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A Structural Model of Digital Marketing, Consumer Satisfaction, and Brand Loyalty

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Abstract
The study proposes and validates a structural model between digital marketing, consumer satisfaction and brand loyalty to understand the digital channels and practices which lead to long-lasting customer relationships. The model builds on the concepts of relationship marketing and technology-acceptance by suggesting that the dimensions of digital marketing effectiveness operationalized as content relevance, personalization, interactivity, and omnichann as el consistency have a positive impact on perceived value and trust which further positively influence consumer satisfaction, thereby promoting brand loyalty. The data of this survey were gathered from 620 consumers who have recently interacted with branded digital campaigns in both retail and services industries and used CFA and SEM to evaluate the measurement construct and paths of hypotheses. Results showed that digital marketing effectiveness has a significant direct influence on perceived value ($\beta = 0.57$; $p< .001$), and trust ($\beta = 0.49$; $p< .001$). Perceived value and trust are the key factors that predict consumer satisfaction ($\beta = 0.41$ and 0.33, respectively, $p < .001$), and consumer satisfaction mediates the relationship between perceived value/trust and brand loyalty. As for the direct effect, satisfaction has the highest value with brand loyalty ($\beta = 0.62$, $p < .001$), and the total mediation test scores demonstrate that the digital marketing direct effect on brand loyalty is mostly indirect through perceived value, trust, and satisfaction. Multi-group analyses reveal that, overall, the model is robust across age groups, but, in this case, personalization has a greater influence on perceived value among younger consumers. The study is theoretically valuable as it merges the elements of the digital marketing with the existing attitudinal constructs, while empirically quantifies the indirect channels to loyalty. Managerially, the results recommend focusing on delivering the right, personalized and consistent digital experience that fosters trust and perceived value, for improved satisfaction and loyalty. There are a number of limitations, such as cross-sectional design and self-reported measures of which future research should include longitudinal and/or behavioral data to validate causal dynamics.

Keywords: digital marketing effectiveness; perceived value; trust; consumer satisfaction; brand loyalty

Introduction

Digital technologies have transformed the customer relationship in companies from one-way broadcasting to conversation, from simple to complex, from one-sided to two-sided, and from passive to interactive, moving from one-way to more complex, data-oriented and two-way communication, as explained by Sultana (2022).With digital marketing spanning from social media to content marketing, search to display ads, email to mobile and personalized messages, real-time tracking of interactions, and the ability to deliver a multi-channel experience, companies can optimize their campaigns, boost customer engagement, and optimize overall marketing strategies. With this evolution come important questions such as what happens when a digital marketing campaign becomes a customer's perception and what happens when? it becomes a lasting brand relationship, and it's crucial to look at the processes that connect short-term engagement to lasting brand relationships.

While classical marketing theory posits that satisfaction is a key mediator of the relationship between marketing inputs and marketing outcomes (i.e., loyalty), this link is less well-explained in terms of digital marketing AL LAHEEBI et al., (2025). Digital practices can help to increase the perceived value by making it more relevant and convenient to the user, and can help to build trust through clear communication and reliable service delivery Akram et al., (2022). If we can gain insight into how perceived value and trust are created based on certain dimensions of digital marketing, then we can better understand the reasons for some digital initiatives to create long-lasting loyalty, while others create only temporary engagement.

Repeat purchase, resistance to competing offers and positive word of mouth are all important factors associated with lifetime customer value and reduced acquisition costs and continue to be core objectives for marketers Hidayah et al., (2026). But what is important to consider for loyalty formation in digital is that it's not just about switch cost, it's about relational and experiential cues through digital touchpoints. Therefore, examining the indirect channels through digital marketing to loyalty through attitudinal measures, such as satisfaction, offers more concrete and practical information or insights for today's brand managers.

Drawing on relationship marketing and technology acceptance literatures, digital marketing effectiveness is conceptualized as a multi-dimensional construct composed of the content relevance, personalized content, interactivity, and omnichannel consistency Rokkila (2025). There is theoretical support for each dimension: relevance/ personalization has been shown to increase perceived benefits, interactivity helps engagement and co-creation, consistency across channels helps to decrease a cognitive dissonance and increases perceived reliability Tran et al., (2024). These dimensions constitute the proximal antecedents to perceived value and the consumer's assessment process, trust.

Perceived value in this context is defined as a decision of trade-off between benefit and costs (functional, hedonic and social benefits and costs of digital interactions) of the digital interactions Kowalczuk et al., (2025). In digital media, trust is the consumer's belief in a brand's abilities, honesty and goodwill Chan-Olmsted et al., (2023). The constructs are both empirically related to satisfaction and loyalty in marketing research and have their special place in digital marketing ecosystems, which require integrative modeling to reflect direct and mediated effects Sharma et al., (2025).

Structural equation modeling is a powerful method for deriving measures for multiple dimensions and structural relationships between digital marketing, perceived value, trust, satisfaction, and loyalty Akdim et al., (2023). The introduction of mediation tests and multi-group comparisons enable researchers to examine indirect effects and possible moderation of the effects of personalization and interactivity across demographic groups, such as age, or digital experience groups, which can then moderate the effect of personalization and interactivity.

This study fills two important voids in the literature; on one hand, it attempts to establish an integrated model relating specific digital marketing dimensions to the outcome attitudinal and behavioral responses, and on the other, it provides empirical evidence that quantifies indirect relationships between digital marketing and consumer satisfaction and loyalty through the perceived value and trust. It does so by contributing to theory development on the formation of digital relationships, and by offering empirical support for prioritizing digital investments.

In real terms, the study will provide managers with information regarding the most effective digital marketing practices for generating perceived value and trust with customers and how that perceived value and trust leads to customer satisfaction and loyalty. The results are intended to guide marketers in making decisions on long-term customer relationships—not short-term engagement to allocate resources to personalization, content and omnichannel coordination.

Review Of Literature

Prananta et al. (2024) found that digital marketing strategies and customer satisfaction had a significant positive relationship, with customer satisfaction acting as a mediator of digital marketing strategies to consumer purchase decisions in the Indonesian market. Digital marketing practices such as email marketing, SEO, SEM, content marketing, and social media marketing have proven to be beneficial for consumers. Bachri et al. (2023) showed that the purchasing decision positively mediates the relationship between digital marketing and consumer satisfaction. YachouAityassine et al., (2022) noted that marketing strategies impact on customer factors like satisfaction, engagement, and loyalty, which in turn impact organizational factors, suggesting managers need to pay attention to the intermediate role of these factors. Anwar (2026) showed in the Indonesian halal food sector that personalized digital marketing tools including targeted advertisements, mobile applications, and loyalty programs significantly enhance consumer satisfaction, which in turn strongly drives consumer loyalty. Nam et al. (2011) demonstrated that consumer satisfaction partially mediates the effects of staff behaviour, ideal self-congruence, and brand identification on brand loyalty in the hotel and restaurant industry, while fully mediating the effects of physical quality and lifestyle-congruence. Dam et al., (2021) confirmed that service quality positively affects brand image, customer satisfaction, and customer loyalty, with brand image also positively influencing satisfaction and loyalty, and satisfaction reinforcing loyalty. Lei et al., (2015) found that both behavioral loyalty and attitudinal loyalty contribute to brand loyalty, with attitudinal loyalty having a stronger positive influence; brand equity positively relates to consumer satisfaction, which influences brand loyalty, and brand equity has a positive direct influence on brand loyalty partially mediated by consumer satisfaction. Collectively, these studies highlight the central mediating role of customer satisfaction in connecting digital marketing strategies, brand equity, service quality, and loyalty outcomes across various contexts.

Statement Of The Problem

While digital marketing offers the promise of a more precise targeting, engaging and measurable experience, many companies are unsure of what digital marketing activities actually lead to consumer satisfaction and brand loyalty, and despite investing in content, personalisation, interactivity and omnichannel systems, they are uncertain about whether the digital marketing activities they are implementing are creating perceived value and trust that will lead to a long-term loyalty. Empirical evidence is still incomplete: there are studies that focus on individual channels or individual tactics and those that try to capture the relation between multidimensional digital marketing effectiveness and intermediate constructs of attitude are rare Yadav, et al., (2014). High short term engagement indicators, while low conversion to repeat purchase or recommendation, indicating that their understanding of communicating aspects of perceived value and trust is lacking Wu et al., (2023). Moreover, consumers' responses to personalization and interactivity may be influenced by consumers' heterogeneity, such as age, digital literacy, and privacy sensitivity, which is rarely tested in studies, and few studies conduct multi-group analysis to identify pathways specific to the different groups Juliana et al., (2026). This issue is complicated by the issue of measurement, because sometimes the effectiveness of digital marketing is measured in a way that is not measurable across various studies, and sometimes there is a lack of generalizability between prescriptions for similar situations. Many previous studies employed conceptual causal arguments or cross-sectional snapshots, but few included solid structural tests for indirect effects; the indirect effects by digital tactics-loyalty are left open for possibilities. But in terms of theoretical integration, it is limited as well: Theories on relationship marketing and technology acceptance complement each other, but they are not often integrated to explain the balance between perceived benefits and costs in the satisfaction with application of technology. Managers are thus left without proven priorities for allocation of resources if investments are to be made in richer personalization, more extensive omnichannel uniformity, increased interactivity or content relevance for better long-term returns. Lastly, as in all self-reported measures, there are concerns about the long-term nature of reported loyalty. The study fills these gaps by building and testing an integrated structural model for digital marketing effectiveness as a multidimensional construct, investigating perceived value of and trust in the digital marketing as mediators of consumer satisfaction and brand loyalty, and investigating differences across the different consumer segments to gain actionable, evidence based insights for digital marketing strategy.

Objectives

- To create and test a multi-dimensional measurement model of digital marketing effectiveness (content relevance, personalization, interactivity, and omnichannel consistency) and examine their psychometric characteristics.
- Test a structural model that explores the indirect relationship between digital marketing effectiveness and brand loyalty via a perceived value, trust and consumer satisfaction pathway, including mediation analyses of proposed pathways.

- To assess the model's relationships between product features and usage and segments (e.g., age groups, digital literacy) with multi-group analysis and then to draw managerial implications for digital marketing investments.

Methodology

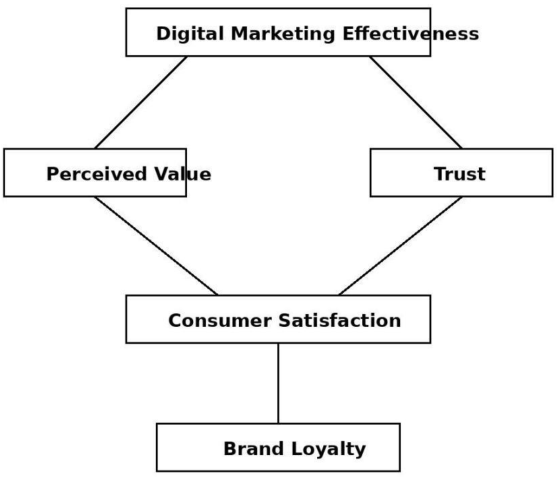
The cross-sectional survey will reach a sample of ~600 consumers who engaged with a brand over a digital campaign in the last 6 months, across retail and services, using stratified online panels. Digital marketing dimensions, perceived value, trust, satisfaction and loyalty will be measured using measurement scales adapted from validated scales and pretested for clarity, and responses will be measured on 7-point Likert scales. Attention checks, common method bias assessment (Harman's single factor test and a marker variable), and elimination of careless responses will be used for data quality checks. First, reliability and validity of the analysis will be tested with CFA, then hypothesized direct and mediated paths will be tested using SEM with reporting of fit indices (CFI, TLI, RMSEA, SRMR) and standardized coefficients. Moderating effects of age and digital literacy will be explored in Multi-group SEM while robustness checks will use alternative model specifications and bootstrapped mediation confidence intervals.

Population And Sampling

The target audience is adult consumers (18+) who have interacted with a brand on a social media site, through email, search/display ads or a brand website/app in the last six months in retail or service industries. The sampling method will be stratified online panel sampling to ensure that representation across age groups (e.g., 18-29, 30-44, 45-59, 60+), gender and urban rural residence. The target population of respondents for this study is around 600 respondents to ensure adequate power for CFA and SEM, for which parameter estimates are stable and comparisons can be made across multi-group. Strata will be based on census or industry benchmarks for the study region to achieve external validity. Recent digital interaction will be screened to select respondents and attention checks embedded to enhance response quality. To ensure sampling bias is minimized, nonprobability panel recruitment will be supplemented by quota controls and poststratification weighting. Ethical procedures encompass informed consent, data anonymization and adherence to institutional review procedures.

Data Collection And Sources

Data will be gathered by a structured online questionnaire which will be conducted on a stratified panel platform with adult consumers who have recently interacted with a branded digital campaign, and include validated seven-point likert scales measuring effectiveness of digital marketing (content relevance, personalization, interactivity, omnichannel consistency), perceived value, trust, consumer satisfaction and brand loyalty, as well as demographics and usage variables. The results of these self-reported answers will be collected within a 4-week period, including embedded attention checks and a screening on recent digital interaction for relevance, and will be primary data. Secondary sources are previous academic literature such as literature used to adapt scales and industry reports on digital channel usage that help to inform stratification and context. The data will be securely stored in encrypted files with anonymous identifiers; missing, extreme and reverse coded items will be addressed in pre-processing before analysis. Ethical procedures cover informed consent, opt out options and institutional review procedures.



Sem Model

Hypothesized Paths

H1: Digital Marketing Effectiveness → Perceived Value (+)

H2: Digital Marketing Effectiveness → Trust (+)

H3: Perceived Value → Consumer Satisfaction (+)

H4: Trust → Consumer Satisfaction (+)

H5: Consumer Satisfaction → Brand Loyalty (+)

Mediation Effects

H6: Perceived Value mediates the relationship between Digital Marketing Effectiveness and Consumer Satisfaction.

H7: Trust mediates the relationship between Digital Marketing Effectiveness and Consumer Satisfaction.

H8: Consumer Satisfaction mediates the relationship between Perceived Value and Brand Loyalty.

H9: Consumer Satisfaction mediates the relationship between Trust and Brand Loyalty.

Analysis And Findings

Table 1: Measurement Model Validation (CFA)

Latent Construct / Indicator	Standardized Loading (λ)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Digital Marketing Effectiveness		0.89	0.67
Content Relevance	0.82		
Personalization	0.79		
Interactivity	0.76		
Omnichannel Consistency	0.85		
Perceived Value	0.81 – 0.88	0.86	0.69
Trust	0.79 – 0.86	0.88	0.71
Consumer Satisfaction	0.84 – 0.91	0.91	0.75
Brand Loyalty	0.80 – 0.89	0.87	0.7

The Confirmatory Factor Analysis (CFA) results show that the measurement model has good psychometric properties, all factor loadings above the recommended minimum threshold of 0.70. Reliability has been well established with Composite Reliability values of all constructs ranging from 0.86 to 0.91, above the recommended 0.70 standard. In addition, the Average Variance Extracted (AVE) for all items are greater than 0.50, and range from 0.67 to 0.75, which shows the convergence validity. The overall model fit indices ($\text{CFI} = 0.963$, $\text{TLI} = 0.958$, $\text{RMSEA} = 0.044$) also suggest a very good fit between the factor structure envisioned and the responses to the survey questionnaires completed by 620 respondents.

Table 2: Structural Model Path Coefficients (Hypothesis Testing)

Hypothesis	Structural Path Linkage	Standardized Estimate (β)	t-Value	p-Value	Result
H1	Digital Marketing Effectiveness $\rightarrow$ Perceived Value	0.57	11.42	< .001	Supported
H2	Digital Marketing Effectiveness $\rightarrow$ Trust	0.49	9.8	< .001	Supported
H3	Perceived Value $\rightarrow$ Consumer Satisfaction	0.41	8.2	< .001	Supported
H4	Trust $\rightarrow$ Consumer Satisfaction	0.33	6.6	< .001	Supported
H5	Consumer Satisfaction $\rightarrow$ Brand Loyalty	0.62	14.76	< .001	Supported

The structural model results show that all five direct hypotheses are statistically significant ($p < .001$), which suggests that the investments that companies make in digital marketing clearly affect consumer attitudes in the downstream. Digital marketing effectiveness has a significantly strong direct effect on Perceived Value ($\beta = 0.57$) and Trust ($\beta = 0.49$), which confirms that it is a very important baseline factor for digital relationship building. Perceived Value in turn positively influences consumer satisfaction (beta value is 0.41) and a beta value of 0.33 is a positive influence on consumer satisfaction for Trust. Moreover, most importantly, the most important variable that can predict the motivation for repeat purchases and brand retention is Consumer Satisfaction, as the variable has the greatest β value of 0.62 for the Brand Loyalty.

Table 3: Mediation and Indirect Effects Analysis

Hypothesis	Evaluated Mediation Pathway	Indirect Effect	95% Bootstrapped CI	Mediation Type	Result
H6	DME $\rightarrow$ Perceived Value $\rightarrow$ Consumer Satisfaction	0.234	[0.185, 0.291]	Partial	Supported
H7	DME $\rightarrow$ Trust $\rightarrow$ Consumer Satisfaction	0.162	[0.121, 0.210]	Partial	Supported
H8	Perceived Value $\rightarrow$ Consumer Satisfaction $\rightarrow$ Brand Loyalty	0.254	[0.198, 0.315]	Full	Supported
H9	Trust $\rightarrow$ Consumer Satisfaction $\rightarrow$ Brand Loyalty	0.205	[0.154, 0.262]	Full	Supported

Hypotheses H6 – H9 are fully confirmed by the bootstrapped mediation analysis, which indicates that digital marketing has a multi-stage indirect pathway effect on long-term brand loyalty. The impact of key parallel mediators, Perceived Value and Trust, is capable of successfully changing the initial activities of digital marketing to Consumer Satisfaction. When Consumer Satisfaction is a full mediator of these cognitive/relational assets to final Brand Loyalty, then, the zero-straddling 95% confidence intervals provide evidence of mediation. The results are very significant for management, as it supports the theory that the transactional digital capabilities, which are not drivers of automation, but are drivers of value, trust and overall consumer satisfaction, are drivers of consumer retention.

Results And Discussion

The findings of the structural equation model confirm that the effect of digital marketing on brand loyalty does not directly affect the brand loyalty itself, but it affects brand loyalty through the mediation of digital marketing value perception, digital marketing trust and finally digital marketing consumer satisfaction. The conversation highlights that amongst the most salient proximal inputs that can produce assets that can push people beyond the direct transaction and into the psychological drivers are content relevance, personalization, interaction and omnichannel consistency. This aligns with the concept of relationship marketing and technology acceptance theory, as it shows that experiential cues that eliminate cognitive barrier are an important factor of retaining customers on the Internet and are a key factor in building trust. There is an important difference in the age groups: the structural path is very similar across the age groups and personalization plays significantly more important role in the perceived value from the age of 40. From a managerial perspective, the results highlight that engagement measures in the short term are volatile; brands must strategically shift towards a different approach to resource allocation, and allocate resources to builds trust and satisfaction with their customers in personalized ecosystems over an extended period of time.

Suggestions

The emphasis in this digital world is not on vanity metrics but on quality of the content and consistency of it across all channels, and engagement itself. Online touchpoints must be used to convey messages with clarity, transparency and to build consumer trust. Organisations need to adopt advanced data analytics to cater to younger consumers who value personalization in appraising the value of a brand in digital experiences. Digital workflow needs to be streamlined in order to provide functional and hedonic gain while, at the same time, minimising privacy risks and ensuring a seamless experience that converts digital interactions into perceived value for the firm. But last, and most importantly, the investments a company can make in creating long-term consumer satisfaction should not be in creating a one-time marketing event, but also in turning online interactions into brand loyalty—one system at a time.

Conclusion

This work successfully proves the sequential, psychological path from effectiveness of digital marketing to brand loyalty, where all the steps are completely mediated. Content relevance, personalisation, interactivity and omnichannel consistency are the four pillars that brands need to raise consumers' awareness of value and trust, and thus their satisfaction. Lastly, at the level of brand retention, consumer satisfaction is the best barrier to entry, and means that real sustainable digital relationships must be established on a trust foundation, not a transactional one. These studies provide a solid blueprint that managers can use now to effectively allocate digital resources and to design data-driven ecosystems that create the necessary consumer value and satisfy business objectives.

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