

***THE IMPACT OF SUSTAINABLE DIGITAL MARKETING ON CUSTOMER
LOYALTY IN DIGITAL ENTERTAINMENT INDUSTRY: MEDIATING ROLE OF
BRAND ENGAGEMENT***

**PENGARUH PEMASARAN DIGITAL BERKELANJUTAN TERHADAP
LOYALITAS PELANGGAN DI INDUSTRI ENTERTAINMENT DIGITAL:
PERAN MEDIASI KETERLIBATAN MEREK**

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ABSTRACT

Digital entertainment companies are increasingly using sustainable digital marketing (SDM) to convey their values and create enduring relationships with customers as sustainability becomes a major issue for both consumers and regulators. Despite this tendency, little study has been done on how SDM affects consumer loyalty, especially in the digital entertainment sector. This study uses brand engagement as a mediating element to investigate how SDM affects consumer loyalty. SDM, which is based on a multifaceted framework, is evaluated in five areas: stakeholder involvement, consumer education, social and environmental impact, ethical offers, and transparency. A systematic survey was used to gather information from 220 respondents with a range of backgrounds. The results show that several aspects of SDM, like stakeholder participation, visibility and disclosure, and consumer empowerment and education, have a direct beneficial impact on customer loyalty and brand engagement. The association between any of the five SDM variables and customer loyalty, however, is not significantly mediated by brand engagement, according to mediation analysis. This implies that although these sustainability measures directly increase engagement and loyalty, they do not support engagement's function as a link between marketing campaigns and loyalty. If there are no discernible indirect effects, there could be other factors or mechanisms at work. These findings underscore the need to concentrate on direct loyalty initiatives rather than depending entirely on interaction as a middleman, and they have significant ramifications for digital entertainment marketers.

Keywords: Sustainable Digital Marketing, Customer Loyalty, Brand Engagement, Digital Entertainment Industry.

ABSTRAK

Perusahaan hiburan digital semakin banyak menggunakan pemasaran digital berkelanjutan (SDM) untuk menyampaikan nilai-nilai mereka dan membangun hubungan yang berkelanjutan dengan pelanggan, seiring dengan meningkatnya perhatian terhadap keberlanjutan baik dari konsumen maupun regulator. Meskipun demikian, sedikit penelitian yang dilakukan mengenai bagaimana SDM mempengaruhi loyalitas konsumen, terutama di sektor hiburan digital. Studi ini menggunakan keterlibatan merek sebagai elemen perantara untuk menyelidiki bagaimana SDM mempengaruhi loyalitas konsumen. SDM, yang didasarkan pada kerangka kerja multifaset, dievaluasi dalam lima area: keterlibatan pemangku kepentingan, pendidikan konsumen, dampak sosial dan lingkungan, penawaran etis, dan transparansi. Survei sistematis digunakan untuk mengumpulkan informasi dari 220 responden dengan latar belakang yang beragam. Hasil menunjukkan bahwa beberapa aspek SDM, seperti partisipasi pemangku kepentingan, visibilitas dan pengungkapan, serta pemberdayaan dan pendidikan konsumen, memiliki dampak positif langsung pada loyalitas pelanggan dan keterlibatan merek. Namun, menurut analisis mediasi, hubungan antara salah satu dari lima variabel SDM dan loyalitas pelanggan tidak secara signifikan dimediasi oleh keterlibatan merek. Hal ini menunjukkan bahwa meskipun langkah-langkah keberlanjutan ini secara langsung meningkatkan keterlibatan dan loyalitas, mereka tidak mendukung fungsi keterlibatan sebagai jembatan antara kampanye pemasaran dan loyalitas. Jika tidak ada efek tidak langsung yang jelas, mungkin ada faktor atau mekanisme lain yang berperan. Temuan ini menekankan perlunya fokus pada inisiatif loyalitas langsung daripada bergantung sepenuhnya pada interaksi sebagai perantara, dan memiliki implikasi signifikan bagi pemasar hiburan digital.

Kata Kunci: Pemasaran Digital Berkelanjutan, Loyalitas Pelanggan, Keterlibatan Merek, Industri

Hiburan Digital.

INTRODUCTION

Sustainable digital marketing (SDM) has emerged as a critical focus in contemporary business strategies, reflecting the growing imperative to align marketing practices with environmental, social, and economic sustainability principles (Dangelico & Vocalelli, 2017). This approach goes beyond the mere effectiveness of digital marketing to encompass responsible, long-term impacts on the business ecosystem and society. Its practices include the use of environmentally friendly technologies, transparency in consumer data management, and marketing strategies that support social and economic well-being. Importantly, SDM can foster customer loyalty by building trust through ethical and transparent communication (Leonidou et al., 2020).

In the context of digital marketing, sustainability is increasingly relevant as concerns about data ethics, privacy, and misinformation grow. Companies are expected to adopt responsible marketing approaches to cultivate long-term consumer relationships and ensure the sustainability of the digital ecosystem (Rantung et al., 2025). Sustainable digital marketing techniques have also been shown to enhance brand engagement. Consumers increasingly expect ethical marketing practices that adhere to sustainability standards (Greenland et al., 2023; Rantung et al., 2025), and brand engagement is recognized as a key driver of enduring relationships between brands and consumers (Feng et al., 2020; Prentice et al., 2018). By enabling targeted communication and tailored messaging, SDM can improve both engagement and conversion rates (Rahimian et al.,

2021).

The digital entertainment industry, encompassing streaming services, online gaming platforms, digital content providers, and interactive media, provides a particularly relevant context to study the effects of SDM. Rapid technological advancements, increased internet access, and shifting consumer behaviors have fueled the sector's growth (Statista, 2023). Digital channels dominate content distribution, and consumers frequently interact with brands through these channels, offering an ideal setting to examine how sustainability-oriented marketing influences loyalty (Foutz, 2017; Grewal et al., 2020). By integrating ethical business practices and sustainability commitments, companies can strengthen their reputation and differentiate themselves in the market (Kemper & Ballantine, 2019).

Customer loyalty is a critical outcome for businesses. Loyal customers contribute to a wider consumer base, lower marketing costs, and enhanced competitive resilience. They are more likely to engage in positive word-of-mouth, make repeat purchases, and accept premium pricing (Lin et al., 2017; Mandagi et al., 2024). Brand engagement serves as a central mechanism in this process, linking marketing practices to long-term loyalty (Feng et al., 2020). Despite the growing adoption of SDM, research on its effects on customer loyalty in the digital entertainment sector remains limited (Kumar et al., 2021). Most studies in the entertainment industry focus on engagement strategies or user experience, while the interplay between SDM, brand engagement, and loyalty is underexplored (Ashley & Tuten, 2015).

This study addresses this gap by integrating SDM, brand engagement, and customer loyalty into a single conceptual framework. Unlike prior research that primarily examines either digital marketing effectiveness or sustainability in isolation, this study investigates how these dimensions interact, highlighting the mediating role of brand engagement. Notably, the findings reveal that brand engagement does not significantly mediate the relationship between SDM and customer loyalty—an insight that offers an important contribution to the literature, emphasizing that SDM may directly influence loyalty independently of engagement mechanisms.

The primary objective of this research is to examine the impact of sustainable digital marketing on customer loyalty in the digital entertainment industry, with a specific focus on the mediating role of brand engagement. The study addresses the following research questions:

1. Does sustainable digital marketing influence brand engagement in the digital entertainment industry?
2. Does sustainable digital marketing influence customer loyalty in the digital entertainment industry?
3. Does brand engagement influence customer loyalty in the digital entertainment industry?
4. Does brand engagement mediate the relationship between sustainable digital marketing and customer loyalty?

By exploring these questions, this study provides actionable insights for entertainment companies seeking to implement ethically and environmentally responsible marketing strategies, improve consumer-brand relationships, and foster enduring customer loyalty (Chaffey & Smith, 2022; Lemon & Verhoef, 2016). In an

era where consumers increasingly value ethical business practices, understanding how SDM affects loyalty is both timely and critical (Saura et al., 2020; Sinh et al., 2024; Fretes et al., 2025).

1. Literature Review and Hypothesis development

1.1 Sustainable Digital Marketing

SDM integrates digital strategies with environmentally friendly, ethical, and long-term practices. It emphasizes not only commercial effectiveness but also responsible business conduct that minimizes environmental and social impacts. Core elements include transparency, consumer engagement, ethical product promotion, and resource optimization (Chaffey & Smith, 2022). By implementing SDM, companies create long-term value that benefits both the business and broader societal and ecological systems.

The adoption of SDM has grown in response to increasing consumer awareness of environmental and social issues. Consumers today prefer brands that demonstrate commitment to ethical and sustainable practices, which enhances brand image and strengthens customer relationships (Kumar et al., 2021; Wang et al., 2023). Studies indicate that sustainability-oriented marketing enhances consumer loyalty by aligning corporate values with consumer expectations (Rather, 2020; Nyagadza, 2022).

This study identifies five critical dimensions of SDM that collectively operationalize the construct within the digital entertainment industry: (1) Transparency & Disclosure, (2) Green & Ethical Offerings, (3) Social & Environmental Impact, (4) Consumer Education & Empowerment, and (5) Stakeholder Engagement & Collaboration. These dimensions were

selected for their theoretical relevance to sustainability-oriented marketing and their practical significance in digital entertainment, where rapid technology adoption, interactive platforms, and content personalization shape consumer perceptions of brand responsibility. Each dimension contributes to trust-building, loyalty formation, and brand reputation grounded in sustainability principles.

Transparency and disclosure dimension of SDM emphasizes open and sincere communication with consumers about sustainability initiatives. Transparent disclosure of actions such as carbon footprint reduction or ethical sourcing fosters trust and strengthens brand credibility (Trabucchi et al., 2023; Boegman et al., 2023; Wahyuningrum et al., 2023; Li et al., 2018).

Green and ethical dimension focus on promoting products with environmentally friendly and ethically sourced features. Highlighting green product attributes aligns with green marketing theory, enhances brand authenticity, and resonates with socially conscious consumers (Hameed et al., 2023; Tan et al., 2022; Martin et al., 2020; Zhou et al., 2023).

Social and environmental impact dimension refers to the broader contributions of companies to societal and ecological well-being. Publicizing initiatives such as community welfare projects, environmental conservation, or carbon reduction enhances the brand's ethical reputation and strengthens consumer perceptions of integrity (Maduku, 2024; Al-Emran, 2023).

Consumer education and empowerment dimension highlights the role of educating customers about sustainable practices. By providing information, tools, and interactive

content, companies encourage informed decision-making and foster active engagement with the brand, leading to enhanced loyalty (Apostolidis & McLeay, 2019; Prieto-Sandoval et al., 2022; Wan et al., 2022).

Stakeholder engagement and Collaboration involves including employees, customers, and communities in sustainability initiatives. Engaging stakeholders in co-creation and showcasing their contributions enhances brand credibility and reinforces consumer perceptions of inclusivity and social responsibility (Beck & Ferasso, 2023; Helme Falk et al., 2023; Martin et al., 2020).

1.2 Brand Engagement

Brand engagement refers to the process through which consumers develop both emotional and cognitive connections with a brand, resulting in sustained attention, interaction, and involvement across various touchpoints (Handayani et al., 2024; Hollebeek & Macky, 2019). It captures the depth of consumers' relationships with brands, reflecting not only their affective attachment but also their active participation in brand-related activities (Sijabat et al., 2022). Importantly, brand engagement extends beyond dyadic interactions between a consumer and a brand, encompassing networks of interactions with other consumers and stakeholders that collectively shape the engagement experience (Bal et al., 2015). This multidimensional construct emphasizes the dynamic and reciprocal nature of consumer-brand relationships, highlighting the interplay between emotional, cognitive, and behavioral components.

Operationally, brand engagement is measured through consumers' observable behaviors and subjective

experiences, such as interaction with digital content, participation in brand communities, and responsiveness to marketing initiatives. Prior studies have shown that marketing strategies emphasizing sustainability and social responsibility can significantly enhance brand engagement. For instance, Rather (2020) demonstrated that sustainability-based marketing campaigns strengthen consumers' affective attachment and active participation, fostering deeper brand relationships. Experiential and interactive approaches, including sustainability-focused storytelling and initiatives that invite consumer involvement, have been found to promote higher levels of engagement and loyalty (Rather, 2020; Nyagadza, 2022). Sustainable digital marketing, therefore, functions not merely as a tactical tool but as a strategic approach that enhances brand authenticity, encourages meaningful consumer interactions, and contributes to long-term brand engagement and loyalty.

1.3 Customer Loyalty

Customer loyalty refers to a consumer's enduring commitment to repurchase or continue supporting a preferred brand, product, or service, despite situational influences or competitive offerings (Kotler & Keller, 2015). Loyalty reflects a deeper psychological attachment that goes beyond individual transactions, encompassing affective, cognitive, and behavioral dimensions. It is an essential driver of business success, as loyal customers contribute to sustained revenue, reduced marketing costs, and enhanced competitive advantage (Gures et al., 2018; Wantah & Mandagi, 2024; Tumober et al., 2024). Moreover, loyalty represents an intangible asset that strengthens a firm's market position, as devoted

customers are more likely to engage in repeat purchases, provide positive word-of-mouth, and support the brand through advocacy (Walean et al., 2024; Alalwan et al., 2017).

Operationally, customer loyalty is measured through both behavioral indicators, such as repeat purchasing patterns, frequency of engagement, and retention rates, and attitudinal indicators, including brand preference, emotional attachment, and willingness to recommend the brand (Minh & Huu, 2016; Al-Dmour et al., 2019; Astriana, 2019; Muljani, 2021). Empirical studies have consistently shown that cultivating loyalty enhances organizational outcomes. For instance, loyal consumers exhibit non-random purchasing behavior across multiple decision-making contexts and are more likely to maintain long-term relationships with brands (Astriana, 2019; Muljani, 2021). Additionally, research highlights that modern customer loyalty extends beyond mere repeat purchases to include moral and behavioral commitments, such as active participation in brand communities and advocacy behaviors, which collectively reinforce firm competitiveness and profitability (Cheng et al., 2020).

1.4 Digital Entertainment Industry

The digital entertainment sector encompasses a wide array of online services and products designed to provide users with engaging and immersive experiences. Key characteristics of this industry include the democratization of content creation enabled by digital tools, a diverse range of distribution platforms such as social media and streaming services, and on-demand consumption patterns characterized by binge-watching and personalized experiences. Moreover, the sector is marked by technological

convergence across media, including virtual reality, interactive video streaming, and gaming, as well as a significant economic footprint driven by advertising, subscriptions, and content sales (Dhiman, 2023; Mirrlees, 2024).

Digital entertainment is broadly defined as internet-based activities, including digital publishing, online media content, and wireless gaming, that facilitate direct interaction between producers and consumers (Das & Gochhait, 2021). The on-demand nature of digital entertainment grants users autonomy over when, how, and where they consume content, enhancing personalization, engagement, and overall user satisfaction (Basaran & Ventura, 2022; Carundeng et al., 2024). Economically, the sector generates substantial revenue through advertising, subscriptions, and content sales while creating employment opportunities in areas such as data analytics, digital marketing, and content development (Dhiman, 2023).

From an academic perspective, the evolution of digital entertainment provides valuable insights into the dynamic interplay between technology and media. As Dhiman (2023) notes, digital platforms and technologies have transformed traditional entertainment structures, offering stakeholders both opportunities and challenges. Likewise, Das and Gochhait (2021) emphasize the sector's role in fostering interactive consumer experiences, including online gaming and digital media engagement, which are increasingly integral to contemporary social and cultural practices.

1.5 The Effect of SDM on Consumer Loyalty and Brand Engagement

SDM is increasingly recognized as a strategic tool for building a

responsible and trustworthy brand image. By embedding sustainability-oriented practices into digital marketing strategies, brands not only signal their commitment to ethical and environmentally friendly business conduct but also foster stronger emotional connections with consumers who are increasingly conscious of sustainability issues (Suphasomboon & Vassanadumrongdee, 2022).

When consumers perceive a brand as socially responsible and committed to sustainable values, their trust in the brand is enhanced. This trust, in turn, strengthens consumer loyalty, which manifests not only in repeated purchase behavior but also in active brand advocacy—such as recommending the brand to others or participating in brand communities. Moreover, brands that transparently communicate their sustainability initiatives can further deepen engagement, creating a reciprocal relationship where consumers feel empowered to support and promote the brand.

Based on these arguments, it is posited that SDM positively influences consumer loyalty. Specifically, different dimensions of SDM are expected to contribute to loyalty in the following ways:

H1a: Transparency & disclosure dimension of SDM has a positive effect on consumer loyalty

H1b: Green & Ethical Offerings dimension of SDM has a positive effect on consumer loyalty

H1c: Social & Environmental dimension of SDM has a positive effect on consumer loyalty

H1d: Consumer Education & Empowerment dimension of SDM has a positive effect on consumer loyalty

H1e: Stakeholder Engagement &

Collaboration dimension of SDM has a positive effect on consumer loyalty

In addition to fostering consumer loyalty, SDM also positively influences consumer engagement with the brand. Consumers who perceive a brand as committed to sustainability are more inclined to interact with it through various digital channels, such as social media platforms, online campaigns, or other forms of participation (Sijabat et al., 2022; Marhareita et al., 2022). By effectively communicating sustainability initiatives, brands not only enhance their reputation but also foster deeper emotional engagement with consumers. In essence, the stronger a consumer's perception of a brand's sustainability efforts, the more likely they are to actively engage with the brand. This engagement can take the form of participating in discussions, sharing content, or joining sustainability-related programs offered by the brand. Accordingly, it is posited that SDM contributes positively to consumer engagement. Specifically, the following hypotheses are proposed:

H2a: Transparency & disclosure dimension of SDM has a positive effect on brand engagement

H2b: Green & Ethical Offerings dimension of SDM has a positive effect on brand engagement

H2c: Social & Environmental dimension of SDM has a positive effect on brand engagement

H2d: Consumer Education & Empowerment dimension of SDM has a positive effect on brand engagement

H2e: Stakeholder Engagement & Collaboration dimension of SDM has a positive effect on brand

engagement

1.6 The Effect of Brand Engagement on Customer Loyalty

Empirical studies have consistently demonstrated that consumer brand engagement positively influences customer loyalty. For instance, research by Algharabat et al. (2019), France et al. (2016), and Kaur et al. (2020) indicates that consumers who actively engage with a brand are more likely to develop loyalty toward it. Furthermore, studies by Kang et al. (2015) and Leung & Jiang (2018) emphasize that active participation, rather than passive or minimal engagement, has a stronger effect on cultivating positive attitudes and emotional attachment to the brand.

Building on this empirical evidence, the rationale for the proposed hypothesis is that engagement strengthens the emotional bond between consumers and the brand. A stronger emotional connection enhances the consumer's intention to maintain the relationship, increasing the likelihood of repeat purchases and long-term loyalty (Joshi & Garg, 2021; Zainol et al., 2016). Consequently, the following hypothesis was developed:

H3: Brand engagement has a positive effect on customer loyalty.

1.7 The Mediating Effect of Brand Engagement

Brand engagement has been recognized in the literature as a critical mechanism linking sustainable digital marketing (SDM) practices to customer loyalty. Empirical studies have shown that value congruity significantly influences customer-brand identification, emotional brand commitment, and customer-brand engagement, all of which contribute to increased brand loyalty (Rather et al.,

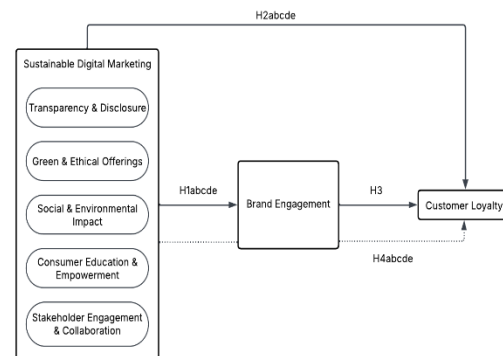
2018). Further evidence indicates that consumers who actively engage with brands exhibit higher loyalty levels than those who interact passively or not at all (Kang et al., 2015; Leung & Jiang, 2018). Reputational credibility has been found to be enhanced when brands are perceived as ethical and sustainable, thereby strengthening both engagement and loyalty (Michelon, 2011; Unal & Tascioglu, 2022).

Based on this theoretical and empirical foundation, it is reasoned that brand engagement mediates the effect of SDM on customer loyalty. When consumers perceive a brand as responsible and trustworthy due to its sustainable practices, they are more likely to participate in brand-related activities and maintain a long-term relationship with the brand. Consequently, sustainable practices embedded in digital marketing are expected to enhance consumer engagement, which, in turn, reinforces loyalty. Accordingly, the following mediation hypotheses are proposed:

- H4a:** Brand Engagement will mediate the relationship between transparency & disclosure dimension of SDM and customer loyalty.
- H4b:** Brand Engagement will mediate the relationship between Green & Ethical Offerings dimension of SDM and customer loyalty.
- H4c:** Brand Engagement will mediate the relationship between Social & Environmental dimension of SDM and customer loyalty.
- H4d:** Brand Engagement will mediate the relationship between Consumer Education & Empowerment dimension of SDM and customer loyalty.
- H4e:** Brand Engagement will mediate the relationship between Stakeholder Engagement & Collaboration dimension of SDM and customer loyalty.

Collaboration dimension of SDM and customer loyalty.

Figure 1. *Conceptual framework*



RESEARCH METHOD

2.1 Research Design

This study employed a descriptive–correlational quantitative design to test the hypotheses and address the research objectives. Descriptive research is a fundamental approach to systematically explain phenomena as they exist in their natural context, providing an accurate representation of events, conditions, or attitudes (Williams, 2007). Correlational strategies, meanwhile, focus on measuring the strength and direction of associations between two or more variables within a sample or population (Queirós et al., 2017; Taherdoost, 2014). As Leavy (2017) notes, such approaches are grounded in deductive reasoning, enabling the validation or rejection of theoretical propositions. A quantitative survey served as the primary data collection method. Quantitative research emphasizes the development of precise, reliable measurements that can be expressed numerically and subjected to statistical analysis (Goertzen, 2017). Data were analyzed using two software packages: SPSS for descriptive statistics and demographic profiling, and SmartPLS for testing hypotheses, as well as evaluating the validity and

reliability of constructs.

2.2 Sample and Sampling Technique

The study population comprised users of digital entertainment services, including video streaming platforms, music applications, and online games. These individuals regularly engage with digital platforms to consume entertainment content. A purposive sampling technique was applied, ensuring that respondents met specific criteria relevant to the study objectives (Etikan et al., 2016). This method increased the likelihood of obtaining accurate and representative data. The inclusion criteria required users to have at least six months of experience using digital entertainment services to ensure sufficient familiarity, to have interacted with brands through social media, mobile applications, or other digital platforms, and to be between the ages of 18 and 45 years, which represents the dominant demographic of digital entertainment consumers. The required sample size was determined using the N5 rule of thumb, which recommends at least five respondents per indicator in quantitative studies (Hair et al., 2019). With 35 indicators in this study, a minimum of 175 respondents was deemed sufficient.

2.3 Data and Instrumentation

Primary data were collected through an online survey questionnaire distributed to digital entertainment service users. Primary data, as Ajayi (2017) explains, refer to first-hand information obtained directly from respondents via surveys, interviews, or observations. The instrument measured three main variables: sustainable digital marketing (SDM), brand engagement, and customer loyalty, all using a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly

agree”). Sustainable digital marketing was measured using indicators adapted from Kumar et al. (2013), including information transparency, sustainability-oriented marketing communications, environmentally friendly technology use, and ethical data management. Brand engagement was assessed based on Hollebeek et al. (2019), capturing cognitive, emotional, and behavioral dimensions of consumer engagement with digital brands. Customer loyalty was measured using indicators adapted from Zeithaml et al. (1996), including continued usage intention, word-of-mouth recommendation, and satisfaction with digital entertainment services. All items had been validated in earlier studies, supporting their reliability and appropriateness for the present research context.

2.4 Data Collection Procedure

The survey was designed using Google Forms and included 35 measurement items in addition to screening questions to ensure that respondents met the sampling criteria. Recruitment was conducted through purposive dissemination via social media platforms such as Facebook, Instagram, and WhatsApp. Responses were automatically recorded within the system and exported to Microsoft Excel (CSV format) before being processed using SPSS and SmartPLS. SPSS was used for descriptive and demographic analyses, while SmartPLS was employed for hypothesis testing and structural model evaluation.

2.5 Data Analysis

Data analysis began with descriptive statistics in SPSS to verify the accuracy of responses and summarize the demographic characteristics of participants, including

their age, occupation, city of residence, and preferred social media platforms. The next stage employed structural equation modeling (SEM) using SmartPLS. SEM is a comprehensive multivariate technique that simultaneously estimates relationships between multiple latent constructs and observed indicators (Fornell & Bookstein, 1982). The analysis followed a multi-step process. Convergent validity was assessed using factor loadings, with values above 0.70 considered acceptable (Hair et al., 2014). Discriminant validity was evaluated using both the Fornell–Larcker criterion and cross-loading analysis. Discriminant validity is achieved when the square root of the Average Variance Extracted (AVE) of a construct exceeds its correlations with other constructs, and when items load higher on their associated constructs than on others. Reliability testing was conducted using Cronbach’s alpha (CA), composite reliability (CR), and AVE. Constructs are considered

reliable when CA and CR exceed 0.70, and AVE exceeds 0.50 (Hair et al., 2014). Once validity and reliability criteria were satisfied, the structural model was evaluated. Path coefficients were tested using the Bootstrapping procedure in SmartPLS, and statistically significant coefficients confirmed the hypothesized relationships among constructs.

RESULT AND DISCUSSIONS

3.1 Respondent Demographic

Based on the demographic characteristics of the respondents, the majority were female (59.1%) and predominantly belonged to the 20–25 age group (83.2%). Most participants were domiciled in Manado (60.5%) and identified as students (49.1%). These findings indicate that the sample is largely composed of young female students residing in Manado, reflecting the dominant user segment of digital entertainment services captured in this study.

Table 1. Demographic of the Respondents in the Main Study

Characteristic	Category	Sample (n)	Percentage (%)
Gender	Female	130	59.1
	Male	90	40.9
Age	≤20	22	10
	20-25	183	83.2
	26-30	15	6.8
Domicile	Bandung	3	1.4
	Bogor	4	1.8
	Depok	1	0.5
	Jakarta	79	35.9
	Manado	133	60.5
Occupation	Student	108	49.1
	Employee	71	32.3
	Unemployed	41	18.6

3.2 Descriptive Statistics

Based on the results of the descriptive analysis presented in Table 2, the measurement scale used ranged from 1 (minimum) to 7 (maximum). Examination of the mean and standard deviation values reveals that all items obtained relatively high mean scores, ranging from 5.87 to 5.97. These values are close to the maximum scale point, suggesting that respondents' perceptions of all statement items were generally positive. Item CL1 recorded the highest mean value of 5.97 with a

standard deviation of 1.590, followed closely by BE1 with a mean of 5.96 and a standard deviation of 1.501. In contrast, items GO1, CEE1, and SEC1 had the lowest mean scores, each at 5.87, but these values still reflect a high level of agreement. The standard deviation values, which ranged from 1.501 to 1.634, indicate moderate variability in the responses. However, the variation is not substantial, allowing the conclusion that respondents' perceptions across the measured items were relatively consistent.

Table 2. Summary of the Descriptive Statistic Result

	N	Minimum	Maximum	Mean	Std. Deviation
TD1	220	1	7	5,88	1,634
GO1	220	1	7	5,87	1,506
SEI1	220	1	7	5,9	1,558
CEE1	220	1	7	5,87	1,594
SEC1	220	1	7	5,87	1,597
BE1	220	1	7	5,96	1,501
CL1	220	1	7	5,97	1,59

3.3 Measurement Model

Before proceeding to the hypothesis testing or structural model analysis, it is essential to first evaluate the outer model, also referred to as the measurement model. This step ensures that the research model is both conceptually and statistically sound and that the measurement instruments adequately capture the intended constructs. Validation testing in the measurement model stage is conducted to examine the accuracy and reliability of the indicators in representing their respective variables, thereby confirming the appropriateness of the model for subsequent analysis (Sarstedt et al., 2021).

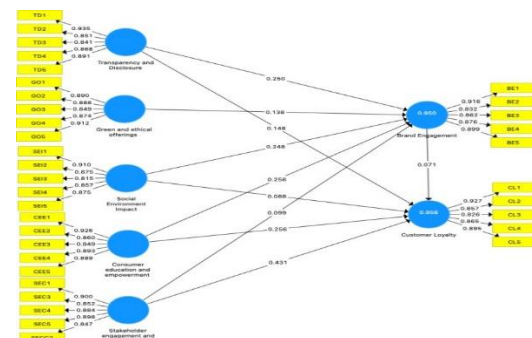


Figure 2. Measurement Model Testing Results

3.3.1 Convergent Validity

The assessment of the measurement model's validity consists of two key components: convergent validity and discriminant validity. Convergent validity is evaluated through factor loading analysis, with satisfactory results achieved when all indicators demonstrate loading values

exceeding the recommended threshold of 0.70 (Loehlin, 2004). The results of the measurement model evaluation, as presented in Table 3 and Figure 2, indicate that this condition has been met, thereby confirming that the indicators adequately represent their respective constructs.

Table 3. Constructs, Indicator and Factor Loading

Constructs	Indicator	Factor Loading
TD	TD1	0,851
	TD2	0,841
	TD3	0,868
	TD4	0,891
	TD5	0,935
GO	GO1	0,890
	GO2	0,888
	GO3	0,849
	GO4	0,873
	GO5	0,913
SEI	SEI1	0,910
	SEI2	0,875
	SEI3	0,815
	SEI4	0,857
	SEI5	0,875
CEE	CEE1	0,926
	CEE2	0,860
	CEE3	0,849
	CEE4	0,893
	CEE5	0,889
SEC	SEC1	0,900
	SECC2	0,847
	SEC3	0,852
	SEC4	0,884
	SEC5	0,898
BE	BE1	0,916
	BE2	0,832
	BE3	0,862
	BE4	0,876
	BE5	0,899

CL	CL1	0,927
	CL2	0,857
	CL3	0,826
	CL4	0,865
	CL5	0,895

3.3.2 Discriminant Validity

In the study's discriminant validity analysis, the three main indicators were Average Variance Extracted (AVE), cross-loading, and the Fornell-Larcker criterion. The Fornell-Larcker criterion evaluates concept validity by determining if the square root value of the AVE is greater than the correlation coefficient between latent variables (Hair Jr. et al., 2017). When examining the $\sqrt{\text{AVE}}$ value of each diagonal construct, Table 4 demonstrates that the correlation value between each diagonal construct and the other constructs is lower. By the Fornell-Larcker criteria, the measurement model thus has strong discriminant validity.

Table 4. Fornell-Lacker Criterion

	Brand Engagement	Customer CEE	Customer Loyalty	GO	SEC	SEI	TD
Brand Engagement	0,878						
CEE	0,958	0,884					
Customer Loyalty	0,953	0,960	0,875				
GO	0,956	0,961	0,960	0,883			
SEC	0,954	0,955	0,969	0,958	0,876		
SEI	0,960	0,953	0,956	0,951	0,960	0,867	
TD	0,961	0,953	0,957	0,963	0,957	0,963	0,878

Moreover, discriminant validity evaluation requires cross-loading analysis. This approach involves figuring out whether the correlation coefficient between a concept and its corresponding measurement item is higher than the correlation coefficient between that measurement item and other constructs (Ghozali, 2018).

Each variable's construct items have a higher correlation coefficient than the constructs' correlation

coefficient with other construct items, as shown by the results in Table 5. Therefore, the cross-loading analysis indicates that the measurement model has excellent discriminant validity.

Table 5. Result of the Cross Loading

	Brand Engagement	CEE	Customer Loyalty	GO	SEC	SEI	TD
BE1	0,916	0,874	0,871	0,891	0,874	0,875	0,904
BE2	0,832	0,815	0,813	0,802	0,809	0,820	0,807
BE3	0,862	0,798	0,814	0,819	0,810	0,809	0,805
BE4	0,876	0,854	0,836	0,824	0,823	0,838	0,826
BE5	0,899	0,861	0,848	0,854	0,866	0,866	0,870
CEE1	0,883	0,926	0,878	0,892	0,886	0,884	0,879
CEE2	0,830	0,860	0,839	0,837	0,833	0,825	0,826
CEE3	0,774	0,849	0,801	0,788	0,783	0,788	0,780
CEE4	0,883	0,893	0,861	0,865	0,861	0,856	0,850
CEE5	0,860	0,889	0,862	0,859	0,857	0,854	0,875
CL1	0,897	0,891	0,927	0,902	0,913	0,895	0,892
CL2	0,814	0,825	0,857	0,818	0,834	0,829	0,829
CL3	0,809	0,789	0,826	0,805	0,802	0,800	0,793
CL4	0,806	0,840	0,865	0,829	0,830	0,810	0,818
CL5	0,840	0,849	0,895	0,843	0,853	0,841	0,848
GO1	0,828	0,829	0,837	0,890	0,856	0,847	0,866
GO2	0,860	0,872	0,863	0,888	0,845	0,840	0,867
GO3	0,808	0,804	0,812	0,849	0,810	0,811	0,809
GO4	0,860	0,864	0,844	0,873	0,859	0,834	0,827
GO5	0,860	0,868	0,881	0,913	0,857	0,864	0,879
SEC1	0,868	0,864	0,883	0,877	0,900	0,871	0,877
SEC2	0,796	0,803	0,815	0,797	0,847	0,801	0,797
SEC3	0,808	0,806	0,817	0,816	0,852	0,819	0,809
SEC4	0,848	0,837	0,859	0,824	0,884	0,850	0,839
SEC5	0,855	0,872	0,867	0,880	0,898	0,862	0,867
SEI1	0,874	0,879	0,885	0,870	0,884	0,910	0,875
SEI2	0,834	0,833	0,836	0,843	0,850	0,875	0,851
SEI3	0,759	0,761	0,785	0,752	0,775	0,815	0,773
SEI4	0,848	0,829	0,815	0,812	0,817	0,857	0,830
SEI5	0,840	0,823	0,819	0,839	0,831	0,875	0,844
TD2	0,817	0,795	0,803	0,815	0,783	0,820	0,851
TD3	0,812	0,811	0,811	0,798	0,820	0,820	0,841
TD4	0,851	0,850	0,846	0,851	0,838	0,845	0,868
TD5	0,837	0,836	0,837	0,862	0,856	0,849	0,891
TD1	0,898	0,889	0,898	0,898	0,900	0,892	0,935

The third way to assess discriminant validity is to use the Average Variance Extracted (AVE) value. According to Hair Jr et al. (2017), an AVE value greater than 0.5 is considered adequate. All variables have an AVE value greater than 0.5,

according to column 4's AVE, which is in line with Table 6's results. Consequently, according to the AVE criteria, discriminant validity is satisfied.

Reliability

The next step is the reliability test. We use the reliability test measurement approach to ensure that different items measure the same construct in order to obtain consistent results (Ghozali, 2017). Three indicators—Cronbach Alpha (CA), rho_A, Composite Reliability (CR), and AVE—were used in this study's reliability test. Minimum values of 0.5 are recommended for AVE, while 0.7 and 0.5 are recommended for CA, rho_A, and CR, respectively (Fornell & Lacker, 1981). Test results are shown in Table 6. Strong reliability is shown by all variables, with AVE>0.5, CA, rho_A, and CR > 0.7.

Table 6. Result of the Reliability Test

	CA	rho_A	CR	AVE
Brand Engagement	0,925	0,926	0,944	0,770
CEE	0,930	0,931	0,947	0,781
Customer Loyalty	0,923	0,925	0,942	0,765
GO	0,929	0,930	0,946	0,779
SEC	0,924	0,925	0,943	0,768
SEI	0,917	0,919	0,938	0,752
TD	0,925	0,927	0,944	0,771

3.3.3 Goodness of fit

Table 7 displays the results of the goodness of fit model test, which looks at how well the sample's data distribution approximates the true value statistically (Ghozali, 2018). The following are the goodness of fit parameters: It is required that the chi-square be less than 5, the NFI be less than 0.9, the d_ULS be greater than 2.00, the d_G be greater than 0.90, and the SRMR be less than 0.08 (Hair et al.,

2017). The majority of the goodness of fit indices fall inside the recommended range of values, with SRMR measuring 0.069, d_ULS measuring 2.5, d_G measuring 1.62, chi-square measuring 1.61, and NFI measuring 0.75. This indicates that a considerable level of agreement exists between the structural.

Table 7. Result of the Goodness of Fit Model Results

	Saturated Model	Estimated Model
SRMR	0,033	0,033
d_ULS	0,703	0,703
d_G	1,732	1,732
Chi-Square	1778,282	1778,282
NFI	0,834	0,834

3.4 Structural Model

Before evaluating the structural model, the measurement model is examined, and all validity and reliability indicators are validated. The intended objective is to examine each of the study's hypotheses. In particular, the structural model or hypothesis is tested by assessing the significance of the path coefficient using the PLS Bootstrapping function in SmartPLS statistical software. Figure 3 displays the findings of the structural model testing, which are summarized in Table 8.

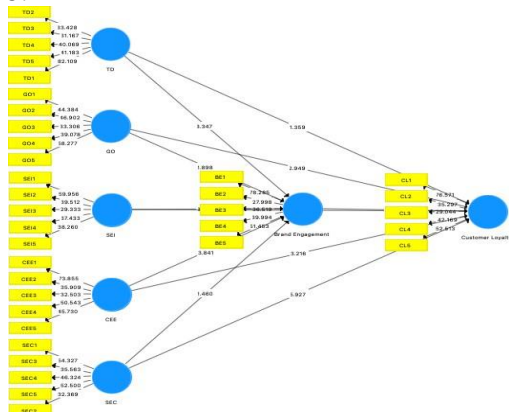


Figure 3. PLS Bootstrapping Structural Model Testing Results

Based on Table 8, the interpretation is focused on the T Statistics and P Values to assess the significance of the relationship between variables. The results show that several relationships between constructs are statistically significant, namely the relationship between Consumer Education and Empowerment on Brand Engagement (T = 3.965; P = 0.000) and on Customer Loyalty (T = 4.250; P = 0.000), which means that consumer education and empowerment have an important role in shaping brand engagement and customer loyalty. In addition, Social Environment Impact also has a significant effect on Brand Engagement (T = 3.361; P = 0.001), as well as Stakeholder Engagement and Collaboration which have a significant effect on Customer Loyalty (T = 6.178; P = 0.000). The Transparency and Disclosure variables show a significant effect on both Brand Engagement (T = 3.510; P = 0.000) and Customer Loyalty (T = 2.372; P = 0.018). On the other hand, there are several relationships that are not statistically significant, including the relationship between Brand Engagement and Customer Loyalty (T = 1.070; P = 0.285), Green and Ethical Offerings and Brand Engagement (T = 1.860; P = 0.063), Social Environment Impact and Customer Loyalty (T = 1.429; P = 0.154), and Stakeholder Engagement and Collaboration and Brand Engagement (T = 1.405; P = 0.161). Thus, not all paths in the model have a significant influence, but this finding indicates that consumer education, stakeholder involvement, and transparency and disclosure play an important role in shaping customer engagement and loyalty in the context of this study.

Table 8. Hypothesis Testing Results

	Sample Mean (M)	Standard Deviation (STDEV)	Statistics (OSTDEV)	P Values
Brand Engagement -> Customer Loyalty	0,063	0,066	1,07	0,285
Consumer education and empowerment -> Brand Engagement	0,258	0,064	3,965	0
Consumer education and empowerment -> Customer Loyalty	0,258	0,06	4,25	0
Green and ethical offerings -> Brand Engagement	0,135	0,074	1,86	0,063
Social Environment Impact -> Brand Engagement	0,248	0,074	3,561	0,001
Social Environment Impact -> Customer Loyalty	0,088	0,062	1,429	0,154
Stakeholder engagement and collaboration -> Brand Engagement	0,098	0,071	1,405	0,161
Stakeholder engagement and collaboration -> Customer Loyalty	0,43	0,07	6,178	0
Transparency and Disclosure -> Brand Engagement	0,251	0,071	3,51	0
Transparency and Disclosure -> Customer Loyalty	0,153	0,062	2,372	0,018

The results of the mediation analysis (indirect) presented in Table 9 show that Brand Engagement does not act as a significant mediator between the five independent variables on Customer Loyalty. This is based on the T Statistics values which are all below 1.96 and the P Values which all exceed the significance threshold of 0.05. In detail, the indirect path from Consumer Education and Empowerment through Brand Engagement to Customer Loyalty has a T value of 1.005 and a P value of 0.315. Likewise, the paths from Green and Ethical Offerings (T = 0.813; P = 0.417), Social Environment Impact (T = 0.953; P = 0.341), Stakeholder Engagement and Collaboration (T = 0.803; P = 0.423), and Transparency and Disclosure (T = 1.023; P = 0.307) all show insignificant results. Thus, it can be concluded that although independent variables may have a direct influence on Brand Engagement or Customer Loyalty, Brand Engagement is not proven to be a significant mediating variable in the relationship in this model.

Table 9. Result of the Mediating (Indirect) Analysis

	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O STDEV)	P Values
Consumer education and empowerment -> Brand Engagement -> Customer Loyalty	0,016	0,018	1,005	0,315
Green and ethical offerings -> Brand Engagement -> Customer Loyalty	0,009	0,012	0,813	0,417
Social Environment Impact -> Brand Engagement -> Customer Loyalty	0,016	0,019	0,953	0,341
Stakeholder engagement and collaboration -> Brand Engagement -> Customer Loyalty	0,006	0,009	0,803	0,423
Transparency and Disclosure -> Brand Engagement -> Customer Loyalty	0,015	0,017	1,023	0,307

CONCLUSIONS

This study emphasizes that Sustainable Digital Marketing (SDM) shows a significant impact on customer loyalty and brand engagement in the digital entertainment industry. This is due to the fact that brands that combine transparency, ethical and eco-friendly offerings, social and environmental responsibility, consumer education, and stakeholder engagement increase consumer trust and relationships (Kumar et al., 2021; Martin et al., 2020; Beck & Ferasso, 2023). Consumer education is expected to increase trust and reputation (Apostolidis & McLeay, 2019; Prieto-Sandoval et al., 2022), but the effects are less pronounced. This suggests that better education strategies are needed. Furthermore, this study, in line with Michelin (2011), reaffirms that brand engagement is responsible for the relationship between SDM and customer loyalty because interactions driven by sustainability foster emotional bonds that drive advocacy and repeat behavior (Rather, 2020; Nyagadza, 2022). The results suggest that SDM can be used for strategic marketing to meet consumers' increasing ethical demands and provide brand advantage through continued engagement and loyalty.

This study contributes to the existing literature by deepening our understanding of how sustainable digital marketing practices influence customer loyalty, especially within the fast-evolving digital entertainment industry. By integrating the mediating role of brand engagement, the research highlights how emotional and interactive connections between consumers and brands play a critical role in translating marketing strategies into long-term loyalty. The findings offer a nuanced view of consumer

behavior in digital spaces, extending theories of sustainable marketing, engagement, and loyalty into a highly relevant and dynamic industry context.

Practically speaking, the study offers useful information to marketers and entertainment platforms looking to develop larger, more devoted clientele. It implies that using digital marketing techniques that are socially and ecologically conscious may improve brand engagement, which in turn increases consumer loyalty. With the use of this information, businesses can create campaigns that encourage customers to engage with and emotionally invest in the brand while simultaneously advancing sustainability. This strategy may be a competitive advantage in a market where consumers are becoming more value-driven and engaged online, in addition to strengthening brand-consumer connections.

This study has limitations even though it provides insightful information about the connection between customer loyalty, brand engagement, and sustainable digital marketing in the digital entertainment sector. The use of self-reported data, which is susceptible to personal interpretation and social desirability bias, is one of the main limitations. Furthermore, the study's primary emphasis on a particular industry and demography may restrict the findings' applicability to other sectors or larger audiences. Additionally, the research's cross-sectional design limits the capacity to make long-term inferences on patterns of customer loyalty and behavior.

Future studies might expand on these results by using longitudinal designs to investigate the long-term effects of sustainable digital marketing initiatives on consumer loyalty. The

results would also be more applicable if the scope was broadened to include comparisons across cultures or different sectors. Further insights into consumer motives and emotional reactions to sustainable practices may also be obtained by incorporating qualitative techniques like focus groups and interviews. Examining cutting-edge technologies like artificial intelligence and virtual reality within the framework of sustainable marketing may potentially provide fresh ways to improve brand interaction in the digital entertainment sector.

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