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GENERATIVE ARTIFICIAL INTELLIGENCE AND BRAIN ROT FROM AN ADVERTISING PERSPECTIVE

REKLAMCILIK PERSPEKTİFİYLE ÜRETKEN YAPAY ZEKÂ VE BEYİN ÇÜRÜMESİ

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Abstract
Generative artificial intelligence applications are increasingly impacting individuals, organizations, industries, and various disciplines. The effects of this technology are typically examined from economic, social, and technological perspectives, focusing on its transformative influence on business processes and sectors. While artificial intelligence applications offer innovative solutions across numerous sectors, reshaping their operations, they also give rise to various challenges. Recently, the phenomenon of brain rot, which can be described as a psychological and cognitive reflection of digital life, has also emerged as a concern. Brain rot refers to the mental deterioration caused by increased content consumption associated with digitalization. In this context, it is crucial to explore the relationship between brain rot and artificial intelligence, and to open a discussion on their impact on individuals, organizations, and sectors. Artificial intelligence, which is gradually transforming every industry, is also reshaping the advertising sector, bringing positive and negative impacts. This study aims to examine the relationship between generative artificial intelligence and the phenomenon of *brain rot* from the perspective of the advertising industry, discussing the potential impacts of AI on the sector. In this context, a literature review was conducted to explore how generative AI applications might influence the field of advertising within the framework of brain rot. The study concludes that generative AI applications may adversely affect the cognitive functions of both consumers and advertising professionals. As a theoretical and introductory-level study, it is expected to serve as a starting point for more comprehensive research in the future.

Keywords: Artificial Intelligence, Brain Rot, Advertising, Social Media, Consumer

Öz
Üretken yapay zekâ uygulamaları bireyleri, kurumları, endüstrileri ve çeşitli disiplinleri her geçen gün daha fazla etkilemektedir. Bu teknolojinin etkileri genellikle ekonomik, sosyal ve teknolojik boyutlarda ele alınarak, iş süreçleri ve sektörler üzerindeki dönüşümü bağlamında değerlendirilmektedir. Yapay zekâ, birçok sektöre yenilikçi çözümler getirerek iş süreçlerini dönüştürürken, aynı zamanda çeşitli problemlerin de kaynağı olmaktadır. Son dönemde, bu sorunlara dijital yaşamın psikolojik ve bilişsel bir yansıması olarak ifade edilebilecek beyin çürümesi sorunu da eklenmiştir. Beyin çürümesi (Brain rot), dijitalleşme ile ilişkili olarak artan içerik tüketiminin ortaya çıkardığı zihinsel bozulma durumunu ifade etmektedir. Bu doğrultuda, beyin çürümesi ile yapay zekâ arasındaki ilişkiyi incelemek ve bu olgunun birey, kurum ve sektörler üzerindeki etkilerini tartışmaya açmak oldukça önem arz etmektedir. Hemen hemen her sektörü aşamalı bir şekilde değiştirmeye başlayan yapay zekâ, olumlu ve olumsuz yönleriyle reklamcılık alanını da dönüştürme sürecindedir. Bu çalışma, üretken yapay zekâ ile beyin çürümesi arasındaki ilişkiyi reklamcılık perspektifinden inceleyerek, yapay zekânın sektöre olan etkilerini tartışmayı amaçlamaktadır. Çalışmada literatür taraması yapılarak üretken yapay zekâ uygulamalarının beyin çürümesi çerçevesinde reklamcılık alanına olan etkileri tartışılmıştır. Çalışmada yapay zekâ uygulamalarının tüketicilerin ve reklam profesyonellerinin bilişsel işlevlerini olumsuz etkileyebileceği sonucuna ulaşılmıştır. Teorik düzeyde ve konuya giriş niteliğinde olan bu çalışmanın, gelecekte yapılacak kapsamlı araştırmalara bir başlangıç noktası oluşturması beklenmektedir.

Anahtar Kelimeler: Yapay Zekâ, Beyin Çürümesi, Reklamcılık, Sosyal Medya, Tüketici

INTRODUCTION

Numerous developments throughout human history have demonstrated that unexpected consequences can arise. One such development is artificial intelligence (AI). Although the scientific foundations of AI date back to the 1950s, its progress has been marked by fluctuations; however, significant advancements have been realized since the 2000s. With the rise of generative AI, a new era has begun for individuals, institutions, industries, and even governments.

These developments have also led to significant societal changes. Technological advancements have brought about various transformations in human life and social structures (Gültekin, 2021, pp. 130-131). AI, a technology so influential that it could define our era, is not only driving small- or large-scale progress but also introducing unforeseen consequences. Even AI systems perceived as entirely harmless can lead to negative outcomes (O'Connell, 2021, p. 87).

One of the most frequently discussed negative consequences in recent times is brain rot. The term *brain rot* was selected as the Oxford Word of the Year for 2024 following a vote with more than 37,000 participants. According to its dictionary definition, *brain rot* refers to the deterioration of a person's mental or intellectual state, particularly due to the excessive consumption of trivial or non-challenging content, especially online materials (OUP, 2024).

Jean Baudrillard's theory of simulation can be referenced to better understand the concept of brain rot. Baudrillard argues that a constructed reality is perceived, analyzed, and interpreted through television, the internet, various networks, and both written and visual communication tools that encompass the entire world (Güzel, 2015, p. 79). According to him, the lives of individuals and societies are becoming increasingly artificial and fictionalized (Baudrillard, 2016, p. 131). Elements such as artificial political, social, and economic agendas, artificial wars, and artificial competitions are steadily taking the place of reality, forming what he calls hyperreality—where these simulations are perceived as more real than their actual references or origins (Baudrillard, 2015, pp. 144-145). The universe of simulation perpetuates itself not only through simulacra and mass media that replace reality but also through elements embedded in daily life, such as buildings, institutions, culture, and entertainment (Tambaş, 2011. p. 34). In the present era, artificial intelligence adds another layer to this phenomenon. AI has become a technological tool that reshapes reality and enhances the effectiveness of simulations in various fields, including education, media, communication, art, entertainment, and politics. According to Baudrillard, AI is not only a significant area of development but also a project with potentially severe consequences (Baudrillard, 2018, p. 114).

AI is not merely an advanced technological innovation; it is also a social, environmental, and economic transformation with profound implications for humanity and the future-outcomes that remain largely unpredictable (Kushchu, 2019, p. 15). Additionally, AI is driving a profound shift in cognitive processes. From the perspective of brain rot, social media, and AI have become a new stage of hyperreality, turning into a playground that depletes individuals' mental energy resources (Bozkurt, 2024). Indeed, these tools have been observed to bring about changes in brain function and cognitive abilities (Shanmugasundaram & Tamilarasu, 2023; Cajochen et al., 2011).

The misuse or excessive use of generative artificial intelligence applications can contribute to brain rot (Eline, 2024). The advertising industry, where cognitive processes, creative thinking, and healthy mental activity are extremely valuable, is among the sectors that may be affected by these negative consequences. As AI continues to reshape everyday life and the business world-altering habits and transforming organizational structures, it is crucial to discuss these adverse effects and take preventive measures for the future (Çeber, 2024, p.65).

A review of domestic and international literature reveals that no study has yet addressed the relationship between generative artificial intelligence and the concept of brain rot within the context of the advertising industry. Most existing research on artificial intelligence in advertising primarily focuses on the ethical issues arising from its use in the field (Schatsky et al., 2019; Chaudhry & Berger, 2019; Rodgers, 2021). This study distinguishes itself from previous research through its focus

on the concept of brain rot, thereby offering a unique scholarly contribution. Moreover, it approaches brain rot not solely in terms of individuals' mental well-being, but also from a sectoral perspective by examining how it may influence the production and consumption processes of advertising content. Within this scope, the study aims to investigate the relationship between generative artificial intelligence and brain rot from an advertising perspective. In doing so, it seeks to initiate a discussion on the potential challenges that may arise in the future of advertising and how artificial intelligence might shape the trajectory of the industry.

AN OVERVIEW OF BRAIN ROT

The concept of brain rot first appeared in Henry Thoreau's 1854 publication, Walden (Chappell, 2024). Thoreau (2004) used the term to argue that the same vigorous efforts to combat potato blight should also be directed against the rapid and deadly spread of brain rot. By the 1960s, brain rot had been adopted in the field of health to describe certain mental conditions. In subsequent years, as electronic devices began to play a significant role in human life, concerns arose that television, in particular, was contributing to brain rot, sparking widespread debate (Eliot, 2024).

In contemporary times, the concept's meaning has evolved to address a modern issue. Today, brain rot is used to describe the negative consequences of excessive consumption of online content due to digitalization, as well as the growing concerns about how our digital lives are shaping our mental well-being. The uncontrolled consumption of online content has led to increased anxiety, cognitive decline, and a sense of hopelessness, making brain rot a topic of significant interest among researchers (Özpençe, 2024, pp. 48-49).

Platforms such as Facebook, Instagram, Snapchat, TikTok, and Twitter are significant sources contributing to attention distraction (Shanmugasundaram & Tamilarasu, 2023). As of 2023, short-form video platforms such as TikTok and Instagram Reels have collectively surpassed two billion users (Shore, 2023). The term brain rot has become increasingly popular on social media platforms-particularly TikTok- among Generation Z and Generation Alpha users. Notably, the use of the term brain rot increased by 230% between 2023 and 2024. Moreover, the phrase was selected as the Oxford Word of the Year for 2024 following a vote involving over 37,000 participants (OUP, 2024). This demonstrates how brain rot has emerged as a defining expression of the digital age within just twelve months. According to its dictionary definition, brain rot refers to the deterioration of an individual's mental or intellectual state, especially as a result of excessive consumption of trivial or cognitively non-challenging material-primarily online content in today's context (OUP, 2024). More broadly, brain rot can be defined as a form of mental fatigue (Yazgan, 2025, p. 214). Another definition describes brain rot as the result of engaging with online content that captures attention but lacks intellectual or emotional depth, often consumed excessively by users. While brain rot serves as a means for Generation Z and Alpha to connect through humor and shared cultural references in online communities, the transient nature of trends and the rapid pace of content production have raised concerns about its impact on mental health. This phenomenon has led individuals to spend increasing amounts of time-consuming content that contributes to brain rot (LaFleur, 2025).

The process of brain rot does not occur suddenly; rather, it unfolds gradually and incrementally. A key debate in the literature concerns whether the term *rot* refers to a physical and biological deterioration or a decline in cognitive capacity. Two primary perspectives exist on this issue. Some researchers argue that brain rot is a cognitive phenomenon that can be reversed with appropriate restructuring strategies. Others contend that the process involves an irreversible form of physical degeneration, ultimately leading to a permanent deterioration of mental faculties (Eliot, 2024).

Studies suggest that prolonged exposure to digital technology may modify brain structure and functions, potentially resulting in various cognitive impairments. Internet addiction has been linked to a reduction in gray matter density in the frontal cortex, a region responsible for decision-making and impulse control. These structural changes can have significant effects on individuals (Chen et al., 2023).

It is also well-documented that digital technology contributes to a constant bombardment of information and frequent distractions. This overstimulation can overload the brain, negatively affecting its ability to process and retain information (Lin et al., 2015). Studies have shown that individuals who use smartphones more frequently tend to have shorter attention spans (Lui & Wong, 2012). Findings related to social media use further support these concerns. As dependency on social media increases, its usage is suggested to suppress or slow down critical thinking abilities (Cheng et al., 2022). Platforms such as TikTok, Instagram, Facebook, Twitter, Snapchat, and Threads are among the major sources of distraction, as their constant notifications, updates, and endless scrolling mechanisms divert users' attention from important tasks, leading to a state of continuous partial attention (Shanmugasundaram & Tamilarasu, 2023). Furthermore, social media consumption has been observed to negatively impact individuals' well-being. A study by Kross et al. (2013) concluded that passive Facebook usage increases distraction and inattentiveness while decreasing overall well-being. More critically, an increase in time spent on social media correlates with a higher likelihood of self-harm, particularly among 14-year-olds (Hartas, 2019).

The Newport Institute(2024) identifies screen time as a critical factor in explaining brain rot. As screen exposure increases, individuals experience mental fog, lethargy, reduced attention span, and cognitive decline. Additionally, the habit of compulsively searching for distressing news online, known as doomscrolling, has been associated with brain rot. Internet browsing can elevate dopamine levels, a neurotransmitter linked to pleasure and reward, potentially fostering behavioral addiction (Newport Institute, 2024). Research regarding the adverse effects of excessive online content consumption, particularly on children and adolescents' mental health, is gaining momentum. For instance, a mental health center in the United States has published a guideline on recognizing and preventing brain rot (OUP, 2024). Additionally, various news articles, blogs, and academic papers have begun addressing this issue. Some of the prominent solutions proposed to combat brain rot include media literacy education, ethical algorithm design, and digital awareness campaigns (Bozkurt, 2024).

THE RELATIONSHIP BETWEEN GENERATIVE ARTIFICIAL INTELLIGENCE AND BRAIN ROT

Over the past few years, the widespread adoption of digital tools such as smartphones, social media, and artificial intelligence has led to a significant paradigm shift in the way we interact with information (Shanmugasundaram & Tamilarasu, 2023). The rapid increase in computational power, the widespread accessibility of data, and groundbreaking advancements in algorithms have positioned AI as both the most strategic technology and one of the fastest-growing fields of the 21st century (Marr & Ward, 2019; Zemánková, 2019).

Artificial intelligence is a field within computer science dedicated to creating machines and software that can demonstrate intelligence akin to human abilities (Salehi & Burgueno, 2018, p. 170). As a central component of technological advancements, AI tools have accelerated workflows and enhanced productivity by automating numerous processes. When strategically implemented, AI applications can save time and allow for greater engagement in creative activities (Yaxley, 2018, p. 147). Indeed, individuals and institutions that have integrated AI technologies are beginning to experience the benefits of saving time and energy in critical tasks (Torossian, 2019). In recent years, generative AI applications have emerged as a new addition to these technologies, making AI tools more accessible to end users. Generative AI represents an innovative approach that aims to produce entirely new and original content by learning from data distribution patterns (Jovanović & Campbell, 2022). These applications can process and generate highly realistic content across multiple formats, including text, images, video, and audio (Epstein et al., 2023; De Souza vd., 2023; Zhang vd., 2023). Today, prominent examples of generative AI applications include ChatGPT, GPT-4o, DeepSeek, Midjourney, Gemini, Bard, Claude, Runway, and Sora.

Artificial intelligence is not merely an advanced technological development but also a social, environmental, and economic transformation with profound and still-unpredictable consequences for humanity and the future (Kushchu, 2019, p. 15). More importantly, recent research indicates that these tools may influence brain function and cognitive abilities (Shanmugasundaram & Tamilarasu, 2023;

Cajochen et al., 2011). In particular, the improper use of generative AI applications has been linked to brain rot. When information is readily provided without cognitive effort, individuals may experience mental stagnation, negatively impacting their critical thinking skills and creativity. Human learning is inherently experiential, drawing from daily interactions, including problem-solving, social exchanges, and personal mistakes. However, bypassing these cognitive processes by constantly relying on AI tools such as ChatGPT, Gemini, Copilot, or other generative AI systems may lead to detrimental outcomes (Eline, 2024), one of which is brain rot.

Four primary concerns have been identified regarding the potential of generative AI to contribute to brain rot (Eliot, 2024):
Over-reliance on Generative AI: Excessive dependence on AI reduces cognitive engagement, potentially diminishing independent thinking capabilities to near-zero levels.
Overfilling by generative AI: The continuous influx of AI-generated content overwhelms cognitive processing, leading to mental disorganization and inhibiting coherent thought.
Degenerative collapse via generative AI: As AI-generated outputs become increasingly persuasive, individuals may experience a sense of intellectual inadequacy, causing them to avoid independent reasoning.
Destructive disturbance by generative AI: Generative AI has the potential to weaken cognitive abilities irreversibly, leading to a decline in mental resilience.

The central issue lies in the volume and intensity of consumption. As highlighted in existing definitions of brain rot, excessive information intake and a lack of awareness regarding when to disengage are among the most critical challenges (Özpençe, 2024, p. 56). Excessive reliance on ChatGPT and other language models may lead individuals to become dependent on technology, potentially weakening their cognitive and critical thinking skills (Bozkurt, 2023, p. 68). Studies on this subject indicate that users tend to develop patterns of addictive or dependency-prone engagement with artificial intelligence technologies (UNICEF, 2021; Xie, 2023). In this regard, dependency in the context of artificial intelligence can be conceptualized as the tendency or need to over-rely on automated systems for decision-making, task execution, or validation (Morales-García et al., 2024). Moreover, interactions with AI systems and chatbots may distort individuals' perceptions, attitudes, and social interactions (Tao et al., 2010). Artificial intelligence has the potential to influence human decision-making capacities, which may foster mental laziness (Ahmad et al., 2023) and lead to the deterioration of cognitive skills (Morales-García et al., 2024).

Concerns about the potential role of generative artificial intelligence in brain rot can be associated with aspects of discomfort and distrust in technological readiness. Discomfort refers to "**a perceived lack of control over technology and feelings of being overwhelmed by it**" (Parasuraman & Colby, 2001, p. 41). In this context, the excessive generation of information by generative AI may cause individuals to feel burdened by technology and struggle to maintain control. As a result, discomfort can be linked to stress stemming from technological complexity and the continuous influx of information. On the other hand, distrust refers to "**a lack of confidence in technology and doubts about its proper functioning**" (Parasuraman & Colby, 2001, p. 44). Excessive dependence on generative AI represents the opposite of distrust; however, there is a clear connection between the negative consequences of overreliance and uncertainty. In this regard, it can be argued that placing too much trust in generative AI may eventually lead to skepticism. If AI provides incorrect information or unexpectedly misguides users, individuals may start to feel insecure. The distinction between trust and distrust ultimately depends on an individual's level of awareness. If awareness is low, trust in AI tends to persist despite its shortcomings.

Several indicators suggest the onset of brain rot. The most common symptoms include a shorter attention span, difficulty maintaining focus, memory issues, weakened problem-solving skills, and an overall sense of mental fatigue or numbness (Eliot, 2024). A study by Fan et al. (2024) found that excessive reliance on AI among students could weaken their capacity to participate in self-directed learning, highlighting the risk of cognitive inertia. Similarly, Ahmad et al. (2023) emphasized that AI has a profound impact on human decision-making abilities, potentially fostering intellectual passivity

and diminishing independent thinking skills.

De Barros pointed out that while large language models such as ChatGPT offer diverse perspectives and enhance decision-making processes, they may also contribute to cognitive laziness. Furthermore, Barros' research indicates that AI-driven learning platforms provide personalized education based on an individual's learning style; however, interactions with social robots or chatbots may influence individuals' perceptions, attitudes, and behaviors (De Barros, 2024, p. 421).

The concept of brain rot is not limited to individual experiences but extends to broader contexts, affecting organizations, industries, and various professional fields. It can be argued that wherever human cognition plays a role in any task or process, the effects of brain rot may become evident.

BRAIN ROT FROM THE ADVERTISING PERSPECTIVE AND GENERATIVE ARTIFICIAL INTELLIGENCE

Brain rot not only affects individuals' cognitive processes in daily life, but it can also transform various fields and sectors, creating negative impacts on business processes. Particularly, the advertising sector, where cognitive processes, creative thinking, and healthy mental activities are of critical importance, may be influenced by these negative consequences. Before evaluating the concept of brain rot within the context of advertising, it is appropriate to discuss the development of artificial intelligence and its role in advertising.

Table 1. History of AI: A Timeline from 1950 to 2025

HISTORY OF AI: A Timeline from 1950 to 2025		
I Period: The birth of AI and Symbolic reasoning and logic		
1950	Turing Test	Alan Turing proposed the concept of a thinking machine
1956	AI term coined	John McCarthy introduced the term AI for the first time
1960	Eliza	First chatbot that simulated a human conversation
II Period: Expert systems and Knowledge-based AI		
1970-1980	AI Winter	No new AI programs
1980	RNNs & LSTM	Machines learn from data, not programming, and the introduction of neural networks
III Period: Machine Learning Revolution		
1990	IBM Deep Blue	IBM's Deep Blue defeated chess champion Garry Kasparov
IV Period: Big Data and Deep Learning		
2006-2008	Cloud, Big Data, GPUs	
2011	Siri	Apple gave its iPhone 4s an intelligent language-based assistant: Siri. The software recognizes and processes natural language and can thus act as a personal assistant
2011	Watson	Supercomputer Watson, named after IBM founder Thomas J. Watson, won the US-American quiz show Jeopardy against two human competitors.
2014	Alexa	Amazon's Alexa digital assistant was introduced
2014	GANs	The Creation of Generative Adversarial Networks (GANs) in 2014 was a fundamental breakthrough in generative AI. A GAN is an unsupervised machine learning (ML)
V Period: The Birth of GenAI		
2015	Foundation of OpenAI	
2018	GPT1	Creation of LLMs such as GPT (Generative Pre-trained Transformer), first built by OpenAI in 2018. GPTs are neural networks using a deep learning architecture to generate text, engage in conversations with users, and complete numerous language tasks.
2020	GPT-3, DALL-E	
2022	Chat GPT, DALL-E2, Midjourney, Stable Diffusion	ChatGPT, launched by OpenAI in November of 2022, enables machines to engage in coherent and context-aware conversations. Users can also ask ChatGPT to generate text and other content of a desired style, length, format, and level of detail. DALL-E, Midjourney, and Stable Diffusion are advanced

		generative AI models that
2023	GPT4, Google's Bard, Microsoft Bing AI	
2024	GPT 4.o, Sora,	GPT-4.0 is a multifunctional language model introduced by OpenAI in 2024. Sora is a video generation model developed by OpenAI to create videos from text.
2025	DeepSeek, Qwen2.5-Max	DeepSeek is a platform established in 2023 as an artificial intelligence research laboratory based in China. It develops open-source large language models (LLMs) and released its first version, DeepSeek-R1, to users on January 20. Qwen2.5-Max is an advanced language model launched by Alibaba in January 2025.

The author has adapted it from Dimitrieska (2024) to the present.

While the use of generative artificial intelligence in advertising relies on GPT models, its application in the field of advertising dates back further, specifically to the years when big data and deep learning systems were advancing. During the 2010s, developments in big data, cloud computing, natural language processing, and machine learning, along with the capabilities that came with other new techniques, significantly increased the usability, growth, and consequently the power of artificial intelligence. Additionally, technological advancements, cost-effective sensors, and the growing volume of big data have contributed to the rapid development of artificial intelligence (OECD, 2019, p. 21).

Currently, organizations are seen leveraging social media to gain a deeper understanding of their target audiences; monitor their expectations, desires, preferences, and attitudes; and craft strategies based on these insights. This process is carried out by collecting and processing the digital traces left by users in virtual environments with the help of artificial intelligence applications. In this context, algorithms that enable personalized services and track active user movements are utilized on social media platforms (Yaxley, 2011, p. 430). Artificial intelligence-based algorithms analyze the data obtained from digital environments to understand consumers and make inferences about consumer insights (Rodgers & Nguyen, 2022, p. 1046). Furthermore, artificial intelligence systems provide significant benefits in tasks such as advertising production, media planning, and measuring the effectiveness of advertisements (Li, 2019, p. 333; Qin & Jiang, 2019).

Traditional artificial intelligence has experienced a notable transformation with the advent of generative artificial intelligence. Generative AI is regarded as a type of advanced intelligence, concentrating on the creation of new and original content. This type of intelligence utilizes advanced deep learning techniques and neural networks to generate new outputs like human intelligence. Generative AI significantly impacts the activities, strategies, and consumer interactions within the advertising sector by producing text, visuals, music, 3D designs, and codes (Dimitrieska, 2024, pp. 23-24). Speech-based AI tools, such as ChatGPT, the text generator GPT- 4, and the image creator DALL-E, are capable of generating high-quality and contextually meaningful texts, images, music, videos, 3D designs, and codes (Routray, 2024).

Thanks to these features, generative AI is contributing to the transformation of how advertisements are created, presented, and personalized. As generative AI alters the way advertising practitioners create content, the advertisement creation process has been automated, enabling the production of numerous advertising elements within minutes. This feature allows for the generation of highly targeted advertisements that are customized for specific audiences and have a higher likelihood of engagement, moving beyond traditional advertising approaches (Miller, 2024; Gök, 2023). Thus, generative AI can be defined within the context of advertising as systems that utilize humanlike functions to enhance the speed and efficiency of the advertising creation process (Çeber, 2024, p. 293). For example, the Koton brand utilizes artificial intelligence to support the content it shares on social media. Instead of conducting photoshoots for its *Ski Collection* Koton accelerated the process by generating the visuals through artificial intelligence.

Figure 1. Koton - Ski Collection (Instagram.com)

Silk and Cashmere is one of the first brands to create advertising visuals using generative artificial intelligence and share them on digital platforms. Silk and Cashmere have stated that the Midjourney application was used in the production process of the advertising visual (silkandcashmere.com).

Figure 2. Silk and Cashmere – Love at First Touch (Silkandcashmere.com)

In another example, the brand Toys "**R**" Us announced that they utilized the Sora application in the advertisement they released in 2024 (toysrus.com). The Toys "**R**" Us brand leveraged Sora for 80% of the advertisement's creation and completed the process through human-AI collaboration. Furthermore, the brand emphasized the use of artificial intelligence and highlighted that it was the first advertisement created using Sora technology when promoting the ad (Mermer, 2024).

Figure 3. Toys "**R**" Us - OpenAI- Sora (Toysrus.com)

In addition to the contributions provided by generative artificial intelligence, some concerns arise as a

result of its use (Rodgers, 2021). A significant portion of professionals working in marketing and advertising express their concerns regarding the impact of generative AI on the content creation process (HubSpot, 2024; Rodgers & Nguyen, 2022, p.1043). For instance, Yu (2021) suggests that some underlying issues remain hidden beneath the growing interest in AI within the advertising sector (Yu, 2021, p.190). A review of the literature reveals that these issues are generally examined within an ethical framework (Chaudhry & Berger, 2019; Culnan & Clark, 2009), while the literature related to brain drain remains relatively limited.

The concept of brain drain can be examined from two distinct perspectives in the field of advertising: consumers (Kelly, 2024) and advertising professionals (McKenzie, 2024). With the advent of digitalization, production processes in advertising have accelerated to an unprecedented degree (Murár & Kubovics, 2023, p. 660; Jovanović & Campbell, 2022, Çeber, 2024, p. 595). The incorporation of generative artificial intelligence applications into this process has ushered in a new era focused on speed and efficiency in content production. In this new era, brands have started to create attention-grabbing content for platforms based on short video formats, such as Instagram Reels, YouTube Shorts, and TikTok, to adapt to rapid consumption habits. These platforms, in turn, have increasingly incorporated more stimulating content to achieve the same level of satisfaction for users (Simpson et al., 2021). While the increased exposure to content for consumers is considered a positive development for agencies and brands in terms of enhancing visibility, this situation can have negative effects on consumers' mental health (Özpençe, 2024, pp. 49-50). This growing consumption is gradually transforming into a form of addiction. Short-form content and continuous scrolling on social media platforms contribute to the intensification of this addiction (Tereshchenko, 2023, Chen et al., 2019).

Consumers increasingly integrated into online culture are consuming such content more frequently, thereby being exposed to information in a fast and superficial manner. In 2024, the number of internet users reached 5.35 billion. More than 97% of internet users in the working-age group log into social networks or messaging platforms every month (We Are Social, 2024). By 2003, 5 trillion gigabytes of data had been produced, whereas after 2011, 5 trillion gigabytes of data were produced every two days, and after 2015, 5 trillion gigabytes of data were produced every 10 seconds (Saka & Sayan, 2016, p. 90). In 2024, 328.77 million terabytes of data are produced daily (Statista, 2024). The appeal of content produced on digital platforms stems from its alignment with the short attention spans encouraged by the scrolling culture of social media (Yousef et al., 2025; Shore, 2023; Shahrajabiar et al., 2023). These pieces of content, produced to capture the consumer's attention, are often repetitive and lack deep meaning. As the speed of content creation continues to increase, users or consumers feel compelled to constantly follow new content (Simpson vd., 2021). This situation raises concerns about mental health and leads consumers to spend more time on content that causes brain rot (Ayub vd., 2023). More importantly, the constant consumption of such content increases mental exhaustion, causing the cycle to perpetuate. Even though users often realize that these contents are addictive and of low cognitive value, they continue consuming them. This situation is viewed as both a challenge and an opportunity for marketers trying to reach the Alpha and Gen Z generations through humor and irony (Lafleur, 2025).

Some researchers suggest that constant notifications, updates, and scrolling feeds from social media platforms can divert an individual's attention from important tasks, creating a state of continuous partial attention (Shanmugasundaram & Tamilarasu, 2023). The integration of artificial intelligence systems with social media intensifies this phenomenon on a broader scale. The tracking of consumers' every move and the continuous presentation of new content create a self-perpetuating cycle. According to Özpençe (2024), the excessive consumption of digital content, driven by over-engagement with social platforms, generates a negative externality that leads to brain rot. In this context, Özpençe (2024) defines the phenomenon of brain rot, caused by excessive social media consumption, as *dirty consumption*.

The negative effects of brain rot are not limited to consumers alone. The widespread use of generative AI applications in advertising processes produces certain adverse consequences for advertising

professionals. Eliot (2024) explains the phenomenon of brain drain associated with the use of generative artificial intelligence through four main sources of concern: "**Over-reliance on generative AI, Overfilling by generative AI, Degenerative collapse via generative AI, and Destructive disturbance by generative AI.**" Excessive reliance on AI leads to potential loss of cognitive abilities and raises various ethical challenges (Morales-García et al., 2024).

In the era of artificial intelligence, addiction has extended to behavioral addictions, such as internet addiction, and neurobiological and behavioral processes have shown similarities (Van Rooij et al., 2011; Sairitupa-Sanchez et al., 2023). Studies have revealed that technological device dependencies are related to artificial intelligence (Savaş, 2024, p. 307; Farghaly Abdelaliem et al., 2023). Within the framework of technology addiction, AI addiction is defined as the excessive use of AI technologies that can lead to addiction and addictive tendencies, resulting in negative consequences (Hu et al., 2023). Furthermore, generative AI's provision of excessive amounts of information can lead to mental confusion (Huang et al., 2024). AI may sometimes escalate this situation by providing incorrect answers to questions. As a result, when advertising professionals are exposed to such content, they may encounter AI hallucinations (Eliot, 2024). On the other hand, with the use of generative AI, the human mind may begin to be overshadowed by the intelligence of this technology. As individuals become aware of this, they may experience fear in the face of AI (Huang et al., 2024), and generative AI may be considered a far more efficient tool for thinking. As a consequence of this, practitioners may voluntarily cease thinking. In this way, AI can weaken mental capacity (Ahmad et al., 2023). In a sense, there is a detachment from the work processes. AI transcends its role as a mere tool, taking over the process and distancing advertising professionals from active thinking.

Using generative artificial intelligence to gain clearer insights and structure scattered thoughts, instead of making it the subject of the process, can negatively impact thinking ability and creativity. However, this does not imply that we should disregard AI tools and return to a pre-technology era for writing and problem-solving. Like any tool, generative AI has a suitable purpose, time, and place for its application. What matters here is how we engage with generative AI. While AI can write text, it cannot replicate the uniquely human process of creating something from scratch and infusing it with emotion (Eline, 2024). Therefore, AI applications should not be seen as tools that directly perform or take over tasks but as aids to practitioners. This is because human touch—emotional intelligence, creativity, sensitivity, common sense, and ethical practices—is always required in AI systems (Valin, 2018, pp. 5-6).

With the rapid advancement of technology in the future, the impact of information pollution and low-quality content is expected to increase. To address the problems these contents may create, it is essential for social media platforms to develop more ethical algorithms, for digital detox programs to become more widespread, and for media literacy to be incorporated into the education system (Bozkurt, 2024). From an advertising perspective, brands can play a significant role in combating brain rot. In other words, brands can contribute to a healthier digital environment by prioritizing thoughtful, enriching, and responsible content. For instance, a portion of the revenue generated from the advertising industry could be used to fund responsible advertising and media practices, creating and supporting sustainable advertising frameworks and initiatives that raise the industry to higher accountability standards (Lee, 2024).

On an individual level, it is possible to avoid brain rot. Through deliberate effort, psychological insight, and prioritization of mental health, this condition can be overcome (Niwlikar, 2024). As the number of generative AI applications increases, so must the level of attention and awareness. Consumers, advertising professionals, and brands can consistently review the appropriate ways to use generative AI tools to prevent brain rot; they can establish a balance in AI usage and position themselves not as being driven by technology but as guiding technology, without compromising cognitive health.

CONCLUSION

High intelligence was traditionally associated with advanced consciousness; however, newly developed intelligence types have now undertaken this role, reaching a point where they may eventually surpass human consciousness (Harari, 2019, pp. 323-324). These advanced tools have led to changes in brain functions and cognitive abilities (Shanmugasundaram & Tamilarasu, 2023; Cajochen et al., 2011). The misuse or overuse of generative AI applications may contribute to brain rot (Eline, 2024; Eliot, 2024). The advertising industry, where cognitive processes, creative thinking, and healthy mental activity are extremely valuable, is among the sectors that may be affected by these negative consequences.

This study aims to examine the relationship between generative artificial intelligence and the phenomenon of brain rot from the advertising industry's perspective, discussing AI's potential impacts on the sector. The findings obtained within the scope of the research indicate that the use of generative artificial intelligence applications may have adverse effects on the field of advertising. When existing studies are examined, it has been observed that along with the use of AI technologies in advertising, not only ethical issues such as security, privacy, bias, and copyright but also the phenomenon referred to as brain rot could pose a significant threat. Moreover, existing studies in the literature indicate that this phenomenon may directly and negatively affect not only consumers but also advertising professionals. While existing studies in the literature primarily address the impact of AI on advertising from the consumer perspective (Schatsky et al., 2019; Rodgers, 2021; Du & Xie, 2021, p.961), this research demonstrates that these effects also lead to significant consequences for industry professionals. In this context, based on existing studies, the excessive use of generative AI may negatively impact the mental health of advertising professionals. While AI accelerates content creation processes, providing significant conveniences for professionals, excessive reliance on it also leads to a decline in cognitive abilities. Particularly, excessive trust in and constant use of AI can dull advertising professionals' creative thinking skills and automate their thinking processes. This situation can lead to a decline in mental activities, contributing to the emergence of adverse effects such as brain rot.

On the other hand, based on existing studies, as consumers are increasingly exposed to AI-generated content, they may become dependent on rapidly produced, superficial, and low cognitive value content. The continuous consumption of such content may trigger mental fatigue and cognitive decline, a phenomenon referred to as brain rot.

The uncontrolled rise of Artificial Intelligence technology necessitates the implementation of more concrete steps and the establishment of clear roadmaps (Ilıcak Aydınalp, 2020, p. 2297). It is essential to prepare the advertising industry, advertising professionals, and consumers for the potential challenges brought about by AI technology.

Certain individual-level precautions can be taken to prevent brain rot. These measures can be outlined as follows:

- Maintaining a balanced use of artificial intelligence
- Determining which processes to utilize AI for and which to handle independently
- Being aware of personal skills and competencies
- Not compromising cognitive and critical thinking processes
- Avoiding reliance on AI as a primary decision-making mechanism
- Seeking diverse sources of information instead of solely depending on AI-generated content
- Taking periodic breaks from AI usage

These precautions apply to all members of society, ranging from consumers to employees and from students to academics.

Academics can raise awareness of the negative effects of this technology by organizing discussions, seminars, and events focused on the relationship between artificial intelligence and brain rot. Agencies and institutions, on the other hand, can provide internal training on the responsible use of artificial

intelligence; they can also adopt a responsible attitude by being aware of the potential negative effects of AI-generated content on both the agency/institution and the consumers. Furthermore, it is crucial to integrate artificial intelligence into advertising processes in a controlled manner. AI should not be considered a tool that replaces humans but rather an assistant that supports them. This way, uniquely human strengths such as common sense, empathy, intuition, humor, creativity, imagination, trust, responsibility, and accountability can be preserved. Additionally, as Lee (2024) indicates, a portion of the profits generated from the advertising industry can be allocated to fund responsible advertising and media practices, raise industry accountability standards, and establish and support sustainable advertising frameworks. In this regard, collaborations between academia, industry, and professional organizations are of great significance.

When reviewing both local and international literature, no studies have been found that address the relationship between generative artificial intelligence and brain rot in the context of advertising It is believed that this study will enrich the existing literature by opening up a discussion on the brain rot issue, which has emerged with the development of technology within the framework of artificial intelligence and advertising. Artificial intelligence technologies are evolving rapidly, and in the process, they bring various challenges. Discussing these issues, implementing preventive measures, and being prepared for potential future problems are crucial for addressing these challenges effectively.

In the advertising literature, the focus is typically on the applications of artificial intelligence technologies and ethical issues. However, this study adopts an interdisciplinary approach emphasizing cognitive effects and mental fatigue. Specifically, the introduction of the concept of brain rot into the sectoral context opens up new areas for discussion, both academically and practically. This study makes a significant contribution by questioning the impact of excessive dependence on artificial intelligence on cognitive processes and raising awareness among advertising professionals and consumers. As an introductory and theoretical study, it is expected to serve as a starting point for more comprehensive research in the future.

There are significant gaps in the literature that need to be addressed in this field. The cognitive effects of working with artificial intelligence have not been systematically examined to determine whether they differ depending on the tools used or the types of tasks performed. Furthermore, it remains unclear at which level of generative artificial intelligence cognitive burnout occurs and whether this threshold varies between individuals or according to their expertise levels. An academically valuable research topic is whether advertising professionals are aware of these cognitive risks and whether such awareness leads them to take individual precautions.

Similarly, the question of what level of exposure to AI-generated content consumers begin to experience cognitive exhaustion or brain rot points to a significant gap in the literature that has not yet been adequately addressed. In particular, the role of variables such as the frequency and duration of content consumption, as well as the cognitive depth of the content, in shaping such cognitive effects remains unclear. Furthermore, the differences between content generated by experts versus that produced by AI - and their respective impacts on consumers' cognitive processes - have not been sufficiently explored. A critical issue is whether and how expert-generated content and AI-generated content differentially trigger the brain rot effect in consumers, as well as the comparability of their effects on cognitive exhaustion.

In future studies, as the effects of brain rot become more pronounced, in-depth interviews could be conducted with advertising professionals. This would help uncover previously unexplored impacts of brain rot in the context of advertising literature. Additionally, survey-based research could examine the effects of consumers' excessive content consumption within the brain rot framework. Experimental studies could be designed to investigate the relationship between AI-generated content consumption and cognitive degradation (brain rot). Furthermore, survey studies could be implemented to measure both consumers' and advertising professionals' levels of awareness regarding brain rot.

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