

CONSUMER BEHAVIOR | RESEARCH ARTICLE

The Effects of Sonic Logo and Visual Logo Repetition Towards Brand Recall, Recognition, Attitude, and Purchase Intention

Louise Valencia Pramana¹, Naomi Valerisha Astridira Putri^{1*}, Fathony Rahman¹, Prita Prasetya¹

Abstract: Most Indonesian e-commerce brands use sensory marketing, such as repetition of sonic logos and visual logos, in their advertisements. This research investigates the impact of repeated exposure to sonic logo and visual logos in advertisements on brand recall, brand recognition, attitudes toward the brand, and purchase intention. This study employed an experimental design with three repetition levels: one, three, and seven repetitions. The sample comprises individuals from the target market of Indonesian e-commerce platforms, selected through probability random sampling. The total sample is 300, with 100 participants in each group. The hypotheses were tested using one-way analysis of variance (ANOVA) to determine the significance of differences between groups. The results indicate that the repetition of sonic logo and visual logos in advertisements significantly enhances brand recall and recognition, positively influences attitudes toward the brand, and increases purchase intention. Industry players are advised to use sonic logos and visual logo repetition considering its significant effect on a brand. The recommended number of repetitions is three times to assess the effect of changes in the brand. Although additional repetitions beyond three may further enhance these effects, the incremental benefit diminishes.

Keywords: attitude toward the brand, brand recall, brand recognition, purchase intention, repetition, sensory marketing

JEL Classification: E21, M31, M37, L81

Article history:
Received
September 11, 2024

Revision submit
October 14, 2024
October 23, 2024
October 28, 2024

Accepted
November 26, 2024

Available online
November 30, 2024

Author Affiliation:
¹School of Business and Economics, Prasetiya Mulya University, Jl. RA. Kartini (TB Simatupang) Cilandak Barat South Jakarta, South Jakarta 12430 Indonesia

*Corresponding author:
astridira0505@gmail.com



Naomi Valerisha
Astridira Putri

ABOUT THE AUTHORS

Louise Valencia Pramana is currently a Branding student at School of Business and Economics, Prasetiya Mulya University. She is passionate about how digital platforms can be to build and enhance brand presence. She can be reached via louise.pramana123@gmail.com

Naomi Valerisha Astridira Putri is currently a Branding student at School of Business and Economics, Prasetiya Mulya University. She to apply her knowledge and skills to real-world challenges, contributing to the creation of impactful and memorable brands. She can be reached astridira0505@gmail.com

Fathony Rahman is an Assistant Professor at the School of Business and Economics, Prasetiya Mulya University. His research interest's consumption, private, and corporate social responsibility. fathony.rahman@pmb.ac.id

Prita Prasetya is a lecturer at School of Business and Economics, Prasetiya Mulya University. Her research interests lie in the areas of B2B marketing, channel management, consumer behavior, relationship marketing. She can be reached via prita.prasetya@pmb.ac.id

PUBLIC INTEREST STATEMENT

This research highlights the significant impact of repeated exposure to sonic visual logos on brand recall, recognition, and purchase intention. study confirms that three repetitions are optimal for enhancing these effects, the research posed challenges, particularly in controlling real-variables and ensuring a representative sample. In addition, this study employs an experimental technique, which naturally requires time and effort to conduct the experiments on random individuals in public, making it quite a challenge. Despite these challenges, the findings offer valuable insights for brands: strategic repetition, especially times, can effectively strengthen brand presence and consumer engagement.



1. Introduction

A sonic logo is a short sequence of musical notes that is part of a brand's identity system and is used over a long period (Barrio et al., 2021; Krishnan et al., 2012; Scott et al., 2022). The purpose of a sonic logo is to make a brand easily identifiable through a unique and coherent short tune (Barrio et al., 2021). Sonic logos are often employed in advertisements, such as jingles, or as brief musical clips that convey the brand's visual logos in an auditory format (Techawachirakul et al., 2023). A visual logo is a complex stimulus consisting of various visual features through which a brand's meaning is communicated (Chen & Bei, 2020). Many previous studies have demonstrated that visual logos can shape consumer judgments about a brand, influence consumer attitudes toward the brand, and help the brand become more memorable and recognizable (brand awareness) (Peng et al., 2024; Song et al., 2022; Torbarina et al., 2021). Currently, both sonic logo and visual logos are widely used strategies by brands.

Combining sonic logo and visual logos is considered effective for building brand identity and fostering a positive attitude among consumers (Hutabarat & Adelina, 2023; Scott et al., 2020). This combination is part of sensory marketing strategies that engage the five senses and has been proven to strengthen brand image (Hutabarat & Adelina, 2023). The importance of this combination is becoming increasingly recognized, leading many brands, especially in the e-commerce industry, to use it in their advertisements.

E-commerce is a platform where online transactions can take place. According to data from Databoks (2024), the e-commerce industry is the largest contributor to Indonesia's digital economy, accounting for 75.6% of the gross merchandise value (GMV). In the digital and online world, many e-commerce brands consistently use a combination of sonic logo and visual logos in their advertisements, such as Shopee, Tokopedia, Blibli.com, Bukalapak, Lazada, and others. Interestingly, these e-commerce brands often feature their sonic logos and visual logos repeatedly in every ad. This phenomenon requires further study to understand the effects of repetition on a brand.

Shopee is becoming increasingly well-known, and many consumers are starting to become curious about the brand (Goodstats, 2023). During 2017, Shopee aggressively promoted its services using engaging advertisements that featured repeated use of its sonic and visual logos. Shopee became the most visited e-commerce platform that year (Marketers, 2017). Shopee has consistently employed this repetition strategy in its advertisements to this day.

The repetition of the sonic logo and visual logos has indeed proven to strengthen brand recognition and recall (Ayada et al., 2024; Kim & Leng., 2017). Shopee's continuous repetition of their sonic logo and visual logos in every advertisement has made the brand more memorable to consumers, leading Shopee to become top of mind by 2023. According to data from Databoks (2024), in that year, Shopee was the e-commerce platform with the highest number of visitors. Goodstats (2023) also reported Shopee's success in ranking first in Gross Merchandise Value (GMV), with a total of 18.68 billion US dollars.

In marketing theory, a brand that is remembered is related to the theory of brand awareness. Brand awareness is related to how strongly a brand is recalled in the consumer's memory. Brand awareness has several levels, starting from a brand that is unknown to consumers (unaware of brand), becoming known to consumers (brand recognition), being recalled by consumers (brand recall), and becoming top of mind (Aaker, 1991). Brand recognition is the consumer's ability to recognize a brand when exposed to images, audio clips, or other stimuli.

Brand recall and recognition are closely related to the variables of attitude toward the brand and purchase intention (Kim & Leng, 2017). Attitude towards the brand is a consumer belief about the brand. Purchase intention is as the consumer's willingness to pay for a product or service (Hong et al., 2023). Testing purchase intention can help predict consumer behavior, especially in online purchasing, such as in the e-commerce industry.

Previous studies have shown the substantial influence of using both a sonic logo and visual logo in advertisements on brand perception. Researchers believe that this impact can be intensified through repetition. Advertisements that consistently incorporate the combination of a sonic logo and visual logo are believed to positively influence consumer brand recall and recognition (Catalán et al., 2019). This conclusion is supported by earlier research demonstrating that repeated exposure can improve brand recall and recognition among consumers (Martí-Parreño et al., 2017).

Kim and Leng (2017) revealed a significant impact of repeated brand exposure on attitude toward the brand and purchase intention. Studies on sonic logos and visual logos have each shown that they significantly influence attitude toward the brand as well as purchase intention (Krishnan et al., 2012; Peng et al., 2024; Puligadda et al., 2023; Scott et al., 2022; Song et al., 2022).

From this case, researchers suspect that the repetition of sonic logo and visual logos plays a crucial role in driving a brand to become top of mind. This research is intriguing because there are not many studies that have explored this topic. The researchers also examined the relationship between the repetition of the sonic logo combination and consumer purchase intention toward the brand, which in turn affects transaction value. This study employs a quantitative experimental method to analyze a population representing the target market of e-commerce. To avoid bias, the researchers created a fictional brand called "Buy It." The advertisements for this fictional brand feature different levels of repetition for each condition group. The repetition of the sonic logo and visual logos will be tested against variables such as brand recall, brand recognition, attitude toward the brand, and purchase intention.

2. Literature Review

2.1 Sensory Marketing

Sensory marketing is a strategy that uses the five senses of consumers to connect with their experience (Shams et al., 2000). These senses are divided into touch, sight, taste, smell, and hearing. Hutabarat and Adelina (2023) explained that sensory marketing can strengthen the relationship with consumers and create a brand's competitive advantage. By leveraging the emotions and experiences of each consumer, a brand can reinforce its relationship with them.

Sensory marketing is highly beneficial for omnichannel marketing because brands can deliver information physically and digitally by engaging the five senses. Through this strategy, brands can enhance consumers' perceived values, thereby strengthening their brand image control. The most commonly used forms of sensory marketing online are audio and visual elements (Hutabarat & Adelina, 2023). Visual and auditory senses are crucial for receiving and remembering information (Shams et al., 2000). The most frequently used auditory element is the sonic logo. Hutabarat & Adelina (2023) also mentioned that a sonic logo is a melody that conveys the brand's identity, often used alongside the brand's visual identity, that is, the logo.

2.2 Sonic Logo, Visual Logo, and Repetition

A sonic logo is a short sequence of musical notes that forms part of a brand's identity system and is used over an extended period of time (Scott et al., 2022). Sonic logos are typically used in advertisements (such as jingles) or as short music clips that communicate the visual logo of a brand in auditory form (Techawachirakul et al., 2023). In relation to multisensory experiences, in the visual sensory domain, visual logos, which are complex stimuli consisting of various visual features, are used to communicate the meaning of a brand. Visual logos are frequently employed by brands, particularly in marketing activities (Chen & Bei, 2020). The majority of e-commerce advertisements use sonic logos and visual logos repeatedly, which is related to the theory of repetition, which involves repeated exposure to an object. Repetition makes an object feel more familiar to a person, leading to a positive effect on them (Martí-Parreño et al., 2017).

2.3 Level of Brand Awareness (Brand Recall and Brand Recognition)

In marketing theory, brand recall and recognition are parts of the stages of brand awareness. This ranges from brands that consumers are unaware of (unaware of brand) to those that consumers recognize (brand recognition), then recall (brand recall), and finally becoming top of mind (Itasari & Hastuti, 2023). Brand awareness is defined as the possibility that the consumer can remember and mention the brand identifier and product category from their memory (Bergkvist & Taylor, 2022). When encountering brand-related situations, people will try to recall a brand when asked about its category. For example, when discussing "cereal products," consumers will think of the brand Kellogg's. A brand that is the easiest to recall and recognize is what we call a top-of-mind brand.

2.4 Relationship between Sonic Logo and Visual Logo with Brand Recall and Brand Recognition

In the world of marketing, the combination of a sonic logo and a visual logo is common. This combination is often used in advertisements because the interaction between visual and auditory elements has a significant positive effect on consumer behavior (Li et al., 2023). The use of both audio and visual aspects in advertisements has been proven to elicit better responses from consumers by making the customer experience more engaging, ultimately leading to a greater preference for a brand (Vidal-Mestre et al., 2022). This combination enhances consumer memorability of both the advertisement and the brand. It can be concluded that the combination of a sonic logo and visual logo can help achieve effective marketing communication for a brand (Hutabarat & Adelina, 2023).

Previous research has demonstrated the significant impact of combining a sonic logo and a visual logo on a brand when used together in advertisements. Researchers suspect that this effect will be amplified by repetition. Advertisements that repeatedly feature the combination of a sonic logo and visual logo are believed to have a positive effect on consumer brand recall and recognition (Catalán et al., 2019). This is based on previous studies that have proven that repeated exposure can enhance brand recall and recognition among consumers (Martí-Parreño et al., 2017). Repetition can improve this effect because repetition makes a brand more familiar in consumers' minds. Making the consumer unconsciously attached to and preferring the brand through repetitive exposure to advertisements (Ugalde et al., 2024).

In their research, Martí-Parreño et al. (2017) found that brands with more repetition are associated with higher levels of brand recall and brand recognition. This is also supported by Kim and Leng (2017), who mentioned that the rate of brand recognition and brand recall is related to attitude toward the brand and purchase intention. Several studies have indicated that repetition directly influences purchase intention (Khuong & Nguyen, 2015; Yoo et al., 2009). However, some studies have suggested that exposure presented with longer duration and fewer repetitions further enhances memory (Imen, 2013). The researcher concludes the following hypothesis based on previous theories and research:

- H1: The repetition of sonic logos and visual logos in advertisements has a positive effect on brand recall.
- H2: The repetition of sonic logos and visual logos in advertisements has a positive effect on brand recognition.

2.5 Attitude toward The Brand

Attitude toward the brand refers to consumers' beliefs about a brand's attributes. These attributes include elements such as the brand name, design, symbol, and other aspects that make a product or service unique. Attitude toward the brand is shaped by consumers' favorable or unfavorable reactions to its reputation (Foroudi et al., 2019). Attitude towards the brand is considered important because it is related to shaping consumers' perceptions and acceptance of the brand.

2.6 Purchase Intention

According to Hong et al. (2023), Purchase Intention is defined as the consumer's willingness to pay for a product or service. Purchase intention is an independent variable that is not only related to willingness to pay and involves several external and internal factors, such as expectations, value, recommendations, and an individual's emotional response to a product. In addition, there is research that classifies purchase intention as one dimension of consumer behavior. Testing purchase intention can help predict consumer behavior, especially online purchases (Hong et al., 2023).

2.7 Relationship between Attitude toward the Brand and Purchase Intention

Several previous journals have discussed the relationship between attitude toward the advertisement, attitude toward the brand, and purchase intention. Sriram et al. (2021) explained that attitude toward a brand is heavily influenced by attitude toward the advertisement. When consumers have a positive attitude toward an advertisement, they may develop affection and loyalty toward the brand. This is why the attitude toward the advertisement has a positive impact on the attitude toward the brand. This, in turn, increases consumers' purchase intention (Itasari & Hastuti, 2023; Sriram et al., 2021).

Purchase intention becomes more positive when a positive attitude towards the brand is established (Mukherjee & Banerjee, 2019). Sriram et al. (2021) support these findings by demonstrating that purchase intention is influenced by both attitudes toward the advertisement and attitude toward the brand. Santiago and Su (2023) shared a similar view, noting that although the relationship between attitude toward the brand and purchase intention was found to have a slight effect, it is still considered influential.

Brand recall and recognition are also related to attitude toward the brand and purchase intention (Kim & Leng, 2017). Kim and Leng's (2017) demonstrated a significant effect of repeated brand exposure on attitude toward the brand and purchase intention. sonic logos and visual logos have each been studied and found to have a significant impact on

attitude toward the brand and purchase intention (Krishnan et al., 2012; Puligadda et al., 2023; Peng et al., 2024; Scott et al., 2022; Song et al., 2022).

Many previous studies have linked sonic logos or visual logos with variables such as brand recall, brand recognition, attitude toward the brand, and purchase intention separately. However, no study has specifically discussed the combination of these variables. Research that examines this combination repeatedly is also lacking. Therefore, the researcher proposes the following hypothesis to test whether there is a significant effect caused by the combination of sonic logos and visual logos on the aforementioned variables. The researcher concludes the following hypothesis as follows:

H3: The repetition of sonic logos and visual logos in advertisements has a positive effect on attitudes towards the brands.

H4: The repetition of sonic logos and visual logos in advertisements has a positive effect on purchase intention.

3. Conceptual Framework

Figure 1 describes the experimental concept. The repetition of sonic logos and visual logos as the independent variable will be tested toward the dependent variable, which is brand recall, brand recognition, attitude toward the brand, and purchase intention. The independent variable will be tested one by one with the dependent variable. In the experiment, there were three treatment groups. Each group had a different number of repetitions for the sonic logo and visual logos. These three groups are one-time, three-times, and seven-times sonic logo and visual logo repetition. By testing each group one by one regarding the dependent variable, researchers aim to find out how each group affects the dependent variable and whether each repetition has significant differences in terms of its effect on the dependent variable.

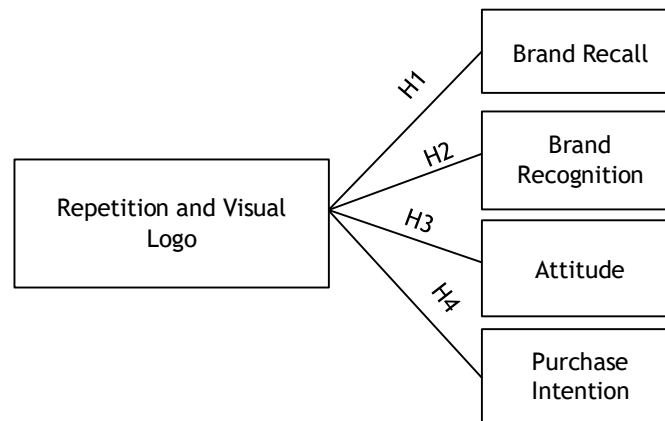


Figure 1. Conceptual framework of the effect of sonic logo and visual logo repetition on brand recall, recognition, attitude, and purchase intention

Thus, the hypothesis of this study are as follows:

H1: The repetition of sonic logos and visual logos in advertisements has a positive effect on brand recall.

H2: The repetition of sonic logos and visual logos in advertisements has a positive effect on brand recognition.

H3: The repetition of sonic logos and visual logos in advertisements has a positive effect on attitudes towards the brands.

H4: The repetition of sonic logos and visual logos in advertisements has a positive effect on purchase intention.

4. Methods

4.1 Research Design

This study is quantitative and employs an experimental method. This research aims to determine whether the repetition of sonic logos and visual logos in advertisements affects brand recall, brand recognition, attitude toward the brand, and purchase intention. The experimental method is used in causal research to identify cause-and-effect relationships. This method aligns with the researchers' objective of proving the causal relationship between the repetition of sonic logos and visual logos in advertisements and their impact on brand recall, brand recognition, attitude toward the brand, and purchase intention.

Before collecting data, the researcher created a scenario. For this experiment, the researcher developed a fictional e-commerce brand called "Buy it." A sonic logo and visual logo will be created for the fictional brand. The researcher will then design an advertisement that includes repetitions of the sonic logo combination according to the needs of the experimental group. The sonic logo, visual logo, and advertisement will be as realistic as possible. However, the researcher will avoid creating a scenario that is too similar to existing brands to prevent bias from participants who may already have certain perceptions about those brands. The following is a detailed explanation of how each scenario is created.

The type of experiment used was a true experiment. In this type of experiment, the independent variable is manipulated to form an experimental group and a control group, which are then randomly assigned to participants. This true experiment method is appropriate because the researcher controlled all independent variables in the study. The researcher created three groups with different manipulated conditions: repetition of the sonic logo and visual logos one, three, and seven times.

Based on the pilot test results from research conducted by Kim and Leng (2017), the test suggested that three repetitions of SVG (stimuli) can influence changes in brand recall and recognition rates between conditions of one-time and three-time exposures. The seven-repetition condition was included deliberately to ensure sufficient exposure to the test stimulus during the experiment. Additionally, in previous research, the use of seven repetitions was employed because repetitions are commonly performed seven times (Griffith & Chen, 2004). Each participant will be randomly assigned to one of these groups and will then follow the experiment according to the group's conditions.

The experiment included three groups with different scenarios: one-time, three-time, and seven-time repetitions. The repetition groups were determined based on previous research, which indicated that three or seven repetitions were sufficient to provide stimulus in an experiment (Kim & Leng, 2017). The researchers will sequentially test the effects of the repetition combination on each dependent variable, starting with brand recall, followed by brand recognition, attitude toward the brand, and purchase intention.

In each group, the researchers presented a 10-s advertisement with varying exposures to the sonic logo and visual logos. The sonic logo and visual logos represent the identity of a fictional e-commerce brand called "Buy It," created to avoid bias. All scenarios, including advertisements, sonic logos, and visual logos, were designed to reflect the realities of the Indonesian e-commerce industry.

First, the researchers created a sonic logo for the fictional brand "Buy It" online using the software "Bandlab." The sonic logo for "Buy It" is in the key of C major, with a tempo of

120 bpm, and uses a kalimba instrument. The sonic logo consists of two notes: D and C (see Figure 2). The overlay of the sonic logo is a layer of a female voice saying "Buy It" in a high and cheerful tone. This scenario mirrors actual practice, where e-commerce brand sonic logos typically have a major key and fast tempo, often accompanied by a voiceover stating the brand name.



Figure 2. sonic logo for the fictitious "Buy It"

In addition to the sonic logo, the researchers created a visual logo for the fictional brand "Buy It." The visual logo was created digitally using the Procreate application to minimize human error that could affect the experiment's results. The visual brand logo needed to be easily recognizable and representative of its industry. Therefore, the researchers designed a visual logo in the shape of a shopping cart (Henderson & Cote, 1998). The choice of the color orange was influenced by previous research, particularly Bresciani and Del Ponte (2017) study, which explained that visual logos with orange are perceived as more attractive than other colors. Figure 3 shows the design and color of the visual logo.



Figure 3. Visual Logo for the Fictitious Brand "Buy It"

After creating the sonic logo and visual logos, the researcher produced a brief advertisement. The ad features a catchy tune and depicts the stages of online shopping. In the advertisement, a voiceover reads a script emphasizing attributes like affordability, speed, and reliability of shopping, along with features such as "Free shipping" and "Cash on Delivery (COD)". At key moments, the sonic logo and visual logo combinations are displayed, with repetitions tailored to each group's scenario. For clarity, below are the advertising scripts for each scenario group along with their respective cues.

Repetition of sonic logo and Visual Logo Combinations One Time:

"Buy It!" (cue 1): "Cheap, fast, and reliable shopping only at Buy It!" Get free shipping and cash on delivery services on the Buy It e-commerce platform!"

Repetition of sonic logo and Visual Logo Combination Three Times:

"Buy It!" (cue 1): "Cheap, fast, and reliable shopping only at Buy It!" (cue 2) Get free shipping and cash on delivery services on the Buy It e-commerce platform!" (cue 3)

Repetition of the sonic logo and Visual Logo Combination Seven Times:

“Buy It!” (cue 1) “Cheap shopping” (cue 2) “Fast and reliable (cue 3) only at Buy It! (cue 4) Get free shipping (cue 5) and cash on delivery service (cue 6) on the Buy It e-commerce platform!” (cue 7)

The researchers prepared three types of surveys for each group using Google Forms to facilitate data collection. Each survey included specific questionnaires on the variables adapted from previous studies. Brand recall questions were based on items from Morton and Friedman (2002). Brand recognition questions were adapted from Memon (2016). Questions regarding attitude towards the brand were derived from Holbrook and Batra (1987). Purchase intention questions were based on items from Steinhart et al. (2014). A comprehensive table listing all the instruments used by the researchers will be attached.

4.2 Sampling

The sampling technique was probability random sampling, ensuring equal chances for all elements in the population to be selected. The target population comprised the e-commerce market, specifically individuals aged 18-35 (representing Generation Z and millennials) residing in Java, DKI Jakarta province, and nearby areas. Participants were required to have a monthly income exceeding 3 million IDR and to engage in e-commerce transactions at least once monthly. Additionally, they must have viewed e-commerce advertisements to ensure their suitability for the experiment.

Based on G*Power software, the target sample size for the main study was at least 252 participants. However, researchers managed to collect 300 participants. The number of 252 participants used as the target sample number was determined using G*Power software. G*Power is a program used for analyzing sample power, which can determine the power of a study. Additionally, G*Power can help identify concepts and procedures, such as sample size, in hypothesis studies. This calculation assumes a medium effect size of 0.25, a significance level of 0.05, and a power of 0.95, ensuring a 95% probability of detecting a significant effect. Before starting the main study, the researchers conducted a pilot test to validate and ensure the reliability of the measurement instruments. Each pilot test group included a minimum of 20 participants, totaling 60 participants across all groups.

4.3 Measurement

The researchers prepared three types of surveys for each group using Google Forms to facilitate data collection. Each survey included specific questionnaires on the variables adapted from previous studies. All questionnaires were assessed using a 5-point Likert scale. Brand recall questions were based on items from Morton and Friedman (2002). Brand recognition questions were adapted from Memon (2016). Questions regarding attitude towards the brand were derived from Holbrook and Batra (1987). Purchase intention questions were based on items from Steinhart et al. (2014). A comprehensive Table 1 listing all the instruments used by the researchers will be attached.

Table 1. Operational definition and indicators of brand recall, brand recognition, attitude toward the brand, and purchase intention

Variables	Operational definition	Indicators	Scale
Brand Recall (Morton & Friedman, 2002)	The ability of consumers to recall a brand when exposed to it.	1) I am more likely to remember the brand placed in the ad compared to other media 2) I can remember what was said when the brand appeared in the ad. 3) I was able to recall the brand in the ad the next day 4) I was able to recall the brand in the ad several weeks later. 5) When a brand I like is used in an ad, I am more likely to remember it. 6) When I see the brand, I remember the advertisement:	1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree
Brand Recognition (Memon, 2016)	The ability of consumers to recognize a brand when exposed to cues such as images, audio, and so on.	1) Can you recognize the brand over a long time? 2) Recognizing the brand can make me want to buy it. 3) Do you easily recognize the brand? 4) Can you recognize this brand elsewhere?	1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree
Attitude toward the brand (Holbrook & Batra, 1987)	Positive or negative reactions of consumers when evaluating a brand, including aspects such as the brand name, design, symbol, and other elements that differentiate one product or service from another.	1) I like or dislike the brand after seeing the ad 2) I feel more positive/negative toward the brand after seeing the advertisement. 3) The brand is good or not good	Q1. 1 = Strongly disliked 2 = Dislike 3 = Neutral 4 = Like 5 = Strongly like Q2. 1 = Strongly negative 2 = Negative 3 = Neutral 4 = Positive 5 = Strongly Positive Q3. 1 = Atrocious 2 = Bad 3 = Neutral 4 = Good 5 = Excellent

Table 1. Operational definition and indicators of brand recall, brand recognition, attitude toward the brand, and purchase intention (Continue)

Variable	Operational definition	Indicators	Scale
Purchase Intention (Steinhart et al., 2014)	The willingness of consumers to pay for a product or service.	1) How likely are you to buy a product from an advertised brand? 2) How likely are you to buy products from an advertised brand? 3) How willing are you to buy products from an advertised brand?	Q1. 1 = Will not buy 2 = Not buying 3 = Neutral 4 = Buy 5 = Will buy Q2. 1 = Strongly likely not to buy 2 = Likely not to buy 3 = Neutral 4 = Likely to buy 5 = Very likely to buy Q3. 1 = Strongly unwilling to buy 2 = Unwilling to buy 3 = Neutral 4 = Willing to buy 5 = Strongly willing to buy

4.4 Data Collection

The sampling was conducted both online and offline. This research was conducted offline to allow the experiment to be conducted directly with participants in public places. The online method was used to reach a broader population. Online sampling employed a survey link hosted on the nimblelinks.com website, which randomly assigned participants to one of three survey groups upon accessing the link. The researchers promoted the link via Instagram and TikTok.

For offline sampling, researchers approached visitors randomly at Summarecon Mall Serpong and Aeon Mall. Prospective participants were asked about their age and willingness to participate. Participants meeting the criteria and consenting to participate were instructed to select one card randomly from three options. Each card indicated the participant's assigned condition group: 1 (an advertisement featuring the sonic logo and visual logo displayed once), 2 (an advertisement featuring the sonic logo and visual logo displayed 3 times), and 3 (an advertisement featuring the sonic logo and visual logo displayed 7 times). Participants then scanned a QR code to access and complete the survey corresponding to their assigned group. Upon completion, the participants received chocolates as a token of appreciation.

4.5 Data Analysis

Validity testing was conducted using confirmatory factor analysis (CFA), which verifies the factorial structure of established measurement instruments. Prior to experimentation, each set of items was subjected to a reliability test using Cronbach's alpha. This test ensured consistency among items, thereby enhancing the accuracy of research outcomes.

Before carrying out the main test, the researcher conducted a pilot test to determine whether the question indicators were appropriate for use and could produce valid and reliable calculations. In the pilot test, the researchers collected data from 20 samples in each group (totaling 60 samples), offline and online, on June 6, 2024.

The validity and reliability of each variable were calculated using IBM SPSS Statistics version 27 software. The validity test was calculated using Confirmatory Factor Analysis (CFA), while the reliability test was calculated using Cronbach's alpha.

In the reliability test, a Cronbach's Alpha reached above 0.6, it is considered reliable. Researchers use reliability statistics and item-total statistics data to report reliability results. In the brand recall, initially, Cronbach's Alpha result was 0.801, but after the BC6 question item was deleted, Cronbach's alpha increased to 0.805. The Cronbach's alpha results for the brand recognition was 0.764 and the attitude toward the brand was 0.774, which above 0.6 and can be used as indicators. Finally, Cronbach's alpha for the purchase intention is 0.796. However, after question PI1 was removed, Cronbach's alpha increased to 0.840.

In the validity test, this research used Confirmatory Factor Analysis (CFA). In the KMO and Bartlett's Test, a KMO figure above 0.7 is considered significant, and Bartlett's Test of a p-value less than 0.5 is considered good. When reporting Total Variance Explained data results, researchers focus on the Extraction Sums of Squared Loadings column. Researchers looked to determine whether total, variance, and cumulative variables are on the same line. The researchers also looked at the percentage of variance that existed (Table 2).

Table 2. KMO, significance, and variance percentages for the validity test

Variables	KMO	sig.	% variance
Brand recall	0.705	0.000	51.223
Brand recognition	0.752	0.000	58.763
Attitude toward the brand	0.657	0.000	69.413
Purchase intention	0.765	0.000	63.657

Note: KMO (Kaiser-Meyer-Olkin Measure Sampling), sig (significance), %variance (variance percentage)

The researchers evaluated the hypotheses by examining the effects of sonic logo and visual logo repetition across three experimental groups on brand recall (H1), brand recognition (H2), attitude toward the advertisement (H3), and purchase intention (H4). All variable assessments were performed using one-way ANOVA.

5. Findings

5.1 Respondent Characteristics

After ensuring the validity and reliability of the research instruments, the researchers proceeded with the main study. In this study, 300 data points were collected, with each group comprising 100 participants. The different participants were selected for each group to enable comparison between the groups. Data were collected both online and offline.

Participants of this study met the criteria previously established by the researchers. The majority of participants are female (57%), Gen Z (69%), and Millennials (31%). The distribution of participants' residences was as follows: Tangerang (22.7%), South Tangerang (23.7%), South Jakarta (14%), and East Jakarta (4%), with the remainder residing in cities outside Jakarta and Tangerang. Most participants had a monthly income of IDR3,000,001 - IDR7,000,000 (60%) and shopped 2-5 times per month (48%).

5.2 Mean Result for Brand Recall

In the ANOVA results (Table 3), the p-value is 0.000, indicating significance. H1 is accepted. Therefore, it can be concluded that the repetition of the sonic logo and visual logos in advertisements has a significant positive effect on brand recall, $F(2,297) = 29.25$, $p < 0.001$. This means that repetition of sonic logo and visual logos in advertisements may increase consumer brand recall. Each repetition, in this case, one, three, and seven repetitions has a significantly different effect on brand recall.

Table 3. Analysis of variance (ANOVA) results for brand recall

Brand Recall	df	F	Sig.
Between Groups	2	29.254	0.000
Within Groups	297		
Total	299		

In Figure 4, we can see the mean results for each group repetition of the sonic logo and visual logo. One-time repetition has a mean of 3.466, three-time repetition has a mean of 3.886, and seven-time repetition has a mean of 4.154. To identify the number of repetitions that had the most impactful effect on brand recall, researchers compared the difference (Delta) between the averages of each group. The delta of the average from Group 1 to Group 2 is 0.42. This number was obtained by subtracting the mean values from three repetitions to one repetition. The Delta from Groups 1 to 2 is larger than the Delta from Groups 2 to 3, which is only 0.268. The delta number 0.268 was acquired by subtracting the seven-times repetition mean values to the three-times repetition mean values. This indicates that three times repetitions of the sonic logo and visual logo in an advertisement have a greater impact than other number of repetitions, as it has the biggest jump in effect (we can see by comparing the delta value from one group to another) toward brand recall.

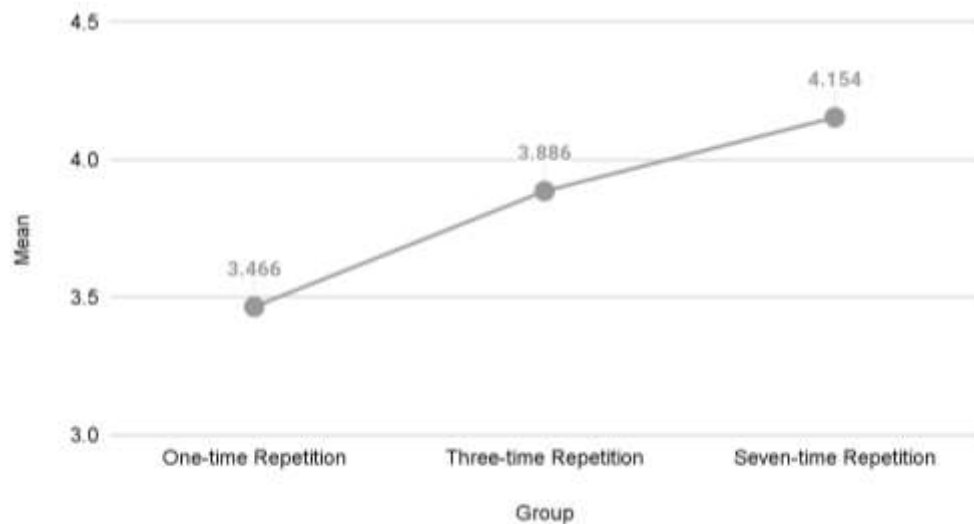


Figure 4. Mean brand recall results

5.3 Mean Result for Brand Recognition

The ANOVA results (Table 4) were significant. This is evidenced by the significance level of 0.000, which is smaller than the alpha level of 0.05. It can be concluded that Hypothesis 2 is accepted ($F(2,297) = 37.81$, $p < 0.001$). This means that the repetition of sonic logo and visual logos in advertisements has a significant positive effect on brand recognition. Using repetition sonic logo and visual logos in advertisements may enhance

brand recognition. However, a different number of repetitions has a significantly different effect on brand recognition.

Table 4. Analysis of variance (ANOVA) results for brand recognition

Brand Recognition	df	F	Sig.
Between Groups	2	37.807	0.000
Within Groups	297		
Total	299		

Figure 5 describes the means of the repetition group used in this experiment: one-time, three-times, and seven-times repetition. To determine which group had the most impact on brand recognition, researchers dug deeper by comparing the differences in the delta of each group's repetition means. The mean delta from one to three repetitions was 0.47. This number was obtained by subtracting the mean result of three repetitions with one repetition. Next, researchers also subtracted the mean of seven repetitions to three repetitions, resulting in 0.30. Judging from delta's calculations, the differences in mean from one group to another are quite different. It can be concluded that different numbers of sonic logo and visual logo repetitions have significantly different effects on brand recognition.

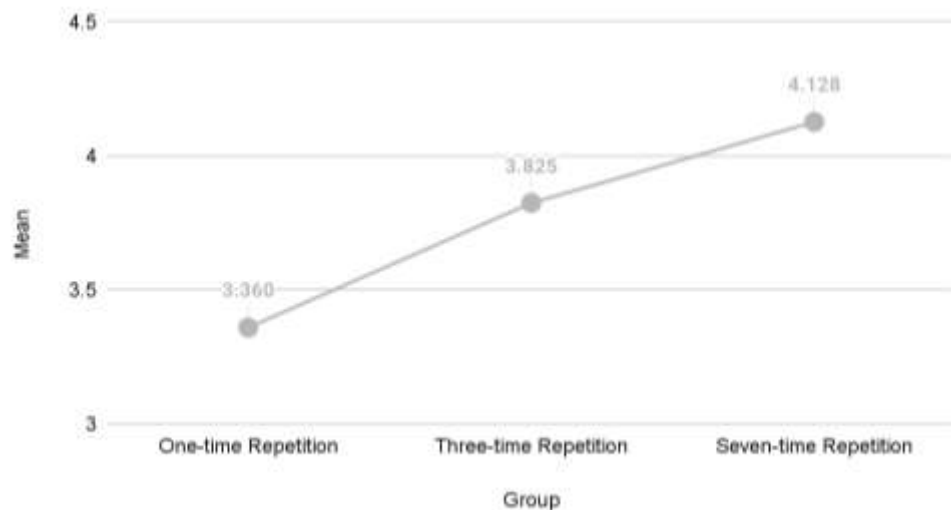


Figure 5. Mean brand recognition results

5.4 Mean Result for Attitude Towards the Brand

According to the ANOVA results (Table 5), the researchers found that the repetition of the sonic logo and visual logo significantly affects the attitude toward the brand in a positive way. This was evident from the significance value of 0.000, which was lower than the previously set alpha level of 0.05. Therefore, it is concluded that the repetition of the sonic logo and visual logos in advertisements can promote a positive attitude toward the brand in consumers' minds (H3 is accepted), $F(2,297) = 11.481, p < 0.001$. Different numbers of repetitions may have a different effect on the attitude toward the brand, as it has been proven to be significantly different by the ANOVA result.

Table 5. Analysis of variance (ANOVA) results in attitude towards the brand

Attitude toward the brand	df	F	Sig.
Between Groups	2	11.481	0.000
Within Groups	297		
Total	299		

In Figure 6, we can see the mean result from each group repetition used in this experiment: one-time, three-times, and seven-times repetitions. The mean one-time repetition result was 3.463. Three-times and seven-times repetitions for each yield mean results of 3.793 and 3.887. To identify which group had the greatest effect on attitude toward the brand, researchers compared the delta of each group. The delta number is obtained by subtracting the means of one group from another. The delta numbers used are from group one-time to three times repetitions and group three times to seven times repetition. The delta of the one- and three-time repetition groups was 0.33. This delta is larger than the delta from the three-times to seven-times repetition group, which is only 0.09. It can be concluded that a sonic logo and a visual logo will have a significant effect on attitude towards the brand if displayed more than one time. However, the number of repetitions does not really matter, as there is a small difference in the delta mean from three to seven repetitions.

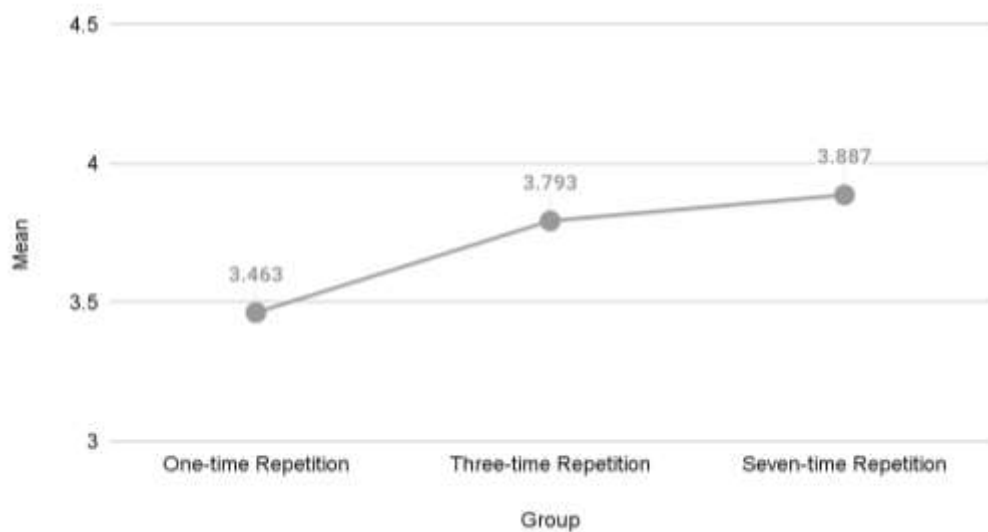


Figure 6. Mean attitude toward the brand results

5.5 Mean Result for Purchase Intention

The ANOVA calculation (Table 6) explains that the hypothesis for the purchase intention variable is acceptable. This is because the number is significant at 0.000. This figure is smaller than the specified alpha level (0.05), indicating that there is a significant effect. It can be concluded that hypothesis 4 (H4), namely, repetition of the sonic logo and visual logo displayed in advertisements, may increase purchase intention, $F(2,297) = 11.751$, $p < 0.001$. The number of repetitions also has significantly different effects on purchase intention. In this research, the number of repetitions tested were one-time, three-time, and seven-time repetitions.

Table 6. Analysis of variance (ANOVA) for purchase intention

Purchase Intention	Df	F	Sig.
Between Groups	2	11.751	0.000
Within Groups	297		
Total	299		

It can be seen from Figure 7 that the means of each group are quite different. One-time, three-times, and seven-times repetition sequentially has a mean of 3.233, 3.553, and 3.743, respectively. To determine which group repetition has the greatest effect on

purchase intention, researchers calculated the range difference from one group to another, which we called delta. The delta group's one-to-three repetition frequency was 0.32. The delta number was acquired by subtracting the mean values of three repetitions from one repetition. Using the same technique, researchers obtained the delta number for three times to seven-times repetition, which is 0.19. Compared, the delta of one-time to three-time repetition is higher than three-time to seven-time repetition. This means that the effects of sonic logo and visual logos are greater if they are displayed repeatedly rather than only once. However, the number of repetitions does not significantly influence purchase intention.

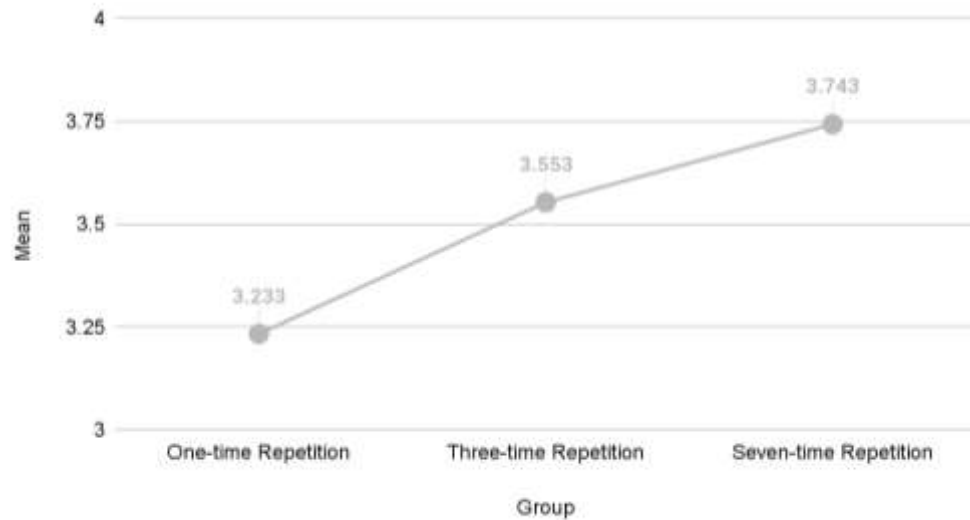


Figure 7. Mean purchase intention results

6. Discussion

6.1 The Effect of Sonic Logo and Visual Logo Repetition on Brand Recall and Brand Recognition

Repetitive exposure to sonic logo and visual logos in advertisements facilitates brand recall and brand recognition, as supported by H1 and H2. These results support Hutabarat and Adelina (2023) research, which also demonstrated that sonic logo and visual logos help individuals remember a brand. Hutabarat and Adelina (2023) explains that using sensory approaches (in this case, sonic logo for auditory senses and visual logo for visual senses) in digital communication can enhance brand awareness in the market.

Repetition enhances the effects of sonic logo and visual logos on brand recall and recognition. This was evidenced by the significant increase in changes from the one-time repetition group to the three-time repetition group. The impact of repetition on brand recall and recognition significantly increases as the number of repetitions increases, especially between the first and third repetitions. This is reflected in the average increase from the three- to seven-time repetition groups, although not as pronounced as the change from one-time to three-time repetition.

These findings support Martí-Parreño et al. (2017) research, which explained the effect of repetition on brand recall and brand recognition. Thus, these results can also be applied to new and established brands in the e-commerce industry. The significant results in brand recall and recognition are likely because most participants were from Generation Z (18-25 years old) (Pesovski et al., 2022). These participants are relatively proficient in evaluating advertisements and the cognitive processing of repeated sonic logo and visual logo combinations (Kim & Leng, 2017). Kim and Leng (2017) attribute this

proficiency to the sample, which comprises students with good cognitive abilities for processing repetitive brand information.

The integration of sonic logo and visual logos is commonly employed in advertisements because the interaction between visual and auditory elements has a notably positive impact on consumer behavior (Li et al., 2023). Combining both audio and visual components in ads has been shown to generate stronger consumer responses by making the experience more engaging, which ultimately increases brand preference (Vidal-Mestre et al., 2022). This approach also improves the memory of both the ad and the brand. Therefore, using sonic logo and visual logos together contributes to more effective marketing communication for a brand (Hutabarat & Adelina, 2023). The addition of repetition to the sonic logo will certainly help consumers develop behavior, particularly by providing the cognitive stimulation they need, which will later impact the affective and conative aspects, ultimately leading to consumer purchases (Kim & Leng, 2017).

Additionally, the researchers suspect that the size of a visual logo and the name of the brand in a visual logo play a significant role. Although the sonic logo and visual logo are displayed for a brief period, participants are able to quickly capture the information due to the large size of the visual logo and its brand name. Participants pay more attention and find it easier to process information when a visual logo is presented in a large size, even for a short duration (Ghosh et al., 2022).

6.2 The Effect of Sonic Logo and Visual Logo Repetition on Attitude towards The Brand

ANOVA calculations demonstrated that the three condition groups had significant differences in attitude toward the brand. This supports Hypothesis 3, which states that repetition of a sonic logo and visual logo affects attitude towards the brand (Kim & Leng, 2017; Li et al., 2023; Vidal-Mestre et al., 2022). The group with the highest effect was the three-time repetition group. This result is consistent with Kim and Leng (2017) findings, which demonstrated a similar significant impact of repetition on brand attitudes, even in different advertising contexts.

The reason for the significant results regarding attitude toward the brand is related to the demographic characteristics of the participants, who mostly enjoy shopping on e-commerce platforms (averaging 2-5 times per month). Khuong and Nguyen (2015) explained that interest in advertisements is a key determinant of the emotions experienced by individuals. Positive emotions directly affect attitudes towards the brand (Scott et al., 2022). Characteristics such as the tone and instruments used in the sonic logo, as well as the color and shape of the visual logo, influence the emotions evoked (Peng et al., 2024; Puligadda et al., 2023; Scott et al., 2022; Song et al., 2022). These emotions, in turn, impact attitudes toward a brand (Scott et al., 2022).

6.3 The Effect of Sonic Logo and Visual Logo Repetition on Purchase Intention

The final variable to be discussed is purchase intention. The study found that repetition of the sonic logo and visual logos had a significantly different effect across the three condition groups. The three-time repetition group exhibits the highest effect compared with the other groups. This finding indicates that displaying sonic logo and visual logos is more effective than a single display in influencing purchase intention.

These findings agree with Santiago and Su (2023) study, which underscores the critical role played by repeated exposure in the digital era in enhancing purchase intention. Specifically, Khuong and Nguyen (2015) emphasized the significance of repetitive brand

exposure in advertisements because it can evoke positive consumer emotions. Indirectly, these emotions enhance purchase intention. The participants in this study represent the e-commerce target market who frequently use e-commerce applications and conduct transactions on these platforms. This interest generates positive emotions, which positively affect purchase intention (Khuong & Nguyen, 2015).

In addition to emotion, the participant's demographic characteristics, such as age, play a role in displaying a positive effect. Most participants in this experiment are in their productive age (18-35 years old), making them have decision power when purchasing products. This result is in line with Rahmah and Satyaninggrat (2023) research, which roughly has the same demographic characteristics as this research, which is around 17-40 years old. Rahmah and Satyaninggrat (2023) explored the effect of consumer characteristics and lifestyle on purchase intention. The insight gained was how participants in the productive age tend to make purchase decisions, resulting in a positive effect on purchase intention. This effect is also applicable to advertising, as discussed in this research.

6.4 Managerial Implication

This study confirms that repetition of sonic logo and visual logos enhances brand recall and recognition, promotes a positive attitude toward the brand, and increases purchase intention from consumers. It is advisable for industry practitioners to repeat the procedure three times because it will yield impactful improvements for the brand. However, the number of repetitions can be adjusted to meet the brand's goals. In determining the number of repetitions in sonic logo and visual logos, industry practitioners should consider the characteristics of their target market before deciding on the number of repetitions. Different target market characteristics yield different effects. Further research with a broader sample could provide additional insights.

Due to the intense competition in the e-commerce industry, many e-commerce brands are striving to anything they can be remembered by their consumers. The combination of a sonic logo and a visual logo is considered suitable for e-commerce brands because it can guide consumers toward making a purchase on their platform. It is quite challenging to differentiate e-commerce brands because they serve the same function, namely, to connect sellers and buyers online. Therefore, for business players, especially in the e-commerce industry, it is recommended to repeat this combination three times in a 10-second advertisement. This helps a brand stand out more than other e-commerce brands.

Practitioners should also consider both the number of repetitions and the duration of the advertisement when planning marketing strategies. This study used a maximum of seven repetitions with a 10-s advertisement. However, increasing the number of repetitions for the same duration might produce different results because of the wear-out effect (Berlyne, 1970). Future researchers should study advertisements with varying repetitions and durations to determine the most effective combination for brands. A longer advertisement duration, such as 25 seconds, could increase the likelihood that the brand is remembered by consumers (Imen, 2013). The results of this study are applicable to the e-commerce target market in the Greater Jakarta area and Surabaya, primarily consisting of individuals aged 18-25 (Generation Z) who were previous e-commerce users. The advertisement was for a fictional brand with a 10-s duration. The effects may differ under different conditions than those examined in this research.

6.5 Theoretical Contribution

From these findings, it can be concluded that the repetition of sonic and visual logos is crucial and affects brand recall, recognition, attitude toward the brand, and purchase intention. The recommended number of repetitions is three. This result aligns with previous research (Kim & Leng, 2017). Although that research used a different type of advertisement, namely in-game advertising, the effects of repetition similarly impact attitude toward the brand, regardless of where the repetition occurs.

This amount can have a greater impact on the brand in terms of these variables. Three repetitions are considered sufficient to make someone remember a brand and evoke a positive enough emotional response to influence their attitude and desire to purchase. Also, three repetitions can result in enhanced cognitive processing and a stronger link between the object and its assessment (Kim & Leng, 2017). Additionally, three repetitions are generally thought not to cause wear-out effects that might lead to consumer annoyance (Berlyne, 1970). For brands newly implementing this strategy, starting with three repetitions can yield noticeable differences. However, industry practitioners should tailor the number of repetitions to the objectives and needs of each brand.

Increasing the number of repetitions enhances the effect of the tested variables (Kim & Leng, 2017). However, note that the additional effect may not be substantial. Industry practitioners should also consider the potential wear-out effect of excessive repetition (Berlyne, 1970). In Berlyne (1970) study, repetitions of visual and auditory stimuli follow a "U" curve, meaning that there is an optimal number of repetitions, beyond which additional repetitions may lead to negative effects. Negative trend caused by negative emotions experienced by the participant has after the exposure which. In Berlyne (1970) study, the wear-out effect was measured by presenting participants with repeated visual stimuli using a rating scale ranging from "very displeasing" to "very pleasing." However, in that study, it was stated that the "optimal number" depends on several factors, such as the complexity of the stimulus, exposure duration, individual differences, experimental evidence, context, and sequence.

In this study, no negative trends from repetition were observed. This was because participants experienced positive emotions while viewing advertisements for the fictional brand (Kim & Leng, 2017). The participants were familiar with e-commerce and frequently shopped on these platforms.

These findings apply specifically to the e-commerce target market that meets the criteria of the sample studied. The sample consists of males and females aged 18-25 (including Generation Z), with monthly incomes between 3 and 7 million rupiahs, residing in the Greater Jakarta area and Surabaya. They use e-commerce applications and make payments two to five times a month.

6.6 Limitations

This research has certain limitations to ensure that the study remains focused on its pre-established objectives and does not become too broad. Limitations are challenges in a study that arise from research methods and design. The methodology chosen for this research is experimental. There are several limitations to using experimental techniques, one of which is administration. Administration in this context refers to the difficulty of controlling extraneous variables so that they do not influence the research outcomes. Examples of extraneous variables include background noise during the experiment and an uncomfortable setting for conducting the experiment. These factors are believed to

have affected this study. This study employs the Probability Random Sampling technique. However, there are some limitations associated with using Probability Random Sampling. Random Sampling often results in lower precision than other sampling techniques. In addition, random sampling may yield a sample that does not accurately represent the population, especially if the sample size is too small.

7. Conclusion

The study confirmed all the hypotheses. It can be concluded that the repetition of sonic logo and visual logos has a positive effect on the variables of brand recall, brand recognition, attitude toward the brand, and purchase intention. Significant differences in these effects were observed among the different condition groups. This research effectively addresses questions regarding the impact of sonic logo and visual logo repetition in establishing a brand as top-of-mind, shaping attitudes toward the brand, and influencing purchase intention. It can be concluded that the repetition of sonic logos and visual logos has a positive effect on the variables of brand recall, brand recognition, attitude toward the brand, and purchase intention. Different numbers of sonic logo and visual logo repetition resulted in different effects across the following variables: brand recall, brand recognition, attitude toward the brand, and purchase intention. This research provides answers to the impact of sonic logos and visual logo repetition in making a brand's top-of-mind, attitude toward the brand, and purchase intention.

8. Recommendation

The variables tested in this study were limited, and the number of repetition groups was not extensive. Research with different variables and a broader range of repetition groups could offer new insights for industry practitioners and academics. Studies on varying combinations of duration and repetition numbers will yield interesting findings.

To enhance understanding, future researchers should investigate the impact of varying durations between advertisements. Research involving time intervals between advertisements would offer further insights into the effects of sonic logo and visual logo repetition, as there is research that demonstrates differences in effects when ads are shown with specific intervals, although that study only repeated the advertisements, not the stimuli within them. This research will be valuable for industry professionals and academics as it opens new perspectives on the effects of sonic logos and visual logo repetition.

Citation information

Cite this article as: Pramana, L. V., Putri, N. V. A., Rahman, F., & Parestya, P. (2024). The effect of sonic logo and visual logo repetition towards brand recall, recognition, attitude and purchase intention. *Journal of Consumer Sciences*, 9(3), 338-361. <https://doi.org/10.29244/jcs.9.3.338-361>

References

- Aaker, D. A. (1991). *Managing Brand Equity: Capitalizing on The Value of a Brand Name*. Free Press. <https://doi.org/10.1016/0148-2963%2894%2990009-4>
- Ayada, W., & Ragab, D. (2024). The role of sonic logos in enhancing brand recall and recognition. *International Design Journal*, 14(2), 439-447. <https://doi.org/10.21608/idj.2024.340785>
- Barrio Fraile, E., Enrique Jiménez, A. M., Barbeito Veloso, M. L., &

- Fajula Payet, A. (2021). Sonic identity and audio branding elements in Spanish radio advertising. *Anàlisi*, 65, 103-119. <https://doi.org/10.5565/rev/anàlisi.3330>
- Bergkvist, L., & Taylor, C. R. (2022). Reviving and improving brand awareness as a construct in advertising research. *Journal of Advertising*, 51(3), 294-307. <https://doi.org/10.1080/00913367.2022.2039886>
- Berlyne, D. E. (1970). Novelty, complexity, and hedonic value. *Perception & Psychophysics*, 8(5), 279-286. <https://doi.org/10.3758/BF03212593>
- Bresciani, S., & Del Ponte, P. (2017). New brand logo design: Customers' preference for brand name and icon. *Journal of Brand Management*, 24(5), 375-390. <https://doi.org/10.1057/s41262-017-0046-4>
- Catalán, S., Martínez, E., & Wallace, E. (2019). Analysing mobile advergames effectiveness: The role of flow, game repetition and brand familiarity. *Journal of Product & Brand Management*, 28(4), 502-514. <https://doi.org/10.1108/JPBM-07-2018-1929>
- Chen, Y. S. A., & Bei, L. T. (2020). The effects of logo frame design on brand extensions. *Journal of Product & Brand Management*, 29(1), 97-113. <https://doi.org/10.1108/JPBM-12-2017-1698>
- Databoks. (2024, October 10). E-commerce dengan pengunjung terbanyak sepanjang 2023. [katadata.co.id. https://databoks.katadata.co.id/teknologi-telekomunikasi/statistik/3c9132bd3836eff/5-e-commerce-dengan-pengunjung-terbanyak-sepanjang-2023](https://databoks.katadata.co.id/teknologi-telekomunikasi/statistik/3c9132bd3836eff/5-e-commerce-dengan-pengunjung-terbanyak-sepanjang-2023)
- Foroudi, P., Foroudi, M. M., Nguyen, B., & Gupta, S. (2019). Conceptualizing and managing corporate logo: A qualitative study. *Qualitative Market Research: An International Journal*, 22(3), 381-404. <https://doi.org/10.1108/QMR-04-2017-0080>
- Ghosh, T., Sreejesh, S., & Dwivedi, Y. K. (2022). Brand logos versus brand names: A comparison of the memory effects of textual and pictorial brand elements placed in computer games. *Journal of Business Research*, 147, 222-235. <https://doi.org/10.1016/j.jbusres.2022.04.017>
- GoodStats. (2023, December 1). Daftar e-commerce dengan nilai transaksi terbesar di indonesia. GoodStats. [goodstats. https://goodstats.id/infographic/daftar-e-commerce-dengan-nilai-transaksi-terbesar-di-indonesia-M20kO](https://goodstats.id/infographic/daftar-e-commerce-dengan-nilai-transaksi-terbesar-di-indonesia-M20kO)
- Griffith, D. A., & Chen, Q. (2004). The influence of virtual direct experience (Vde) on on-line ad message effectiveness. *Journal of Advertising*, 33(1), 55-68. <https://doi.org/10.1080/00913367.2004.10639153>
- Henderson, P. W., & Cote, J. A. (1998). Guidelines for selecting or modifying logos. *Journal of Marketing*, 62(2), 14-30. <https://doi.org/10.1177/002224299806200202>
- Holbrook, M. B., & Batra, R. (1987). Assessing the role of emotions as mediators of consumer responses to advertising. *Journal of Consumer Research*, 14(3), 404. <https://doi.org/10.1086/209123>
- Hong, Y. J., Choi, B., & Lee, K. (2023). When background music in audiovisual advertisements can boost the perceived competence of the advertised brands - an empirical study from South Korea. *Asia Pacific Journal of Marketing and Logistics*, 35(8), 1991-2011.

- <https://doi.org/10.1108/APJML-03-2022-0275>
- Hutabarat, P. M., & Adelina, E. (2023). Sensory marketing for the omnichannel consumer experience: Benefits and ways forward. *Proceedings of the International Conference on Vocational Education Applied Science and Technology (ICVEAST 2023)*, 783, 655-665.
https://doi.org/10.2991/978-2-38476-132-6_56
- Imen, T. (2013). The length effect, the repetition frequency effect and the moment effect of the passage of the product or of the brand during a television spot on the advertising message (Tunisian frame). *Journal of Marketing Research and Case Studies*, 1-27.
<https://doi.org/10.5171/2013.667225>
- Itasari, A. A., & Hastuti, N. H. (2023). The effect of advertisement, word of mouth, and brand awareness towards buying decision on " Ruang Guru Apps" in SMU Negeri XYZ Surakarta. *Journal of Consumer Sciences*, 8(2), 155-169.
<https://doi.org/10.29244/jcs.8.2.155-169>
- Rahmah, K., & Satyaninggrat, L. M. W. (2023). The the effect of consumer characteristics and lifestyle toward purchase decision. *Journal of Consumer Sciences*, 8(3), 395-413.
<https://doi.org/10.29244/jcs.8.3.395-413>
- Khuong, M. N., & Nguyen, T. D. (2015). The effects of television commercials on customers purchase intention - a study of milk industry in Ho Chi Minh City, Vietnam. *Journal of Economics, Business and Management*, 3(9).
<https://doi.org/10.7763/JOEBM.2015.V3.297>
- Kim, Y., & Leng, H. K. (2017). Effectiveness of in-game advertisement: An examination of repetition effect, brand familiarity and the relationship between gaming skills and advertising execution. *Journal of Global Sport Management*, 2(1), 42-64.
<https://doi.org/10.1080/24704067.2017.1281714>
- Krishnan, V., Kellaris, J. J., & Aurand, T. W. (2012). sonic logos: Can sound influence willingness to pay?. *Journal of Product & Brand Management*, 21(4), 275-284.
<https://doi.org/10.1108/10610421211246685>
- Li, H., Xu, J., Fang, M., Tang, L., & Pan, Y. (2023). A study and analysis of the relationship between visual–Auditory logos and consumer behavior. *Behavioral Sciences*, 13(7), 613.
<https://doi.org/10.3390/bs13070613>
- Marketeers. (2017, December 28). Inilah e-Commerce yang paling banyak dikunjungi di 2017. Marketeers.
<https://www.marketeers.com/e-commerce-paling-banyak-dikunjungi/>
- Martí-Parreño, J., Bermejo-Berros, J., & Aldás-Manzano, J. (2017). Product placement in video games: The effect of brand familiarity and repetition on consumers' memory. *Journal of Interactive Marketing*, 38, 55-63.
<https://doi.org/10.1016/j.intmar.2016.12.001>
- Memon, B. (2016). Impact of brand recall on customer purchase intention. *Journal of Marketing and Consumer Research*, 25, 1-9.
<https://ssrn.com/abstract=2913547>
- Morton, C. R., & Friedman, M. (2002). "I saw it in the movies": Exploring the link between product placement beliefs and reported usage behavior. *Journal of Current Issues & Research in Advertising*, 24(2), 33-40.
<https://doi.org/10.1080/10641734.2002.10505133>

- Mukherjee, K., & Banerjee, N. (2019). Social networking sites and customers' attitude towards advertisements. *Journal of Research in Interactive Marketing*, 13(4), 477-491. <https://doi.org/10.1108/JRIM-06-2018-0081>
- Peng, L., Wei, Y., Zhang, X., & Wang, D. (2024). Flatness promotes modernity: Logo flatness and consumers' perception of brand image. *Asia Pacific Journal of Marketing and Logistics*, 36(2), 315-333. <https://doi.org/10.1108/APJML-02-2023-0111>
- Pesovski, I., Kulakov, A., & Trajkovik, V. (2022). Cognitive ability test scores between generations. *The 19th International Journals on Informatics and Information Technologies - CIIT 2022*, 25-30. <https://doi.org/20.500.12188/25674>
- Puligadda, S., & VanBergen, N. (2023). The influence of sound logo instruments on brand personality perceptions: An investigation of brand ruggedness and sophistication. *Journal of Business Research*, 156, 113531. <https://doi.org/10.1016/j.jbusres.2022.113531>
- Santiago, J. K., & Su, X. (2023). Can a vlogger help to build brand awareness? The impact of vloggers on customers' attitude towards brand advertisement and purchase intention. *Journal of Intercultural Management*, 15(1), 4-40. <https://doi.org/10.2478/joim-2023-0001>
- Scott, S. P., Sheinin, D., & Labrecque, L. I. (2022). Small sounds, big impact: sonic logos and their effect on consumer attitudes, emotions, brands and advertising placement. *Journal of Product & Brand Management*, 31(7), 1091-1103. <https://doi.org/10.1108/JPBM-06-2021-3507>
- Shams, L., Kamitani, Y., & Shimojo, S. (2000). What you see is what you hear. *Nature*, 408(6814), 788-788. <https://doi.org/10.1038/35048669>
- Song, J. (Flora), Xu, F. (Katie), & Jiang, Y. (2022). The colorful company: Effects of brand logo colorfulness on consumer judgments. *Psychology & Marketing*, 39(8), 1610-1620. <https://doi.org/10.1002/mar.21674>
- Sriram, K. V., Namitha, K.P., Kamath, G. B., & Villace, T (2021). Social media advertisements and their influence on consumer purchase intention. *Cogent Business & Management*, 8(1), 2000697. <https://doi.org/10.1080/23311975.2021.2000697>
- Steinhart, Y., Kamins, M., Mazursky, D. and Noy, A. (2014). Effects of product type and contextual cues on naive theories of popularity and exclusivity. *Journal of Consumer Psychology*, 24(4), 472-483. <https://doi.org/10.1016/j.jcps.2014.04.004>
- Techawachirakul, M., Pathak, A., Motoki, K., & Anne Calvert, G. (2023). sonic logo branding of meat- and plant-based foods: The role of timbre. *Journal of Business Research*, 165, 114032. <https://doi.org/10.1016/j.jbusres.2023.114032>
- Torbarina, M., Čop, N. G., & Jelenc, L. (2021). Logo shape and color as drivers of change in brand evaluation and recognition. *Naše Gospodarstvo/Our Economy*, 67(1), 33-45. <https://doi.org/10.2478/ngoe-2021-0004>
- Ugalde, C., Küster, I., & Vila, N. (2024). Brand attachment: The moderating effect of high and low involvement products. *Journal of Consumer Sciences*, 9(2), 185-205.

<https://doi.org/10.29244/jcs.9.2.185-205>
Vidal-Mestre, M., Freire-Sánchez, A., Calderón-Garrido, D., Faure-Carvalho, A., & Gustems-Carnicer, J. (2022). Audio identity in branding and brand communication strategy: A systematic review of the literature on audio branding. *El Profesional de La Información*, e310504.
<https://doi.org/10.3145/epi.2022.sep.04>

Yoo, C. S., Sankaran, R., & Chen, J. H. (2009). Three-dimensional direct numerical simulation of a turbulent lifted hydrogen jet flame in heated coflow: flame stabilization and structure. *Journal of Fluid Mechanics*, 640, 453-481.
<https://doi.org/10.1017/S0022112009991388>