Information Management and Business Review (ISSN 2220-3796)
Vol. 15, No. 4(SI), pp. 94-108, December 2023

Digital Consumer Engagement: Examining the Impact of Audio and Visual Stimuli Exposure in Social Media

Dina Mardhatilah[1,2], Azizah Omar[1,3]*, Ramayah Thurasamy[1], Rosa Prafitri Juniarti[1,4]
[1]School of Management, Universiti Sains Malaysia, Malaysia
[2]Institut Pertanian Stiper Yogyakarta, Indonesia
[3]Visiting Professor, Faculty of Business & Entrepreneurship, Daffodil International University, Bangladesh
[4]Faculty of Economics and Business, Universitas Negeri Surabaya, Indonesia
*aziemar@usm.my

Abstract: The promotion of coffee shops through Instagram content has become highly beneficial to consumers' decision-making, as short videos reel Instagram and photos can help consumers judge and experience products through visual and audio stimuli on content. Consequently, scholars and managers must understand consumer behaviors regarding audio-visual stimuli on Instagram content and identify factors influencing perception and consumer engagement with content. A novel contribution of this study is the introduction of audio-visual stimuli on Instagram content based on the stimulus-organism-response paradigm, which explains how sensory marketing and information adoption affect consumer engagement on social media Instagram. To empirically evaluate the proposed research model, we conducted an online survey with 120 participants who followed Instagram @kopijanjijiwa and @kopikenangan. We performed data analysis using structural equation modelling and Smart-PLS software and the results indicated that all hypotheses, except for perceived cognitive and audio-visual stimuli, significantly affected consumer engagement. This study could provide insights into the antecedents of perceived cognitive and consumer engagement on social media Instagram. Thus, contributing knowledge of digital consumer behavior helps managers understand consumer behavior regarding social media and formulate marketing strategies.

Keywords: *Audio visual stimuli, Digital consumer engagement, Instagram, Perceived cognitive.*

1. Introduction and Background

Generation Z dominates Indonesia's population at 27.94 percent (BPS 2021b; BPS 2021a). It is predicted that, in 2020–2030, Indonesia will have a demographic bonus or a condition in which the productive population age outnumbers the non-productive population. This condition means that the country has an expanding youth population, known as Generation Z. Enjoying a cafe atmosphere accompanied by coffee and other menus has become a lifestyle for most of Generation Z, and this is an excellent opportunity for Indonesia to have a coffee business (Pratomo, 2023). The increasing growth of the coffee shop industry has rapidly expanded as a food and beverage industry in the urban areas of Indonesia. The coffee shop industry's competitive conditions in Indonesia cause all-brand coffee shops to seek innovative strategies to differentiate themselves from other brands (Han et al., 2019). Several indicators can influence Generation Z's purchasing intentions for Coffee Shops, including social media and electronic word of mouth (EWOM) consumers' social interaction, participation in message delivery, and encouraging the expression of brand-related opinions, thereby enhancing consumer opinion sharing and engagement (Levy & Gvili, 2015). According to survey data collected by Toffin Indonesia in 2020, the number of name-brand coffee shops in Indonesia reached 2,937 outlets, and the market value reached IDR 4.8 trillion. The consumption of coffee products in Indonesia is increasing rapidly. The sales volume of "ready to drink" (RTD) coffee products in 2018 increased to 120 million litres. A 13.9% increase was also observed in the consumption of coffee products in 2019/2020 (Toffin, 2019). Based on this data, the coffee shop context was chosen as the focus of this study because it has promising business potential for further exploration.

Several indicators can influence Generation Z's purchasing intentions for Coffee Shops, including social media and electronic word of mouth (EWOM) consumers' social interaction, participation in message delivery, and encouragement of the expression of brand-related opinions, thereby enhancing consumer opinion sharing and engagement (Levy & Gvili, 2015). Generation Z Indonesia is generally very similar to technology. They are familiar with the Internet and have a good command of the technology. Exposure to the Internet at a high intensity makes this generation rich in information (Stilman & Stillman, 2018). They prefer more diverse social media channels, such as Instagram, Facebook, and Twitter, and access them daily (Kantar.com, 2018).

Generation Z in Indonesia has a longer duration of internet use than other generations. On average, they access the Internet for up to 7 hours daily (Databoks, 2022).

Instagram is one of the most widely used social media platforms (Suryani et al., 2021). A previous study has included consumer engagement on the Instagram platform, focusing on young consumers, a Generation Z born between 1997 and 2012, representing 27.94% of Indonesia's population. Instagram offers small and large businesses the opportunity to reach young consumers and showcase personalized content in a variety of areas and niches, which has the potential to become viral for a global audience. The ability of Instagram as a photo-sharing platform to engage users, help them communicate, and share content are critical elements of social commerce that make Instagram an attractive platform for marketers. This made Instagram a perfect setting for studying sensory marketing audio-visual stimuli and consumer engagement in social media (Hazari & Sethna, 2023).

Social media enable customer interaction, collaboration, knowledge, and information sharing related to their preferences for supporting brands (Carlson et al., 2018). According to Adityaswara (2022), Generation Z represents a huge market opportunity in the digital marketing ecosystem. The primary consumers of social networks are Generation Z, who view social networks as a source of news, entertainment, communication, and shopping. Social networks offer a new ecosystem in which interactive marketers can generate organic consumer-brand relationships (Wang & Black, 2015). Today's society is inseparable from the prominent role of social media, which has been used as a tool to run businesses and carry out transactions on an ongoing basis. Social media provide information about a product (Salhab et al., 2023). It creates applicable and beneficial content for consumers, giving companies higher expectations of patron shopping behavior (Dahnil et al., 2014). It creates applicable and beneficial content for consumers, giving companies higher expectations of patron shopping behavior (Kim & Ko, 2012) and increasing consumer engagement with branded posts (De Vries et al., 2012; Michaelidou et al., 2011). Marketing activities on social media are widely used by coffee shop businesses in Indonesia. Many coffee shops use social media marketing to improve consumer engagement and increase purchase intentions.

Another critical point that is interesting to discuss is digital consumer engagement as a form of consumer behavior that refers to emotional responses, judgments, and actions, such as recommending products to other consumers, giving likes on social media, providing feedback, and following accounts. Even though the popularity of social media has led to many brands using platforms such as Instagram and Facebook for marketing communications, typically with brands posting content on their social media pages for their consumers to see and engage with, and particular interest in relationship marketing is the concept of customer engagement (CE), which is widely regarded as a vital agenda that marketers today must actively pursue if they wish to build long-term customer interactions and relationships and solidify customer loyalty for their brands (Khan et al., 2020; Lim et al., 2022; Rosenbaum et al., 2017). Despite this being commonplace and becoming important, there is yet to be an agreement on how various firm-determined characteristics of branded social media content affect different types of engagement (e.g. liking, commenting, and sharing) with brands in social media. Customer engagement has been addressed by several definitions in the literature. When interacting with a brand, customer engagement is a consumer's cognitive, affective, and behavioral activities (Dolan et al., 2019).

Based on the theoretical underpinning of dual processing theory and previous research, this study argues that the nature of message appeal (rational or emotional) influences consumer engagement. Organizations invest heavily in social media but need a better understanding of the effects of visual and audio stimulus social media content on user engagement (Swani et al., 2017). This study aims to determine how audio-visual and visual stimuli affect consumers' perceptions of the information received. This study focuses on one perception formed when consumers receive audio-visual stimulation from social media content: perceived cognitive (informative and remunerative) on passive engagement behavior and active social media users. It argues that the nature of the message appeal (rational or emotional) influences consumer engagement. Organizations invest heavily in social media but have little understanding of the effects of visual and audio stimulus social media content on user engagement.

The SOR model was used to explain how individuals react to environmental stimuli. Stimulus-used sensory

marketing in social media-based SOR theory has shed new light on some familiar and recurring topics in social media strategy marketing and consumer behavior. The role of audio and visual stimuli in marketing social media is essential for scholars and marketers to create more engaging and immersive consumer experiences with brands on social media Instagram and how such experiences can impact consumer engagement (Rappaport et al., 2018; Velasco et al., 2018). Therefore, there is a need to better understand how stimuli and sensory marketing on social media have created perceived cognition, which consumer behavior toward brands on social media might be more described and better understood. Marketers involve consumers by building relationships through audio-visual stimulation of the social media content included in the social media marketing strategy (SMMS). In addition, the impact of perceived cognition from content can enhance their engagement with these posts on Instagram, which states that the perceived cognition of the content material has a sizable impact on active consumer engagement. The degree to which the content is informative and original, containing a surprise each time fresh content is viewed, determines how much consumer engagement is increased and how much more customers talk about this informative content. Because content on Instagram can encourage customers' behavioral goals, businesses should pay attention to their content characteristics (Anwar, 2023).

From the viewpoint of the S-O-R framework, both interactivity and vividness are exemplary stimuli "driven variables" content's ability to convey information captures audiences' attention through a sensory-rich (audio-visual) mediated environment that should be added to content as digital content. Marketing on social media has limitations in terms of consumer sensory experience. Consumers cannot touch, smell, or feel the product directly. There are limitations to multisensory interactions that exist in the online environment, which affect how customers evaluate the effects. Therefore, it is essential to include sensory marketing as a stimulus for social media content. However, how audio-visual sensory marketing stimuli used on Instagram for advertisement content influence consumer engagement behavior remains to be seen (Steuer et al., 1995).

Kusumasondjaja and Tjiptono (2019) stress that people evaluate different types of content. We can uncover clusters of visual and audio stimuli as sensory marketing stimuli. These components motivate people to process their posts. As previously mentioned, people are visual beings. Online consumers can retain only 10 to 20 percent of the information they read or hear about, but once that information is paired with visual elements, it suddenly goes up to 65 percent. The human brain can only process minimal detail at any given time. In addition, any information that can be processed faster will take priority when grabbing a person's attention. Visuals and images are more suited to social media and Instagram content than simple blocks or lines of text. People on social media platforms are more willing to engage in visual content. Forty percent of online users will respond more favorably to visual content than to plain textual content (Leonard, 2022). For instance, tweets with images receive 150 percent more retweets than tweets without images, while Facebook posts with images generate 2,3 times more engagement than posts without them. Human senses play a critical role in the selection of products, and until recently, senses have been underused in marketing strategies (Sendra, 2017). Numerous definitions of sensory marketing have been provided in the literature. Sensory marketing refers to stimulating consumers' senses through marketing tactics that influence consumer perception for multiple reasons, including visual backgrounds and auditory experiences (Holbrook & Hirschman, 1982; Krishna, 2012b). Bagozzi (1986) conceptualized stimuli as marketing mix variables and other environmental inputs that affect the emotional responses of consumers (e.g. atmosphere, visual appeal, accessibility, social cues, customer service, and information).

A social media marketing strategy (SMMS) to increase consumer involvement in social media is needed, especially for coffee chain start-ups in businesses with tough competition (Red Ocean). This study incorporates the sensory marketing theory into the SOR model. The application of the SOR Model in this study shows that audio and visual stimuli in Instagram social media content can communicate the sensory appeal (audio and visual) of a product (S) which influences the perceived cognitive felt by audiences (O). Furthermore, consumers respond to a stickier (R) with CE involvement. This study describes consumer behavior towards audio and visual stimulus reels on Instagram, which shapes their cognitive perceptions and influences consumer engagement with brand start-up coffee chains (Chen et al., 2023).

2. Literature Review

S-O-R Theory: In the SOR framework, a stimulus (S) perceived in the environment is processed by an internal component, the organism (O), which, in turn, produces positive or negative responses (R). SOR theory assumes that people's reactions to the physical environment follow three steps: environmental stimuli, emotional state, and behavioral response. Stimulus refers to the physical environment. Organism refers to consumers' inner conditions from both cognitive and emotional perspectives, and reaction is explained as behavior in terms of approach or avoidance. Environmental stimuli influence an individual's emotional state (cognitive and emotional), affecting approach and avoidance responses (Mehrabian & Russell, 1974). Since Kotler (1973) introduced the term atmosphere, the effect of physical stimuli on consumer behavior has consistently interested marketing practitioners and scholars (Bitner, 1992). In the last three decades, researchers have recognized the influence of atmosphere as an obvious cue in customer evaluations of service quality and, ultimately, in repeat purchases in various service settings (Baker, 1987; Bitner, 1992). SOR theory constructs a mechanism to explain human behavior by analyzing humans' cognitive and affective states influenced by environmental stimuli (Shah et al., 2020). These cognitive responses consist of thoughts, beliefs, and perceptions developed in the consumer's mind while interacting with a website interface. Following the same rationale and logic of the SOR framework, many sensory marketing studies and models follow similar patterns of stimulus, being and interpreted, and then judged and felt, which levers a behavioral or situational outcome in the context of a service (Helmefalk & Hultén, 2017b; Mari & Poggesi, 2013). An update to the SOR has added antecedents of sensory marketing audio-visual stimuli, such as visual and auditory cues (Pei et al., 2022).

Chen et al. (2023) used sensory marketing on YouTube to determine how consumers act when they watch YouTube product reviews in social commerce. Previous research has demonstrated that sensory stimuli affect consumers' behavioral, cognitive, and affective responses to products and environments (De Luca & Botelho, 2021). Previous research also shows that environmental factors and audio and visual stimuli on Instagram (S) reels were found to affect individuals' internal states (O), and the internal states of cognition would subsequently influence consumer responses (R). The SOR model was initially designed for environmental psychology (Merhabian & Russel, 1974). However, several studies have clarified, developed, and applied them in social commerce (Hewei & Youngsook, 2022; Xue et al., 2020). This research contributes to including the SOR model in a social commerce environment by focusing on visual audio stimuli on reels of start-up coffee shop chains' Instagram to increase consumer engagement on Instagram. Marketers could use this research model as an empirical approach to understand consumer behavior in the social commerce environment.

Consumer Engagement: Consumer engagement on social media is 'A function of the value derived from the emotional and cognitive states induced by key stimuli received by consumers during their online experiences Claffey & Brady (2014). Consumer engagement has been viewed as a construct that consists of cognitive, emotional and/or behavioral dimensions (Brodie et al. 2011; Hollebeek 2013; Wallace et al. 2014). Claffey and Brady (2014) argued that CE is a 'function of the value derived from the emotional and cognitive states induced by key stimuli received by consumers' (p. 337). Collectively, the emotional and cognitive elements can be seen to reflect an overarching psychological dimension. Even though the popularity of social media has led to many brands using platforms such as Instagram and Facebook for marketing communications, typically with brands posting content on their social media pages for their consumer "fans" to see and engage with, particular interest in relationship marketing is the concept of customer engagement (CE), which is widely regarded as a vital agenda that marketers today must actively pursue if they wish to build long-term customer interactions and relationships and solidify customer loyalty for their brands (Khan et al., 2020; Lim, Kumar, et al., 2022; Rosenbaum, Kelleher, et al., 2017).

Engaging consumers in the social media setting is essential because engaged consumers result in a 30 percent revenue increase, whereas disengaged consumers account for a revenue drop of 14 percent (Kumar & Pansari, 2016). Consumer engagement has been explored by various researchers in the past (Brodie et al., 2013; Hollebeek et al., 2014); however, empirical work on the concept of engagement in the context of social media started recently (Dolan et al., 2019; Izogo & Mpinganjira, 2020). Barari et al., (2021) define consumer engagement as behavioral manifestations that have a brand or firm focus, beyond purchase, as a result of the

motivational drivers. The behavioral perspective is also supported by (Muntinga et al., 2011), who consider consumer actions such as sharing, liking, and commenting on brand posts as consumer engagement with brand posts. Marketers are also concentrating their digital marketing efforts on social media users, especially Generation Z the most social media users in Indonesia, as they spend 5-7 hours daily on social media interactions (Kominfo, 2023). For example, customer-brand relationships are extremely critical nowadays owing to the COVID-19 pandemic, where customers or netizens face constraints regarding physical proximity and refrain from visiting physical stores due to safety concerns (Young, 2017). The managerial premise here is that if customers engage with the firm's social media initiatives, it may help firms build customer-brand relationships, enhance brand loyalty and increase customer dissemination of good word-of-mouth (Tay, 2018). This will also increase the overall profitability of the firm (Kumar & Pansari, 2016).

Audio and Visual Stimuli Affect a Perceived Cognitive: Sensory marketing is rooted in consumer senses which can influence consumer perceptions, judgments, and behavior (Kusumasondjaja & Tjiptono, 2019). Sensory experience is the initial stage of consumers' decision-making (Hung et al., 2017). In online marketing, marketers must incorporate sensory elements into their online ecosystem, because consumers cannot directly stimulate products (Petit et al., 2019). In contrast to traditional marketing, consumers receive sensory stimulation of products directly from their physical environments (Biswas, 2019). Petit et al. (2019) revealed that the five senses (sight, taste, touch, smell, and hearing) have different ways of attracting consumer attention. Marketing on social media, brands start-up coffee chains ought to highlight their high-skill barista, enticing elements that make consumers eager to taste by featuring enticing on a coffee cup with a frothy layer or adding other visually perfectly crafted coffee milk, convenient packaging by incorporating visual tools such as artistic pictures, videos, and music that facilitates a cognitive appeal paired with information about coffee and the brand's history.

All of these aspects help illustrate a comprehensive view of the brand (Dobre et al., 2021). Coffee shop content on Instagram conveys much information through short videos such as scrolls containing visual elements and audio as a stimulus for perceived cognition. Several studies have highlighted that sensory stimuli affect perceived cognition, and through sensory modelling, consumers' senses can be stimulated online (Krishna et al., 2017). Cognitive responses consist of thoughts, beliefs, and perceptions developed in the consumer's mind while interacting with a website interface. Following the same rationale and logic of the SOR framework, many sensory marketing studies and models follow similar patterns of stimulus, being and interpreted, then judged and felt, which levers a behavioral or situational outcome in the context of a service (Helmefalk & Hultén, 2017a). As Instagram is an audio and visually-oriented social media platform, it is vital to understand its influence on users' perceptions of digital content on social media. Therefore, the research hypotheses are as follows:
H1. (a) Visual stimuli on the content of Instagram coffee shops influence perceived cognition.
H1. (b) Audio stimuli on the content of Instagram coffee shops influence perceived cognition.

Audio and Stimuli Effect Consumer Engagement: The main question about consumer behavior is: Why is this Instagram coffee shop more popular than another with the same product? The answer is that Instagram posts offer customers. Consumers are ready to engage in a pleasant experience. *Sensory marketing* can be defined as the use of ambient factors surrounding the selling point (such as music, scent, color, touching, and tasting sensations) to stimulate a reaction toward the content in the consumer's mind (Rieunier & Jallais, 2013). Since the beginning of the last century, the environment and atmosphere surrounding the individual can have an impact on his mood and relaxation (emotional responses), his thoughts (cognitive responses), and his physical attitudes (behavioral responses), with experiments such as the theory of hierarchy of needs of Maslow et al. (1970). Krishna (2012) argues that sensory marketing encompasses visual, auditory, and digital marketing, which impacts consumers' emotions, cognitions, and behaviors.

Customer engagement results from motivational drivers stimulating engagement behaviors other than purchase decisions (Busalim et al., 2021). García-de-Frutos & Estrella-Ramón, (2021) viewed social media engagement behavior as "a mutually beneficial process through which firms and consumers co-create brand-related content and social experiences on social media." Moreover, several researchers have measured consumer engagement on social media platforms, such as clicking, liking, commenting on, or sharing the brand's content (Moran et al., 2019; Wahid & Gunarto, 2022). *Consumer engagement* is defined as interactive

and co-creative consumer behavior with companies or brands. Consumer engagement exists in every phase, from purchasing transactions, repurchasing, and recommending product brands to other consumers voluntarily evaluating brands (Roberts & Alpert, 2022; Roberts & Alpert, 2010). Extended marketing research has identified an interaction between consumer engagement and other constructs such as brand attachment, satisfaction, involvement, commitment, loyalty, and trust (Castillo-Abdul et al., 2021; Eslami et al., 2022; Huang et al., 2022).

H2. (a) Visual stimuli on Instagram brand coffee shop content influence consumer engagement.
H2. (b) Audio stimuli on Instagram brand coffee shop content influences consumer engagement.

Perceived Cognition Effect Consumer Engagement: Message appeal design has been considered mainly in traditional media contexts, with numerous studies suggesting that advertising and creative message appeals can be organized as either rational (also referred to as informational or utilitarian) or emotional (also referred to as affective or transformational) (Wu and Wang 2011). Rational messages are thought to be processed intellectually, whereas transformational messages appeal to the psychological characteristics of the target audience (Laskey et al., 1989). While many authors argue that emotional message appeals are more effective in engaging consumers than rational appeals, the findings are inconsistent and conflicting and have been based on static traditional media settings (De Vries et al., 2012; Liu & Stout, 1987). The static traditional media setting differs from the social media context in that social media allows for dynamic and real-time interaction between message senders and receivers. Past research has categorized rationally framed message appeals as those that include factual information about a product (De Vries et al., 2012; McKay-Nesbitt et al., 2011). Rational appeal refers to product specifications, features, performance, and tangible cues (Swani et al. 2017). Rational appeals differ from emotional appeals, which contain less and more subjective information (Leonidou & Leonidou, 2009). Rational appeals are better appreciated by consumers whose purchasing decisions are guided more by logic, information, and facts (Schiffman & Kanuk, 2006), and who may be highly educated or have a solid technical background. Given the dynamic and interactive nature of social media, social media settings categorize posts as rational, rather than emotional and appealing (Lib & Campbell, 2008; Tafesse & Wien, 2017). Therefore, informational content strategies are those that highlight the functional attributes of company products and services, such as information on Instagram content delivery information using audio and visuals to show how baristas make great coffee, information about quality ingredients, and history of coffee (Swani et al., 2017, 2014), and are widely considered to use a functional, or rational, appeal (Campbell et al., 2011). In social media, perceived cognition is categorized as having rational appeal (Alpinkar & Berger, 2012; Cvijikj & Michahelles, 2013).

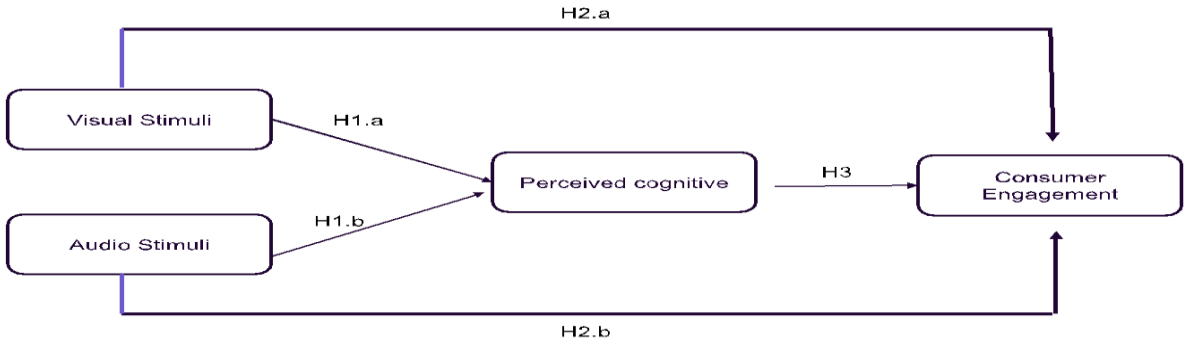
Other studies of traditional advertising content effectiveness utilize the central processing theory to explain how rational television content increases active online behaviors (Chandrasekaran et al., 2017). The results also align with work demonstrating that online marketing messages with highly rational content (utilitarian) lead to more significant information sharing when high cognitive involvement occurs. Notably, the effectiveness of informational content is greater than that of remunerative content, which results in active engagement in the form of liking and sharing but not passive behavior (consuming) (Chiu et al., 2014). Dolan et al., (2019) indicate that while rational content appears superior to emotional content within social media to drive active consumer engagement, the type of rational content is essential, and content should comprise product- and brand-related information rather than sales-focused promotion such as remunerative content. This contradicts the views of scholars, who have suggested that consumers mainly engage with brands through social media to obtain discounts (Baird & Parasnis, 2011). Behavioral investigations of social media engagement have failed to consider users' expressions of relevant cognitive dimensions of engagement. The extent to which social media content can facilitate users' cognitive and engagement experiences is a valuable area for further investigation (Dolan et al., 2019). From a social cognitive perspective, interactions with the environment (in this case, the media environment) influence media exposure by continually reforming expectations about the likely outcomes of future media consumption behavior. Audio-visual stimuli can transform sensory experiences into cognitive models that guide actions. The human capacity for vicarious learning allows individuals to acquire rules for conduct without physically enacting the behavior but rather by observing others. Direct experience with enacting behavior also affects these perceptions, called perceived cognition. Individuals use their capacity to plan actions and anticipate potential behavioral consequences (Larose et al., 1987). This study focuses on the perceived cognition of social media and expectations about the positive outcomes of content ads on Instagram, which can help audiences, encounter informative content or

make valued social contacts, which should increase consumer engagement. Therefore, this study proposes the following hypotheses:
H3. Perceived cognitive influence consumer engagement on Instagram.

3. Research Methodology

Instrument Development: From existing literature with adequate reliability and validity was adapted to fit the context of this study. Visual sensory perceptions were measured using four items adapted from Huang et al. (2022). Audio stimuli were measured using four items adapted from Huang et al. (2022) Perceived cognitive was assessed using five items selected by Chen & Lee (2008). Consumer engagement intent was measured using five items developed by Yoong & Lian (2019). All measurements used a five-point Likert scale which the details can be seen in Appendix 1.

Figure 1: Conceptual Model



Procedure: As the central focus of this study is on Generation Z, who become consumers on Instagram, the target population of this study is restricted to Generation Z. It is revealed that Generation Z has been visiting and following the Instagram of brand start-up coffee chains. Consumers in terms of Generation Z were picked in this study mainly because they are appropriate, relevant, and representative of the desired population to engage on Instagram. In the present study, the official Instagram accounts of the 2 most popular brand start-up coffee chains in Indonesia, i.e., @kopikenangan and @kopijanjijiwa.

Among them, the total consumer Generation Z engagement on social media Instagram cannot be accurately estimated. As a result, this study should use a purposive sampling technique. The detailed category of people as respondents will be (1) those who belong to Indonesian Generation Z, (2) those who already visited and followed Instagram's official account brand of start-up coffee chains at least one year before, (3) those who give liked, share content, and commented while they become a follower on Instagram official account brand of start-up coffee chains. It means that the study employs an individual as the unit of analysis. Other researchers, such as De Vries et al. (2012), have also used purposive sampling.

4. Results

Validity and Reliability Test: We tested the data using partial least squares (PLS) with the Smart PLS 4.0. Two stages of data testing were conducted. First, we tested the convergent and discriminant validities of the measurement model. Second, a structural model is used to evaluate the significance of the hypotheses. After performing validity testing, we dropped two items: "The sensory stimuli of content Instagram is visual" and "The sensory stimuli of content Instagram is audio" The sensory stimuli of content Instagram are audio. The factor loadings for each construct after dropping the two items were higher than the suggested value of 0.70, and the average extracted value (AVE) was higher than the recommended value of 0.5, indicating that this study met the convergence validity criteria. We also conducted reliability tests based on Cronbach's alpha and composite reliability criteria. The construct validity and reliability results are presented in Table 1. The results suggested that each construct in this study had a Cronbach alpha value higher than the implied value of 0.70, and the composite reliability value was more significant than the recommended value of 0.70,

indicating that this study met the reliability requirement (Hair et al., 2017). This study evaluated the discriminant validity assessed the discriminant validity using the heterotrait–monotrait (HTMT) criterion. The results indicated that each construct's value was below 0.85 (Henseler & Ringle, 2015), indicating that the HTMT criteria had good discriminant validity.

Table 1: Construct Validity and Reliability

Construct	Factor loadings	CA	CR	AVE
Visual Stimuli (VS)	0.855-0.882	0.927	0.968	0.805
Audio Stimuli (AS)	0.965-0.941	0.967	0.975	0.909
Perceived Cognitive (PC)	0.973-0.930	0.979	0.983	0.922
Consumer engagement (CE)	0.964-0.949	0.904	0.848	0.628

Structural Model and Hypothesis Testing: Table 2 presents the discriminant validity. Consequently, the Fornell-Larcker criterion of discriminant validity was met. Second, we assessed discriminant validity using the heterotrait-monotrait (HTMT) criterion. The results indicated that the value of each construct was below 0.85. This indicates that the HTMT criteria had good discriminant validity. In the context of structural equation modelling (SEM) and discriminant validity assessment, the HTMT is a measure used to evaluate the extent to which indicators of different constructs in a model are distinct from each other. A value below 0.85 suggests that the indicators of different constructs are sufficiently distinct, demonstrating good discriminant validity. This means that the constructs measured in the study are not highly related or overlapping, indicating that they are conceptually different.

Table 2: Discriminant Validity

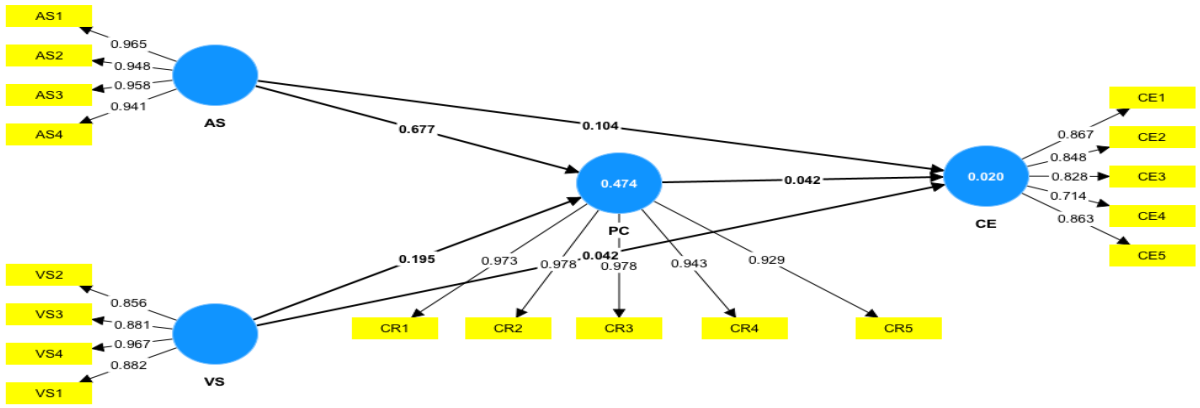
Construct	heterotrait – monotrait (HTMT)
E <-> AS	.102
C <-> AS	.668
C <-> CE	.089
S <-> AS	.109
S <-> CE	.081
VS <-> PC	0.114

After the data meet the measurement requirements, the research is continued using the bootstrapping method on SmartPLS with a significance level of 0.05, where if the p-values are less than 0.05, or t-values are greater than t-critical (1.96), an alternative hypothesis is declared accepted. The criterion for the path coefficient value is that, if the value is positive, then the influence of a variable on the variable it influences is unidirectional. If the path coefficient value is negative, the influence of a variable on the other variables is in the opposite direction. The research hypothesis can be accepted if the value of the t-count (t-statistic) > t table at an error rate (α) of 5%, which is 1.96. The test results showed that the visual and audio stimuli supported perceived cognition and had a positive relationship. However, visual and audio stimuli and perceived cognition had no significant effect on consumer engagement. Details are presented in Table 3.

Table 3: Summary of Hypothesis Testing

Hypothesis	Path coefficient	T-value	Decision
H1. (a) Visual Stimuli → Perceived Cognitive	0.195	1.122	Support
H1. (b) Audio Stimuli → Perceived Cognitive	0.677	9.382	Support
H2. (a) Visual Stimuli → Consumer Engagement	0.042	0.233	Unsupported
H2. (b) Audio Stimuli Consumer → Engagement	0.104	0.388	Unsupported
H3. Perceived Cognitive → Consumer Engagement	0.042	0.153	Unsupported

Figure 2: Hypothesis Testing Results



Discussion: Research on sensory stimuli within marketing has largely focused on the study of vision (see Krishna, 2007). A primary objective of this article is to contribute to the growing literature on sensory stimuli within marketing in showing that advertising for a food and beverage product can affect resulting cognitions during consumption and ultimately affect taste perceptions. Through audio and visual stimuli on ad social media Instagram, we showed audio and visual stimuli led to heightened perceived cognition.

First, this study utilized two elements of sensory stimuli marketing: visual and audio. Sensory marketing theory refers to sensory perceptions that affect consumers' attitudes and behaviors by influencing their emotions and cognition (Khrisna, 2017). This study found that visual and auditory stimuli are used as inputs (stimuli) that cause the audience to form perceptions of advertising and brand or a product's physical and cognitive characteristics based on Instagram content. The results indicated that visual stimuli (H1a) affect perceived cognition, and audio stimuli (H1b) significantly affect perceived cognition; thus, consumers are more likely to perceive affective when provided with auditory stimuli from product Instagram content, while other research found that visual stimuli have been found to attract viewer attention (Riegelsberger, 2002) and increase the credibility of online articles (Fogg et al., 2002). Visual and audio stimuli on content Instagram encourage customers' experiences, create evaluations of products, and develop general attitudes and beliefs toward the objects (Kim et al., 2016). When people process information and respond to audio-visual stimuli, they are more likely to engage with the content, leading to cognitive persuasion effects and increasing analytical evaluation of the arguments (Escalas, 2007; Kim et al., 2016). Previous research shows, Mitchell and Olson (1981) that an audio ad (Facial tissues are soft) results in the tissues being perceived to be less soft than a visual ad (picture of a kitten). Edell and Staelin (1983) suggest that the audio stimuli in the ad are processed more cognitively and can guide the processing of the picture contained within the ad. Audience to an actual consumption experience where they will evaluate a sensation. This research suggests that the content of ads using stimuli audio and visual can be processed cognitively and could affect taste perception by framing the overall experience. With the effects depending largely on thought generation and cognition, we anticipate the availability of cognitive resources to affect the ad taste effects. The introduction of cognitive load should distract attention away from the ad (Nowlis and Shiv 2005; Shiv and Nowlis 2004) and attenuate the effect that the ad has on taste perceptions. Visual and auditory stimuli in video content posted on Instagram by coffee shops, such as clear sounds, resonant sounds, and excellent pictures, can make the information more apparent, making consumers more likely to process the information perceived cognitively.

Second, visual and audio stimuli were not significantly associated with consumer engagement (H2a) (H2b). This suggests that audio and visual stimuli interactions with an audience do not affect consumer engagement on social media Instagram. This result is inconsistent with previous studies, which found that consumers can experience products/brands/services virtually by examining and manipulating the visual images, functions, and features of products in various ways. For products presented in 2D modes, consumers tend to understand products better (Violante et al., 2019). Visualization as a strategy for sight sense involves creating brand awareness and establishing an image of a product or brand that sharpens the customer's sensory experiences and engages more with ads. Visual stimuli are processed more automatically than verbal stimuli

in an advertising context, and this could affect taste perceptions even under cognitive constraints (Simmons, Martin, and Barsalou 2005). Previous research found that its use in music therapy was more effective than visual therapy in enhancing attention and emotion (Haslbeck, 2014; Schwartz et al., 2017). However, there needs to be more discussion on interactive audio in the business context, and its impact on consumer behaviour remains to be seen. In addition, the potential of applying visual and audio stimuli to Instagram content did not have a significant effect on consumer engagement.

Third, this study demonstrated that perceived cognition is not significantly associated with consumer engagement (H3). This indicates that the audience will be more likely to increase their emotional bond after perceiving visual and audio stimuli from Instagram brand start-up coffee chains. This finding is consistent with a previous investigation that suggested that perceived affective behavior significantly impacts consumer engagement (Huang et al., 2022; Ha et al., 2016).

5. Managerial Implications and Recommendations

This research has collected empirical data and proved the importance of visual and audio stimuli on how consumer behavior occurs on Social Media. The contribution of this research will be useful for business people who use social media to promote their products, especially for coffee shop business people, marketing managers, and academics. Managers can benefit from this research to develop marketing strategies using Social. The media, understand and adapt to the differences in behavior found in the various markets studied.

Limitations in this study are acknowledged. This research provides insight into consumers in Indonesia. A study that looks deeper into the culture of each society, revealing the social and cultural aspects of consumption can be carried out provides a different insight and is therefore recommended. This research only considers cognitive perception, therefore further research considering affective perception is recommended.

Conclusion: Based on these research results, several new possibilities have been discovered for future studies. First, in this study, sensory marketing using visual and audio stimuli on the content of Instagram coffee shops was perceived by cognitive consumers as visual and auditory stimuli. Further research should focus on emotions, cognition, and behavior. Sensory marketing is essential for future exploration because sensory experiences with these products influence consumers' behaviors toward particular objects (people and products). In addition, there are numerous digital platforms on which consumers can engage in sensory experiences. Second, this study uses sensory marketing as an antecedent to consumer engagement. However, in consumer engagement on social media, it is essential to consider additional psychological factors that may influence how the audience responds to visual and audio stimuli and affect perceived cognition and emotions. Finally, as this study was conducted at a certain point, the results may differ from those obtained over a more extended period. Therefore, a longitudinal study would be the most appropriate in the future.

Acknowledgment: Acknowledgement to Ministry of Higher Education Malaysia for Fundamental Research Grant Scheme with Project Code: FRGS/1/2020/SS01/USM/02/4 and the Universiti Sains Malaysia. The publication of this paper is also a part of cooperation Universiti Sains Malaysia, Institut Pertanian Instiper Yogyakarta Indonesia, Universitas Negeri Surabaya Indonesia, Universiti Technology Mara Malaysia, and Daffodil International University Bangladesh.

References

Adityaswara, M. (2022). Transformasi Ekonomi Digital, Gen Z Jadi Generasi Paling Melek Teknologi.

Alpinkar, E. & Berger, J. (2012). Association for Consumer Research. *Advances in Consumer Research,* 40, 212–217.

Baird, C. H. & Parasnis, G. (2011). From social media to social customer relationship management. *Strategy and Leadership,* 39(5), 30–37. https://doi.org/10.1108/10878571111161507

Bagozzi, R. P. (1986). Attitude formation under the theory of reasoned action and a purposeful behavior reformulation. *British Journal of Social Psychology,* 25(2), 95-107.

Baker, V. R. (1987). Paleoflood hydrology and extraordinary flood events. *Journal of Hydrology*, 96(1-4), 79-

99.
Biswas, D. (2019). Sensory Aspects of Retailing: Theoretical and Practical Implications. *Journal of Retailing*, 95(4), 111–115. https://doi.org/10.1016/j.jretai.2019.12.001
Bitner, M. J. (1992). Servicescapes: The Impact of Physical Surroundings on Customers and Employees. *Journal of Marketing*, 56(2), 57–71. https://doi.org/10.1177/002224299205600205
Brodie, R. J., Ilic, A., Juric, B. & Hollebeek, L. (2013). Consumer engagement in a virtual brand community: An exploratory analysis. *Journal of Business Research,* 66(1), 105–114. https://doi.org/10.1016/j.jbusres.2011.07.029
BPS (2021a). hasil sensus penduduk Indonesia 2021. https://www.bps.go.id/pressrelease/2021/01/21/1854/hasil-sensus-penduduk-2020.html
BPS (2021b). Peta Sebaran Populasi Generasi Z Indonesia.
Busalim, A. H., Ghabban, F. & Hussin, A. R. C. (2021). Customer engagement behavior on social commerce platforms: *An empirical study. Technology in Society*, 64, 101437. https://doi.org/10.1016/j.techsoc.2020.101437
Campbell, C., Pitt, L. F., Parent, M. & Berthon, P. R. (2011). Understanding consumer conversations around ads in a Web 2.0 world. *Journal of Advertising*, 40(1), 87–102. https://doi.org/10.2753/JOA0091-3367400106
Castillo-Abdul, B., Bonilla-del-Río, M. & Núñez-Barriopedro, E. (2021). Influence and Relationship between Branded Content and the Social Media Consumer Interactions of the Luxury Fashion Brand Manolo Blahnik. *Publications*, 9(1), 10. https://doi.org/10.3390/publications9010010
Carlson, J., Rahman, M., Voola, R. & De Vries, N. (2018). Customer engagement behaviors in social media: capturing innovation opportunities. *Journal of Services Marketing,* 32(1), 83-94.
Chandrasekaran, D., Srinivasan, R. & Sihi, D. (2017). (2017). Effects of offline ad content on online brand search: insights from Super Bowl advertising, *Journal of the Academy of Marketing Science,* 46(3), 403-430.
Chen, G., Li, Y. & Sun, Y. (2023). How YouTubers Make Popular Marketing Videos? Speech Acts, Move Structure, and Audience Response in YouTube Influencer Marketing Videos. *SAGE Open*, 13(1), 215824402311522. https://doi.org/10.1177/21582440231152227
Chen, S. H. & Lee, K. P. (2008). The Role of Personality Traits and Perceived Values in Persuasion: an Elaboration Likelihood Model Perspective on Online Shopping. Social Behavior and Personality: *An International Journal,* 36(10), 1379–1399. https://doi.org/10.2224/sbp.2008.36.10.1379
Chiu, H. C., Pant, A., Hsieh, Y. C., Lee, M., Hsioa, Y. T. & Roan, J. (2014). Snowball to avalanche: Understanding the different predictors of the intention to propagate online marketing messages. *European Journal of Marketing*, 48(7–8), 1255–1273. https://doi.org/10.1108/EJM-05-2012-0329
Claffey, E. & Brady, M. (2014). A model of consumer engagement in a virtual customer environment. *Journal of Customer Behaviour*, 13(4), 325-346.
Cvijikj, I. P. & Michahelles, F. (2013). Online Engagement Factors on Facebook fan page. *Social Network Analysis and Mining*, 3(4), 843–861.
Dahnil, M. I., Marzuki, K. M., Langgat, J. & Fabeil, N. F. (2014). (2014). Factors Influencing SMEs Adoption of Social Media Marketing.
Databoks. (2022). Survei: Pecandu Internet Terbanyak dari Kalangan Gen Z. https://databoks.katadata.co.id/datapublish/2022/06/29/survei-pecandu-internet-terbanyak-dari-kalangan-gen-z
De Luca, R. & Botelho, D. (2021). The unconscious perception of smells as a driver of consumer responses: a framework integrating the emotion-cognition approach to scent marketing. *AMS Review,* 11(1–2), 145–161. https://doi.org/10.1007/s13162-019-00154-8
De Vries, L., Gensler, S. & Leeflang, P. S. H. (2012). Popularity of Brand Posts on Brand Fan Pages: An Investigation of the Effects of Social Media Marketing. *Journal of Interactive Marketing,* 26(2), 83–91. https://doi.org/10.1016/j.intmar.2012.01.003
Dobre, C., Milovan, A. M., Duţu, C., Preda, G. & Agapie, A. (2021). The Common Values of Social Media Marketing and Luxury Brands. The Millennials and Generation Z Perspective. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(7), 2532–2553. https://doi.org/10.3390/jtaer16070139
Dolan, R., Conduit, J., Frethey-Bentham, C., Fahy, J. & Goodman, S. (2019). Social media engagement behavior: A framework for engaging customers through social media content. *European Journal of Marketing*,

53(10), 2213–2243. https://doi.org/10.1108/EJM-03-2017-0182

Edell, Julie A. & Richard Staelin. (1983). The Information Processing of Pictures in Print Advertisements, *Journal of Consumer Research,* 10 (June), 45–61.

Eslami, S. P., Ghasemaghaei, M. & Hassanein, K. (2022a). Understanding consumer engagement in social media: The role of product lifecycle. Decision Support Systems, 162. https://doi.org/10.1016/j.dss.2021.113707

Eslami, S. P., Ghasemaghaei, M. & Hassanein, K. (2022b). Understanding consumer engagement in social media: The role of product lifecycle. *Decision Support Systems*, 162, 113707. https://doi.org/10.1016/j.dss.2021.113707

Fogg, B. J. (2002). Persuasive technology: using computers to change what we think and do. Ubiquity, 2002(December), 2.

García-de-Frutos, N. & Estrella-Ramón, A. (2021). You absolutely (don't) need this! Examining differences in customer engagement components for (anti)haul youtubers' videos. *Journal of Research in Interactive Marketing,* 15(1), 86–103. https://doi.org/10.1108/JRIM-11-2019-0181

Ha, H. Y., John, J., John, J. D. & Chung, Y. K. (2016). Temporal effects of information from social networks on online behavior: The role of cognitive and affective trust. *Internet Research,* 26(1), 213–235. https://doi.org/10.1108/IntR-03-2014-0084

Hair, J., Hollingsworth, C. L., Randolph, A. B. & Chong, A. Y. L. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial Management and Data Systems*, 117(3), 442–458. https://doi.org/10.1108/IMDS-04-2016-0130

Han, H., Lee, K. S., Song, H. J., Lee, S. & Chua, B. L. (2019). Role of coffeehouse brand experiences (sensory/affective/intellectual/behavioral) in forming patrons' repurchase intention: Impact of switching costs. *Journal of Hospitality and Tourism Insights,* 3(1), 17–35. https://doi.org/10.1108/JHTI-03-2019-0044

Hazari, S. & Sethna, B. N. (2023). A Comparison of Lifestyle Marketing and Brand Influencer Advertising for Generation Z Instagram Users. *Journal of Promotion Management,* 29(4), 491-534.

Helmefalk, M. & Hultén, B. (2017a). Multi-sensory congruent cues in designing retail store atmosphere: Effects on shoppers' emotions and purchase behavior. *Journal of Retailing and Consumer Services*, 38(March), 1–11. https://doi.org/10.1016/j.jretconser.2017.04.007

Helmefalk, M. & Hultén, B. (2017b). Multi-sensory congruent cues in designing retail store atmosphere: Effects on shoppers' emotions and purchase behavior. *Journal of Retailing and Consumer Services*, 38, 1–11. https://doi.org/10.1016/j.jretconser.2017.04.007

Hewei, T. & Youngsook, L. (2022). Factors affecting continuous purchase intention of fashion products on social E-commerce: SOR model and the mediating effect. *Entertainment Computing*, 41(October 2021), 100474. https://doi.org/10.1016/j.entcom.2021.100474

Huang, T., Chen, W., Chen, C. & Silalahi, A. D. K. (2022). Understanding How Product Reviews on YouTube Affect Consumers ' Purchase Behaviors in Indonesia : An Exploration Using the Stimulus-Organism-Response Paradigm. 2022.

Huang, Y., Zhang, X. & Zhu, H. (2022). How do customers engage in social media-based brand communities: The moderator role of the brand's country of origin? Journal of Retailing and Consumer Services, 68. https://doi.org/10.1016/j.jretconser.2022.103079

Hung, L. S. (2017). Married couples' decision-making about household natural hazard preparedness: a case study of hurricane hazards in Sarasota County, Florida. *Natural Hazards,* 87, 1057-1081.

Henseler, C. M. & Ringle, M. A. S. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modelling, *Journal of the Academy of Marketing Science*, 43(1), 115–135.

Hirschman, E. C. & Holbrook, M. B. (1982). Hedonic consumption: emerging concepts, methods and propositions. *Journal of Marketing*, 46(3), 92-101.

Iqbal, A., Kazmi, S. Q., Anwar, A., Ramish, M. S. & Salam, A. (2023). Impact of Green Marketing on Green Purchase Intention and Green Consumption Behavior: The Moderating Role of Green Concern. Journal of Positive School Psychology, 975-993.

Kantar.com. (2018). This is how the UK uses social media. https://www.kantar.com/uki/inspiration/social-media/this-is-how-the-uk-uses-social-media

Khan, I., Fatma, M., Kumar, V. & Amoroso, S. (2020). Do experience and engagement matter to millennial consumers? *Marketing Intelligence & Planning,* 39(2), 329–341. https://doi.org/10.1108/MIP-01-2020-0033

Kim, A. J. & Ko, E. (2012). Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brands. *Journal of Business Research,* 65(10), 1480–1486. https://doi.org/10.1016/j.jbusres.2011.10.014

Kim, A. J. & Johnson, K. K. (2016). Power of consumers using social media: Examining the influences of brand-related user-generated content on Facebook. *Computers in human behavior*, 58, 98-108.

Kotler, P. (1973). Atmospherics as a marketing tool. *Journal of Retailing*, 49(4), 48-64.

Krishna, A. (2012). An integrative review of sensory marketing: Engaging the senses to affect perception, judgment and behavior. *Journal of Consumer Psychology*, 22(3), 332–351. https://doi.org/10.1016/j.jcps.2011.08.003

Krishna, A., Cian, L. & Aydınoğlu, N. Z. (2017). Sensory Aspects of Package Design. *Journal of Retailing*, 93(1), 43–54. https://doi.org/10.1016/j.jretai.2016.12.002

Kusumasondjaja, S. & Tjiptono, F. (2019). Endorsement and visual complexity in food advertising on Instagram. *Internet Research,* 29(4), 659–687. https://doi.org/10.1108/IntR-11-2017-0459

Larose, R., Mastro, D. & Eastin, M. S. (1987). Social Science Computer Review. *Social Science Computer Review,* 5(4), 608. https://doi.org/10.1177/089443938700500420

Laskey, H. A., Day, E. & Crask, M. R. (1989). Typology of Main Message Strategies for Television Commercials. *Journal of Advertising,* 18(1), 36–41. https://doi.org/10.1080/00913367.1989.10673141

Leonard, J. (2022). The Importance of Using Visual Content in Social Media Marketing. https://www.business2community.com/social-media-articles/importance-using-visual-content-social-media-marketing-01980627

Leonidou, L. C. & Leonidou, C. N. (2009). Rational versus emotional appeals in newspaper advertising: Copy, art, and layout differences. *Journal of Promotion Management,* 15(4), 522–546. https://doi.org/10.1080/10496490903281353

Levy, S. & Gvili, Y. (2015). How credible is e-word of mouth across digital marketing channels? The roles of social capital, information richness, and interactivity. *Journal of Advertising Research*, 55(1), 95–109. https://doi.org/10.2501/JAR-55-1-095-109

Lib, A. & Campbell, C. (2008). Management, 5–31.

Lim, W. M., Kumar, S., Pandey, N., Rasul, T. & Gaur, V. (2022). From direct marketing to interactive marketing: a retrospective review of the Journal of Research in Interactive Marketing. Journal of Research in Interactive Marketing. https://doi.org/10.1108/JRIM-11-2021-0276

Liu, S. S. & Stout, P. A. (1987). (1987). Effects of message modality and appeal on advertising acceptance, *Psychology and Marketing,* 4(3), 167-187.

Mari, M. & Poggesi, S. (2013). Servicescape cues and customer behavior: a systematic literature review and research agenda. *The Service Industries Journal,* 33(2), 171–199. https://doi.org/10.1080/02642069.2011.613934

Merhabian, A. & Russel, J. A. (1974). An Approach to Environmental Psychology, MIT Press, MIT Press: Cambridge, MA, 1974.

Mitchell, Andrew A. & Jerry C. Olson. (1981). Are Product Attribute Beliefs the Only Mediator of Advertising Effects on Brand Attitude? *Journal of Marketing Research,* 18(August), 318–32.

McKay-Nesbitt, J., Manchanda, R. V., Smith, M. C. & Huhmann, B. A. (2011). Effects of age, need for cognition, and affective intensity on advertising effectiveness. *Journal of Business Research,* 64(1), 12–17. https://doi.org/10.1016/j.jbusres.2009.09.013

Mehrabian, A. & Russell, J. A. (1974). An approach to environmental psychology. (Pp. 216–217). USA: The Massachusetts Institute of Technology.

Michaelidou, N., Siamagka, N. T. & Christodoulides, G. (2011). Usage, barriers and measurement of social media marketing: An exploratory investigation of small and medium B2B brands. *Industrial Marketing Management*, 40(7), 1153–1159. https://doi.org/10.1016/j.indmarman.2011.09.009

Moran, G., Muzellec, L. & Johnson, D. (2019). Message content features and social media engagement: evidence from the media industry. *Journal of Product & Brand Management,* 29(5), 533–545. https://doi.org/10.1108/JPBM-09-2018-2014

Pei, C., Huang, X., Li, Y., Chen, B., Lu, B., Peng, Y., Si, Y., Zhang, X., Zhang, T., Yao, D., Li, F. & Xu, P. (2022). Auditory Dominance in Processing Chinese Semantic Abnormalities in Response to Competing Audio-visual Stimuli. *Neuroscience,* 502, 1–9. https://doi.org/10.1016/j.neuroscience.2022.08.017

Petit, O., Velasco, C. & Spence, C. (2019). Digital Sensory Marketing: Integrating New Technologies Into Multisensory Online Experience. *Journal of Interactive Marketing,* 45, 42–61.

https://doi.org/10.1016/j.intmar.2018.07.004

Pratomo, A. B., Zulfikri, A. & Siagian, R. (2023). Exploring the Linkages between Engagement, Motivation, Satisfaction, and Employee Retention in Entrepreneurial Enterprises: Beverage MSME Industry in Bogor City. *West Science Business and Management,* 1(02), 71-80.

Rappaport, J. M., Richter, S. B. & Kennedy, D. T. (2018). (2018). An innovative information technology educational framework based on embodied cognition and sensory marketing. *International. Al Journal of Strategic Decision Sciences (IJSDS)*, 9(2), 85-106.

Rieunier, S. & Jallais, J. 2013. (2013). Marketing sensori eldupointdevente: Créeretgérerl'ambiancedeslieuxcommerciaux.Paris: Dunod.

Riegelsberger, J., Sasse, M. A. & McCarthy, J. D. (2003). Eye-catcher or blind spot? The effect of photographs of faces on e-commerce sites. In Towards the Knowledge Society: eCommerce, eBusiness and eGovernment The Second IFIP Conference on E-Commerce, E-Business, E-Government (I3E 2002) October 7–9, 2002, Lisbon, Portugal (pp. 383-398). Springer US.

Roberts, C. & Alpert, F. (2010). Total customer engagement: designing and aligning key strategic elements to achieve growth. *Journal of Product & Brand Management,* 19(3), 198–209. https://doi.org/10.1108/10610421011046175

Rosenbaum, M. S., Kelleher, C., Friman, M., Kristensson, P. & Scherer, A. (2017). Re-placing place in marketing: A resource-exchange place perspective. *Journal of Business Research,* 79, 281–289. https://doi.org/10.1016/j.jbusres.2017.01.009

Salhab, H. A., Al-Amarneh, A., Aljabaly, S. M., Al Zoubi, M. M. & Othman, M. D. (2023). The impact of social media marketing on purchase intention: The mediating role of brand trust and image. *International Journal of Data and Network Science,* 7(2), 591–600. https://doi.org/10.5267/j.ijdns.2023.3.012

Schiffman, L. G. & Kanuk, L. L. (2006). (2006). Consumer Behavior. Pearson Prentice Hall.

Sendra, E. (2017). Sensory and aroma marketing / edited by Esther Sendra and Ángel A. Carbonell-Barrachina.

Shah, A. M., Yan, X., Shah, S. A. A. & Ali, M. (2020). Customers' perceived value and dining choice through mobile apps in Indonesia. *Asia Pacific Journal of Marketing and Logistics*, 33(1), 1–28. https://doi.org/10.1108/APJML-03-2019-0167

Simmons, W., Kyle, Alex Martin. & Lawrence Barsalou. (2005). Pictures of Appetizing Foods Activate Gustatory Cortices for Taste and Reward, *Cerebral Cortex,* 15(10), 1602–8.

Steuer, J., Biocca, F. & Levy, M. R. (1995). Defining virtual reality: Dimensions determining telepresence. *Communication in the age of virtual reality*, 33, 37-39.

Stilman, D. & Stillman, I. (2018). Generation Z at Work. How to Understand Them and Find a Common Language with Them. Issue: Mann, Ivanov and Ferber, 272 P.

Suryani, T., Fauzi, A. A. & Nurhadi, M. (2021). SOME-Q: A Model Development and Testing for Assessing the Consumers' Perception of Social Media Quality of Small Medium-Sized Enterprises (SMEs). *Journal of Relationship Marketing*, 20(1), 62–90. https://doi.org/10.1080/15332667.2020.1717277

Swani, K., Milne, G. R., Brown, B. P., Assaf, A. G. & Donthu, N. (2017). What messages to post? Evaluating the popularity of social media communications in business versus consumer markets. *Industrial Marketing Management*, 62, 77–87. https://doi.org/10.1016/j.indmarman.2016.07.006

Tafesse, W. & Wien, A. (2017). A framework for categorizing social media posts. *Cogent Business and Management*, 4(1). https://doi.org/10.1080/23311975.2017.1284390

Toffin, & M. M. (2019). 2020. (2019). Brewing in Indonesia: Insights for Successful Coffee Shop Business. Retrieved October 7, 2020, from Https://Toffin.Id/e-Book/.

Velasco, C., Obrist, M., Petit, O. & Spence, C. (2018). Multisensory Technology for Flavor Augmentation: A Mini Review. Frontiers in Psychology, 9. https://doi.org/10.3389/fpsyg.2018.00026

Wahid, R. M. & Gunarto, M. (2022). Factors Driving Social Media Engagement on Instagram: Evidence from an Emerging Market. *Journal of Global Marketing,* 35(2), 169–191. https://doi.org/10.1080/08911762.2021.1956665

Wang, S. & Black, G. (2015). Wang 1 (pp. 1–7).

Wu, P. C. S. & Wang, Y. C. (2011). The influences of electronic word-of-mouth message appeal and message source credibility on brand attitude. *Asia Pacific Journal of Marketing and Logistics,* 23(4), 448–472. https://doi.org/10.1108/13555851111165020

Xue, J., Liang, X., Xie, T. & Wang, H. (2020). See now, act now: How to interact with customers to enhance social commerce engagement? *Information and Management,* 57(6), 103324.

https://doi.org/10.1016/j.im.2020.103324
Yoong, L. C. & Lian, S. B. (2019). Customer Engagement in Social Media and Purchase Intentions in the Hotel Industry. *International Journal of Academic Research in Business and Social Sciences,* 9(1), 54–68. https://doi.org/10.6007/ijarbss/v9-i1/536

Appendix 1

Construct	Questioner item
Visual Stimuli	VS1. Design of coffee shop on Instagram is visual appealing VS2. Influence is physically attractive in the content on Instagram VS3. Influence look beautiful/handsome with coffee products VS4. The images used in content coffee shops on Instagram appeal to me emotionally
Audio stimuli	AS1. Influencers coffee shop on Instagram speaks euphoniously when reviewing the products AS2. Coffee shop video review influence my attention because it is pleasant sounding. AS3. Coffee shop content on Instagram using harmonious sound effects in video AS4. Content coffee shop on Instagram using a melodic music background.
Perceived cognitive	PC1. Design of content coffee shops on Instagram makes it easier to look for information. PC2.Contents coffee shop on Instagram is attractive. PC3.interaction with social media coffee on Instagram quick. PC4. Social media coffee on Instagram can help me get information quick.
Consumer engagement	CE1. I often browse Instagram content of coffee shop CE2. I often read posts of coffee shops on Instagram CE3. I often use “like” content posting coffee shops on Instagram CE4. I often comment on content posting coffee shops on Instagram CE5. I often share coffee shop posts on Instagram