https://www.youtube.com/watch?v=tWe8jIrrMkM>

On the other hand, it was notable several of these brands did not present a proposal for discussing social causes, relevant purposes for citizenship or cultural aspects in which the communities that are involved with them are interested (Atem *et al.*, 2014). Despite offering different types of experiences, the majority of brands had a clear objective of passing on messages directly related to the characteristics of their products or services (Qin & Lei, 2019). Only two of them (Mountain Dew and Old Irish) moved away from this marketing strategy to generate immersive experiences stimulating subject's imagination and, so on, the construction of meanings about the brands (Kotler *et al.*, 2017). But, in any case, none of those pieces brought in their audiovisual realism, interactivity or plot engagement imagery constructions beyond aspects with which they wish to be associated. That is, they created entertainment pieces (Covaleski & Ataíde, 2023), but not information or education pieces about important social themes with the organization and how their products/services could be related to it (Zilles Borba, 2022).

Looking specifically at the three dimensions of believability influencing each one of the advertising pieces in VR, it could be seen that 'Realism' were the most present. The quality of the 3D design (shapes, scales, proportions, perspectives, textures and colors) received a great attention from brands when it comes to creating communication environments. The visual realism developed by Volvo and Sony Pictures Entertainment stood out in terms of believability, as through the combination of high-resolution 360-degree videos and photos, and computer graphics to create objects and interactions. Both pieces provided the formatting of a clear space understanding (landscapes, scenery) and an easy recognition of objects (car, panel,

seats, steel cable, stick, and more) with similar aesthetic to those that would be experienced in the physical world.

Although it was qualitatively recognized a high classification in the “Realism” dimension, only one brand didn’t invest energies creating a realistic experience. At a first moment, it seems strange to indicate that a rating of 1-point on Likert-scale could be an excellent strategy for the brand communication purposes. But, this was illustrated in the case of Colgate, as the brand created a 360-degree visualization experience inside a person’s mouth, where the effects of using oral hygiene products were demonstrated in a practical way to the user, as if she/he was a microorganism allocated inside the mouth of a third person perspective. In this case it was reflected that, in fact, moving away from the realistic composition was an adequate path, since representations of realistic bloody gums, inflammation and secretions in the inner region of the mouth of a person would cause discomfort in the user. So, all the representation was created with 2D and 3D graphics in the form of cartoons, and not photo-realistic images.

The ‘Interactivity’ dimension was the weakest. Indeed, the analysis diagnosed a low use of interactive resources in the advertising pieces. Even regarding the manipulation of virtual objects, only two samples provided good interaction with the user’s hands, arms, legs and feet (Lufthansa and Sony Pictures Entertainment). The other pieces just allowed the user to move head and torso to direct eye-gaze freely in the 360-degree scenario. Still on the ‘Interactivity’, it is worth noting two pieces made a good use of the senses of the physical world (touch, thermal, proprioception and kinesthesia), in order to integrate sensations of the user’s

organic body inside the virtual experience, such as: cold, heat, wind, water and burning skin (syringe, vaccine). For example, in the case of Hermes Pardini, the moment that the child saw her/his avatar in the virtual world, from the first-person perspective, she/he received a fire stone in the avatar's arm at the same time a nurse was applying the vaccine. This connection between feeling the fire in the avatar's arm and actually feeling the vaccine syringe penetrating your organic arm produced a crazy feeling of immersion, in a kind of fusion between bodies.

The 'Engagement' dimension (with the plot) played important role for the construction of brand imaginaries in the user's perception. The storytelling dynamics of several pieces significantly impacted the user subjective experience by creating moments of attention transfer with the advertising (Thon, 2008). In special, the Old Irish, Sony Pictures Entertainment and Hermes Pardini experiences presented plots in which the sense of presence was intensified. For example, when completing the Old Irish VR experience, there was a kind of feeling of teleportation to Ireland, since all the landscapes, nature, animals, cities and pubs presented in the virtual journey refer to an association from the Old Irish beer brand to the country of Ireland. No coincidence, the slogan of the advertising campaign was precisely 'the taste of Ireland'.

5. Conclusions

This work proposed to map audiovisual (realism/vividness), interactive and engagement elements of brand communication (advertising) pieces in VR. Through a qualitative

analysis, in which theoretical elements were articulated with empirical findings of ten advertising pieces, it was possible to reflect on advertising communication, narratives in immersive digital scenarios and content to enhance the user's imagination.

The use of believability in VR theory to study realism/vividness, interactivity and engagement with the plot in the field of advertising proved to be relevant as a methodological approach, since the data organization and analysis dimensions – Realism, Interactivity and Engagement – allowed to dissected pieces.

Even with a limited sample of ten advertising on VR platforms, it was possible to list conclusions that help to solve the research problem. Regarding the 'Realism' dimension, which dealt with audiovisual of the communication pieces, we can see a strong inclination of the advertising sector to value aesthetic, visual and sound design experiences. The care creating photorealistic scenarios (shapes, scales, proportions, textures, colors) reveals a high care taken by the brands. In turn, the 'Interactivity' dimension shows an absence of natural interactions to the user, which prevented a greater result of immersion. The majority of pieces did not encourage interactions, being just environments that gave to the user a privileged position of viewing the scenes. Finally, the 'Engagement' with the plot presented different storytelling approaches among the ten pieces. In some way, that enriched the reflection in the advertising context. However, at the same time, it did not make it possible to have an idea of a sure path for creating immersive narratives for the advertising sector. Anyway, it was verified the gamification dynamics could help brands to achieve their communication objectives in VR environments. After all,

experiences that presented missions, tasks or plots inviting users to participate actively in the media stage produced a sense of collaboration, involvement and community.

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