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Effect of Timing Sequence of Brand Promotion in an Online Video-an Eye-Tracking Study

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Abstract: Embedded marketing in online videos has become a popular form of advertising. This study aims to examine the impact of visual attention due to different sequences of product placement by content creators in their videos on brand name, product name, and brand awareness. An experimental study was conducted to investigate the effect on the viewer's attention while viewing a video based on the placement of the brand at the beginning, in the middle, and towards the end of the video. The study used an eye-tracking experiment, where fixation count and fixation duration represented visual attention and engagement, which were triangulated with a questionnaire survey. The study found a partially significant difference in visual attention due to different sequences of product promotion by the content creator, but an insignificant impact on brand awareness. The findings suggest that product placement at the beginning of the video drew more attention to the brand name and product name than the other two sequences. In particular, the frequency of attention was highest on product placement at the beginning of the video, followed by at the end of the video and in the middle of the video, respectively. Additionally, the heat map showed that the product name and brand name received the most attention among other elements. However, the three different sequences of product placement did not impact the brand awareness of the consumer. The results of this study provide new insights for content creators and advertisers when creating videos with embedded brand promotions. This study explores the impact of different sequences of product placement in a video using eye-tracking technology, allowing us to understand the subconscious behavior of the viewer and how it may impact their buying decision. This experiment will help embedded marketers understand the impact of the sequence of promoting a product/brand in a video on engagement levels, providing a glimpse into the respondent's subconscious mind.

Keywords: Online Video, Eye-Tracking, Product Placement, Brand Name, Brand Awareness

Introduction

Online videos offer a variety of knowledge and entertainment-based content (Chong *et al*., 2019) on topics including food, education, technology, health, and more (Zhou *et al*., 2020). Online videos are becoming a hub for advertisements, overtaking traditional media like television broadcasts and print (Danniswara *et al*., 2020; Liu *et al*., 2019). The most-watched online video platform, YouTube (Statista, 2021), features a variety of ad types, including skippable, non-skippable, and embedded marketing (Belanche *et al*., 2020; Dabbous and Barakat, 2020; Ladhari *et al*., 2020). Embedded marketing, also known as product placement, showcases products or brands in between the created content, projecting brands in their natural process of narration in online videos (Panda, 2003). Embedded marketing is a careful delivery of information blended with entertainment and not acknowledged as an advertisement (Russell and Belch, 2005; Williams *et al*., 2011). Embedded marketing affects consumers' brand attitudes, which plays a vital role in influencing choice and purchase intention (Babin *et al*., 2021). Consequently, Advertisers are investing in this rapidly growing online advertising platform (Ang, 2011). Brand managers worldwide use embedded marketing as an important marketing tool (Liu *et al*., 2019) to convince viewers subtly to buy the endorsed products (Lee and Watkins, 2016).

Embedded marketing improves brand image when the content creator shares his personal experience with the brand through stories (Pace, 2008). Embedded marketing can influence consumer responses such as brand awareness, purchase intention (Uribe, 2016), attention (Rumpf *et al.*, 2020), and choice (Babin *et al.*, 2021). While acknowledging the benefits of embedded marketing on consumer responses, researchers have called for further research on embedded marketing's effect on consumer behavior (Uribe, 2016; Rumpf *et al.*, 2020; Babin *et al.*, 2021). In particular, the timing sequence effect of product placement on consumers' behavioral responses is sparse. Embedded marketing evokes viewers' attention and facilitates buying behavior. Grounded in the Attention Interest Desire Action (AIDA) model, attention is key in determining customer intent and is crucial in consumer decision-making. The AIDA model further asserts that a viewer's behavior can significantly influence their emotional behavior toward embedded marketing (Song *et al.*, 2021).

Video bloggers or vloggers are digital celebrities considered closely related to the viewers (Babutsidze, 2018) as they upload content about their individual life or the products they use (Lee and Watkins, 2016). The relationship between vloggers and viewers is authentic and approachable, creating advertising effects and impacting sales (Chapple and Cownie, 2017; Babutsidze, 2018). Prior studies have confirmed that vloggers act as a source of authority (Hill *et al.*, 2017), execute and transmit the messages (Cho *et al.*, 2015; Boronczyk *et al.*, 2021) to influence the behavioral outcome of the viewers. In this regard, the impact of the timing sequence of brand promotion as embedded marketing in online videos on viewers' attention and brand awareness remains uninvestigated and represents a knowledge gap. The question is whether advertisers involved in embedded advertisements on YouTube should be aware of the promotion sequence to get the optimum result. The issue is relevant from marketers' perspective, given that they stand to benefit by recognizing what motivates the viewer to process cues when they focus on the product placement and the subsequent influence on their brand awareness.

The objective of this research is to address the gap by examining the effect on the visual attention of the viewers of product placement advertising in the online video by dividing it into three sequences the beginning, middle, and towards end. Notably, the study experimentally investigates how the timing sequence of product placement advertisements impacts visual attention. Further, we empirically examine how visual attention influences brand awareness. Furthermore, we are adding to the literature in the field by building and evaluating a conceptual model that explores the influence of product placement timing sequence on visual attention and consumer response.

The paper is structured to discuss insights on embedded marketing. First, a review of the literature has been undertaken, leading to the development of the model and formulation of the hypotheses. Second, the methodology section, including the research design and sampling, has been presented. Finally, the data analysis section is presented along with the findings, followed by a discussion of managerial implications.

Online video provides information on demand to engage and educate the viewers (Chong *et al.*, 2019) on various topics, including videos on food, education, health, travel, and entertainment (France *et al.*, 2021). Online videos have drawn the attention of marketers for video advertisement, accounting for the third largest share of digital ad spending after the display and paid search (Jiang *et al.*, 2019). Embedded marketing, a form of video advertisement in online videos, is evolving method to grab consumers' attention by placing the product or brand in between the content, which is gradually getting importance as it projects the brand in their natural process of narration in online videos (Panda, 2003). Advertisers focus on video marketing stimuli to help customers remember their brands and increase their purchase intent (Simmonds *et al.*, 2020). Li and Lo (2015) examined the effect of advertisement duration and advertisement position in online videos on brand name recognition by viewers and found that long ads enhance recognition. Jiang *et al.* (2019) investigated the consumer's attitude toward the online video advertising congruity of video, advertisement, and product and demonstrated that Ad-Video congruity only significantly impacts processing fluency when used in informational appeals. In this study, the AIDA framework is used to explore how varied product placement sequences in online videos affect viewers' visual attention to brand and product names.

The AIDA describes the cognitive stages of attention, inspiration, desire, and action. The four stages include awareness and interest in the product; desire to make a purchase and finally, the purchase decision. The AIDA model has long been used in marketing communication, such as advertisement, to understand an individual's psychological and consumption behavior. Attention is the first step, a key aspect in determining customer intent, and is crucial in consumer decision-making. Attention increases the chance to capture and hold messages, building a relationship between memory and attention (Intraub, 1979). Without attention, no more processing can occur, as attention is the cognitive process of selectively focusing while ignoring others (Martinet *et al.*, 2009). Social media has a major impact during the attention stage since the viewer's behavior is influenced by their emotional response to the advertisement (Sharma *et al.*, 2022a; Song *et al.*, 2021).

Brand Awareness

Brand awareness is the level of brand knowledge that a consumer possesses and influences their purchasing decisions. Aaker and Equity (1991); Keller (1993). Brand awareness is influenced by consumer brand usage (Huang and Sarigöllü, 2014). A familiar brand has a higher probability to be picked by consumers and performs better in the marketplace as compared to an unheard brand (Hoyer and Brown, 1990). The frequency of brand exposure considerably increases the odds that the brand will be selected; irrespective of consumer awareness of the brand (Ferraro *et al.*, 2009). Tan *et al.* (2021) studied social media advertising and showed that ad informativeness and the quality of social media stimuli strengthen brand awareness. Macdonald and Sharp (2000) showed that consumers choose brands with high brand awareness despite differences in price and quality, which is in line with (Hoyer and Brown, 1990), who demonstrated that brand awareness was an important decision-making heuristic among inexperienced consumers.

Product Placement

Product placement, also known as brand placement or embedded marketing, is the presentation of a product, a brand name, and a logo into an entertainment medium (Lehu, 2007). Advertisements are developed around the brands while, in product placement, brands are inserted into the already-built content in videos (Russell, 1998). Product placement of branded merchandise within the online video creates a liaison between a content creator and a promoter in exchange for valuable consideration (Balasubramanian, 1994). Brands placed around the main character in the video have higher attention (Gupta and Lord, 1998). Positive brand attitudes are generated when product placements are consistent with the contents plot and the affective tones it evoked (Gillespie *et al.*, 2018). Product placements are viewed positively by consumers, who believe that including brands in content improves the authenticity of the online video (Kaur *et al.*, 2021). Product placement is used to create brand awareness, raise the brand image, increase public relations and generate a plot for a new product launch (Russell and Belch, 2005). Brand relatedness with the content creator is a vital factor in product placement (Schouten *et al.*, 2020). In today's cluttered advertising environment, appropriate messaging and contents are essential (De Mooij and Hofstede, 2010). The distinction between information and entertainment is muddled by embedded advertisements (Van Reijmersdal *et al.*, 2020). Neale and Corkindale (2022) studied that spending on product placement in recent years has increased considerably, but the return on investment has decreased. The challenge with product placement is where and how the brand should be inserted into the online videos. The study measures the viewer's visual attention while the product placement is inserted into the online video at different timing sequences.

Online Videos and Visual Attention

Advertisements are important for targeting customers and informing them about the benefits of products and services (Wells, 1989). Online marketing is a way to reach newer customers by conveying promotional marketing messages about new or existing products (Yen and Chiang, 2021). The increased internet penetration is an essential factor in boosting online advertisement (Frade *et al.*, 2021). Marketers use YouTube, the largest online video platform, to run their ads and reach the target audience (Tafesse, 2020). Dehghani *et al.* (2016) studied YouTube advertising and found it effective in creating brand awareness. Belanche *et al.* (2017a-b) showed that to increase ad efficacy, congruency between the ads and the video content is needed. Dehghani *et al.* (2016) found that viewers' perceptions of enjoyment and informational value were correlated with the effectiveness of advertising. Although Smith (2011) found that ad length, repetition, and forced exposure create annoyance, however, viewers do not always see advertisements negatively (Cho *et al.*, 2001).

Advertising on social media has become an important medium for alluring and retaining customers (Tan *et al.*, 2021). The subjective norm, prior frequency of watching online video commercials, and a positive attitude with high intention and involvement are the elements that favorably impact the intention to watch an online video ad (Lee and Lee, 2011). The motive of the viewer to watch the online videos, including enjoyment, association building, and the time spent, improves the viewer's perceptions towards the products promoted in the online video (Liu *et al.*, 2019). When a brand is introduced at the beginning of a video, viewers are more likely to associate that brand with the remaining ad content (Mandler, 1984). Teixeira *et al.* (2010) showed that when brand names are introduced at the end of the video, it helps in persuasion. Belanche *et al.* (2020) have studied the impact on viewer recall due to different timing sequences of the brand name shown in YouTube videos advertisement.

Exposure, attention, and ad processing are the critical phases of how viewers respond to video advertising stimuli (Chatterjee *et al.*, 2003). Most studies focus on how stimuli draw viewers' attention since it increases the probability of encoding and storing an advertisement's messages by the consumer (Goodrich, 2011; Baker *et al.*, 2004). The advertisement's effectiveness depends on user information processing, including attention and recognition (Hamborg *et al.*, 2012). The human eye has evolved mechanisms that only record information deemed important for information processing since the amount of information it can acquire surpasses the amount the brain can process (Wedel and Pieters, 2006). Visual attention limits and controls a person's ability to perceive visual stimuli to the same extent (Orquin and Loose, 2013). Visual attention is a key aspect of marketing that identifies

the subliminal factors that affect the consumers' perception of an advertisement or product (Madan, 2010). Viewers focus less on the central dynamic stimuli as they are present across time and do not require memorization (Wooley *et al*., 2022).

Product placement is a marketing strategy used by businesses to advertise their goods and services (Sharma *et al*., 2022b). Product placement is considered a subtle sales strategy and is sometimes thought to be more effective than conventional advertising due to its less distracting nature (Chan *et al*., 2016). Product placement has changed how brand content is presented to consumers impacting brand awareness in online videos. However, little is known about the timing sequence of product placement in online videos. The present research, therefore, focuses on the impact of different timing sequences of product placement on brand name and product name and its effect on brand awareness.

Proposed Model and Hypotheses

The study has proposed two models (Fig. 1 and 2) to understand the effects of timing sequence on a brand name, product name, and brand awareness. The viewer's visual attention to the online video was examined using eye-tracking data. The viewer's visual data creates a pattern using eye-tracking data analysis. However, more than one visualization measure is needed to identify those patterns and analyze the eye-tracking data. The outcome can be improved by analyzing multiple eye-tracking metrics (Blascheck *et al*., 2014). Different eye-tracking metrics, such as Fixation Duration (FD), saccades, and Fixation Count (FC), have been employed to indicate attention (Pieters and Wedel, 2004). Eye-tracking metrics, FC and FD provide

information on visual attention, in turn, the effectiveness of an advertisement. FD determines how long people stare at one video element. Increased duration is correlated with cognitive processing, which denotes involvement. FC determines which part of the video receives more or less attention. FCs are numbered sequentially to track how viewers interpret different video elements. Researchers can define and examine attention to particular Areas of Interest (AoIs) within stimuli with eye-tracking technology. Compared to self-reported measures, which are subjective and only record conscious, acknowledged opinions, eye tracking has a substantial advantage (Micu and Plummer, 2010). The eye-tracking method measures attention by capturing eye movement to assess advertising efficacy (Wooley *et al*., 2022). Bialkova *et al*. (2020) showed that brand names are the foremost factor in driving attention, receiving a higher number of fixations. Blascheck *et al*. (2014) demonstrate that provocative advertisements increase the time to first fixation and FC for both product name and brand name. The viewer's visual attention is positively impacted by the interactions between social media content and advertising content in social media online advertising (Bigne *et al*., 2021). So the hypotheses are:

H_1 = The sequence of product placement in the online video affects the FD of the brand name

H_2 = The Sequence of product placement in the online video affects the FC of the brand name

H_3 = The sequence of product placement in the online video affects the FD of the product name

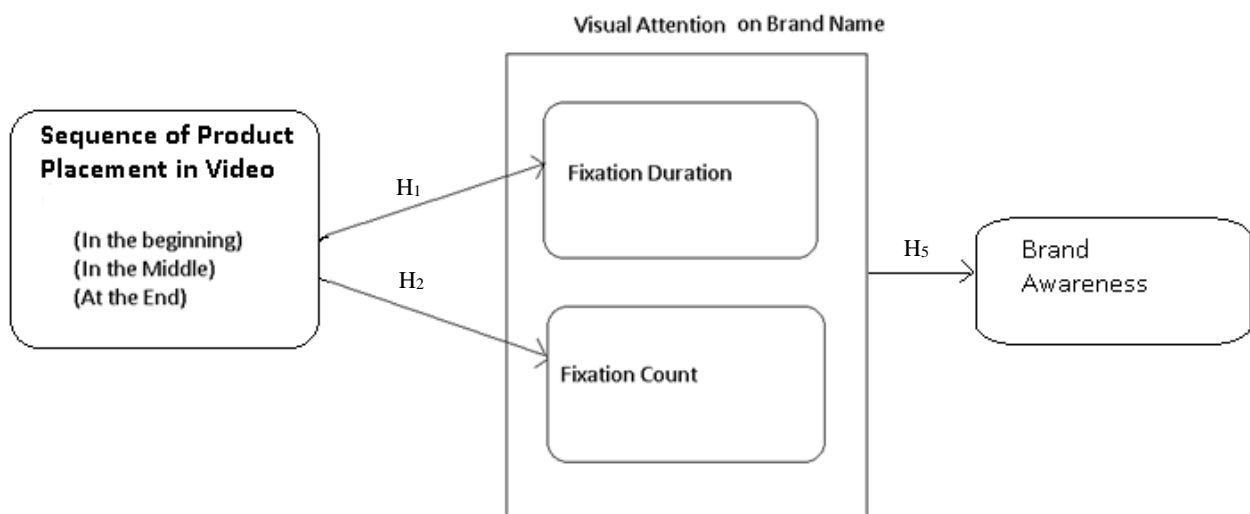H_4 = The sequence of product placement in the online video affects the FC of the product name

Fig. 1: Model 1: Visual attention on brand name
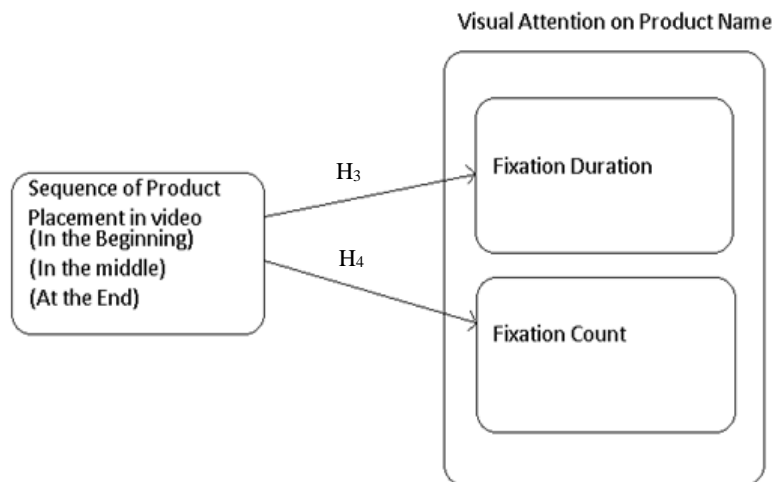
Visual Attention on Product Name

Fig. 2: Model 2: Visual attention on the product name

Product placement is the inclusion of brands (Russell, 2002) in online videos in exchange for payment (Gupta and Gould, 1997). Product placement aims to embed promotion such that they are inescapable in the video (Hackley and Tiwsakul, 2006). The relationship between culture, brand awareness, and product placement has been studied, and found that product placement is ineffective for less familiar brands (Chan *et al.*, 2016). Van Reijmersdal *et al.* (2010) study shows a positive linkage between the duration of product placement and brand recognition; however, there is a negative effect on behavior. The characteristic of product placement raises the possibility that various factors may influence the method's efficacy. It has been observed that the effect of product placement on viewers is inconsistent (Chan, 2012), while the effect of the sequence of product placement on brand awareness has rarely been studied. Thus, the hypothesis is H_5-stronger visual attention, including more FC and longer FD, would display higher brand awareness.

Materials and Methods

Participant

Convenience sampling was adopted to undertake the eye-tracking experiment on 42 respondents who were postgraduate students and Ph.D. scholars from a premier management college in Maharashtra, a state in India. The students and scholars undertaking various courses at the university were extremely bright and come through a rigorous process of selection. These students and Ph.D. scholars were avid viewers of YouTube and were influenced by its content. Also, the study required that the participants visit the behavioral lab and use the desktop version of the eye tracker to take part in the experiment. This necessitated convenience sampling as it was easy to contact university students and scholars for undertaking the study which otherwise required a substantial amount of time and resources. Also, convenience sampling is often used by researchers to undertake eye-tracking experiments and is an accepted sampling technique used for such studies (Kuhar and Merčun, 2022; Espigares-Jurado *et al.*, 2020). The participant's age group was between 20 to 42 years of age, with 25.33 as the mean age and a standard deviation of 4.57. The sample consists of approximately 45% female and 55% male. All participants were regularly watching online videos on YouTube. Participants received a modest gift for participating in the experiment. All participants had normal vision, a mandatory requirement to run the experiment. The first step in collecting eye-tracking data is to undertake a calibration procedure for each study respondent. The respondents were made to sit 50-70 cm away from the laptop. Participants were made to concentrate on a moving black dot etched inside a red circle on the screen during the calibration process before the actual experiment was run. The respondents were instructed to use their eyes to follow the dot and to fixate on it whenever it pauses. If the calibration was done correctly, the respondent could start with the experiment. Data recording began after the calibration was completed.

Procedure

Three YouTube videos of duration 8:38, 9:14, and 7:48 min respectively, were selected, which showcased product placements at the beginning (in between the start of the video and before 1/3 of the total duration of the video), in the middle (between $1/3^{rd}$ and $2/3^{rd}$ of the total duration of the video) and towards the end (after $2/3^{rd}$ of the total duration of the video). The videos were of the same genres and language to avoid any bias. Each respondent watched only one of the three videos randomly. The YouTube channel from which all three videos were selected had more than 10.2 million subscribers.

The Tobii Studio version 3.4.6.1320 eye tracker was used to gather eye movement data. It uses an infrared light source and a camera to track corneal reflection (TobiiPro, 2021).

The device is kept beside the laptop screen, giving the eye-tracker the appearance of a regular laptop screen. The video was displayed on a dell laptop at a resolution of 1920 × 1080 × 59 Hz. The participants were approximately 65 cm away from the laptop screen. After the participant finished the experiment, they were presented with a survey questionnaire on a 5-point Likert scale. The survey questionnaire aided in understanding the effect of visual attention on brand awareness.

Measure

Eye tracking was used to obtain data about viewers' visual attention. A fixation is a limited amount of time; the eyes remain still and fixate on one area of the visual field (Rayner, 2009). An infrared camera was used to capture the viewer's eyeball movements while watching the video and the fixation data was automatically captured by Tobii eye tracker software. FD and FC are variables that track different aspects of viewers' eye movements. When watching a video, the AoI (Area of Interest) refers to the predefined region (s) that the viewer looks at to capture the visual data (Privitera and Stark, 2000). FC is the number of times a viewer's eyes are focused on a specific region of the video, whereas FD measures how long they were focused on a single fixation or gaze. The tobii studio 3.4.6.1320 eye-tracker was used to assess visual attention by measuring FD and FC. The eye tracker system measures FC (frequency of the viewer's gaze paused on target stimuli), FD (the amount of time a viewer spends on a single fixation or staring at particular stimuli), scan path (sequence of fixation), the position of the first fixation and time of the first fixation (Lee and Ahn, 2012), Because the present study is primarily concerned with visual attention, FD and FC were chosen as the most suitable metrics for the experiment (Wedel and Pieters, 2006). Other measures available for eye-tracking include total dwell time and time to the first fixation, as a proxy measure for visual attention (Orquin and Holmqvist, 2018). The collected data were analyzed using SPSS, version 25.

Data Analysis

To analyze the data, two approaches were used. First, the participants' visual attention to the video was examined using a heat map (Duchowski, 2003; Rayner, 2009). The brand name and product name were used to generate the Area of Interest (AoI). After each participant viewed the video, 42 heat maps were generated. These heat maps were piled in groups of three (placement of the brand at the beginning, in the middle, and towards the end of the video), each with 14 heat maps, resulting in three final heat maps for three scenarios. The heat maps enabled us to compare and analyze visual attention across all three experimental conditions. Second, data on eye movement was evaluated based on the FC and FD, which gave the mean FD and the mean FC for each video.

Figures 3-5 show heat maps for the three video scenarios where the product is placed at the beginning, in the middle, and toward the end of the video. The fixation zones are colored in the red-yellow-green color spectrum, with red denoting longer FD, yellow denoting medium FD, and green denoting shorter FD. As a result, dark areas in the heat maps got 90% of total fixations, as shown in Fig. 3-5. The viewers' visual attention was primarily concentrated on regions that comprised brand names and product names. In the current study, eye movement analysis was conducted to analyze viewers' visual attention in addition to participants' visual focus on the video, as shown by the heat maps. Each AoI's FD and FC were calculated and compared. The effects of the brand name and the product name on the participants' visual attention were primarily investigated. The finding reveals that most participants' visual attention was drawn to the brand name and product name in the video while watching it.

Fig. 3: Heat map in the first video

Fig. 4: Heat map in the second video

Fig. 5: Heat map in the third video

Results and Discussion

The three distinct product placement sequences in YouTube videos were evaluated using the changes in the total averages of the eye-tracking data (FD and FC) for the two AoIs, that is, brand name and product name. Not all eye-tracking metrics have a normal distribution (Holmqvist and Andersson, 2011); therefore, the data was analyzed using Kruskal-Wallis H test. Kruskal-Wallis H test analyses mean ranks and are a non-parametric method for testing samples from the same distribution. It groups up two or more independent variables of a continuous or ordinal scale and determines statistically significant differences between them. Table 1 shows the Descriptive statistics. Table 2 shows Kruskal Wallis mean rank of brand name and product name for a different sequence of product placement in the video and Kruskal Wallis post-Hoc

test result. Viewers' visual attention measures in a different sequence of product placement in a video are shown in Table 3. Table 4 is the regression result of visual attention on brand awareness.

Effect of the Sequence of Product Placement in the Video on Visual Attention

The Kruskal-Wallis test was used to test H_1. The test was used to address the impact due to sequencing of the product placement in the video. FD on the brand name was not significantly impacted due to the sequencing of the product placement in the video, $\chi^2(2) = 3.480$, $p = 0.176$ (Table 1), thus rejecting H_1. For H_2, the Kruskal–Wallis test was used to address the sequencing of the product placement in the video. FC on the brand name was significantly impacted due to sequencing of the product placement in the video, $\chi^2(2) = 36.474$, $p = 0.000$, thus supporting H_2 (Table 1). More specifically, Kruskal–Wallis post-hoc pairwise comparison tests with adjusted *p*-values showed that there was a significant difference in FC on the brand name between the product placement at the beginning and the middle of the video ($p = 0.000$), in the middle and at the end of the video ($p = 0.008$) and in the beginning and at the end of the video ($p = 0.008$) (Table 2). YouTube videos with product placement at the beginning of the video drew attention to the brand name with a higher count ($M = 2889.85$, $SD = 482.69$) than the other two sequences of product placements (Table 3). The FC on brand name for product placement in the middle of the video ($M = 138.71$, $SD = 81.03$) was lower than the product placement at the end of the video ($M = 1701.42$, $SD = 359.96$), thus, showing that the highest attention on the brand name was at the beginning of the video, followed by at the end of the video and in the middle of the video respectively.

Table 1: Descriptive statistics

	Brand name			Product name		
	Chi-square	df	Asymp. sig.	Chi-square	df	Asymp. sig.
FD	3.480	2	0.176	3.057	2	0.217
FC	36.474	2	0.000	35.736	2	0.000

Table 2: Kruskal Wallis mean rank of brand name and product name for a different sequence of product placement in the video and Kruskal-Wallis post-hoc test

	Brand name			Product name			Kruskal Wallis Post-Hoc test					
	In the beginning (B) (n = 14) Mean rank	In the middle (n = 14) Mean rank	At the end (E) (n = 14) Mean rank	In the beginning (B) (n = 14) Mean rank	In the middle (M) (n = 14) Mean rank	At the end (E) (n = 14) Mean rank	Brand name			Product name		
							B vs M	M vs E	B vs E	B vs M	M vs E	B vs E
FD	19.50	25.50	19.50	20.36	25.25	18.89	(p = 0.000)	(p = 0.008)	(p = 0.008)	(p = 0.000)	(p = 0.011)	(p = 0.006)
FC	35.50	7.50	21.50	35.50	7.79	21.21						

Table 3: Viewers' visual attention measured in a different sequence of product placement in video

Brand name	AoIs Sequence of product placement	M (SD)		N	
		FD	FC	FD	FC
	In the beginning	0.032 (0.004)	2889.85 (482.69)	14	14
	In the middle	0.035 (0.005)	138.71 (81.03)0	14	14
	At the end	0.032 (0.004)	1701.42 (359.96)	14	14
	Total	0.033 (0.004)	1577.00 (1190.48)00	42	42
Product name	In the beginning	0.032 (0.004)	3707.21 (916.45)	14	14
	In the middle	0.035 (0.006)	56.50 (35.19)00	14	14
	At the end	0.027 (0.004)	243.35 (131.56)	14	14
	Total	0.033 (0.005)	1335.69 (1777.3)	42	42

Table 4: Regression Result: Visual attention on brand awareness

Variable	B	SE (B)	β	t	Sig. (p)
FD	-8.470	34.067	-0.041	-0.249	0.805
FC	0.000	0.000	-0.044	-0.263	0.794

R square = 0.003

For H_3, the Kruskal-Wallis test was used to address the sequencing of the product placement in the video. FD on product name was not significantly impacted due to sequencing of the product placement in the video, $\chi^2(2) = 3.057$, $p = 0.217$ (Table 1), thus rejecting H_3.

For H_4, the Kruskal–Wallis test was used to address the sequencing of the product placement in the video. FC on product name was significantly impacted due to sequencing of the product placement in the video, $\chi^2(2) = 35.736$, $p = 0.000$ (Table 1), thus supporting H_4. In Kruskal-Wallis post-hoc Pairwise comparison tests with adjusted p-values showed that there was a significant difference in FC on product name between the product placement in the beginning and the middle of the video ($p = 0.000$), in the middle and at the end ($p = 0.011$) and in the beginning and at the end ($p = 0.006$) (Table 2). YouTube videos with product placement at the beginning of the video drew attention to the product name with a higher count ($M = 3707.21$, $SD = 916.45$) than the other two sequences of product placement (Table 3). The FC on the product name for product placement in the middle of the video ($M = 56.5$, $SD = 35.19$) was lower than the product placement at the end of the video ($M = 243.35$, $SD = 131.56$). This shows that the highest attention on product name was at the beginning of the video, followed by at the end of the video and in the middle of the video, respectively.

In addition, heat maps, as given in Fig. 3-5, show differences in "heat," which is represented by the red, green, and yellow colors on the product's brand name and product name in the online video shown by the content creator. There are differences in visual attention (FD and FC) due to different sequences of product placement in the online video, consistent with our hypothesis's tests.

Effect of Visual Attention on Brand Awareness

A linear regression analysis was done using brand awareness as the dependent variable and FD and FC on the brand name as the independent variable. Hypothesis H_5 predicted a negative relationship between viewers' visual attention and brand awareness. The regression equations were not significant ($R^2 = 0.003$, $F(2,39) = 0.051$, p>0.05). Therefore, FD and FC are not significant predictors of brand awareness. Thus, H_5 was not supported (Table 4).

Managerial Implication and Conclusion

Using the AIDA model (Intraub, 1979) as the conceptual framework, the present research examined the effect of a different sequence of product placement in YouTube videos on visual attention and brand awareness. Three different sequences (in the beginning, in the middle, and at the end) were tested. Moreover, the relationship between visual attention and brand awareness was also examined. Extensive studies have been done to examine the impact of product placement on customers' responses using the eye-tracking method (Boronczyk *et al*., 2021; Ghosh, 2021; Chen and Deterding, 2013). Nevertheless, few studies focus on the impact of the time sequence of product placement in YouTube videos. The current study aims to fill the aforesaid gap by using an eye-tracking device to analyze the impact of varied product placement timings in YouTube videos. The study evaluates the respondents' visual attention to the various product placement sequences (beginning, in the middle, and towards the end of the video) from the eye-tracking output. The findings suggest that product placement at the beginning of the video drew attention to the brand name and product name more frequently than the other two sequences. In particular, the frequency of attention was highest on product placement at the beginning of the video, followed by at the end of the video and in the middle of the video, respectively. This is in line with the dynamic attention theory suggesting that advertising content may not get the best result at a central location

(Wooley *et al.*, 2022; Lang, 2014; Lang and Bailey, 2015). Heat maps have been used in eye-tracking for the video to provide qualitative evidence regarding the parts of the screen that draw attention across time and space (Wooley *et al.*, 2022). The heat map shows that product name and brand name get the most attention among the other elements. However, the time duration for which the eyes are fixated on the product name and brand name did not have any significant difference for the three different sequences of product placement in the video. Moreover, there was no significant impact of visual attention on brand awareness due to the three different product placement sequences in the video. The result showed that FD and FC are not significant predictors of brand awareness. The different sequences of product placement in the video do not change the brand awareness of the viewers.

The study offers practical implications that will help content developers to increase the viewer's engagement. YouTube has become a popular way to reach a large number of audiences. It will help the content developers focus on areas where they can include embedded marketing in the video. Placing the product/brand at the beginning or the end of the video offers a higher possibility of getting noticed, thus providing a better opportunity for the marketer and content creator to influence the mass audiences.

Limitations and Future Research

The experiment was conducted on only one genre of videos which is food recipe videos but can be replicated with other genres as well. The study was conducted on YouTube videos, so further studies can be conducted on other platforms such as Facebook and Instagram. This study included visual attention data on brand name and product name and hence, further studies can include the impact of other brand elements like logos, celebrity, and taglines. The sample was limited to university students and scholars only, so further research can include people with different demographic and socio-economic backgrounds.

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Author's Contributions

Prasun Gahlot, Surya Bahadur Thapa and Komal Suryavanshi: Acquisition of data, and analysis and interpretation of data and content writing.

Aradhana Gandhi: Conception and designed of the article, intellectual content generation, critically the reviewed the article.

Ramakrishnan Raman: Contribution in intellectual content ideation and reviewed the article along with the coordination for publication.

Ethics

This article is original and contains unpublished material. The corresponding author confirms that all of the other authors have read and approved the manuscript and no ethical issues involved.

Reference

Aaker, D. A., & Equity, M. B. (1991). Capitalizing on the Value of a Brand Name. *New York*, *28*(1), 35-37.

Ang, L. (2011). Community relationship management and social media. *Journal of Database Marketing & Customer Strategy Management*, *18*(1), 31-38. https://link.springer.com/article/10.1057/dbm.2011.3

Babin, B. J., Herrmann, J. L., Kacha, M., & Babin, L. A. (2021). The effectiveness of brand placements: A meta-analytic synthesis. *International Journal of Research in Marketing*, *38*(4), 1017-1033. https://doi.org/10.1016/j.ijresmar.2021.01.003

Babutsidze, Z. (2018). The rise of electronic social networks and implications for advertisers. *Technological Forecasting and Social Change*, *137*, 27-39. https://doi.org/10.1016/j.techfore.2018.06.010

Baker, W. E., Honea, H., & Russell, C. A. (2004). Do not wait to reveal the brand name: The effect of brand-name placement on television advertising effectiveness. *Journal of Advertising*, *33*(3), 77-85. https://doi.org/10.1080/00913367.2004.10639170

Balasubramanian, S. K. (1994). Beyond advertising and publicity: Hybrid messages and public policy issues. *Journal of Advertising*, *23*(4), 29-46. https://doi.org/10.1080/00913367.1943.10673457

Belanche, D., Flavián, C., & Pérez-Rueda, A. (2017a). Understanding interactive online advertising: Congruence and product involvement in highly and lowly arousing, skippable video ads. *Journal of Interactive Marketing*, *37*(1), 75-88. https://doi.org/10.1016/j.intmar.2016.06.004

Belanche, D., Flavián, C., & Pérez-Rueda, A. (2017b). User adaptation to interactive advertising formats: The effect of previous exposure, habit and time urgency on ad-skipping behaviors. *Telematics and Informatics*, *34*(7), 961-972. https://doi.org/10.1016/j.tele.2017.04.006

Belanche, D., Flavián, C., & Pérez-Rueda, A. (2020). Brand recall of skippable vs non-skippable ads in YouTube: Readapting information and arousal to active audiences. *Online Information Review*, *44*(3), 545-562. https://doi.org/10.1108/OIR-01-2019-0035

Bialkova, S., Grunert, K. G., & van Trijp, H. (2020). From desktop to supermarket shelf: Eye-tracking exploration on consumer attention and choice. *Food Quality and Preference*, *81*, 103839. https://doi.org/10.1016/j.foodqual.2019.103839

Bigne, E., Simonetti, A., Ruiz, C., & Kakaria, S. (2021). How online advertising competes with user-generated content in TripAdvisor. A neuroscientific approach. *Journal of Business Research*, *123*, 279-288. https://doi.org/10.1016/j.jbusres.2020.10.010

Blascheck, T., Kurzhals, K., Raschke, M., Burch, M., Weiskopf, D., & Ertl, T. (2014, June). State-of-the-art of visualization for eye tracking data. In *EuroVis (STARs)*. http://www.profitippliga.de/papers/58.pdf

Boronczyk, F., Rumpf, C., & Breuer, C. (2021). Gameplay and the effectiveness of sponsor signage: Visual attention to brand messages in live sports broadcasts. *International Journal of Sports Marketing and Sponsorship*. https://doi.org/10.1108/ijsms-03-2021-0063

Chan, F. F. Y. (2012). Product placement and its effectiveness: A systematic review and propositions for future research. *The Marketing Review*, *12*(1), 39-60. https://doi.org/10.1362/146934712X13286274424271

Chan, F. F. Y., Petrovici, D., & Lowe, B. (2016). Antecedents of product placement effectiveness across cultures. *International Marketing Review*. https://doi.org/10.1108/IMR-07-2014-0249

Chapple, C., & Cownie, F. (2017). An investigation into viewers' trust in and response towards disclosed paid-for endorsements by YouTube lifestyle Vloggers. *Journal of Promotional Communications*, *5*(2).

Chatterjee, P., Hoffman, D. L., & Novak, T. P. (2003). Modeling the clickstream: Implications for web-based advertising efforts. *Marketing Science*, *22*(4), 520-541. https://doi.org/10.1287/mksc.22.4.520.24906

Chen, H., & Deterding, A. (2013). College-aged young consumers' interpretations of product placement in social games. *Young Consumers*. https://doi.org/10.1108/17473611311305476

Cho, C. H., Lee, J. G., & Tharp, M. (2001). Different forced-exposure levels to banner advertisements. *Journal of Advertising Research*, *41*(4), 45-56. https://doi.org/10.2501/JAR-41-4-45-56

Cho, E., Fiore, A. M., & Russell, D. W. (2015). Validation of a fashion brand image scale capturing cognitive, sensory and affective associations: Testing its role in an extended brand equity model. *Psychology & Marketing*, *32*(1), 28-48. https://doi.org/10.1002/mar.20762

Chong, W., Rudkin, S., & Zhang, J. (2019). Gender differentials and implicit feedback on online video content: enhancing user interest evaluation. Industrial Management & Data Systems. https://doi.org/10.1108/IMDS-12-2018-0551

Dabbous, A., & Barakat, K. A. (2020). Bridging the online-offline gap: Assessing the impact of brands' social network content quality on brand awareness and purchase intention. *Journal of Retailing and Consumer Services*, 53, 101966. https://doi.org/10.1016/j.jretconser.2019.101966

Danniswara, R., Sandhyaduhita, P., & Munajat, Q. (2020). The impact of EWOM referral, celebrity endorsement and information quality on purchase decision: A case of Instagram. *In Global Branding: Breakthroughs in research and practice* (pp. 882-905). *IGI Global*. https://doi.org/10.4018/irmj.2017040102

De Mooij, M., & Hofstede, G. (2010). The Hofstede model: Applications to global branding and advertising strategy and research. *International Journal of Advertising*, 29(1), 85-110. https://doi.org/10.2501/S026504870920104X

Dehghani, M., Niaki, M. K., Ramezani, I., & Sali, R. (2016). Evaluating the influence of YouTube advertising for the attraction of young customers. *Computers in Human Behavior*, 59, 165-172. https://doi.org/10.1016/j.chb.2016.01.037

Duchowski, A. T. (2003). Eye tracking techniques. *In Eye tracking methodology: Theory and practice* (pp. 55-65). Springer, London. https://doi.org/10.1007/978-1-4471-3750-4_5

Espigares-Jurado, F., Muñoz-Leiva, F., Correia, M. B., Sousa, C. M., Ramos, C. M., & Faísca, L. (2020). Visual attention to the main image of a hotel website based on its position, type of navigation, and belonging to Millennial generation: An eye-tracking study. *Journal of Retailing and Consumer Services*, 52, 101906. https://doi.org/10.1016/j.jretconser.2019.101906

Ferraro, R., Bettman, J. R., & Chartrand, T. L. (2009). The power of strangers: The effect of incidental consumer brand encounters on brand choice. *Journal of Consumer Research*, 35(5), 729-741. https://doi.org/10.1086/592944

Frade, J. L. H., de Oliveira, J. H. C., & Giraldi, J. D. M. E. (2021). Advertising in streaming video: An integrative literature review and research agenda. *Telecommunications Policy*, 45(9), 102186. https://doi.org/10.1016/j.telpol.2021.102186

France, S. L., Shi, Y., Vaghefi, M. S., & Zhao, H. (2021). Online video channel management: An integrative decision support system framework. *International Journal of Information Management*, 59, 102244. https://doi.org/10.1016/j.ijinfomgt.2020.102244

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Ghosh, M. (2021). Product placement by social media homefluencers during the new normal. *South Asian Journal of Marketing*. https://doi.org/10.1108/sajm-05-2021-0069

Gillespie, B., Muehling, D. D., & Kareklas, I. (2018). Fitting product placements: Affective fit and cognitive fit as determinants of consumer evaluations of placed brands. *Journal of Business Research*, 82, 90-102. https://doi.org/10.1016/j.jbusres.2017.09.002

Statista. (2021). Global top websites by monthly visits. https://www.statista.com/statistics/1201880/most-visited-websites-worldwide/

Goodrich, K. (2011). Anarchy of effects? Exploring attention to online advertising and multiple outcomes. *Psychology & Marketing*, 28(4), 417-440. https://doi.org/10.1002/mar.20371

Gupta, P. B., & Lord, K. R. (1998). Product placement in movies: The effect of prominence and mode on audience recall. *Journal of Current Issues & Research in Advertising*, 20(1), 47-59. https://doi.org/10.1080/10641734.1998.10505076

Gupta, P. B., & Gould, S. J. (1997). Consumers' perceptions of the ethics and acceptability of product placements in movies: Product category and individual differences. *Journal of Current Issues & Research in Advertising*, 19(1), 37-50. https://doi.org/10.1080/10641734.1997.10505056

Hackley, C., & Tiwsakul, R. (2006). An entertainment marketing and experiential consumption. *Journal of Marketing Communications*, 12(1), 63-75. https://doi.org/10.1080/13527260500358608

Hamborg, K. C., Bruns, M., Ollermann, F., & Kaspar, K. (2012). The effect of banner animation on fixation behavior and recall performance in search tasks. *Computers in Human Behavior*, 28(2), 576-582. https://doi.org/10.1016/j.chb.2011.11.003

Hill, S. R., Troshani, I., & Chandrasekar, D. (2017). Signaling effects of vlogger popularity on online consumers. *Journal of Computer Information Systems*. https://doi.org/10.1080/08874417.2017.1400929

Holmqvist, K., Nyström, M. andersson, R., Dewhurst, R., Jarodzka, H., & Van de Weijer, J. (2011). Eye tracking: A comprehensive guide to methods and measures. *OUP Oxford*.

Hoyer, W. D., & Brown, S. P. (1990). Effects of brand awareness on choice for a common, repeat-purchase product. *Journal of Consumer Research*, 17(2), 141-148. https://doi.org/10.1086/208544

Huang, R., & Sarigöllü, E. (2014). How brand awareness relates to market outcome, brand equity, and the marketing mix. In Fashion branding and consumer behaviors (pp. 113-132). Springer, New York, NY. https://doi.org/10.1007/978-1-4939-0277-4_8

Intraub, H. (1979). The role of implicit naming in pictorial encoding. *Journal of Experimental Psychology: Human Learning and Memory*, 5(2), 78. https://doi.org/10.1037/0278-7393.5.2.78

Jiang, Z., Guan, C., & de Haaij, I. L. (2019). Congruity and processing fluency: An analysis on the effectiveness of embedded online video advertising. *Asia Pacific Journal of Marketing and Logistics*. https://doi.org/10.1108/APJML-03-2019-0128

Kaur, R., Sharma, R. K., & Bakshi, A. (2021). Antecedents and consequences of consumers' attitudes toward product placements: Evidence from India. *International Journal of Emerging Markets*. https://doi.org/10.1108/IJOEM-09-2020-1087

Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, 57(1), 1-22. https://doi.org/10.1177/002224299305700101

Kuhar, M., & Merčun, T. (2022). Exploring user experience in digital libraries through questionnaires and eye-tracking data. *Library & Information Science Research*, 44(3), 101175. https://doi.org/10.1016/j.lisr.2022.101175

Ladhari, R., Massa, E., & Skandrani, H. (2020). YouTube vloggers' popularity and influence: The roles of homophily, emotional attachment, and expertise. *Journal of Retailing and Consumer Services*, 54, 102027. https://doi.org/10.1016/j.jretconser.2019.102027

Lang, A. (2014). Dynamic human-centered communication systems theory. *The Information Society*, 30(1), 60-70. https://doi.org/10.1080/01972243.2013.856364

Lang, A., & Bailey, R. L. (2015). Understanding information selection and encoding from a dynamic, energy-saving, evolved, embodied, embedded perspective. *Human Communication Research*, 41(1), 1-20. https://doi.org/10.1111/hcre.12040

Lee, J., & Lee, M. (2011). Factors influencing the intention to watch online video advertising. *Cyberpsychology, Behavior and Social Networking*, 14(10), 619-624. https://doi.org/10.1089/cyber.2009.0305

Lee, J. E., & Watkins, B. (2016). YouTube vloggers' influence on consumer luxury brand perceptions and intentions. *Journal of Business Research*, 69(12), 5753-5760. https://doi.org/10.1016/j.jbusres.2016.04.171

Lee, J., & Ahn, J. H. (2012). Attention to banner ads and their effectiveness: An eye-tracking approach. *International Journal of Electronic Commerce*, 17(1), 119-137. https://doi.org/10.2753/jec1086-4415170105

Lehu, J. M. (2007). Branded entertainment: Product placement & brand strategy in the entertainment business. *Kogan Page Publishers*.

Li, H., & Lo, H. Y. (2015). Do you recognize its brand? The effectiveness of online in-stream video advertisements. *Journal of Advertising*, 44(3), 208-218. https://doi.org/10.1080/00913367.2014.956376

Liu, M. T., Liu, Y., & Zhang, L. L. (2019). Vlog and brand evaluations: The influence of parasocial interaction. *Asia Pacific Journal of Marketing and Logistics*. https://doi.org/10.1108/apjml-01-2018-0021

Macdonald, E. K., & Sharp, B. M. (2000). Brand awareness effects on consumer decision making for a common, repeat purchase product: A replication. *Journal of Business Research*, 48(1), 5-15. https://doi.org/10.1016/S0148-2963(98)00070-8

Madan, C. R. (2010). Neuromarketing: The next step in market research? *Eureka*, 1(1), 34-42. https://doi.org/10.29173/eureka7786

Mandler, J. M. (2014). Stories, scripts, and scenes: Aspects of schema theory. *Psychology Press*. https://doi.org/10.4324/9781315802459

Martinet, J., Lablack, A., Lew, S., & Djeraba, C. (2009, January). Gaze-based quality assessment of visual media understanding. *In 1ˢᵗ International Workshop on Computer Vision and Its Application to Image Media Processing (WCVIM) in conjunction with the 3ʳᵈ Pacific-Rim Symposium on Image and Video Technology (PSIVT), Tokyo-Japan*.

Micu, A. C., & Plummer, J. T. (2010). Measurable emotions: How television ads really work: Patterns of reactions to commercials can demonstrate advertising effectiveness. *Journal of Advertising Research*, 50(2), 137-153. https://doi.org/10.2501/S0021849910091300

Neale, M., & Corkindale, D. (2022). Make product placement work for you: Get less exposure. *Business Horizons*, 65(2), 149-157. https://doi.org/10.1016/j.bushor.2021.02.034

Orquin, J. L., & Holmqvist, K. (2018). Threats to the validity of eye-movement research in psychology. *Behavior Research Methods*, 50(4), 1645-1656. https://doi.org/10.3758/s13428-017-0998-z

Orquin, J. L., & Loose, S. M. (2013). Attention and choice: A review on eye movements in decision making. *Acta Psychologica*, 144(1), 190-206. https://doi.org/10.1016/j.actpsy.2013.06.003

Pace, S. (2008). YouTube: an opportunity for consumer narrative analysis? *Qualitative Market Research: An International Journal*, 11(2), 213-226. https://doi.org/10.1108/13522750810864459

Panda, T. K. (2003). Consumer response to brand placements in films: Role of brand congruity and modality of presentation in bringing attitudinal change among consumers with special reference to brand placements in Hindi films.

Pieters, R., & Wedel, M. (2004). Attention capture and transfer in advertising: Brand, pictorial and text-size effects. *Journal of Marketing*, 68(2), 36-50. https://doi.org/10.1509/jmkg.68.2.36.27794

Privitera, C. M., & Stark, L. W. (2000). Algorithms for defining visual regions-of-interest: Comparison with eye fixations. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 22(9), 970-982. https://doi.org/10.1109/34.877520

Rayner, K. (2009). The 35th Sir Frederick Bartlett Lecture: Eye movements and attention in reading, scene perception, and visual search. *Quarterly Journal of Experimental Psychology*, 62(8), 1457-1506. https://doi.org/10.1080/17470210902816461

Rumpf, C., Boronczyk, F., & Breuer, C. (2020). Predicting consumer gaze hits: A simulation model of visual attention to dynamic marketing stimuli. *Journal of Business Research*, 111, 208-217. https://doi.org/10.1016/j.jbusres.2019.03.034

Russell, C. A., & Belch, M. (2005). A managerial investigation into the product placement industry. *Journal of Advertising Research*, 45(1), 73-92. https://doi.org/10.1017/s0021849905050038

Russell, C. A. (1998). Toward a framework of product placement: Theoretical propositions. *ACR North American Advances*.

Russell, C. A. (2002). Investigating the effectiveness of product placements in television shows: The role of modality and plot connection congruence on brand memory and attitude. *Journal of Consumer Research*, 29(3), 306-318. https://doi.org/10.1086/344432

Schouten, A. P., Janssen, L., & Verspaget, M. (2020). Celebrity vs. Influencer endorsements in advertising: The role of identification, credibility and Product-Endorser fit. *International Journal of Advertising*, 39(2), 258-281. https://doi.org/10.1080/02650487.2019.1634898

Sharma, A., Nicolau, J. L., & Mas, F. J. (2022a). The effect of movie and television placements. *Tourism Management*, 91, 104517. https://doi.org/10.1016/j.tourman.2022.104517

Sharma, M., Banerjee, S., & Paul, J. (2022b). Role of social media on mobile banking adoption among consumers. *Technological Forecasting and Social Change*, 180, 121720. https://doi.org/10.1016/j.techfore.2022.121720

Simmonds, L., Bellman, S., Kennedy, R., Nenycz-Thiel, M., & Bogomolova, S. (2020). Moderating effects of prior brand usage on visual attention to video advertising and recall: An eye-tracking investigation. *Journal of Business Research*, 111, 241-248. https://doi.org/10.1016/j.jbusres.2019.02.062

Smith, K. T. (2011). Digital marketing strategies that Millennials find appealing, motivating, or just annoying. *Journal of Strategic Marketing*, 19(6), 489-499. https://doi.org/10.1080/0965254X.2011.581383

Song, H., Ruan, W. J., & Jeon, Y. J. J. (2021). An integrated approach to the purchase decision-making process of food-delivery apps: Focusing on the TAM and AIDA models. *International Journal of Hospitality Management*, 95, 102943. https://doi.org/10.1016/j.ijhm.2021.102943

Tafesse, W. (2020). YouTube marketing: How marketers' video optimization practices influence video views. *Internet Research*. https://doi.org/10.1108/INTR-10-2019-0406

Tan, Y., Geng, S., Katsumata, S., & Xiong, X. (2021). The effects of ad heuristic and systematic cues on consumer brand awareness and purchase intention: Investigating the bias effect of heuristic information processing. *Journal of Retailing and Consumer Services*, 63, 102696. https://doi.org/10.1016/j.jretconser.2021.102696

Teixeira, T. S., Wedel, M., & Pieters, R. (2010). Moment-to-moment optimal branding in TV commercials: Preventing avoidance by pulsing. *Marketing Science*, 29(5), 783-804. https://doi.org/10.1287/mksc.1100.0567

TobiiPro. (2021). Top 6 eye tracking questions answered. https://www.tobiipro.com/landing-pages/eye-tracking/

Uribe, R. (2016). Separate and joint effects of advertising and placement. *Journal of Business Research*, 69(2), 459-465. https://doi.org/10.1016/j.jbusres.2015.06.052

Van Reijmersdal, E. A., Rozendaal, E., Hudders, L., Vanwesenbeeck, I., Cauberghe, V., & Van Berlo, Z. M. (2020). Effects of disclosing influencer marketing in videos: An eye-tracking study among children in early adolescence. *Journal of Interactive Marketing*, 49(1), 94-106. https://doi.org/10.1016/j.intmar.2019.09.001

Van Reijmersdal, E., Smit, E. and Neijens, P. (2010), "How media factors affect audience responses to brand placement", *International Journal of Advertising*, Vol. 29 No. 2, pp. 279-302. https://doi.org/10.2501/S0265048710201154

Wedel, M., & Pieters, R. (2006). Eye Tracking for Visual Marketing. Foundations and Trends® In Marketing, 1(4), 231-320. https://doi.org/10.1561/1700000011

Wells, W.D. (1989), "Lectures and dramas", in Cafferata, P., and Tybout, A. (Eds), *Cognitive and Affective Responses to Advertising*, Lexington Books, Lexington, MA, pp. 13-20.

Williams, K., Petrosky, A., Hernandez, A., & Page, R. (2011). Product placement effectiveness: Revisited and renewed. *Journal of Management and Marketing Research*, 7, 1-24.

Wooley, B., Bellman, S., Hartnett, N., Rask, A., &Varan, D. (2022). Influence of dynamic content on visual attention during video advertisements. *European Journal of Marketing*, 56(13), 137-166. https://doi.org/10.1108/EJM-10-2020-0764

Yen, C., & Chiang, M. C. (2021). Examining the effect of online advertisement cues on human responses using eye-tracking, EEG, and MRI. *Behavioral Brain Research*, 402, 113128 https://doi.org/10.1016/j.bbr.2021.113128

Zhou, T., Huang, S., Cheng, J., & Xiao, Y. (2020). The distance teaching practice of combined mode of massive open online course micro-video for interns in the emergency department during the COVID-19 epidemic period. *Telemedicine and e-Health*, 26(5), 584-588.