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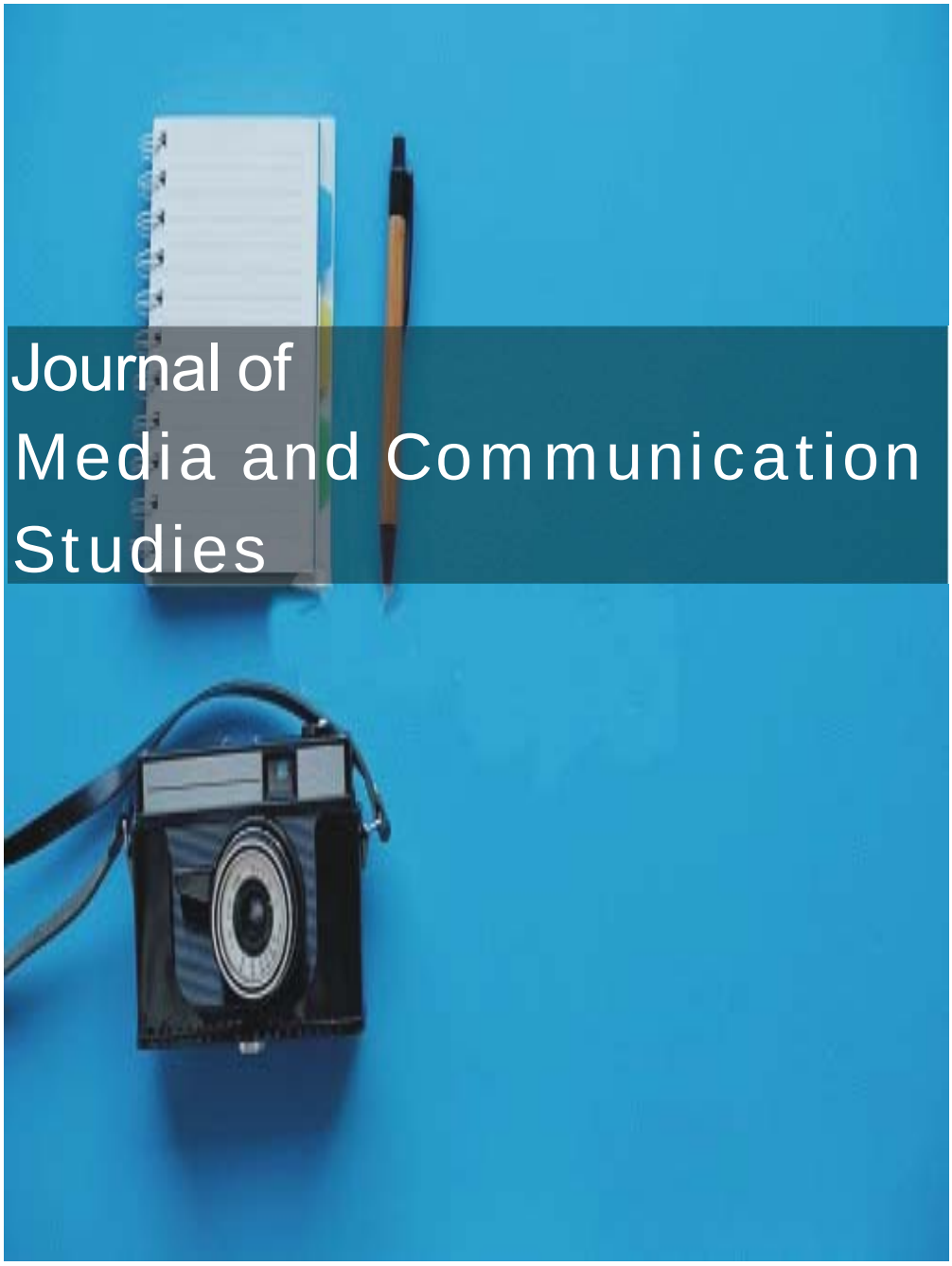

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Table of Content

Pharmaceutical companies' Twitter communications: Engagement and message frames 1

Sun-A Park

Product placement in Namaste Wahala in the global film industry and brand recall in Nigeria 9

Mosopefoluwa Taiwo, Boluwatife Joy Jaiyesimi and Eric Msughter Aondover

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Journal of Media and Communication Studies

Full Length Research Paper

Pharmaceutical companies' Twitter communications: Engagement and message frames

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This study conducted a content analysis of tweets from the top five pharmaceutical companies to examine the levels of engagement between these companies and their audiences. The research also investigated the relationships between different types of tweets, including topics and message frames, and user interactions. The results revealed that pharmaceutical companies were more inclined to engage with tweets related to their own business practices rather than other subjects. The analysis further showed that pharmaceutical companies predominantly utilized episodically framed tweets for disseminating information about their own company, while thematic frames were employed for almost all other topics. Surprisingly, thematically framed tweets garnered more retweets compared to episodically framed tweets. The study's findings highlight that pharmaceutical companies predominantly communicate about their own businesses with their audiences, instead of utilizing Twitter's conversational features to discuss various health-related topics.

Key words: Twitter communications, pharmaceuticals, engagement, message framing.

INTRODUCTION

Social media has been extensively utilized in health communications to facilitate interactions and share tailored health information (Moorhead et al., 2013). Among various social media platforms, Twitter, now known as X, has evolved into a vital tool for organizations, particularly in the healthcare industry, to engage with the public, including patients or healthcare providers (Pershad et al., 2018). In line with this trend, pharmaceutical companies have increasingly turned to Twitter to stay competitive and disseminate news and healthcare-related information to key stakeholders such as patients, physicians, and investors (Enyinda et al., 2018; O'Brien, 2023). Recent research also indicates that pharmaceutical companies' Twitter accounts play a crucial role in reaching a broader audience with health messages, especially as individuals with lower health literacy are more likely to seek and trust health information from pharmaceutical companies and social media platforms rather than from physicians (Chen et al., 2018).

However, higher levels of activity by pharmaceutical companies on Twitter did not necessarily result in greater consumer interactions (Jackson et al., 2015). Despite Twitter's effectiveness in immediate information sharing and consumer engagement, research on pharmaceutical

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companies' social media practices has noted predominantly one-way communication from pharmaceutical companies to their primary targets, such as physicians and healthcare consumers, rather than fostering two-way communication (Enyinda et al., 2018; Jackson et al., 2015).

To gain a better understanding of how pharmaceutical companies utilize Twitter to disseminate health information and engage with the public, this study examines the level of engagement by pharmaceutical companies and their audiences, as well as the relationships between types of tweets and interactions. By conducting a content analysis of the top five pharmaceutical companies' Twitter accounts, this study explores the topics and frames of tweets used by pharmaceutical companies to determine whether the level of engagement varies depending on the topic and use of frames in their tweets. This study contributes to a broader understanding of social media practices within the pharmaceutical industry by providing insights into the types of pharmaceutical companies' tweets that generate a greater audience response and how pharmaceutical companies should engage with their Twitter audiences.

LITERATURE REVIEW

The use of Twitter by pharmaceutical companies

Pharmaceutical companies have used social media to provide health information to the public, patients, and health professionals (Moorhead et al., 2013). The three most important objectives of using social media among pharmaceutical companies are customer engagement, communication, and trust (Enyinda et al., 2018). Among the various social media platforms, Twitter has been the most popular social media platform used in healthcare communications (Pershad et al., 2018). For instance, Jackson et al. (2015) found that about 90% of pharmaceutical firms used Twitter, followed by YouTube (70%), and Facebook (50%). In healthcare, any Twitter user can post and share a message of 280 characters or fewer to provide medical information to a broader audience. The relative advantage of Twitter is that it is the fastest online platform because it enables users to communicate with a short tweet quickly (Pfeffer et al., 2014). A previous study also found that the main goal of Twitter use by pharmaceutical companies is to disseminate real-time information as quickly and as broadly as possible (Jackson et al., 2015). Hence, it helps pharmaceutical companies to meet the demands of consumers and patients who use social media to research healthcare providers and disease information as well as to seek support. Thus, social media allow pharmaceutical companies to stay competitive, increase sales, and cultivate brand awareness by communicating information about their firms, brands, or services with health consumers more cost-effectively than through traditional media (Enyinda et al., 2018).

To use social media effectively, strategies for enhancing engagement with its audience members via two-way messaging and dialogic conversations should be developed (Neiger et al., 2013a). Social media engagement refers to “the presence of meaningful dialogue between an organization and its stakeholders, and the ability of the organization to predict those stakeholders’ behavior by measuring their signs of engagement on a social media site” (Jiang and Luo, 2017, p. 409). Twitter research in health communications shows that the level of engagement on Twitter can be measured with certain Twitter features at two different levels: 1) organizations’ engagement with hashtags (#), reply (@), and mention (@), and 2) audiences’ engagement with the number of retweets, replies to tweets, and likes.

Firstly, a hashtag is a word or phrase (with no spaces) preceded by the pound (#) sign, which is clickable and helpful for people searching for tweets on a specific topic. A hashtag within a tweet is used as a one-way communication tool by linking people to more relevant information that they search for using keywords or topics (Neiger et al., 2013a). The hashtag is effective during a pandemic situation such that tweets with more hashtags about the pandemic facilitate the rapid dissemination of emergency information with faster retweets (Son et al., 2019).

Secondly, the reply function is a direct response to another user’s specific tweet; it begins with the @symbol along with the username of the Twitter user to whom one is replying (that is, @username). Another conversational component is the mention function, which includes other users but places @username in the middle of tweets. Both reply and mention functions indicate the medium level of engagement by organizations because they demonstrate that organizations are aware of the specific user and start dialogic conversations with them (Neiger et al., 2013b). On the other hand, a reply that a tweet received from audiences is a direct response to a post, which indicates audience engagement.

Thirdly, the retweet function allows users to repost someone else’s tweets on their Twitter pages and share those reposted tweets with all their followers (Lee and Sundar, 2013). The number of retweets (shares) made by audiences indicates a two-way communication demonstrating that others receive the message from organizations and accept that it is important to share (Neiger et al., 2013b).

Lastly, a "like" is symbolized by the heart icon, representing another engagement activity by audiences. Alongside the number of retweets, the number of likes also shapes consumer engagement (Eslami et al., 2021). To examine which types of content in pharmaceutical companies' tweets are associated with higher or lower audience engagement, it is necessary to first assess the level of engagement of pharmaceutical companies with the public on Twitter, as posed in the following research question:

RQ1: How do global pharmaceutical companies engage with the public on Twitter?

Topics of pharmaceutical tweets

Selecting a topic for a message provides audiences with "a central organizing idea or story line that provides meaning to an unfolding strip of events" (Gamson and Modigliani, 1987, p. 143). The agenda-setting approach, rooted in memory-based models of information processing, explains that emphasizing certain issues makes them more salient, enabling people to attribute importance to those issues (Price and Tewksbury, 1997). Given that the selection of a specific topic influences the public's perception of issue importance, the primary topics of pharmaceutical tweets can shape the public's perception of what the issues posted on pharmaceutical companies' Twitter feeds entail and what they think about them. Research on the topics appearing on pharmaceutical companies' Twitter feeds and how these topics elicit audience reactions towards posts has been limited. One study explored the interactions between pharmaceutical companies and consumers on various social media platforms, revealing that the top three topics of social media posts created by pharmaceutical companies were related to disease awareness, business updates, and community outreach projects related to diseases (Jackson et al., 2015). However, it is still necessary to explore the association between the topics of tweets and audience engagement. Therefore, this study aims to examine the topics selected by pharmaceutical companies for their tweets, as well as the level of engagement as proposed in the following research questions:

RQ2a: What are the main topics of pharmaceutical companies' tweets?
RQ2b: Is there a difference in the level of engagement across the topics of pharmaceutical tweets?

Episodic and thematic framing of pharmaceutical tweets

Framing focuses on how topics or issues should be presented to influence people's attitudes and evaluations of an issue (Entman, 1993). Iyengar (1991) demonstrated that media framing can affect the attribution of responsibility for issues through episodic and thematic frames. Episodic frames place more focus on individual cases and specific events, which are related to personal experience and individual responsibilities for problems. On the other hand, thematic frames focus more on broader contexts such as the environment and public policies, which are related to societal factors and broader social responsibilities for problems. For example, the use of personal narrative is a form of episodic framing that provides a more personal connection to the individual, whereas using statistics or background information on a topic is an example of using thematic frames to provide broader trends. Thus, the attribution of societal responsibility elicited by thematic frames gets people to support government programs or policy changes, whereas the attribution of individual responsibility derived from episodic frames leads people to consider their individual actions for their own situation.

Several public health studies have applied episodic-thematic frames to different health topics, such as obesity (Gearhart et al., 2012), pandemic flu (Lee, 2014), Alzheimer's disease (Kang et al., 2010), mental illness (Long et al., 2022) and smoking (Kenterelidou, 2012), and have shown that health news stories tend to use more episodic frames than thematic frames (Gearhart and Trumbly-Lamsam, 2017). On the other hand, for topics related to public health threats such as pandemic flu or obesity, thematic frames could be more effective than episodic ones in providing information on how to prevent health problems by focusing more on societal responsibility, as individual health problems are sometimes beyond individual control and require support from societal and environmental factors, such as the food industry or government regulations, to yield desirable health behaviors (Kenterelidou, 2012). Public health officials also recommended that journalists use more thematic frames by emphasizing social causes and treatments broadly rather than relying solely on episodic frames so that people value society's role in health issues (Higgins et al., 2006). It would be interesting to examine the use of episodic-thematic framings in pharmaceutical tweets to determine whether they are created in broader social contexts or in case-specific contexts, as well as their associations with the topics of the tweets and the level of engagement. Therefore, the following research questions are asked:

RQ3a: How has the message framing (episodic vs. thematic) of global pharmaceutical companies' tweets been utilized?
RQ3b: Are there differences in the use of episodic-thematic framings in pharmaceuticals' tweets across different topics of tweets?
RQ3c: Is there a difference in the level of engagement between episodic and thematic frames in pharmaceutical tweets?

METHOD

Data collection

To examine how pharmaceutical companies have communicated and engaged with the public on Twitter, this study conducted a content analysis of tweets from the top five pharmaceutical companies' Twitter accounts, including both original tweets and retweets. The top five pharmaceutical companies ranked by total revenues were, in order, Pfizer, Merck and Co., Johnson and Johnson, Roche Holding, and Sanofi (Dezzani, 2017). One week from each month during the first five months of 2017, from January 1 to June 1, was randomly chosen to construct a composite month of

tweets in order to identify a representative sample of pharmaceutical tweets at the time of the research being conducted, and also due to the higher volume of Twitter use by pharmaceutical companies compared to other social media platforms (Jackson et al., 2015). The sampling selection process resulted in a total of 460 tweets posted on the top five pharmaceutical companies' Twitter accounts.

Coding categories

Five main coding categories heavily used in Twitter communications were selected: (1) the key topic of each tweet; (2) the message framing; (3) the date of each tweet, which was coded to identify the unit of analysis—each tweet including both retweets and original tweets; (4) the originality of a posted tweet, which was coded as one of the three types of tweets: original, retweets, and a reply tweet; and finally, (5) the interactive components of Twitter, which were coded by looking at both companies' engagement activities, such as the number of hashtags, the use of mention and reply functions on each tweet, and users' engagement activities with the corporations, such as the number of replies, retweets, and likes that each tweet received.

The key topic of each tweet was determined in terms of primary issues of the tweets and coded as falling into one of six topics, which were initially developed based on previous content analysis studies on health topics (Jackson et al., 2015; Lee et al., 2019; Neiger et al., 2013a; Park et al., 2016) and were also refined using the sample tweets of the data to add to or remove from the initial coding categories. The six topics are as follows: (1) company information, which included topics related to their own products, services provided, news, reports, employees, and events; (2) disease treatment/prevention, including general facts or personal cases related to a specific disease or medical problem, as well as disease prevention focused on reducing the severity or incidence of specific diseases but with no mention of the company's involvement with a disease; (3) corporate social responsibility (CSR) or social marketing campaigns, which included specific CSR initiatives or campaigns along with hashtags of the campaign title promoting active participation in a campaign and focusing on a generally healthy population; (4) medical/scientific research, which included clinical, medical, and scientific research progress and outcomes, aimed at sharing information; (5) policy changes, including governmental health policy changes as information updates; and (6) other.

Message framing for each tweet was coded as either episodic or thematic frames by using Iyengar's (1991) definition of episodic and thematic frames. For example, tweets depicting particular persons or specific events were coded as episodic (that is, Kirsten Axelsen, our Global Policy VP, addresses the value of medicines today at #amamtg), whereas tweets using statistics, broader facts or trends over time without any personalized relevance were coded as thematic (that is, Chronic #HepC is a global burden that can be challenging to manage).

A single researcher coded all the tweets. To determine intercoder reliability, a randomly selected 10% of the sample (n = 47) was independently coded by a second coder who was trained in content analysis coding. The intercoder reliability was calculated using Scott's pi because there were only two coders (Allen, 2017). Each variable was above .88, with the overall intercoder reliability of 97%, confirming an acceptable level of agreement between the coders (Neuendorf, 2017).

RESULTS

Of all 460 tweets, 140 tweets (30.4%) were collected from Pfizer, which has 490k followers, 116 tweets (25.2%) from Roche Holding with 246k followers, 104 tweets (22.6%) from Sanofi with 152k followers, 74 tweets (16.1%) from Merck and Co. with 224k followers, and 26 tweets (5.7%) from Johnson and Johnson with 250k followers. In terms of the originality of the tweets, about 87% (n = 401) of the tweets were original posts and approximately 13% (n =59) were retweets. Only one reply tweet (0.2%) was posted. Frequency analyses, chi-square tests, and Kruskal–Wallis tests were performed to answer research questions.

RQ1 examined the level of interaction of global pharmaceutical companies on Twitter by looking at different indicators of interaction and engagement on Twitter: the number of hashtags and the use of mention and reply to functions that each pharmaceutical tweet used as companies' engagement activities, and the number of replies, retweets, and likes that each tweet received from audiences as users' engagement activities with the corporations. Since there was only one reply tweet, a reply tweet was not included in the analysis. The results of frequency analysis showed that nearly three-quarters of tweets (n = 341, 74.1%) used either one (n =168, 36.5%) or two (n = 172, 37.4%) hashtags. None of the tweets used more than six hashtags. Approximately 11.5% (n = 53) of tweets did not include a hashtag, and about 12.4% (n = 57) used three hashtags. A few tweets used four (n = 8, 1.7%) or five (n = 2, 0.4%) hashtags. Moreover, the mention feature was not actively used in the pharmaceutical companies' tweets. About a third of the tweets (n = 142, 30.9%) used the mention feature, while almost 70% of tweets (n = 317, 69.1%) never included the mention feature. Most pharmaceutical companies' tweets did not receive any replies—the median number of replies was zero. Regarding the retweet and like functions, which indicate how frequently a tweet was retweeted and liked by others, the results showed a median of seven retweets and 11 likes (Table 1).

RQ2a focused on the main topics of pharmaceutical companies' tweets and the level of interactions on pharmaceutical companies' Twitter by topic. The most frequently appearing topic was disease treatment or prevention (n = 167, 36.3%), followed by company information (n = 126, 27.4%), CSR and social marketing campaigns (n = 104, 22.6%), others (n = 43, 9.3%), and medical research (n = 20, 4.3%).

Regarding the level of interactions on pharmaceutical companies' Twitter by topic (RQ2b), chi-square tests were used to examine a significant difference in the use of hashtags and mentions across topics. The results showed a significant difference only in the use of the mention function across topics, $\chi 2$ (4, N = 460) = 29.665, $p < .001$, but not in the use of the hashtag feature by the topic, $\chi 2$ (4, N = 460) = 7.774, $p > .05$. Out of 142 (31%) tweets that used mentions, the mention function was most frequently used for a topic about their own pharmaceutical companies (n = 57, 40.1%), followed by disease prevention/treatment (n = 35, 24.6%), CSR/Campaigns (n = 24, 16.9%), others (n = 21, 14.8%), and medical research

Table 1. Descriptive statistics of interactive components of pharmaceutical tweets.

Interactive components	Pharmaceutical companies' tweets (N = 460)		
	Range	Mdn	Mean (SD)
Hashtag	0-5	2	1.58 (.94)
Mention	0-4	0	.37 (.63)
Replies	0-398	0	2.07 (19.87)
Retweets	0-2400	7	23.05 (131.97)
Likes	0-8700	11	47.26 (418.85)

Table 2. Message frames by the topic of tweets.

Frame	Topic of Tweets					
	Company	Disease	CSR/Campaign	Research	Other	Total
Thematic	30 (23.8%)	130 (77.8%)	66 (63.5%)	19 (95.0%)	11 (25.6%)	257 (55.9%)
Episodic	96 (76.2%)	36 (22.2%)	39 (36.5%)	1 (5.0%)	32 (74.4%)	203 (44.1%)
Total	126 (100.0%)	167 (100.0%)	104 (100.0%)	20 (100.0%)	43 (100.0%)	460 (100.0%)

$\chi 2$ (4, N = 460) = 115.960, p < 0.001.

progress and outcomes (n = 5, 3.5%).

In addition, Kruskal–Wallis tests were conducted with the number of replies, retweets, and likes as dependent variables and the topic as an independent variable to examine differences in reply, retweet, and like frequencies according to the topic of tweets. No significant difference was found in the number of replies, $\chi 2$ (4, N = 460) = 6.995, p > .05, and retweets across the topic of tweets, $\chi 2$ (4, N = 460) = 6.242, p > .05. However, there was a statistically significant difference in the number of likes between different topics of tweets, $\chi 2$ (4, N = 460) = 10.427, p < 0.05. The multiple pairwise comparisons showed that there was a significant difference in the number of likes for only one pair of topics—disease treatment/prevention and pharmaceutical companies' own information, with a mean rank of 205.29 likes for tweets about disease treatment/prevention compared to a mean rank of 253.18 for tweets about pharmaceutical companies' own information. Tweets directly related to their own pharmaceutical company received more likes compared to tweets about disease information. None of the other pairwise comparisons showed any significant difference between topics.

RQ3a examined the use of episodic and thematic frames in pharmaceutical companies' tweets. The frequency analysis results showed that thematic frames (n = 256, 55.7%) were used more frequently than episodic frames (n = 204, 44.3%). RQ3b asked about the use of the episodic-thematic framing of pharmaceuticals' tweets across topics. A chi-square test showed a statistically significant difference in the use of the episodic–thematic framing on pharmaceuticals' Twitter feeds by the topic of tweets, $\chi 2$ (4, N = 460) = 115.960, p < 0.001. Nearly 76% (n = 96) of tweets about company information used episodic frames rather than thematic frames (n = 30, 23.8%). For all other topics, thematic frames were used more frequently than episodic frames (Table 2).

Regarding the level of interactions on pharmaceutical companies' Twitter by frames (RQ3c), chi-square tests were used to examine a significant difference in the use of hashtags and mentions between episodic-thematic frames. The results showed a significant difference only in the use of the mention function across topics, $\chi 2$ (1, N = 460) = 26.519, p <.001., but not in the use of the hashtag feature by the topic, $\chi 2$ (1, N = 460) = 1.128, p > .05. Out of 142 (31%) tweets that used mentions, the mention function was used more frequently for episodically framed tweets (n = 88, 62.0%) than for thematically framed tweets (n = 54, 38.0%).

In addition, Kruskal-Wallis tests were conducted to examine differences in reply, retweet, and like frequencies according to the frame of tweets. No significant difference was found in the number of replies, $\chi 2$ (1, N = 460) = .022, p > .05, and likes between the frames of tweets, $\chi 2$ (1, N = 460) = .145, p > .05. However, there was a statistically significant difference in the number of retweets between different frames of tweets, $\chi 2$ (1, N = 460) = 11.472, p < 0.001. Thematically framed tweets (mean rank = 249.12) were retweeted more than episodically framed tweets (mean rank = 206.93).

DISCUSSION AND CONCLUSION

The purpose of this study was to examine how pharmaceutical companies communicate and engage with

the public on their Twitter accounts. The results of this study showed a low level of engagement on pharmaceutical companies' Twitter accounts. Only one tweet from the top five pharmaceutical companies replied to other users, and less than a third of tweets used mentions to discuss the topic with other users. Notably, the audience's response to pharmaceutical companies' tweets, such as the number of replies, retweets, and likes that the companies received from other users, comprised a very small portion of pharmaceutical companies' tweets. This is consistent with the results of lower levels of engagement on other types of health organizations' Twitter accounts, such as non-profit organizations, government agencies, and local health departments (Chung, 2016; Guidry et al., 2017; Neiger et al., 2013a).

When looking at the topic of pharmaceutical companies' tweets, the most frequently appearing topic was disease treatment and prevention, followed by information about their own business or products, CSR/social marketing campaigns, others (that is, other health-related organizations' events), and medical research progress or outcome. This is consistent with previous research on pharmaceutical companies' social media usage, which showed that the most frequently appearing topics on pharmaceuticals' social media posts were mostly about disease awareness and treatment information, followed by business updates, and community outreach projects or CSR initiatives (Huhmann and Limbu, 2016; Jackson et al., 2015). However, this study showed that pharmaceutical companies make less effort to deliver news about medical research progress or outcomes. This may be due to FDA guidance to pharmaceutical companies about the requirement to provide important risk information on Twitter (US Food and Drug Administration, 2014). Indeed, the character-limiting environment of Twitter would make it difficult for pharmaceutical companies to include risk information on medical research progress or outcomes, such as new drug testing.

Regarding the relationship between the number of posts on a certain topic and the number of audience responses to them, the results showed that frequently appearing topics were not significantly associated with either pharmaceutical companies' interaction activity or a greater audience response to the topic. Although disease was the most frequently appearing topic, there were very few conversational features (mentions) and interactions (likes) for tweets about disease treatment and prevention. This is consistent with previous findings about the lack of interactivity by organizations on tweets for high-mortality diseases (Chung, 2016). On the other hand, there was greater use of the mention feature on tweets about their own pharmaceutical company, such as their own products or events. Tweets directly related to pharmaceutical companies' own information received more likes compared to tweets about disease treatment and prevention. In other words, pharmaceutical companies are more likely to engage and reach out to stakeholders via Twitter regarding their own business practices rather than other topics so that they get the greater number of likes on tweets about their company's information. This result confirmed the previous findings about consumers' behavioral reactions to pharmaceutical companies' social media posts, in that investor information generated more likes on Facebook and more retweets/shares on Twitter and Facebook (Huhmann and Limbu, 2016). This indicates that pharmaceutical companies need to engage with patients or health communities to increase awareness or knowledge of disease and treatment rather than engaging with the audience mostly for their own business goal—that is, that pharmaceutical companies should focus more on help-seeking information to help consumers who are actively seeking health or drug information on social media, rather than product promotion or reminder messages about their companies or events.

In terms of message framing in pharmaceutical companies' Twitter feeds, there were significant differences in the framing (thematic vs. episodic) associated with the topics of tweets and the level of engagement. Pharmaceutical companies used more episodic framing than thematic framing in promoting their company information, while thematic framings were used for almost all other topics. To be more specific, when pharmaceutical companies used their Twitter feeds to promote their own business, products, or services, they utilized a more personal connection to an issue on Twitter. However, when the topic of tweets was related to disease, social marketing campaigns, or research progress, pharmaceutical companies addressed the issues more broadly using thematically framed tweets. Previous research on episodic-thematic frames showed that episodic frames were effective in evoking emotional responses and increasing individual contribution to an issue, while thematic frames were effective in evoking attitude changes about preventing health problems (Dudo et al., 2007; Kang et al., 2010; Kenterelidou, 2012). Interestingly, the findings of this study showed that pharmaceutical companies used more episodic frames for their company's information to encourage people to consider individual actions regarding their business. The greater use of personalized relevance to their own business activities with customers or investors, and the less frequent use of episodic frames on other topics, may be due to regulatory requirements, such as the issue of privacy information and breaches of patient confidentiality (Enyinda et al., 2018). Pharmaceutical companies are reluctant to disclose more personal information of the public due to privacy issues, so they would be more likely to frame topics other than their own business information more generally and broadly. However, regarding the level of engagement between episodic and thematic frames of pharmaceutical tweets, the mention function was used more frequently for episodically framed tweets than for thematically framed tweets, while thematic frames were retweeted more often than episodic frames.

Pharmaceutical companies utilized mentions more in episodically framed tweets to initiate conversations with specific users, whereas users were more likely to share thematically framed tweets with others.

Overall, this study not only examined the aggregated number of pharmaceutical companies' posts on a certain topic and engagement rate with audiences but also explored the relationship between the topic of tweets and the audience response. The findings of this study showed that pharmaceutical companies mostly communicate about their own companies with their stakeholders or customers, rather than using the conversation features of Twitter to discuss various health-related topics. Moreover, this study explored the topics of tweets and episodic-thematic frames that pharmaceutical companies select, along with the level of engagement. While previous research noted that pharmaceutical companies generally posted on their social media platforms about their business activities to enhance their ethical reputation, which helps the growth of sales, as well as information for investors, corporate advertising, and other topics such as conferences (Huhmann and Limbu, 2016), this study showed that the most frequent topics were disease treatment and prevention, followed by their own business information and CSR. There were very few posts about medical research progress. Interestingly, this study showed that pharmaceutical companies have tried to tailor tweets about their own business practices and product information mostly by using episodic frames, which generated more likes towards the issue of their own business practices than the most common topic: disease treatment and prevention. On the other hand, thematically framed tweets on other topics were retweeted more than episodically framed tweets about their business activities. These findings reflect the nature of the audience of pharmaceutical Twitter accounts and suggest that pharmaceutical companies should increase engagement not only with consumers or stakeholders but also with patients and health communities. By using the conversational features of Twitter, such as reply or mention, pharmaceutical companies can evoke more engagement with audiences and receive more replies, likes, and retweets from a broader audience.

LIMITATIONS AND RECOMMENDATIONS

There are several limitations to this study that should be considered in future research. Given the lack of two-way conversational features on pharmaceutical companies' Twitter feeds, it would be meaningful to identify the key audiences with whom pharmaceutical companies have interacted on their Twitter accounts by analyzing the types of @usernames they have mentioned in their tweets. Additionally, this study did not include visual cues to assess whether the use of photos or videos in tweets correlates with the level of engagement. Thus, future research should explore the effect of visual cues in pharmaceutical companies' tweets on the engagement rate.

Considering the limitations of content analysis research, this study does not provide explanations for why pharmaceutical companies engage less on other topics compared to their own company information. Future survey or in-depth interview studies with pharmaceutical communications professionals should be conducted to examine the perceptions of these professionals regarding Twitter communications with their key publics. It would also be useful to measure the public's perception of pharmaceutical companies' Twitter management and their engagement efforts.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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Product placement in *Namaste Wahala* in the global film industry and brand recall in Nigeria

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Many firms utilize Nollywood in Nigeria as a marketing platform for product placement. Within this context, this study investigates product placement in the movie "Namaste Wahala" in the global film industry and its effect on brand recall among Nigerian undergraduate students from Caleb University and the Lagos State University of Science and Technology (LASUSTECH). The aim is to determine if they can remember the brands they saw and how it influences their purchasing decisions after exposure to product placement in the movie. This study adopts Dual Coding Theory and Persuasion Knowledge Theory, employing a traditional positivist research design, which informed the choice of the survey method. Slovin's Formula and ratio analysis were used to sample respondents from Caleb University and LASUSTECH in Lagos State, with 400 questionnaires administered (120 at Caleb University and 280 at LASUSTECH) based on the population strength of the two institutions, where undergraduate students were randomly selected. Findings suggest that while respondents are generally aware of product placement in movies, brand recall and perception are not significantly high. Moreover, the majority of respondents recalled brands placed in foreign movies more than those in Nigerian movies. The study concludes that these findings have implications for marketing practitioners, researchers and movie producers.

Key words: Brand recall, dual coding, global film, *Namaste Wahala*, persuasion knowledge, product placement.

INTRODUCTION

A popular marketing strategy for businesses that produce goods and provide services is "product placement," which involves paying to have products prominently displayed or subtly integrated into movies, television shows, and other media. Waio (2017) defines product placement, sometimes referred to as embedded marketing, as the intentional insertion of subtly worded advertisements and other elements of product marketing into motion pictures with the goal of influencing the audience's opinions regarding the advertised products. Product placement is a marketing tactic that involves inserting specific brand references into TV shows, movies, music videos, and other media content to promote various items. Advertising sales representatives and marketers utilize this form of advertising to reach a broad audience. Through collaboration with production companies, a promotional sequence for a product or

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service is integrated into the plot of a selected film or television show.

The movies present these products in a way that promotes favorable opinions for the brand when they are shown, discussed, or mentioned in the film (Malaj, 2022). Although the goal of product placements in movies is to seamlessly integrate with the narrative without drawing attention to themselves, some viewers may not perceive them as advertising. Gaille (2017) noted that the Chevrolet sports car brand "Chevy Camaro" sold more than 60,000 units as a result of commercial placement in the 2019 Transformers movie. Additionally, the company's profits increased by 65% three months following the 1982 release of the American science fiction film "E.T. the Extra-Terrestrial," which prominently featured Reese's Pieces, a product of The Hershey Company. These remarkable figures demonstrate the success of product placement in the US.

Similarly, several brands in Nigeria are utilizing Nollywood as a marketing platform for product placement. Examples of these brands include Rite Foods in "The Prophetess," Access Bank in "King of Boys," Glo in "Phone Swap," Onga and Cowbell products in "Kambili: The Whole 30 Yards," Revolution Plus in AY Makun and Toyin Abraham films, and Malaj (2022). Another example is the movie "Figurine," where companies like Unilever, Motorola, Omatek Computers, and GlaxoSmithKline (GSK) used the platform to promote their products and brands.

Measuring the effectiveness of product placement is crucial because it is a significant marketing tactic with substantial investments and influence in the global cinema industry. Brand recall research is an important tool for evaluating the success of product placement because it indicates whether the significant financial investment in the films was worthwhile and whether potential stakeholders, advertisers, and film production companies can be persuaded to either change their approach or continue funding product placement projects. Nonetheless, little is known about product placement brand memory metrics in Nigerian films, which is why this study was conducted.

Problem statement

Although product placement in Nigerian films is becoming more common, there is a lack of data and statistics regarding its efficacy and impact on consumers' purchase decisions. Brand strategists, advertising agencies, and advertisers hope that featuring their products in motion pictures will increase consumer stickiness, profitability, and brand recognition. However, these outcomes only occur when viewers are positively influenced by the brands and can accurately recall the products they saw in the movies. The Nigerian film industry, valued at over $6.4 billion as of 2021, is the second largest in the world. It holds significant potential for advertisers and advertising agencies, but growth in this direction may be hindered by a lack of information about past product placement investments. Therefore, it is now essential to measure brand recall for products featured in Nigerian motion pictures (Gabriel, 2023).

Within this context, this study investigates the efficacy of product placement in a Nigerian film. The study examines the level of brand recall among Nigerian undergraduate students selected from Caleb University and the Lagos State University of Science and Technology (LASUSTECH). The aim is to determine if they can recall (remember) the brands they saw and the influence of this exposure on their purchasing decisions after watching the movie "*Namaste Wahala*."

Objectives of the study

The objective of this study is to determine the level of brand recall among undergraduate students in Caleb University and Lagos State University of Science and Technology (LASUSTECH) regarding product placements in the Nigerian movie, 'Namaste Wahala.' The specific objectives of this study are to:

i) Ascertain the extent to which students are aware of products being placed in '*Namaste Wahala.'*
ii) Determine if the students can recall (remember) any of the products placed in '*Namaste Wahala.'*
iii) Examine if the products placed in '*Namaste Wahala'* influenced the students' views about the brand.
iv) Discover if products placed in '*Namaste Wahala'* affect the students' purchasing decisions.
v) Explore other factors that might influence brand recall among students.

Conceptualizing nollywood and product placement

The Nigerian film industry, commonly known as Nollywood, traces its roots back to the 20th century, although its early movies were directed by foreign and white colonial filmmakers. It was not until after Nigeria's independence declaration in 1960 that films shot on celluloid were first produced by the Nigerian film industry. The 1970s saw a surge in disposable income due to a booming economy fueled by oil and foreign investments, leading to an increased interest in film among Nigerians as a leisure activity. This period also witnessed the construction of movie theaters in Lagos, the nation's most populous city, which showcased a wide range of films, both domestic and foreign (Aondover et al., 2022a).

However, the Nigerian film industry faced challenges in the 1980s, including currency depreciation and a lack of filming equipment, leading to a downturn. Despite this, the industry saw resurgence in the 1990s with the distribution of films shot specifically for television and promoted

through Video Home System (VHS) copies. The success of the 1992 movie "Living in Bondage" popularized home video production, giving rise to Nollywood, which became a significant employer in Nigeria and gained recognition in the international film market. Nigerian film studios were estimated to produce four to five films daily, catering to an audience of approximately fifteen million people in Nigeria and an additional five million across other African countries (Adetutu, 2021).

Nollywood underwent significant transformations in the 2000s, fueled by government funding and the emergence of contemporary theaters that did not screen video films. This led to the development of New Nigerian Cinema characterized by intricate narratives, talented Nigerian actors, and high production values. Films such as "Irapada" and "The Wedding Party" gained popularity and received invitations to esteemed international film festivals (Kemi-Adetiba, 2016). By 2013, the New Nigerian Cinema was valued at $5.1 billion, making the Nigerian film industry the second most lucrative and largest in the world after the United States. The film sector contributed 5% to Nigeria's Gross Domestic Product (GDP), and recent distribution agreements with Western streaming platforms have enabled Nigerian Nollywood productions, including movies and TV series, to reach a global audience (Ellen, 2020).

For a significant period, Nollywood operated largely without significant attention from product placement companies. However, there has been a recent trend of certain Nigerian films entering into partnerships with prominent brands, leading to the inclusion of product placements. Nevertheless, these partnerships have faced ongoing criticism from audiences, who perceive the product placements as overly forced. They argue that scenes explicitly created to promote a product, without adding value to the storyline, result in lengthy and tedious films. For instance, Procter and Gamble products were heavily featured in three segments of the 2013 movie "Finding Mercy." Additionally, prominent brands like MTN, GLO, Onga, and Unilever received conspicuous advertising in various Nollywood productions such as "Doctor Bello" (2013), "Phone Swap" (2012), "Eletan" (2011), and "Jenifa 3" (2011).

Another common but misguided practice among Nigerian film producers is to include the names of restaurants, accessory shops, and clothing boutiques that supported the film crew during production in the closing credits. However, these businesses are typically mentioned under an "Appreciation tag" during the closing credits, rather than as part of a deliberate product placement strategy. Many Nollywood producers remain unaware of the potential effectiveness of product placement and often resort to these less effective methods.

Despite these challenges, Nollywood has evolved into a glamorous industry, albeit still in its developmental stages. Increased budgets, the use of billboard-mounted film merchandise, the introduction of red-carpet events, and the emergence of a vibrant new generation of actors have all contributed to the Nigerian film industry's growing appeal to major brands and advertisers.

These companies now seek out Nollywood to promote their goods because they understand that it can reach a wider audience. Product placement, such as the inclusion of Access Bank in "King of Boys," Onga and Cowbell merchandise in "Kambili: The Whole 30 Yards," Glo in "Phone Swap," Rattlesnake to Revolution Plus in AY Makun and Toyin Abraham films, and Rite Foods in "The Prophetess," is progressively becoming the norm in Nollywood. Nollywood is increasingly utilized as a marketing tactic, as filmmakers constantly seek collaborations with companies to finance their projects due to the high cost of film production in Nigeria (Gabriel, 2023).

"*Namaste Wahala*," which translates to "Hello Trouble," is an example of an intercultural romantic drama in this environment. It was Hamisha Daryani Auja's first film, written and directed in 2020.

Bollywood and Nollywood, two of the biggest film industries in the world, collaborated for the first time in this venture (Adetutu, 2021). The film began a limited theatrical run in Nigeria on December 1, 2020, and received positive reviews from critics. It was subsequently released for streaming globally on Netflix on February 14, 2021, coinciding with Valentine's Day (Mojaye and Aondover, 2022).

The movie revolves around the love story between Didi, a Nigerian pro bono attorney, and Raj, an Indian-born investment banker based in Lagos. The romantic tale of Raj (Ruslaan Mumtaz) and Didi (Ini Dima-Okojie) illustrates the challenges arising from their different cultural and historical backgrounds. After three months of dating, their relationship deepens, and they discuss marriage, partly due to parental pressure and partly because they believe it was love at first sight. However, Didi's father, Richard Mofe-Damijo, desires for her to marry a devoted Nigerian worker named Somto (Ibrahim Suleiman), while Raj's mother, Sujata Sehgal, also wants him to marry an Indian woman. The lovers' efforts to convince their parents of their compatibility form the rest of the narrative (Adetutu, 2021). The film also features Joke Silva and Hamisha Daryani Ahuja and has a runtime of 106 min. It received a rating of 2.5 out of 5 stars from the Times of India and 5.2 out of 10 from IMDb (n.d.). Table 1 shows the product placement in *Namaste Wahala.*

Product placement as a concept

Product placement, sometimes referred to as brand placement, is an advertising strategy whereby producers purposefully include a product or brand into a creative work of art, such as a film or television show. The main objective of this advertising strategy is to reach as many people as

Table 1. Product placement in *Namaste Wahala.*

S/N	Product placement	Time slot range in movie
1	Chivita active	6 m:17 s – 10 m:13s
2	Coca cola	26 m:24 s – 38 m:21s
i	Eva table water	46 m:30 s – 47 m:31s 1.38 m:17 s
3	Indomie Noodles	1h:04 m:26 s -1 h:07 m:10 s
4	HP	28 m:33 s- 29 m;48 s
5	Adidas	4 m;0 s- 5 m; 57 s
6	Johnnie Walker	1 h; 38 m;17 s
7	Schweppes	1 h' 38 m;17 s

Source: Field Survey (2023).

possible by using a performance-based approach to highlight branded goods and services. While the practice of integrating profit-making corporations into public art stretches back to the Roman Empire in the first century, the marketing phrase "product placement" only emerged in the early 1900s. Archaeologists have discovered billboards featuring depictions of boxers promoting upcoming fight bouts. Santo Kyoden, a well-known Japanese comic novelist, included information about his comic books and the products he sold in his tobacco shop in each novelette later in the 18th century. Charles Dickens even included the London-based carriage company Pickwick as a commodity in his book "The Pickwick Papers," mentioning the protagonist riding in a Pickwick carriage (Guidry, 2022). By its very nature, product placement is less obvious than traditional advertising. Most of the time, the product isn't named directly; instead, it just becomes mentally connected with the viewer. A branded billboard on a highway, the Apple logo on a laptop, drinking from a branded cup, or even spoken dialogue between actors are just a few examples of how products might be positioned. Numerous fee-based product placements exist, in which a producer is paid by an advertiser to prominently display their product on the set. In other situations, the studio might negotiate the usage of an expensive object in exchange for a conspicuous brand name display, like a plot-required Lamborghini or Ferrari car (Guidry, 2022). Product placement is a common practice in television shows and movies, although it is usually noticeable when a character uses or otherwise mentions the product. The audience can become more aware of a brand by being able to recognize advertisements on buses, billboards in the background of a major action scene, or automobile logos from different camera angles (Aondover et al., 2022b). Product placement is fully utilized in Hollywood, and Bollywood has also embraced the concept after seeing the potential benefits of its broad use. The concept only makes clear that the company's products, which are used as props in certain moments, inadvertently serve as a sort of unintentional marketing for it. Filmmakers receive free props from the company through product placement, even if it doesn't always bring in money. These props would have otherwise cost them a fortune to purchase.

Typologies of product placement in movies

Screen placement, script placement, and plot placement are the three main forms of product placement that are traditionally recognized (Lightfoot, 2022). Conspicuous product placement in movies often makes skeptical audiences uncomfortable due to the concepts of persuasion knowledge theory. The categories of product placement used by brands are explained as follows:

Screen placement

When a brand appears in the backdrop or front of a picture without being explicitly addressed, it's referred to as in-view/on-screen product exposure. It might be a well-known brand on a laptop's back, food that a character eats, or a well-known restaurant chain that is briefly highlighted in the action's backdrop.

Script placement

Verbal exposure or verbal mention is another terms for this. When a character refers to a certain brand or product by name in conversation, it is known as verbal placement.

Plot placement

This happens when a product from a brand enters the narrative and plays a part in the story. Through the creative placement of their brands within the fictitious world of films, they become an essential part of the narrative or the characters portrayed in them. A prime example of this phenomenon is the fictional character James Bond, who has always favored Aston Martin, a high-end British sports vehicle manufacturer, as his primary means of transportation.

Influence of product placement

Product placement has grown in importance as a means for firms to connect with their target market outside of the conventional advertising space. Brands use product placement as a marketing tactic to raise brand awareness, attract new clients, retain existing clients, and ultimately increase revenue. Product placement provides viewers with noticeable and sometimes enduring advertising benefits.

Research has shown that the use of product placement in movies enhances viewer memory and brand familiarity.

Additionally, it may elicit a distinct or more favorable response toward the brands and encourage purchase intent. Product placement has been observed to improve viewers' ability to identify specific products and foster favorable opinions of them. Movies featuring product placement may also prompt viewers to engage in product-related conversations and conduct online searches for them (Fossen and Sorgner, 2021).

One benefit of using product placement in motion pictures is that it can increase a brand's immediate appeal to viewers by establishing a relatable connection with their pre-existing content preferences. It is also effective in demonstrating how the brand's products can be used in real-life consumption scenarios.

This strategy could result in the creation of viral content that remains relevant for an extended period in the information environment. Due to its one-time cost rather than the "per ad space" model of traditional advertising, it might prove to be more cost-effective in the long term. Its persuasive strength lies in its ability to enhance brand awareness, capitalize on entertainment's influence, establish lasting brand awareness (as long as the film is available for viewing in the future), and scale globally (Pahwa, 2023).

However, not all product placements are successful. Apart from its tendency to be capital-intensive (high budget), some drawbacks of product placement in films include interference with the film's plot, as producers often defend the product placement; it may also lead to a cluttered screen that alienates viewers; and competing brands may neutralize each other's impact.

Brand recall

Brand recall, sometimes referred to as spontaneous or unaided recall, refers to customers' ability to spontaneously and with little assistance recall brand names (Pahwa, 2023). Well-known brands typically continue to be highly visible in the minds of their target audience, which promotes increased brand recall, enhanced brand loyalty, sustained customer retention, and ultimately, heightened profitability. This evaluation signifies the consumer's intrinsic ability to recall the brand from memory. Achieving top-of-mind awareness among consumers in a particular product category is a primary objective for every brand. This objective is crucial as it boosts sales and facilitates the application of other marketing techniques such as word-of-mouth and referral marketing (Pahwa, 2023). The importance of brand recall includes the following.

Boosts sales and market share

There is a significant positive relationship between brand memory and the likelihood that a customer would use a specific brand's product or service. By fostering recurring purchases, brand memory plays a vital role in cultivating customer loyalty. The maintenance of customers' behavioral, cognitive, and emotional commitment to a brand's present and future products relies heavily on how well-remembered it is.

Creates a competitive edge

One of the most critical elements at the top of the marketing funnel is brand recall, as it marks the commencement of the consumer journey. The ability to recall a specific brand demonstrates ease and familiarity with it, granting the brand a competitive advantage over rivals when consumers make genuine purchase decisions.

Builds brand equity

By ensuring that customers remember a brand's outstanding quality and dependability, brand recall is essential to building brand equity for a company's products.

Theoretical framework

This study adopts the Dual coding theory and Persuasion knowledge theory. Allan Paivio developed the Dual Coding hypothesis in the latter part of the 1960s, which posits that memory and cognition are supported by two different subsystems. One subsystem focuses on non-verbal cues and images, while the other is largely devoted to language and verbal information. The Dual Coding theory suggests that these subsystems independently manage two types of cognitive processes, analyzing and representing data related to events, nonverbal objects, and language. For example, a written or spoken word is processed and stored as a verbal representation by the verbal processor, while a sound unrelated to language is processed and stored as a non-verbal representation by the non-verbal processor.

The theory argues that working memory processes both verbal and nonverbal information, breaks it down into meaningful components, and stores it in long-term memory, thus eliminating the need for two representational systems, which is a common criticism of the theory. Recognizing that information embedded in these two distinct learning processes allows the brain to recall information more quickly, improving the audience's experience with products. Combining visual and verbal cues can be effective, as demonstrated by the Dual Coding theory. Major companies utilize this approach to create video messages that resonate with their target audiences. In this scenario, audiences find it easier to recall businesses and their products due to the combination of essential information supported by visuals.

Since the theory focuses on audiences' memories of what they have seen or heard, it is directly relevant to the study. In this context, the on-screen representation of a

brand or product matters, as viewers can subsequently recall whether they encountered the brand or product in the film. The system is divided into two independent subsystems: one handles linguistic and verbal data, while the other handles non-verbal and visual data. Visuals and non-verbal information focus on how the brand or product is placed in the movie, whether it is visible or audible enough for the audience to perceive and later recall, while language and verbal information focus on what is said about the brand or product in the movie and how well it is represented for later recall by the audience (George, 2021).

Comparatively, the non-coercive influence of someone's attitudes or behaviors through interpersonal communication is referred to as the Persuasion Knowledge Theory. Persuasive advertising techniques are crafted to appeal to consumers' desires and aspirations in order to promote the sale of products and services. The approach involves employing various tactics to highlight the benefits of a product and convince potential customers to make a purchase. When executed effectively, persuasive advertising can attract new customers by swaying their perceptions, emotions, and desires towards buying the product.

According to Edlund and Hellström (2019), the Greek philosopher Aristotle outlined three fundamental strategies for persuasion: using logic or reasoning (logos), making emotional appeals (pathos), and establishing credibility (ethos). Logos pertains to the rationale behind the argument being presented. Does the reasoning make sense? Is it supported by statistics and facts? Does it lead to a logical conclusion? Pathos involves creating an emotional connection with the audience. It revolves around how compelling the presentation is to the individual consumer. Does it resonate with the target audience emotionally? Ethos, on the other hand, refers to the speaker's credibility. It relates to the message's trustworthiness and sincerity. Is the speaker perceived as trustworthy? Do they have authority on the subject matter? Are they someone the audience is inclined to listen to and find appealing?

It is important to note that not all forms of communication are intended for persuasion; some may solely aim to entertain or inform. Persuasion, at times, involves exerting one's influence on others, which is why it is often viewed as a contentious endeavor. As per Sophie (2022), the Persuasion Knowledge Theory suggests that consumers have developed what is known as "persuasion knowledge" – the ability to recognize attempts by marketers to influence them. In today's world, consumers are increasingly aware of marketers' motives.

The term "persuasion knowledge" was first introduced in 1994 by Friestad and Wright to describe individuals' understanding of persuasion strategies and motives, allowing them to assess, interpret, and respond to marketing attempts. Over the years, researchers have examined empirical data regarding consumer skepticism towards advertising and the strategies, tactics, and incentives employed by marketers to influence consumers. They have also explored variations in consumer perceptions of television advertising tactics. Consequently, there exists a connection between the theory and the study.

Persuasive advertising can attract new customers by influencing their thoughts, emotions, and desires, thereby prompting them to purchase the company's or organization's product(s). Product placement in movies is an attempt at influence, but it should be executed discreetly to avoid coming across as blatant advertisement.

MATERIALS AND METHODS

This study employs a traditional positivist research design, which informed the choice of a quantitative survey method. The survey was conducted with respondents from Caleb University and Lagos State University of Science and Technology (LASUSTECH). The positivist paradigm aligns with a quantitative approach to data generation, focusing on numerical data. Respondents aged between 16 and 30 years from both institutions were considered. As of February 2023, the population of students enrolled in Caleb University was 8,500 (Caleb University Website, n.d.), while the population of students enrolled in LASUSTECH was 20,000 (LASUSTECH Website, n.d.). The study adopts Slovin's Formula and ratio analysis for determining the sample size. Slovin's formula is utilized to ensure a fair level of accuracy in measuring the sample size (Ellen, 2020). The respondents from Caleb University and LASUSTECH in Lagos State were sampled using the simple random sampling technique of the probability sampling method. Simple random sampling was chosen to ensure that all respondents had an equal chance of being selected for the study. The calculation of Slovin's formula and ratio analysis is presented as follows:

$$n= \frac{N}{1+Ne^2}$$

Where, n = Number of samples, N = Total population (8,500 + 20,000 = 28,500), e = Error tolerance (0.05).

$$n= \frac{28,500}{1+28,500(0.05)^2}$$

$$n= \frac{28,500}{1+28,500(0.0025)}$$

$$\frac{28,500}{n = 1 + 71.25}$$

$$\frac{28,500}{72.25}$$

n=394.5; n= 400 approximately; LASUSTECH Student Population = A = 20,000; Caleb Student Population= B= 8,500; A+B= 28,500.

If total survey sample is 400, then:

Ratio of LASUSTECH Survey Sample= $\frac{A}{28,500} = \frac{20,000}{28,500} = 0.7 \times 400 = 280$

Ratio of Caleb Survey Sample= $\frac{A}{28,500} = \frac{8,500}{28,500} = 0.3 \times 400 = 120$

For this study, 400 questionnaires were administered, with 120

Table 2. Cronbach's alpha test.

Cronbach's alpha	Cronbach's alpha based on standardized items	No. of items
0.663	0.630	10

distributed at Caleb University and 280 at Lagos State University of Science and Technology, based on the population strength of the two institutions where undergraduate students were randomly selected. The questionnaire was used for quantitative data collection. Face validity, a more casual and subjective examination, was employed to ensure the quality and validity of the designed questionnaires. These instruments were examined by experts in the field of communication at the Department of Mass Communication, Caleb University. The reliability of the survey method was assessed using Cronbach's alpha test (Table 2), following a pilot test conducted to refine the questionnaire based on feedback. Data collected from the questionnaires were analyzed and presented in figures.

RESULTS AND DISCUSSION

Figure 1 reveals that 44% of the respondents are aware of adverts placed in the movie *'Namaste Wahala*,' while 42% are not aware, and 14% are unsure. This indicates that the respondents are aware of the products being placed in *'Namaste Wahala*.' This finding aligns with the findings of Adetutu (2021), whose research showed that viewers could recall and identify the brands featured in the movie to a great extent, suggesting that repeated viewings of movies might increase the mere exposure effect and heighten viewer awareness of the featured companies.

Figure 2 reveals that 26% of the respondents recall one brand advertised in the movie, while 13% recalled two brands, 5% recalled three brands, 2% recalled four brands, and 54% either couldn't recall a brand at all or could not remember the brand seen. Cumulatively, 46% could recall at least one product placed in the movie. Nguetsop et al. (2016) maintain that the use of modality in Gojek's product placement has a significant influence on how viewers feel about the movie. This is consistent with earlier research by Maëlys in George (2021), who found that the presence of a brand in a movie, either visually or audibly, has a favorable influence on viewers' engagement in the film.

Figure 3 shows that 26% of respondents remembered one product advertised in the movie, 13% remembered two items, 7% remembered three products, 3% remembered four products, and 51% could not remember any products at all. According to Karışık in Edlund and Hellström (2019), movie placements do, in general, significantly improve consumer memory and produce favorable consumer attitudes about the products being advertised. It was discovered that a strong link between the movie's plot and product placement was essential to guarantee both high recall rates and favorable customer attitudes.

Figure 4 shows that 2% of respondents always recall products placed in foreign movies more than Nigerian movies, 19% often recall more, 40% sometimes recall more, 30% rarely do, and 9% never recall foreign movie ads better than Nigerian ads. This cumulatively implies that 61% of respondents recall brands placed in foreign movies more than brands placed in Nigerian movies. Figure 5 reveals that 27% of the respondents recalled the Coca-Cola brand, 8% recalled the Chivita brand, 7% recalled the Indomie brand, 1% recalled the Johnnie Walker brand, near 0% (1 respondent) remembered the Adidas brand, 2% remembered the HP brand, 1% recalled the Sterling brand, and 54% could not recall any brand. This indicates that the Coca-Cola brand was the most recalled brand by respondents. Therefore, within the theoretical postulations of Dual Coding Theory, which focus on the recollection of what audiences have seen or heard, how a brand or product is displayed in a movie is important as audiences can later recall if they noticed the brand or product in the movie. Figure 6 reveals that 1% of the respondents strongly agreed that the adverts placed in '*Namaste Wahala'* influenced their opinion of the brand they saw, 18% agreed, 72% disagreed, and 9% strongly disagreed. This implies that cumulatively, the product placement in '*Namaste Wahala'* only influenced the opinion of 19% of respondents while 81% were not influenced.

The persuasion knowledge theory also advocates that when influence attempts are done effectively, persuasive advertising can attract new customers by influencing their opinions, feelings, and desires, which means the persuaded audiences can desire to purchase the organization's or company's products.

Figure 7 reveals that cumulatively, 17% of the respondents were influenced to purchase the products seen in '*Namaste Wahala'* while 83% were not influenced to make purchasing decisions at all. On the contrary, Persuasion Knowledge Theory indicates that the influence attempt, which is product placement in movies, should be subtly done so that it is not visible advertising. Figure 8 indicates that 49% of the respondents believe that they recall products placed in movies better if adverts are repeated in the movie, 24% will recall better if quality actors use the products in the movie, 12% will recall better if powerful visuals are used, 11% are concerned about the use of dialogues about the product, and 4% will recall better if the storyline revolves around the product. Repetition of adverts and the quality of actors who use products placed in a movie are rated as the factors with

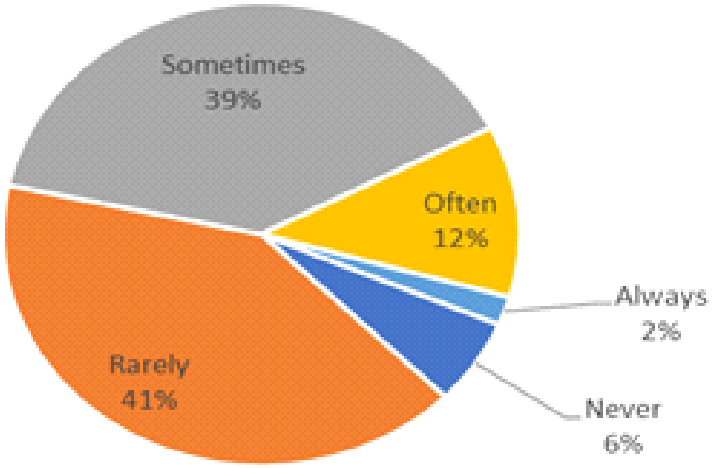

Figure 1. Students awareness of the products being placed in '*Namaste Wahala'.*

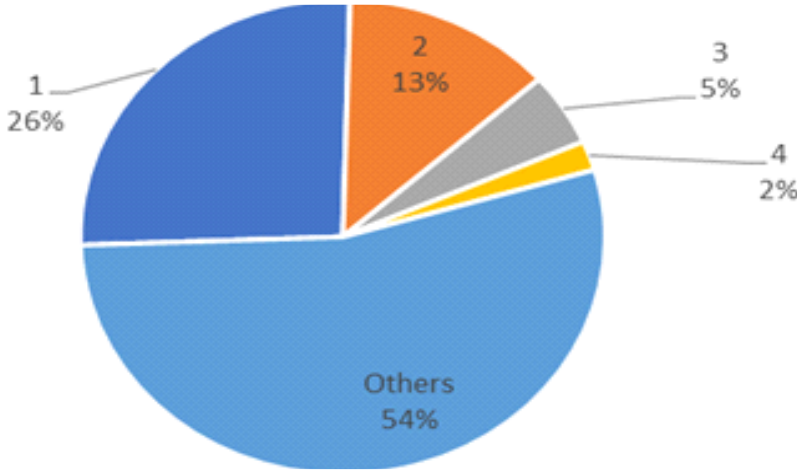

Figure 2. Brands you can remember seeing in the '*Namaste Wahala'* Moive.

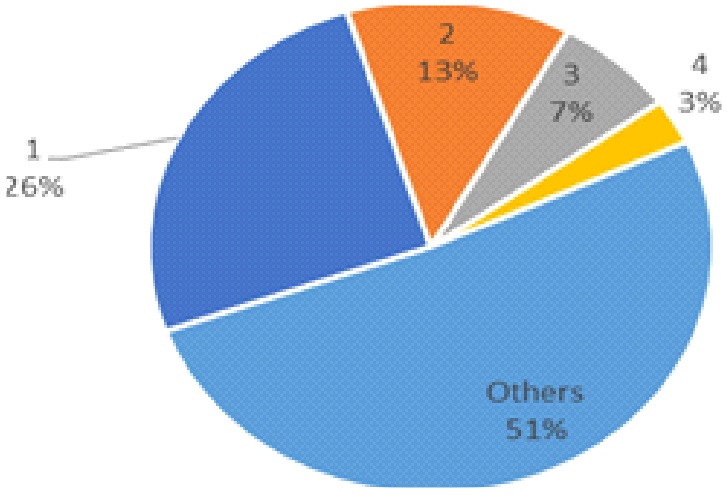

Figure 3. Students recall/remembrance of the products placed in '*Namaste Wahala.'*

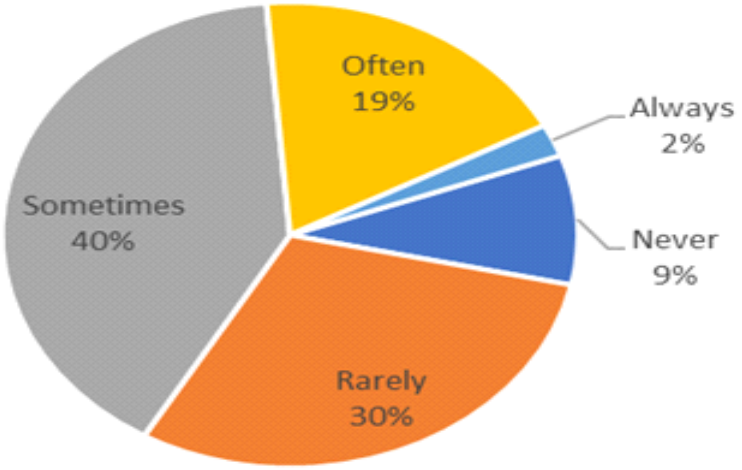

Figure 4. Adverts or products placed in foreign movies better than adverts or products placed in Nigerian movies.

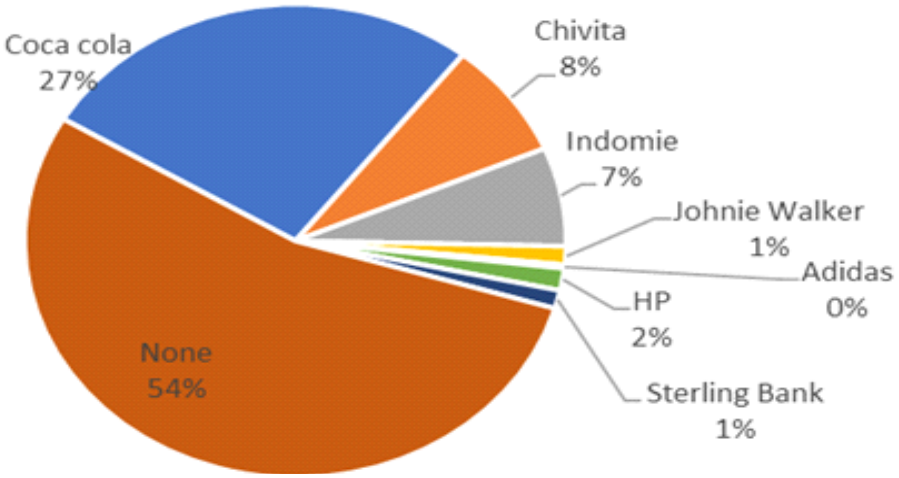

Figure 5. Name of the exact brands seen in the movie *'Namaste Wahala'*.

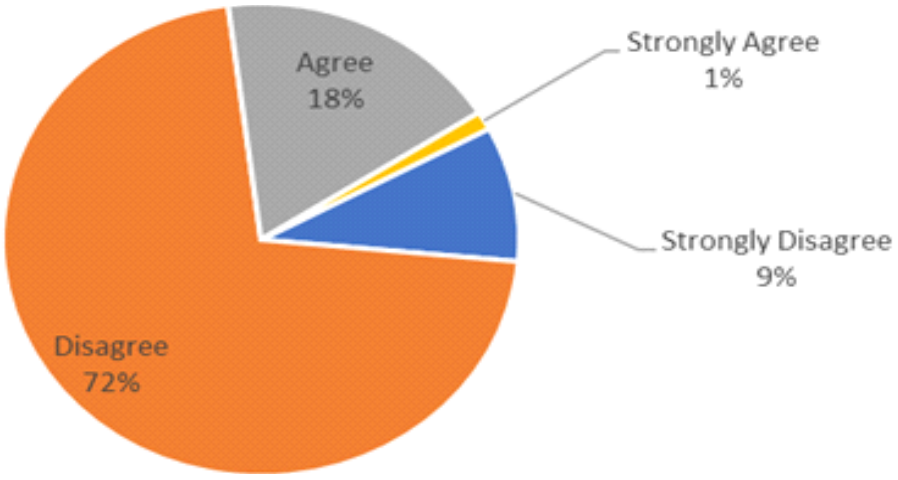

Figure 6. Products placed in '*Namaste Wahala'* Influenced the students' views about the brand.

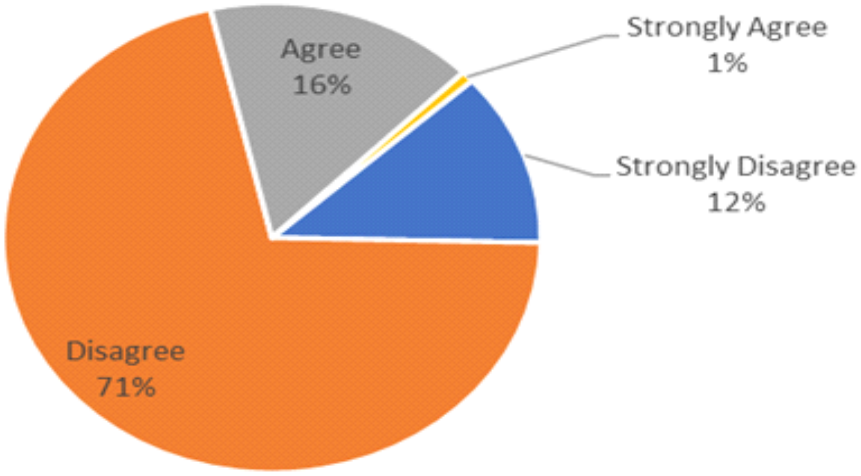

Figure 7. Products placed in '*Namaste Wahala'* affect students' purchasing decisions.

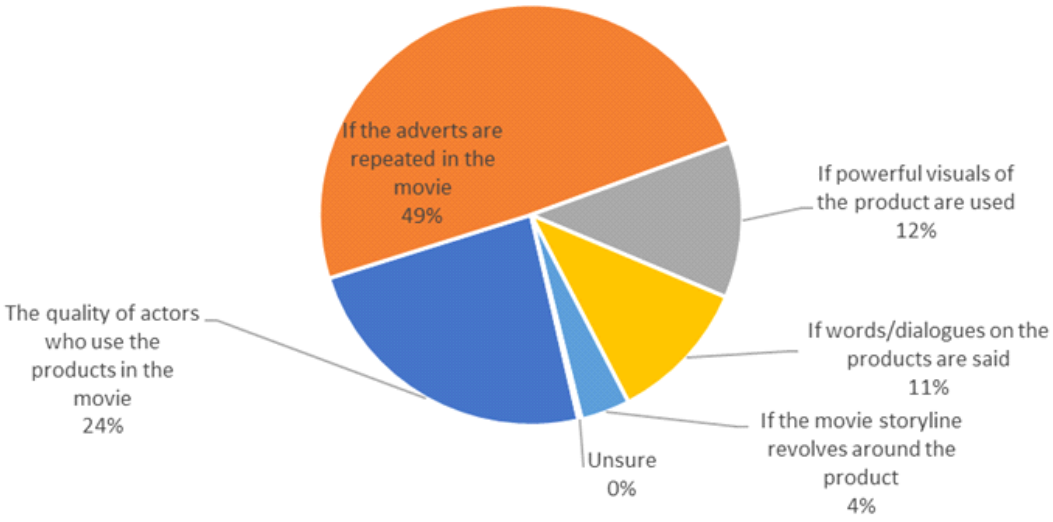

Figure 8. Factors that influence brand recall among the students.

the highest effect on brand recall.

Conclusion

This study examines the effects of product placement in the movie *'Namaste Wahala'* on brand recall among undergraduate students in Nigeria. Findings suggest that while respondents are generally aware of product placement in movies, brand recall and perception are not significantly high. Additionally, the purchasing decisions of respondents are low, indicating that the product placement advertising strategy in the movie *'Namaste Wahala'* was not highly effective. Moreover, the majority of respondents recalled brands placed in foreign movies more than those in Nigerian movies, suggesting that foreign movie producers are more adept at utilizing product placement as a marketing strategy compared to Nigerian counterparts. This underscores the need for Nigerian movie producers to reassess their product placement strategies to enhance brand recall among audiences. These findings carry implications for marketing practitioners, researchers, and movie producers, urging them to reevaluate their approaches and develop more effective plans to engage consumers through product placement in movies.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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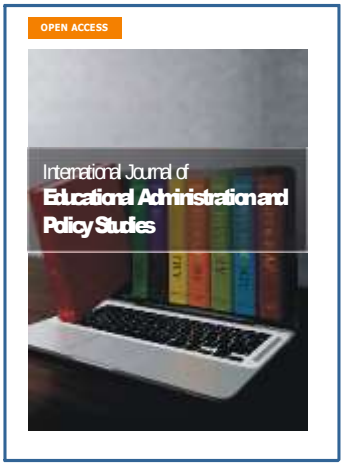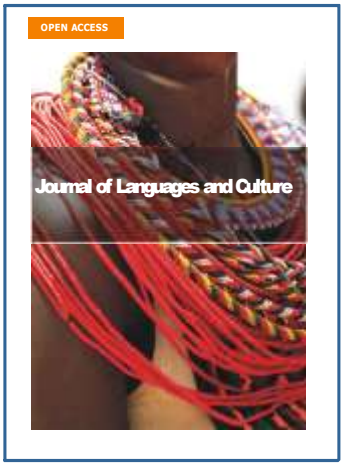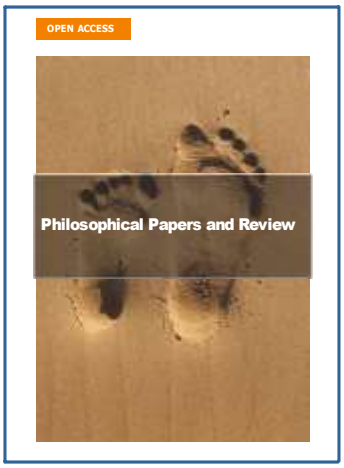
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