

DIGITAL FATIGUE IN MARKETING EXPOSURE: WHEN TOO MUCH CONTENT REDUCES ENGAGEMENT AND BRAND ATTACHMENT

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Abstract. The rapid growth of digital marketing and algorithm-based personalization has substantially increased the intensity of marketing content that consumers receive across social media, e-commerce, and email channels. While this development allows companies to reach consumers more efficiently, excessive exposure can trigger digital fatigue, a state of mental and emotional exhaustion caused by an overload of digital information. This phenomenon becomes increasingly relevant in the omnichannel era, when consumers are exposed to marketing messages simultaneously through multiple digital platforms. This study aims to analyze the effect of digital content exposure intensity on digital fatigue, as well as its impact on consumer engagement and brand attachment, and to examine the mediating role of digital fatigue in these relationships. This study employed a quantitative approach using an explanatory research method. Data were collected through an online questionnaire distributed via Google Forms to active users of social media and digital platforms in Indonesia, with a purposive sample of 403 respondents aged 17 years and above. Data were analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS) with SmartPLS software. The results show that digital content exposure intensity has a positive effect on digital fatigue, and that digital fatigue negatively affects both consumer engagement and brand attachment. In addition, digital fatigue is proven to mediate the relationship between exposure intensity and consumer behavioral responses. These findings suggest that companies need to manage the frequency and intensity of digital marketing more carefully in order to preserve consumer comfort, sustain engagement, and maintain long-term emotional relationships with consumers.

Keywords: digital fatigue; content exposure intensity; consumer engagement; personalization paradox; digital marketing

I. INTRODUCTION

The advancement of digital technology has fundamentally changed the way companies interact with consumers. Through social media, e-commerce, and algorithm-based platforms, companies are now able to deliver marketing messages that are personal, intensive, and continuous. However, the growing intensity of digital content exposure has also given rise to the phenomenon of digital fatigue, a state of cognitive and emotional exhaustion resulting from excessive exposure to digital information (Trivedi, 2025; Zhang et al., 2024).

In the marketing context, digital fatigue is closely related to ad fatigue, namely consumer weariness toward advertisements that appear repeatedly. Excessively high advertising frequency can reduce marketing effectiveness and trigger negative responses such as irritation, content avoidance, and even outright rejection of the brand (Voorveld et al., 2022; Zhang et al., 2024). This indicates that increasing the intensity of marketing does not always translate into higher engagement.

At the same time, the development of algorithm-based personalization has encouraged companies to increase the relevance of the content they deliver. However, this condition also gives rise to the personalization paradox, a situation in which excessively intense personalization instead creates consumer discomfort (Aguirre et al., 2021; White et al., 2021).

Consumers may feel monitored or over-targeted, which in turn reduces their comfort and trust toward the brand (Martin et al., 2020). These conditions have direct consequences for consumer engagement and brand attachment. When consumers experience digital fatigue, they tend to reduce their interaction with marketing content, ignore promotional messages, and even engage in avoidance behavior. Overly intensive marketing communication also has the potential to weaken the emotional bond between consumers and brands (Loureiro et al., 2017). Although research on digital marketing effectiveness has developed extensively, studies that specifically connect content exposure intensity, digital fatigue, consumer engagement, and brand attachment within a single integrated model remain relatively limited. This study is intended to address that gap.

Research Gap

First, most previous studies have focused on the positive impact of digital exposure and personalization, such as increased brand awareness, purchase intention, and customer satisfaction (Bleier & Eisenbeiss, 2022). Research examining the dark side of excessive digital exposure, particularly its effect on consumer disengagement, remains comparatively scarce. Second, prior studies have generally examined the relationship between exposure intensity and consumer response directly, without explaining the underlying

psychological mechanism. This study integrates digital fatigue as a mediating variable to explain how excessive exposure translates into weaker engagement and attachment.

Third, research on digital fatigue and the personalization paradox within the context of Indonesian digital consumers, particularly younger, highly active social media users, remains limited, even though this segment represents one of the most exposed groups to digital marketing content.

Research Novelty

The development of an integrated conceptual model connecting digital content exposure intensity, digital fatigue, consumer engagement, and brand attachment. The examination of digital fatigue as a mediating variable that simultaneously explains its effect on both consumer engagement and brand attachment. A research focus on young, highly active social media users in Indonesia, a context that remains rarely examined in the digital fatigue and personalization paradox literature.

Research Objectives

Analyze the effect of digital content exposure intensity on digital fatigue. Analyze the effect of digital fatigue on consumer engagement. Analyze the effect of digital fatigue on brand attachment. Examine the mediating role of digital fatigue in the relationship between digital content exposure intensity and consumer engagement. Examine the mediating role of digital fatigue in the relationship between digital content exposure intensity and brand attachment.

Information Overload Theory

Information Overload Theory explains that individuals have a limited cognitive capacity to process information. When the volume of information received exceeds this capacity, individuals experience a decline in attention, irritation, and a tendency to avoid further information (Setiawati, 2023; Aziz, 2025). In the context of digital marketing, this condition is reflected in digital fatigue, which arises when consumers are exposed to marketing content too frequently and continuously.

Personalization Paradox

The personalization paradox explains that algorithm-based personalization, which is intended to increase content relevance, can instead produce negative consumer responses when it is perceived as excessive (Aguirre et al., 2021; Bleier & Eisenbeiss, 2022). Consumers who feel overly targeted tend to experience discomfort, which further contributes to the emergence of digital fatigue.

Digital Content Exposure Intensity and Digital Fatigue

Digital content exposure intensity refers to the frequency and volume of marketing messages received by consumers across various digital platforms. In the omnichannel era, consumers are exposed simultaneously through social media, email marketing, and digital advertisements (Voorveld et al., 2022). Although higher exposure can increase brand awareness, there is a saturation point, or wear-out effect, beyond which excessive frequency instead reduces marketing effectiveness and triggers fatigue (Zhang et al., 2024).

H1: Digital content exposure intensity has a positive effect on digital fatigue.

Digital Fatigue and Consumer Engagement

Consumer engagement reflects the cognitive, emotional, and behavioral involvement of consumers with a brand or its

marketing content (Hollebeek et al., 2014), and is determined more by the quality of interaction than by the sheer quantity of exposure (Homburg et al., 2017). When consumers experience digital fatigue, they tend to reduce their interaction with digital content, including activities such as likes, comments, and shares.

H2: Digital fatigue has a negative effect on consumer engagement.

Digital Fatigue and Brand Attachment

Brand attachment is the emotional bond between consumers and a brand, formed through consistently positive experiences (Loureiro et al., 2017). This bond reflects a psychological closeness that drives long-term loyalty. However, overly intensive marketing communication can reduce consumer comfort toward a brand, thereby weakening this emotional bond.

H3: Digital fatigue has a negative effect on brand attachment.

Mediating Role of Digital Fatigue

Digital fatigue is presumed to mediate the relationship between digital content exposure intensity and consumers' behavioral and emotional responses. Excessive exposure is not presumed to affect engagement and attachment directly, but rather through the fatigue it generates in consumers.

H4: Digital fatigue mediates the relationship between digital content exposure intensity and consumer engagement.

H5: Digital fatigue mediates the relationship between digital content exposure intensity and brand attachment.

II. RESEARCH METHOD

Research Design

This study employed a quantitative approach using an explanatory research method. This approach was chosen to test the causal relationships between digital content exposure intensity, digital fatigue, consumer engagement, and brand attachment. The research population consisted of active users of social media and digital platforms in Indonesia who had been exposed to digital marketing content. The sampling technique used purposive sampling with the following criteria: At least 17 years old. Actively use social media or digital platforms. Have been exposed to digital marketing content or advertisements. The research sample consisted of 403 respondents.

Research Instrument

The research instrument used a 5-point Likert scale, with indicators adapted from previous studies on digital fatigue, content exposure intensity, consumer engagement, and brand attachment.

Data Analysis Technique

Data analysis was conducted using SEM-PLS with the assistance of SmartPLS software. The analysis stages included: Outer Model Evaluation: convergent validity, discriminant validity, and composite reliability. Inner Model Evaluation: R-square, path coefficient, effect size (f^2), and predictive relevance (Q^2). Hypothesis Testing: T-statistics > 1.96 and p-value < 0.05 .

Ethical Consideration

This study was conducted in accordance with the principles of informed consent and the confidentiality of respondents'

data. All respondents participated voluntarily, and their identities were kept confidential throughout the research process.

III. RESULTS AND DISCUSSION

Respondent Profile

The majority of respondents in this study were female, with a dominant age range of 17 to 28 years. The digital platforms most frequently used by respondents were TikTok and Instagram. This indicates that younger users represent the most active group of digital media consumers and are among those most frequently exposed to digital marketing content.

Outer Model Results

The outer model evaluation shows that all research indicators had outer loading values above the minimum threshold, and were therefore declared valid and reliable.

Inner Model Results

The inner model evaluation shows that the research model has a good explanatory capability for the relationships tested among the research variables.

Hypothesis Testing Results

The hypothesis testing results support all of the proposed hypotheses, indicating significant relationships between digital content exposure intensity, digital fatigue, consumer engagement, and brand attachment, as well as the mediating role of digital fatigue in these relationships.

Discussion

The results show that digital content exposure intensity has a positive effect on digital fatigue. The higher the frequency of marketing content exposure, the higher the level of digital fatigue experienced by consumers. This finding supports the study by Zhang et al. (2024) on ad fatigue. In addition, digital fatigue is proven to have a negative effect on consumer engagement. Consumers who experience digital fatigue tend to reduce interaction activities such as likes, comments, and shares. This result supports the theory of Hollebeek et al. (2014), which states that the quality of interaction matters more than the quantity of exposure. This study also finds that digital fatigue has a negative effect on brand attachment. Consumers who feel disrupted by excessive marketing exposure experience a decline in comfort and emotional closeness toward the brand. Furthermore, digital fatigue is proven to mediate the relationship between digital content exposure intensity and both consumer engagement and brand attachment. This finding reinforces the concept of the personalization paradox, in which overly intense personalization and exposure instead produce negative consumer responses. Theoretically, this study extends the literature on digital fatigue by showing that it functions as an important psychological mechanism explaining how excessive digital content exposure translates into weaker engagement and attachment.

IV. CONCLUSION

This study shows that digital content exposure intensity has a positive effect on digital fatigue. Furthermore, digital fatigue is proven to reduce consumer engagement and weaken brand

attachment. This study also demonstrates that digital fatigue acts as a mediating variable in the relationship between digital exposure intensity and consumer behavioral responses. These findings indicate that the effectiveness of digital marketing is influenced not only by content relevance, but also by how exposure intensity is managed. Companies therefore need to implement a more balanced digital marketing strategy to avoid causing consumer fatigue. Theoretically, this study strengthens the literature on digital fatigue and the personalization paradox within the context of modern digital marketing. Practically, companies need to manage advertising frequency, improve content quality, and pay closer attention to consumers' psychological comfort in order to sustain consumer engagement and brand attachment over the long term.

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