IMMERSIVE VS TRADITIONAL MEDIA
HOW INTERACTIVITY & REALISM INFLUENCE PERSUASION

vertebrae | The Leading 3D & AR Platform for Commerce & Media
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In the past few years, technology has transformed retail and revolutionized the business of ecommerce. With consumer expectations on the rise, retailers continue to be tasked with increasing sales despite the steady decline to in-store traffic. Optimizing the shopping experience both in-store and out is essential. As mobile accessibility and connectivity systematically improve, media must adapt as well. Additionally, advances in immersive media technology mean that manipulable 3D and augmented reality (AR) are now available on most mobile devices.

What does this mean for retailers? For one, online product representation, previously limited to static 2D imagery and 2D video, is up for renovation. Consumers expect more, which is where immersive commerce comes into play. For the purpose of this paper, we define “immersive commerce” as the web-based implementation of both manipulable 3D products and AR experiences with those products. For consumers, this means digitally putting realistic and interactive 3D products in their hands and in their worlds. For retailers, it means pioneering the shopping experiences of the future.

To date, data around immersive commerce has been limited. This is predominantly in part to it being a new medium without widespread adoption. While implementing digital opportunities for more informed consumer-product interactions may seem like an obvious win, many retailers are looking for evidence that immersive commerce is a solution. We’ve conducted a study to establish that evidence.
OBJECTIVE
Is immersive media an effective tool for consumer persuasion? Evidence suggests that it is, in large part because of the enhanced sensation of presence and interactivity immersive media provides. This translates into a more positive association with a brand and ultimately an increased likelihood of a purchase.

Immersive media, however, is not a cure-all. In a 2016 study by Hopp and Gangadharbatla, it was found that increasing exposure to an augmented reality (AR) advertising experience from five to seven minutes translated into negative attitudes toward the advertised brand and the technology. Participants got bored. Furthermore, they found that participants who felt technologically challenged by the media correlated that negative experience with the brand. Applied in the real world, this is likely to decrease sales.

The question becomes then, how can brands best use manipulable 3D and AR to improve the consumer experience in a way that leads to increased conversion? What are the circumstances in which immersive media is more successful than traditional media in engaging a consumer’s attention? And finally, how can brands apply these learnings to their current strategies?

This white paper addresses these questions by comparing the way in which traditional media (static 2D imagery and 2D video) and immersive media (manipulable 3D and AR) influence consumer engagement and decision-making. Additionally, we discuss the role that interactivity and an increased sensation of presence play on inducing engagement. It is proposed that elements that enhance the sensation of presence, such as immersive media, enable consumers to make informed decisions more quickly and efficiently. This in turn leads to increased conversion via more informed purchases, and ultimately lowered return rates. Most importantly, we explain why immersive media is more effective than traditional media and what retailers can do to best leverage these findings in their own immersive commerce strategies.
METHODOLOGY
METHODOLOGY

Overview

The study was designed to determine if there is a difference in levels of emotional response, and consequently persuasion, when participants were exposed to the same message in varying forms of media, which includes static 2D imagery, 2D video, manipulable 3D models, and AR. This study was done in collaboration with Fielding University.

Participants were presented with one product represented in 2 different forms of media, each via a different online store, and asked to choose one. These products included an Adidas shoe, a Sequoia arm chair, and a Nikon DLSR camera. For example, a participant might be exposed to the Nikon camera from Store A in static 2D imagery and from Store B as a manipulable 3D model. Participants were asked to spend at least one minute in each media experience. Because the goal set by each experience had little intrinsic appeal (i.e. there was no overt reward for time spent), and the challenge was low (spend time exploring this product in varying forms), it was expected that neither the goal nor the challenge would be enough to engage the participants’ attention for long.

Therefore, it was expected that all differences in measured engagement would come from either the level of interactivity of each media, the level of perceived realism or an interaction between both. For the purposes of the study, traditional media were presented at the “Blue” store, while immersive media were part of the “Green” store.

The experience was measured in multiple ways, including self-reported engagement via a post-experiment questionnaire, galvanic skin response data during the experiment, and store preference.
METHODOLOGY

Hypotheses

We began the study with 3 hypotheses in mind.

1

Messages conveyed via immersive media will provoke a stronger emotional response than comparable messages conveyed using traditional media.

2

The stronger the emotional response is to a message, the higher the level of engagement with that message will be.

3

A stronger emotional response to a message will result in an improved attitude toward the product or brand being promoted.
29 participants were recruited to partake in this study. Participants were required to be 18 and over, have experience shopping online, and have experience using a smartphone. Finally, no participants were recruited who worked in advertising or media.

Before the study began, participants completed a brief questionnaire to gauge frequency of exposure to manipulable 3D and AR.

**Exposure to Manipulable 3D Products**
- Very Rarely/Never | 27.6%
- Rarely | 10.3%
- Occasionally | 27.6%
- Frequently | 20.7%
- Quite Frequently | 13.8%

**Exposure to AR**
- Very Rarely/Never | 41.4%
- Rarely | 24.1%
- Occasionally | 17.2%
- Frequently | 6.9%
- Quite Frequently | 10.3%
RESULTS
The way that engagement increased from 2D to AR followed expectations as well. AR was the most engaging, followed by 3D, then video, and finally 2D. There was not a significant difference between 3D vs AR and 3D vs video. However, there was a significant difference between the remaining sets of media. Video was 22% more engaging than 2D while 3D engagement beat 2D by 38%. AR engaged users by 28% more than video, and most significantly AR was found to be 56% more engaging than 2D.

**Average Engagement by Medium (Self-Reported)**

These findings are out of a total possible value of 5.

<table>
<thead>
<tr>
<th>Medium</th>
<th>Average Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static 2D</td>
<td>2.76</td>
</tr>
<tr>
<td>Video</td>
<td>3.37</td>
</tr>
<tr>
<td>Manipulable 3D</td>
<td>3.81</td>
</tr>
<tr>
<td>AR</td>
<td>4.30</td>
</tr>
</tbody>
</table>

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**Difference in Engagement by Medium (Self-Reported)**

- 2D TO VIDEO: 22% more engaging
- 2D TO 3D: 38% more engaging
- 2D TO AR: 56% more engaging
- VIDEO TO AR: 28% more engaging

3D and AR were repeatedly and significantly more engaging than 2D and video.
RESULTS | GALVANIC SKIN RESPONSE

GSR as Measurement

In addition to the self-reporting, we measured each participant’s level of engagement via Galvanic Skin Response (GSR), a small sensor that detects changes in sweat. Since it is not possible to measure actual emotions, GSR acts as a proxy for those emotions, measuring the physical response, in this case sweat, to the feeling.

Again, AR was directly correlated to a higher level of engagement, especially when compared to traditional media. 3D was also more engaging, but not at a rate that was statistically significant.

Average Engagement by Medium (GSR)
These findings have been normalized to a scale of 1-5.

Again, engagement from 2D to 3D increased as expected. While the variations between 2D and 3D were not statistically significant, the variations between 2D and AR were.

Difference in Engagement by Medium (GSR)

AR is 2.6x more engaging than static 2D imagery and 2.1x more engaging than video.
RESULTS | STORE PREFERENCE

Traditional vs Immersive Media

At the close of the experiment, each participant was asked to choose which store they’d like to purchase their items from. Both stores had the same items, but store “Blue” represented their products using traditional media and store “Green” utilized immersive media.

As is represented in the chart, the “Green” store (immersive) was the choice of consumers 11.5 times more than the “Blue” store (traditional).

Blue Store - 2D + Video

Green Store - 3D + AR

92% of participants preferred the store using 3D & AR.
The Novelty Effect

As mentioned earlier, we measured each participant’s exposure to 3D and AR before the study. We then cross-referenced those results with the emotional response to each medium.

It has been said that the novelty of AR is what is compelling. If that is the case, the ability for AR to engage at a level greater than traditional media will subside once the novelty wears off.

Data from this study showed that participants with less frequent exposure to 3D and AR did have a stronger emotional response to the medium, validating the novelty expectation. But the difference in response from traditional to immersive media was not limited to only those participants who had not experienced immersive media.

These results aligned with the findings we reported in a previous consumer survey in which 78% of consumers preferred brands who use AR.

Consumers Response to AR

- **78%**
  - Of respondents would rather interact with AR than watch a 30-second video.

- **57%**
  - Of consumers state their ideal AR experience involves placing potential purchases in their world.

- **48%**
  - Of consumers said they would be more likely to shop at a retailer that utilized AR.
RECOMMENDATIONS
RECOMMENDATIONS

Key Findings

Our study supported the following findings:

1

A greater emotional response translates to a greater affinity toward the brand being represented.

2

3D & AR are more engaging than static 2D imagery and video, and AR, specifically, is consistently and significantly more engaging.

3

Most people preferred “shopping” at the store with 3D & AR product representation.
Surprisingly, the results of our study showed that 3D was not as engaging as AR. Inherently, manipulable 3D models provide more information than AR. With the 3D experience, participants were able to explore every part of the model, whereas in AR, the bottom of the 3D model was no longer accessible. The information about the physical product was more limited during AR experiences. With this in mind, why was AR so much more engaging?

The reason is twofold. For one, participants did not expect AR to look as realistic as it did. This is supported by the fact that participants with less exposure to AR reacted more strongly to it. This has to do with novelty. AR is new, and expectations are low and limited, so positive experiences feel more significant to the user. But even those participants who had frequent experience with AR found it more compelling than traditional media. This is important because novelty fades as technology becomes more widely accepted.

The key here is context.

**WHILE 3D PROVIDES MORE PHYSICAL INFORMATION ABOUT THE PRODUCT, AR HIGHLIGHTS HOW THAT PHYSICAL PRODUCT RELATES TO THE USER.**

Ultimately, the user is the star of this show, as the 3D product is relative to the user’s world. The product experience changes from offering entirely objective information (size, shape, color) to conveying subjective information (fit, match, ownership) as well. Does the product fit into my space? Does it match my aesthetic? Does owning it align with my persona? AR provides context, and this is why AR is so compelling.
Insights for Digital Retailers

This study illustrates the following: to increase online conversion, retailers can and should implement immersive commerce into the purchase journey. Immersive commerce increases engagement, enables a deeper understanding of the physical aspects of a product, and most importantly, provides context for what ownership of that product looks like on a personal level. To achieve these outcomes consistently, however, several factors must be in place.

Quality

3D models must be high-quality. This affects both the 3D experience and the AR experience. Without quality 3D models, including the variety of textures and colors associated with each product, consumers may be left questioning the quality of the actual product. Similar to the in-depth studio shots that make up static 2D product imagery today, 3D product model creation must be thoughtful, professional, and optimized.

UX

Implementation must be seamless. On mobile, most consumers leave a site if a page takes more than 3 seconds to load. Furthermore, the experience must be cross-device. Consumers tend to pick up multiple devices throughout the product research process. If accessibility to a product drops from desktop to mobile, interest will likely decrease as well.

Innovation

Immersive commerce is new, which means we’ve only just begun to see the opportunities it creates. Innovation is key. Optimization is required. Retailers implementing immersive commerce need to ensure they are planning for the future, with a creative process that scales.

To find out how Vertebrae is partnering with leading retailers to implement browser-based Immersive Commerce at scale, email us directly at biz@vertebrae.com.
ABOUT VERTEBRAE
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Axis Augmented Commerce Platform

Why Use Axis?

We help you easily turn your entire product catalog into high-fidelity, customizable 3D models and feature them on your e-commerce website.

Remove the guess-work in online shopping. Promote consumer confidence through AR product visualization and virtual try-on.

For the first time, see the way shoppers evaluate and respond to your products. Leverage insights across your entire marketing stack.

How It Works 3D Modeling

Bring your own 3D assets or we’ll help you create them, cost-efficiently and quickly, for your entire product catalog.

Management

Stay organized. Axis is your one-stop-shop for storing, previewing and cataloging your 3D & AR product library.

Integration

Seamlessly publish your 3D & AR products from Axis to your current e-commerce stack with one JavaScript integration.

Measurement

Measure traditional and new interaction based 3D & AR insights.
THANK YOU

CONTACT US: BIZ@VERTEBRAE.COM