

CGI in Out of Home Communication: Exploring Factors Affecting Attentionability

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ABSTRACT

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Traditional Out of home communication is not interactive in nature and is therefore losing out on relevance. This paper discusses the prospects of using Computer-Generated Imagery in Out of Home communication by creating immersive and engaging brand experiences. CGI blends realistic and imaginative visuals with real life to evade the reducing attention span that has led to stagnant consumer engagement. There are limited references to the role of CGI in OOH and the factors that actually trigger viewers' attention ability creating a gap. Understanding these factors can assist brands in developing a more compelling OOH communication strategy with CGI.

The study adopts a mixed method approach inclusive of a comprehensive literature review and semi structured interviews with Industry experts analyzed using NVIVO 15, survey method is implemented for Data collection from a sample of 232 respondents. Principal component analysis is conducted using SPSS to extract the most influential variables and scrutinize other predominant components that may yield an enhanced attention ability.

The findings point towards impact of Location and Time, Relevance of Context and content, Engagement, experience and immersive ability of the OOH communication in drawing viewer attention.

Keywords: Computer-Generated Imagery (CGI), Out-of-Home (OOH) Communication,

Attention ability, Immersive Experiences, Consumer Engagement, cross platform integration.

Introduction

In the current context of dynamic digital transformation, seamless integration of online digital platforms in our everyday life has become inevitable (Sima *et al*, 2020), resulting in an empowered viewer (Darmody and Zwick, 2020), reflecting a radical change in the way they engage with Brands, expecting opportunities of a personalized immersive experience.

However, digital platforms are bombarding viewers with uninvited promotional activities leading to a Fog, depleting attention span of viewers. (Çelik, Çam and Koseoglu, 2023).

As Brands continuously seek innovative strategies to grab consumer attention, Computer Generated Imagery (CGI) in out-of-home (OOH) space also referred to as Faux Out-of-Home (FOOH) is fast gaining traction and evolving as an influential tool, revolutionizing the way brands can connect with their target audience. (Bhatt, 2023)

Creatively adopting CGI in communication is changing the way in which Brands are pushing the boundaries of reality in delivering their narrative and expressing themselves.

Previously implemented to grab captive attention of commuters on the go ensuring visibility and reach, out-door advertising inclusive of Bill Boards and conventional hoardings was considered to be a preferred above the Line

platform References

The Platform gradually evolved with several format extensions like transit advertising, Retail and street advertising alongside alternative forms and was collectively referred to as Out of Home (OOH) advertising (Roux and Van der Walddt, 2014).

The emergence of CGI (computer-generated imagery) technology has made it possible for brands to captivate audience attention in seconds and convey their message in an imaginative and visually alluring manner, implementing impactful storytelling, by overcoming the limitations of conventional Out of home advertising like high installation cost and a very less engagement quotient. (Team Amura, 2024)

Another attribute why CGI technology is evolving lies in its ability to go beyond traditional outdoor advertising empowering brands to deliver effectively and create the right impact leading to an increased viewer engagement, involvement and a long-term impression. (Abdou, 2024),

The tool has generated new imaginative avenues for creativity in communication and unthinkable cost -effective possibilities. (Medda, 2023)

CGI facilitates the creation of unconventional hyper-realistic and creative content that can be compliant across diverse media formats (Team Amura, 2024)

As per a Financial express report CGI as an industry is expected to make a substantial leap ahead, especially creating a noteworthy impact in ads. Figures indicate a 40% more attention ability of CGI on social media compared to conventional ads, with approximately 5.3 trillion ads appearing annually, emphasizing extensive acceptance and key role in contemporary brand communication campaigns. (Chopra, 2024)

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This study aims to investigate the factors influencing the attention ability of viewers with reference to Computer Generated Imagery in Out of Home communication.

Literature Review

The digital scenario today is going through immense transformation compelling marketers to contest for customer attention (Maslowska, Ohme and Segijn, 2021). In the given context popular conventional advertising approaches are becoming ineffective. (Frandsen, Thow and Ferguson, 2016).

Especially above the line communication like Outdoor advertising is losing its sheen due to the lack of interactivity and user experience.

Effective brand communication in the contemporary context revolves around engaging storytelling and consistency across various audience touchpoints.

Theoretical foundation

OOH & CGI

Out-of-Home (OOH) advertising derived from the term Outdoor advertising is one of the earliest formats of communication with traces in ancient Egypt pictographs (Frolova, 2014). Often a form of advertising that can be observed outdoors, typically covering a range of different formats from billboards, Public Transits, benches, bus shelters (Ewen, 2023)

Computer-generated imagery (CGI) is emerging as an increasingly popular tool with its potential to impeccably integrate engaging elements into real-life scenarios while empowering Brands to generate immersive experiences, CGI activations are transforming the world of Brand communication. (Market Spotlight, 2023). CGI is a method that transforms images facilitating creators to build, genuine, or fantastical Scenarios that cannot be captured with a camera (Manu, 2024). Faux OOH is the term used for this approach, which uses CGI to produce ads that look like they are shot in real outdoor settings (Bhatt, 2023)

There are very few available studies concerning scientific definitions for CGI OOH. Hashemi-Pour (2023) in his blog mentions that CGI designs static or dynamic visuals using software for applications in art, advertising, filmmaking, architecture, and gaming through AR and VR. It integrates 3D technology with mixed reality to give creative storytelling, unique creation anywhere, and a wider coverage than traditional billboards. CGI literature primarily focuses on consumer attitudes toward CGI ads compared to traditional digital ads (Hadrava, Jan, and Adámková, 2024), consumer engagement with CGI influencer marketing vs. traditional influencer marketing (Shaloka, 2021).

References to CGI technology in Hollywood sci-fi movies highlight its role in entertainment (Pierson, 1999). It also discusses the pros and cons of CGI in advertisements (Abdou, 2024) and its use in animated characters to influence consumer purchases (Dimitrov, 2014). Some papers also discuss the functions of Anthropomorphism in enriching the experience of Social Presence and its impact on Brand Outcomes (Ahn, Cho, and Tsai 2022).

However, there are limited references to the role of CGI in Out of Home communication in captivating audience attention and the factors that actually trigger the attention ability of the viewers creating a gap, which this study tries to fill in. Understanding these factors leading to enhanced attention ability can assist brands in developing a more compelling OOH communication.

Attention Ability

Attention is a significant component in the hierarchy of effects model, the first reference has been in AIDA model proposed as early as 1900's by Elmo Lewis. The model advocates attention as the initial step before taking a series of other steps for the final decision.

Literature also implies the term attention indicating the degree of mental investment or cognitive strength designated for a particular activity. (Kahneman, 1973), addressing direction as well as the intensity (MacKenzie, Lutz, and Belch 1986).

Previously conducted studies on attention research focus on how people process, continuous graphic, audio, and visual data. Kaplan's Attention Restoration Theory (1989) provides a theoretical framework, suggesting how the people's worn-out attention can be reinstated by interpreting the focus on the utilization of limited attention span and working memory to decipher information around them. The theory explains 4 major components of attention that include a clean mind and focus, overcoming mental lethargy, soft allure, Reflection and renewal.

The advancement of technology and leisure indoors improves the extended theory of attention restoration, highlighting how natural settings restore attention. Gaining focus is possible through resources, direct and involuntary attention, and restoration. (Kaplan, 2001).

The theory is relevant to this study as it combines elements of stimuli guided by interest and novelty, attentional capacity and the role of engaging activities in immersing the viewers alongside compatibility and congruence with the context. (Kaplan, 2001).

Brand communication and advertising can take two routes a direct one that indicates conscious attention and message evaluation while the indirect route reflects lack of overt message clarity, low attention and no conscious debate. (Dimitrov, 2014).

As per a recent finding the attention span of people across the globe has been depleting and reducing over the years. (Varshaa and Shreya, 2024)

Subramanian (2017) in his study attributes this to the access that consumers have to numerous devices for information search and buying decisions from cell phones to Laptops.

Earlier studies also reflect that too many distractions though highly exciting, can disturb attention of the viewers (Kaplan, 1995). Therefore, people's attention spans have shortened to a great extent due to limitless digital distractions leading to an inability to focus for a longer time as observed by The American Physiological Association (Mills, 2023)

According to Bhatt (2023) the key aim of communication through any platform should be aimed at a message that can attract attention, resonate with the audience and trigger them to take some step forward. Therefore, for a

consistent and focused attention, advertisers, are compelled to generate interest-driven content for utmost effectiveness.

However, as per Huang et al (2019) it is difficult for the passers-by to deliver attractive communication because extracting detailed information on their liking is hard. Apart from cost-effectiveness, what makes FOOH prominent is that it can seize the attention of the consumer in the cluttered media environment.

With the ever -rising content formats and depleting attention spans, CGI is transcending norms of conventional communication and is rapidly evolving as a tool transforming brand experiences in Out of Home communication by leveraging Augmented Reality (AR) and Virtual Reality (VR) and more recently AI (Chopra, 2017)

Location and Viewing Time

Branding or brand construction on alternate interactive platforms like Digital and CGI, out of home has been gaining traction and attention as consumers interest is shifting beyond attributes and price, to location and timing of communication. (Belch and Belch, 2012)

Location was found to be a crucial attribute by previous studies conducted to investigate the role of billboard and roadside advertising in driving attention (Taylor, 2010; Traffic Audit Bureau, 2010; Wilson and Till, 2012) Among the location-based attributes distance, the side of appearance of the billboard viewability from the Center defined as center approach, size time of visibility or dwell time have also been discovered as critical factors. (Wilson and Casper, 2016)

Teixeira (2014) identifies intensity and duration as core elements of customer attention. Intensity reflects quality, while duration denotes quantity. Besides, literature also observes that Outdoor advertising can connect to a mobile consumer.

In addition, literature indicates towards the role of strategic Ad placement and therefore the right location for engaging the viewers and effectively conveying the message. (Sama, 2019)

CGI implementation offers a great platform for brands like Automotive companies, which can pick up a preferred space site or location where their car features can be highlighted or a 3D model of the vehicle can be displayed. (Baynes, 2023)

Nikes Air Max 1 sneakers coming to life, OOH activation outside Shinjuku Station in Tokyo presents another interesting example of location specific CGI activation.

A billboards location and visual prominence have been shown as significant attributes. While aspect of Location like road side or distance, implying placement of a billboard has been considered extremely important for maximum viewing, visual prominence independent of its infrastructure is also deemed crucial for noticeability. (Ephron and Philport, 2005; OAAA, 2000)

Iconic monuments like Gateway of India in Mumbai are serving as Backdrop for Brands like WhatsApp, Baskin and Robins to showcase their new Logos. Whereas Brands like Loreal are also leveraging the location strategy for addressing and creating awareness on social issues. (Medda, 2023)

Burj Khalifa in Dubai is turning out to be a hot spot for brands, such as Barbie, to expand their reach. Britannia Milk Bikis used huge CGI on Worli Sea Link in Mumbai to generate buzz.

Findings of a study conducted by Group M OOH, Lumen and media owners further analyzed that even three seconds of attention to an OOH advertisement can lead to a 26% rise in brand recognition, while increased length of attention and time, also enhanced Brand consideration. (Sherriff, 2024)

Huang. M, et al (2020) in a study on the preferable specific timings of the outdoor advertisements due to the space and time (spatio-temporal dynamics) of the target audience, reveal that morning is the best time and has the maximum potential of Ad exposure

Content, Context and Relevance

CGI technology moves beyond the barriers of any platform and incorporates itself across channels such as mobiles,

laptops, billboards, and product demos into immersive experiences through Augmented Reality and Virtual Reality.

CGI provides relevance and opportunities for engagement in a time of shrinking attention spans and the rise of adaptive content formats. (Chopra, 2017)

Relevance as a construct has also been studied as a critical element of Brand Communication with application in the digital age. While Wollan et al (2017) look at relevance as a concept grounded in meaningfulness and personalization, Albee (2015) drafts a comprehensive perspective of relevance as a context specific notion indicating mapping of consumers needs and intent to their interactions and experiences in a specific moment.

Maybelline for instance launched its Lash Sensational Mascara with an interactive CGI campaign on New York's mass transit networks, which reached out to the target audience across the city.

CGI enables diverse content creation for various platforms due to its digital nature. (Lees, 2023). Relevant product categories attract consumers more. Familiarity with a category or brand influences audience attention (Zhou, 2017). Earlier research by Briggs and Hollis (1997) shows better recall for high-involvement products. Early studies show that viewers get more attracted by advertisements when there is a higher product involvement (Cho and Leckenby, 2000).

According to Seif (2023), the use of CGI in OOH allows for memorable communication that captures eyeballs and enhances brand awareness.

CGI in Out of Home Communication provides brands a chance to remain relevant by creating an engaging value proposition with surprise. (Raj, 2024)

Gillette displaying its flagship Mach 3 Brand with a larger-than-life product to showcase its technological superiority for Zero effort smooth shaving experience is a case in Point. (Ad gully Bureau, 2024)

CGI technology facilitates visually appealing and emotionally relevant stories, by creating characters that are relevant alongside Computer-generated images that can provide a wider platform for storytelling resonating with audiences and engaging with them intensely. (Abdou *et al*, 2016)

Experience, Engagement and Immersion

Studies reflect that Features and benefits apart to be distinctive brands need to think beyond Conventional communication practices (Lehmann & Shemwell, 2011; Saucet & Cova, 2015). And convey their messages to the target consumers creatively with an assortment of channels (Gambetti, 2010). The other essential observation by literature is the low level of involvement and engagement due to information overload and forced strategies (Maniu and Zahari, 2014). Engaging in an activity which is familiar to the viewers increases compatibility while a creative engagement can lead to restlessness and draw more attention (Daniel, 2014).

Studies also Point out that High engagement unlike low engagement activities can be extremely stimulating in holding viewer attention and immersing the viewer completely by not giving a moment to reflect or think. (Daniel, 2014).

Adámková and Hadrava (2024) in their study highlight the role of CGI advertising in a real-life setting integrated into a digital marketing strategy mix in generating an enhanced brand experience.

Yet Another study attributes the growing trend of CGI in contemporary communication to factors like innovativeness, relevance entertainment value fun and Coolness (Purchase and Volery, 2020).

CGI technology transforms visual media. It enables people to offer a much more immersive and interactive form of telling a story. Using complementary colors and subtle movements with 3D and longer copy enhances brand storytelling through CGI (Sherriff, 2024). CGI activations are transforming brand communication by seamlessly integrating engaging elements into real-life scenarios, enabling immersive experiences (Market Spotlight, 2023).

The joining of old advertisements with high-tech CGI allows marketers to place a deeper campaign where creative visuals enhance consumer engagement and create lasting product associations. (Schofield, 2018).

CGI has the ability to develop life like or fictional larger than life elements that can give an OOH ad a clutter free

presence enabling brands to narrate stories and showcase their products uniquely, enhancing Virality. That apart high definition CGI is able to aesthetically communicate a Brands story and functionality much better than real-life photography.

Ads created with CGI are captivating and hence pique audience interest encouraging engagement. Viewers are likely to be more attentive and recall the Brand better with the Innovative presentation and impressive visuals in CGI ads (Manu, 2024)

The eye -catching Maybelline cosmetics CGI in London tubes and buses sporting false eyelashes to creatively showcase the benefit of their mascara wand exemplifies the transformative effect of CGI in Brand Communication.

Computer Generated imagery blends 3D technology with Mixed reality for creative storytelling, and has made it possible to create something unique at any location reaching out to a multi-fold audience unlike billboards which have a limited reach.

Brands like Adidas have been generously leveraging creatively designed billboards to showcase sporting achievements. In 2022, the Brand celebrated

Argentina's FIFA World Cup victory by installing a 3D illusion billboard in Dubai, depicting Lionel Messi and his team, symbolizing the spirit of triumph with the prevailing impactful tagline Impossible is Nothing. (Duong, 2022)

The other examples could be of Nike Air Mac 1 Sneakers flying out of 3D Billboards outside Shinjuku Station in Tokyo.

This allows brands to create and produce unlimited content, hence letting them engage and share their stories innovatively, enriching both their message and brand stickiness.

Brands can engage and directly reach out to their audience of choice, thereby showing creativity and innovation.

IKEA applied CGI in an augmented reality application so that people can view furniture in their homes before buying it. Brands will have interactive mobile and web features as part of engagement plans so that they can further enhance the user experience.

Luxury brands like Netflix and Nike use avant-garde technologies to create upbeat visuals for engagement and a sense of belonging.

In CGI OOH, QR codes have been used to link viewers and enable interactive online engagement experiences.

Traditional OOH campaigns only have a few ways to prompt online discussions like visit websites or follow brands on social media. CGI QR codes can generate a more impactful effect; allow creative messaging and real-time engagement with the brand before the viewer forgets. (Tharpe, 2022)

Objective of the study

To explore and investigate acknowledged factors on attention ability of Out of Home Communication implemented with Computer generated Technology.

Conceptual Framework:

The authors developed a conceptual framework on the basis of implications derived from the Review of Literature

This was followed by generating dependent and independent variables to build a conceptual framework (Refer Figure 1).

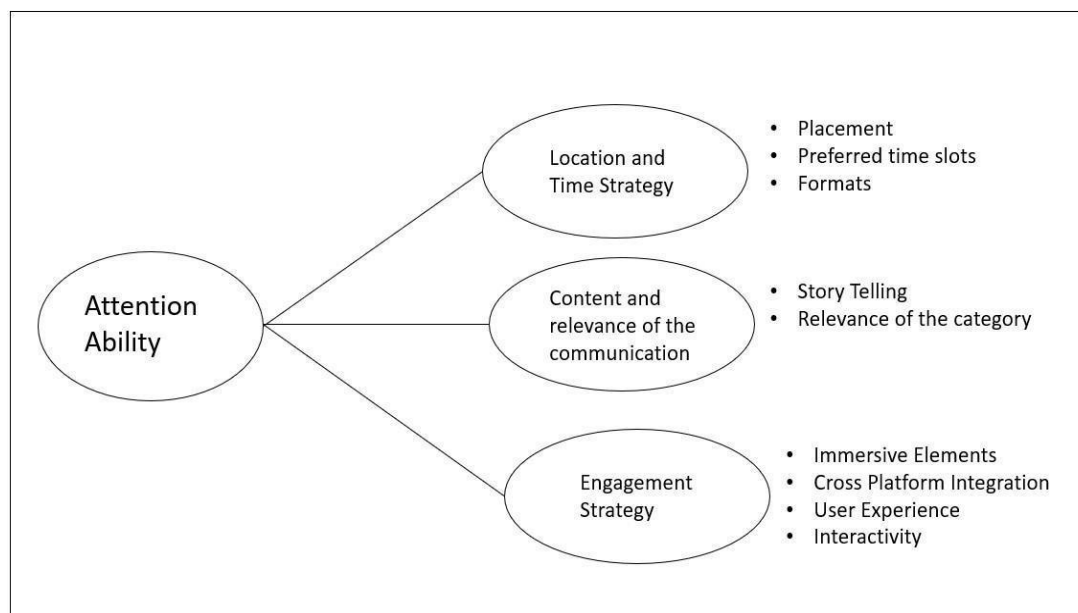


Figure 1. Conceptual Framework **Source:** The authors.

Methodology

A mixed approach was adopted for this study. It followed a **Sequential exploratory research design**.

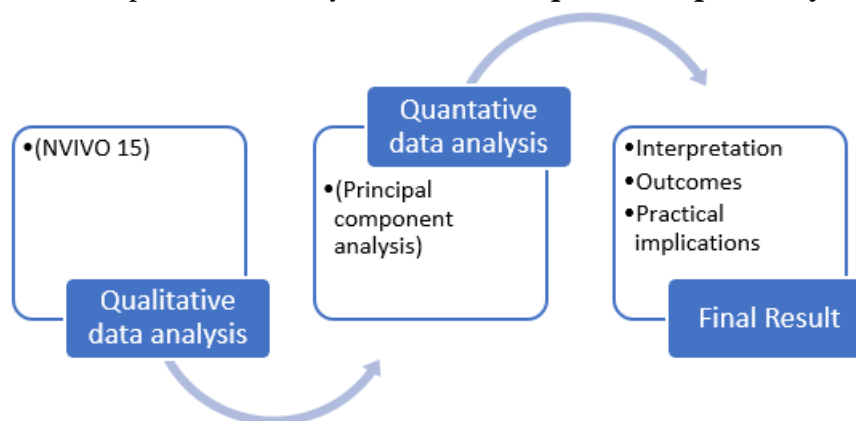


Figure 2: Research design

Qualitative Data Collection and Analysis

A qualitative study comprising of Online interaction with 5 experts working in the field of CGI OOH communication was conducted. Semi structured questions were asked, this allowed us a practical insight into the trends and application of CGI in Out of home context, also strengthening the LR and work on the gaps

NVIVO 15 was used to analyse the responses and generate a mind map model that identified Themes and sub themes around attention ability the major construct in this research. (Refer Fig 3)



Figure 3: Mind Map (Online interaction)

Location, and Time strategy, Content and Relevance of the Communication, Engagement were the **Independent Variables (IV)** formed. How these independent factors impacted the **dependent variable (DV)** namely the ability of CGI OOH communication to draw attention of the viewers or attention ability was investigated further.

Elaboration of the Independent variables

1. **Location, and Time strategy:** The Location investigates site and placement of the CGI OOH Communication and the time refers to the most preferred or potential time slot when the viewers are receptive to the communication
2. **Content and Relevance of the Communication:** Implies how the story is being told and how the communication is contextually relevant with reference to the Brand and category to the viewers.
3. **Engagement Strategy:** Indicates Immersive ability cross platform integration and Interactivity of the communication for a better experience

Following Hypothesis was developed which was tested using Quantitative research.

Hypothesis Development

- H1: Location and placement of the CGI OOH draws viewers' Attention
- H2: Location close to Point of Purchase enhances viewer Attention
- H3: Time of Exposure to CGI OOH impacts attention ability to the communication
- H4: Contextually relevance with need or Product category enhances attention ability
- H5: Attention ability of campaign is greater when combined with Good storytelling
- H6: Higher Interactivity with CGI leads to better engagement and attention ability
- H7: Higher Immersion in CGI OOH leads to better attention ability

Quantitative Data Collection and Analysis

Most of the research in creative brand communication employs questionnaire-based survey, for data collection. Likewise, a questionnaire was developed based on literature reviews as well as new insights brought in by the mind map. RACE framework, was adapted for developing the questionnaire and it was administered online via Google forms among young adults aged 20 to 40 years. This is because they are conscious of advertisements and also easily reachable on YouTube and other apps available on tablets, laptops, and mobile phones

Data and Sampling Plan

An administrated pre-established 5-point Likert scale was designed on the following: 1— Strongly Disagree, 2— Disagree, 3—Neutral, 4—Agree, 5—Strongly Agree The face validity of the scale was ensured through the pre-test of the questionnaire with four senior researchers and Professors who specialized in the marketing area. Their suggestions and recommendations were integrated to improvise the readability of questions, thus establishing face validity.

The questionnaire covered all the influences outlined as the result of the Literature review and the online expert interaction. Online survey tool Google forms was used to administer the questionnaire after conducting the face validity test. The total dimensions of the questionnaire constructed on factors accounted to 32 and demographic data such as gender, age etc were also considered for the study.

Framework adaptation for the questionnaire

The **RACE planning framework** is an inclusive contemporary practical framework developed by smart insights to enhance effectiveness of digital marketing and involves Reach, Act, Convert, and Engage as stages of audience interaction. It is a matrix which finds applications in studies by Bosomworth D. (2014) for evaluation of online content and further studied by (Chaffey and Ellis-Chadwick, 2015) to enhance digital marketing communications with reference to the purchase funnel, Lokteva (2015) leveraged the framework to create a customer centric communication strategy. Pinho, et al (2015) applied it to boost online visibility and acquisition. Drokina (2018) employed the framework to organize tools for digital marketing across the RACE Planning Framework. The framework has been adopted in this study to develop the Survey questionnaire for the respondents.

Survey:

The questionnaire was floated online; 234 responses were received. Sampling method for the study was quota sampling with 60.4% males and 39.6% females as shown in Table 1. The actual purpose of the research was not communicated to the respondents to avoid bias. Of the total 234 responses received, 2 were partially filled thus leaving the researcher with 232 valid responses for analysis. SPSS was the software used for data coding.

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	134	60.4	60.4	60.4
	Female	88	39.6	39.6	100.0
	Total	222	100.0	100.0	

Table 1. Gender Distribution **Source:** authors.

Scale

Five-point Likert scale used for the measurement of constructs under question. The questionnaire was administered in English. From the literature review, attention ability is influenced by the role of CGI. It was measured by taking reference from Adámková & Hadrava (2024). Based on the online expert interaction, other factors, namely, duration and location of the campaign, The Content, storytelling, relevance of the communication to the viewer were jotted down as empirical inputs from experts. Attention ability was the dependent variable as depicted in. (Refer Figure 3) The questionnaire comprised of 32 items together with some demographic questions.

Statistical Tools Used

Cronbach's alpha was carried out through SPSS to determine the internal consistency of the scales. A full-scale reliability value in addition to variable-wise reliability was initiated. Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test were performed for sampling appropriateness and to determine the usefulness of factor analysis to the data. KMO value is 0.778 and Bartlett's test of sphericity with a significance level of < 0.001 indicate that the data is suitable for factor analysis. There is adequate correlation between the variables thus meaningful factors could be extracted.

Results of Cronbach's alpha are presented in Tables 2, whereas results of KMO and Bartlett's test are presented in **Table 3**. Principal Component Analysis (PCA) and rotated component matrix was conducted and the results are presented in Tables 4 and 5, respectively. After the identification of factors, multiple linear regression was performed as illustrated in **Table 7**. Lastly, using multiple linear regression the final equation was framed between dependent and independent variables that was the outcome of this research.

Results

Data Analysis

Reliability and Validity

Cronbach's alpha was implemented using SPSS to realize how deeply the set of items are allied to each other in the questionnaire and performed for Reliability analysis

The output was 0.825, signifying that result is acceptable. A high level of internal consistency for our scale indicated.

Cronbach's alpha	Cronbach's alpha based on standardized items	No. of items
0.825	0.825	32

Table 2 Reliability Statistics **Source:** The authors

KMO and Bartlett's Test

The KMO measure of sampling adequacy test was executed to confirm that only a part of variance in the variables is caused by underlying factors. Also indicating that the data would be proper for factor analysis. Sampling adequacy was measured in the research study by testing for every variable and the complete model .

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.778
Bartlett's Test of Sphericity	Approx. Chi-Square	1944.174
	df	528
	Sig.	<.001

Table 3. KMO and Bartlett's Test. **Source:** authors

The KMO value (0.778) and the significant Bartlett's test result (< 0.001) confirm that the data is well-suited for factor analysis having sufficient correlation among the variables for meaningful factor extraction.

Principal Component Analysis

Total variance in the data was measured using the Principal Component analysis (PCA) as a statistical methodology to transform correlated observations into linearly uncorrelated values termed as Principal Components. (Refer Table 5) Our research aimed at investigating the impact that Computer generated imagery in Out of Home communication can have on attention ability of the campaign with respect to Location and Time strategy, Context and Content relevance, Engagement strategy and immersive ability. By applying PCA the objective was to examine other prevalent aspects or components that may result in a greater attention ability.

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.619	17.027	17.027	5.619	17.027	17.027	3.272	9.916	9.916
2	3.472	10.522	27.549	3.472	10.522	27.549	2.850	8.638	18.554
3	1.937	5.870	33.419	1.937	5.870	33.419	2.800	8.483	27.037
4	1.544	4.680	38.098	1.544	4.680	38.098	2.438	7.388	34.425
5	1.352	4.096	42.194	1.352	4.096	42.194	1.708	5.175	39.601
6	1.295	3.925	46.119	1.295	3.925	46.119	1.678	5.085	44.686
7	1.262	3.825	49.945	1.262	3.825	49.945	1.326	4.020	48.705
8	1.239	3.756	53.700	1.239	3.756	53.700	1.319	3.997	52.702
9	1.104	3.344	57.044	1.104	3.344	57.044	1.317	3.992	56.694
10	1.056	3.199	60.244	1.056	3.199	60.244	1.171	3.550	60.244
11	.972	2.945	63.189						
12	.920	2.787	65.976						
13	.877	2.657	68.633						
14	.845	2.561	71.195						
15	.798	2.419	73.613						
16	.751	2.277	75.890						
17	.702	2.128	78.018						
18	.675	2.044	80.063						
19	.641	1.943	82.006						
20	.596	1.807	83.813						
21	.572	1.732	85.545						
22	.551	1.669	87.214						
23	.525	1.592	88.806						
24	.461	1.396	90.201						
25	.433	1.312	91.514						
26	.427	1.295	92.808						
27	.398	1.206	94.014						
28	.386	1.169	95.183						
29	.367	1.113	96.296						
30	.337	1.021	97.316						
31	.313	.949	98.265						
32	.297	.899	99.164						
33	.276	.836	100.000						

Extraction Method: Principal Component Analysis.

Table 4. Principal Component analysis **Source:** The authors

The "Initial Eigenvalues" column shows the variance prior to extraction due to each component. According to the Kaiser criterion, components with eigenvalues greater than one retained. The first ten components of the data carried eigenvalues. accounting for nearly 60% of the total variability in the data, explaining a cumulative variance of 60.244%.

Implementing Kaiser normalization approach, rotation component matrix was performed with Varimax. The number of iterations were set to 32. High factor loadings (numbers near 1 or -1 indicating a significant association with a component) were employed to classify the variables under components. (Refer Table 6)

	Component									
	1	2	3	4	5	6	7	8	9	10
The immersive experience of CGI OOH Communication is due to High-Quality Animation	.719									
The immersive experience of CGI OOH Communication is due to Brand Activation and Relevance	.689									

The immersive experience of CGI OOH Communication is due to Narrative and Storytelling	.650			.301						
CGI OOH communication draws one's attention when it is placed at potential locations such as Malls and Multiplex	.576									
The immersive experience of CGI OOH Communication is due to Personalized Experience	.571								-	.333
Larger than Life product visualization enhances my viewing experience, arouses my Curiosity leading to enhanced attention of the CGI OOH Communication	.517		.326				.307			
When the CGI OOH communication is placed at the locations relevant to the brand or product; I am more drawn towards it (Exclusive Brand showrooms- point of purchase).	.470									
An alluring value proposition with brand activation adds surprise and awe factor and grabs my attention, leaving a lasting impression of the CGI OOH Communication		.676								
The increased use of technologies and tools like holographic screens anamorphic videos, 3D Animations combined with CGI OOH create more immersive experiences.		.639	.402							

Visually appealing and emotionally relevant stories and Use of animated Characters can be immersive enhancing my attention towards the CGI OOH communication		.636								
If the Location of the CGI OOH communication is an Iconic Monument (Gateway of India, Burj Khalifa, Bandra Bandstand Qutab Minar, Times square) it immediately captures my attention		.629								
Familiarity with a category or Brand makes the CGI OOH Communication relevant and draws my attention towards it.		.553								
Diversity of location and Multiplicity of Formats (Holographic Screens, Anamorphic Billboards, AR/ VR Product Visualization,) in CGI OOH Communication adds to the Brand recall making it more relevant and attention grabbing		.444			.320					
Cross platform integration of the CGI Communication across different platforms (Interactive web pages, Mobile apps, VR experiences) and devices enhances one's likelihood of facilitating content sharing across platforms			.742							

Cross platform integration of the CGI Communication across different platforms (Interactive web pages, Mobile apps, VR experiences) and devices enhances one's likelihood of enabling an immersive personalized experience			.735							
Cross platform integration of the CGI Communication across different platforms (Interactive web pages, Mobile apps, VR experiences) and devices enhances one's likelihood of engaging with CGI content in real time			.727							
Cross platform integration of the CGI Communication across different platforms (Interactive web pages, Mobile apps, VR experiences) and devices enhances one's likelihood of easy accessibility across platforms			.454							
The immersive experience of CGI OOH Communication is due to integration of technology like Augmented Reality and Nike Virtual Reality		.343	.438							
The presence of Interactive elements like QR codes gives one more content control and draws him/her towards the CGI OOH Communication and he/she prefers to add virality				.780						

The presence of Interactive elements like QR codes gives one more content control and draws him/her towards the CGI OOH Communication and he/she prefers to take pictures and selfies				.725					
The presence of Interactive elements like QR codes gives one more content control and draws him/her towards the CGI OOH Communication and he/she prefers to engage with the Brand activation Real time				.599					
The presence of Interactive elements like QR codes gives one more content control and draws him/her towards the CGI OOH Communication and he/she prefers to tag people				.576				-.347	
One is most likely to be drawn towards CGI OOH Communication during late afternoon (Lunch break)				.813					
One is most likely to be drawn towards CGI OOH Communication during leisure time (riding freely)		.301		.639					
CGI OOH communication draws one's attention when it is placed at potential locations such as busy Streets and Signals						.785			
One is most likely to be drawn towards CGI OOH Communication during peak hours when stuck in traffic/ In a hurry	.312					.549	.308		
CGI OOH communication draws one's attention when it is placed at potential locations such as International Airports	.345					.386		-.362	

The Time of the day influences the ability of CGI OOH Communication to grab my attention							.791		
Diversity of location and Multiplicity of Formats (Holographic Screens, Anamorphic Billboards, AR/ VR Product Visualization) in CGI OOH Communication adds to the message recall making it more relevant and attention grabbing							.494		
One is most likely to be drawn towards CGI OOH Communication during late evenings (Return time)								.649	
The presence of Interactive elements like QR codes gives one more content control and draws him/her towards the CGI OOH Communication and he/she prefers to drive conversations on social media				.456				-.529	
CGI OOH communication draws one's attention when it is placed at potential locations such as proximity to Workplace									.768
One is drawn towards Interactive product demos, QR Codes used in The CGI OOH Communication									.821

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

Table 5. Rotated Component Matrix **Source:** The authors.

Exploratory Factor Analysis (EFA) resulted in the extraction of following key features:

Location and Time relevance

- Content and context Relevance (Storytelling communication and message)
- Engagement and interaction (QR codes and platform integration)
- Immersive ability and Brand relevance (Integration of AR VR)

Multiple Linear Regression

The above factors were designated as independent variables, and multiple linear regression was performed using Attention ability as the dependent variable. The aim was to develop an equation modelling with a factor loading of dominant factors.

As the model becomes better with more predictors included, indicating that all the variables explain the dependent variable. All steps have statistically significant changes in R Square values, as indicated by the F-statistics and their associated p-values. In their spare time" (Model 1) and "Late evenings (Return time)" are most influential predictors.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.366 ^a	.134	.130	.801
2	.447 ^b	.200	.192	.772
3	.472 ^c	.223	.212	.763
4	.496 ^d	.246	.232	.753
5	.513 ^e	.263	.246	.746
6	.528 ^f	.279	.259	.740
7	.541 ^g	.293	.270	.734

Table 6. Model Summary **Source:** The authors

Note: a. Predictors: (constant), location

b. Predictors: (constant), location, point of purchase.

c. Predictors: (constant), location, point of purchase, time

d. Predictors: (constant), location, point of purchase, time, relevance

e. Predictors: (constant), location, point of purchase, time, relevance, story

f. Predictors: (constant), location, point of purchase, time, relevance,story,ineractivity

g. Predictors:(constant),location,pointofpurchase,time,relevance,story,ineractivity,immersive

h. Dependent variable: Attention ability.

Linear regression equation connecting observed data (refer Table 7) developed to represent the relationship between Independent and Dependent variables.

$$\text{Attention Ability} = 1.204 + 0.257 * (\text{Location}) + 0.290 * (\text{Point of Purchase}) + 0.108 * (\text{Time}) + 0.133 * (\text{Relevance}) + 0.111 * (\text{Storytelling}) + 0.157 * (\text{Interactivity}) + 0.083 * (\text{Immersiveness})$$

Table 7. Linear Regression Equation. **Source:** The authors

The predictive model (Refer Table 8) was generated on the basis of the participant responses derived from the samples using Multiple linear regression method.

$$\text{Attention Ability} = 1.204 + 0.257 * (\text{Location}) + 0.290 * (\text{Point of Purchase}) + 0.108 * (\text{Time}) + 0.133 * (\text{Relevance}) + 0.111 * (\text{Storytelling}) + 0.157 * (\text{Interactivity}) + 0.083 * (\text{Immersiveness})$$

Table 8. Predictive Model. **Source:** The authors

Discussion

The study output indicates that implementing Out of home communication with CGI is an effective strategy for enhancing the attention ability of the campaign. Further substantiated and backed by literature which reflects that with ever -rising content formats and depleting attention spans, CGI is transcending norms of conventional communication rapidly evolving as a tool transforming brand experiences in Out of Home communication (Chopra, 2017). The attention ability is affected by several other factors as discussed in the study (Refer Figure 4).

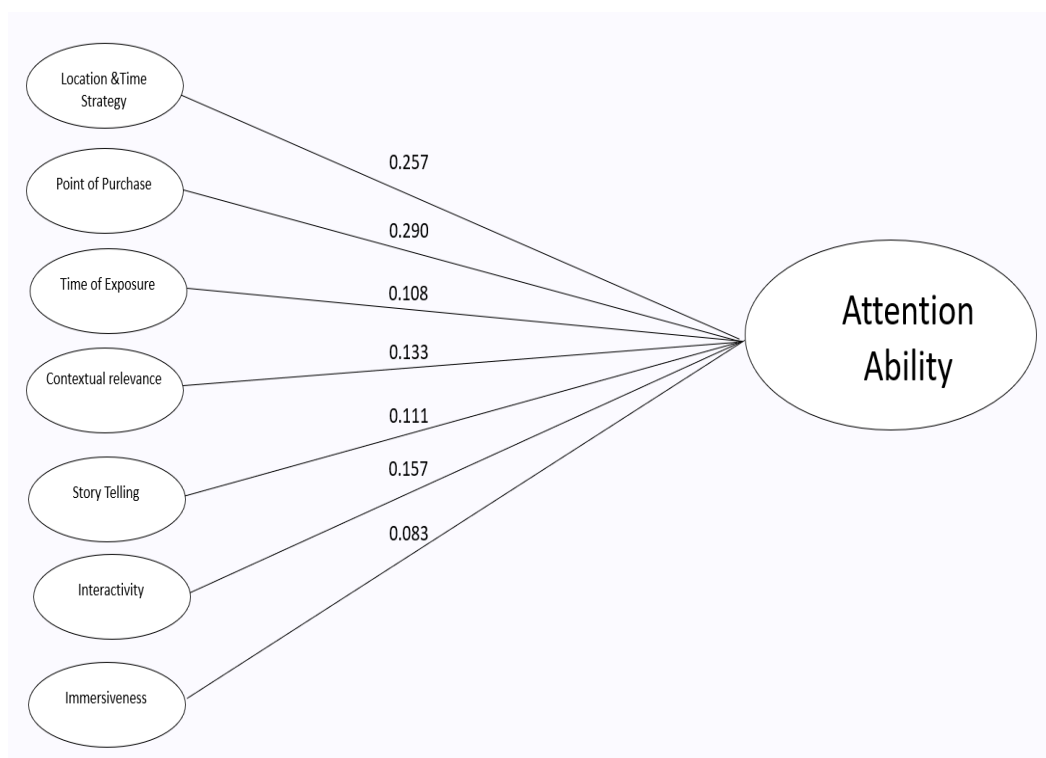


Figure 4. Output Model **Source:** The authors.

Key Factors identified on the basis of contribution to attention ability

Location and Time: While the location of the campaign is an important attribute to hold attention, the time of the day also influences the ability of CGI OOH to grab eyeballs. For this study relatability, Location proximity, influence of Iconic locations landmarks, showrooms airports and multiplexes also considered. Literature backs this and looks at CGI OOH gaining traction as consumers interest is going beyond attributes like price, to location and timing of communication. (Belch & Belch, 2012). The study analysis also indicates a significance of 0.629 for iconic locations like Burj Khalifa and Gateway of India capturing immediate attention. Airports malls and multiplexes detected as preferred location for enhanced attention with 0.576 significance. While studies also support Time as a crucial attribute and emphasize that even three seconds of attention to an OOH advertisement can lead to a 26% rise in brand recognition, while increased length of attention and time, can lead to enhanced Brand consideration. (Sherriff, 2024). Further strengthened by the study output indicating a significance of 0.301 towards the viewers leisure time that can draw maximum attention towards the campaign.

Relevance of Content and Context: Literature supports that the familiarity with a particular category or Brand adds to the Context and draws attention (Zhou, 2017) the significance of 0.398 substantiates this. Storytelling and narrative with a significance of 0.446 have also been observed as an important feature for CGI OOH communication specially to create an emotionally backed relatability with the Brands.

Experience Engagement and Immersion: One of the key factors of CGI OOH is the ability to facilitate alluring engagement alongside immersive experiences real time with AR VR, holographic projections, high-definition animation and larger than life touch point experiences. Expert perspective in the online interaction (Refer Table 1) backs this as a feature that triggers fascination resounding with the viewers creating tremendous attention ability. Further substantiated by a highest significant value of 0.719.

Hypothesis	Estimate	Support
H1: Location and placement of the CGI OOH → Attention Ability	0.257	Yes
H2: Location close to Point of Purchase → Attention Ability	0.290	Yes
H3: Time of Exposure to CGI OOH → Attention Ability	0.108	Yes
H4: CGI OOH ads that are contextually relevant to the Current need or Product category → Attention Ability	0.133	Yes
H5: Relevance combined with Good storytelling → Attention Ability	0.111	Yes
H6: Higher Interactivity with CGI → Attention Ability	0.157	Yes
H7: Higher Immersive ness in CGI OOH → Attention Ability	0.083	Yes

Table 9. Summary of Hypothesis Test. **Source:** The authors.

Limitations

The CGI concept was unknown and at times unrelatable to some people. The inactivity and indifference of the respondents sometimes posed a challenge, in the way they interpreted the questionnaire which might have slightly affected the findings.

Practical Implications and Future Research

The study has several implications for practicing managers in the Brand, and integrated marketing communication space. CGI can provide creative input at a very lean cost to brands without the logistical boundaries of the traditional approach. They can exploit the interface of CGI with Augmented Reality (AR) and Virtual Reality (VR) and AI for creating experiential and interactive communication that can make a brand stand out in the cluttered context. Visually stimulating 3D hyper-realistic images and dynamic graphics can boost consumer's attention, especially when the attention span is low. Strategic placement and timing, along with audience analysis, can make images visible and engaging, while use of digital tools like QR codes can bridge the physical and digital gap driving real-time interaction and measurable action.

The study highlights storytelling, emotional resonance, and contextual relevance in capturing consumer interest. For instance, luxury and tech brands may employ the use of futuristic, hyper-realistic imagery in order to mesmerize consumers, while FMCG brands may rely on interactive as well as accessible narratives. Adaptive content tactics can be integrated to manage regional variations among global markets. Companies must localize CGI OOH graphics according to consumer tastes among regions so advertisements remain culturally familiar yet visually stimulating.

The versatility of CGI across platforms allows the delivery of consistent content tailored to different audiences. An emotional story with a relatable narrative, using CGI can be leveraged for effective messaging, enhancing brand recall and connection.

Further research can be carried out in the area of enhancing interactivity with the Brand and also a depth study

on improving the time of exposure.

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