



The Effect of Artificial Intelligence Marketing on Customer Loyalty: The Mediating Role of Brand Awareness and Brand Image in an SME Functional Snack Product

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Abstract: The rise of artificial intelligence (AI)-driven marketing offers small and medium enterprises (SMEs) an opportunity to manage customer relationships more precisely, yet evidence on how AI marketing shapes customer loyalty in Indonesian food SMEs remains limited and inconsistent. This study examines the effect of AI marketing on customer loyalty, both directly and through the mediation of brand awareness and brand image, using Kalfis Mackerel Fish-Bone Sticks as the case product. An explanatory quantitative design was applied to 200 purposively selected customers who had been exposed to the brand's Instagram promotion. Data were collected through a five-point Likert questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). AI marketing positively and significantly affected brand awareness ($\beta = 0.577$), brand image ($\beta = 0.440$), and customer loyalty ($\beta = 0.409$). Brand awareness ($\beta = 0.186$) and brand image ($\beta = 0.323$) also strengthened loyalty and partially mediated the effect of AI marketing (indirect $\beta = 0.107$ and 0.142 , respectively). The model explained 54.3% of the variance in customer loyalty ($Q^2 = 0.362$). These findings position AI marketing as an antecedent of customer-based brand equity in small businesses and suggest that intelligent marketing investment is more productive when directed at building brand assets rather than pursuing short-term transactions.

Keywords: Artificial Intelligence marketing; brand awareness; brand image; customer loyalty; PLS-SEM; SMEs.

Introduction

Artificial intelligence has shifted from a technological discourse to an operational instrument in contemporary marketing practice. The ability of Artificial Intelligence (AI)-based systems to process large volumes of consumer behavior data, recognize preference patterns, and automatically generate communication responses has made AI a tool that changes how firms design offerings and maintain customer relationships (Davenport et al., 2020; Huang & Rust, 2021). This shift is not merely an efficiency gain but a redefinition of marketing touchpoints: personalization that was once manual and limited can now be delivered continuously at the individual level (Chatterjee et al., 2023).

Indonesia occupies a strategic position in this transformation. A Southeast Asian digital economy report recorded that the value of Indonesia's digital economy exceeded USD 82 billion in 2023, with growth projected to strengthen further, largely driven by e-commerce and data-based marketing (Google, Temasek, & Bain, 2023). At the same time, data from the Indonesian Ministry of Cooperatives and SMEs (Kementerian Koperasi dan UKM, 2023) indicate that approximately 26 million of the 64 million micro, small, and medium enterprises (SMEs) are connected to the digital ecosystem. This large gap shows that most SMEs have yet to make adequate use of customer analytics capabilities, so opportunities to strengthen competitiveness through intelligent marketing technology remain wide open.

The fundamental problem faced by SMEs is not merely limited promotional budgets but the difficulty of converting transactional interactions into long-term relationships. The OECD (2021) identifies low digital literacy and weak customer data processing capacity as the main obstacles to the digital transformation of small businesses. Consequently, marketing activities tend to be oriented toward acquiring new customers, while retention is neglected even though retention is economically more efficient. Dwivedi et al. (2021) emphasize that AI technology has the potential to close this gap because it enables a deeper understanding of consumer behavior without requiring a large organizational structure.

This phenomenon finds its concrete context at PT Kalfis Chips Indonesia, the producer of Kalfis Mackerel Fish-Bone Sticks, a functional snack made from fish bones that is entering the market in a relatively new product category. A preliminary survey of 30 customers indicated a still-shallow relationship: 53% of respondents had made only one purchase, 27% had made two, and only 20% had purchased more than twice. Meanwhile, only 40% of respondents were willing to recommend the product to others. This pattern indicates that most consumers remain at the trial-purchase stage and that brand advocacy has not yet formed. Initial observations on e-

commerce and social media channels reinforce this picture, as customer interactions are still dominated by first purchases and the level of digital engagement is relatively low compared with similar snack brands.

Diagnosis of this condition points to two customer-based brand equity constructs, namely brand awareness and brand image. A product that is not widely recognized struggles to enter consumers' consideration sets, whereas a product without positive associations struggles to earn trust (Keller & Swaminathan, 2019). Both serve as cognitive and affective bridges linking marketing activities to customers' behavioral commitment. Because AI marketing works by increasing the relevance and frequency of message exposure, it is reasonable to presume that its influence on loyalty does not operate entirely directly but is channeled through the strengthening of these two brand constructs.

The available empirical evidence has not yielded uniform conclusions. Haque et al. (2018) found a significant effect of brand awareness on customer loyalty, whereas Tandarto and Dharmayanti (2017) and Mathew et al. (2014) reported the opposite. Marakanon and Panjakajornsak (2017) even recommended further testing of the awareness construct because its position in the loyalty model remains unsettled. Similar inconsistencies appear in the AI marketing literature: some studies focus on short-term outcomes such as purchase intention and purchase decisions (Agustin et al., 2025; Badri & Huda, 2024; Louis et al., 2024), while studies that position loyalty as the dependent variable with a dual-mediation mechanism remain rare, particularly in the context of Indonesian food SMEs.

This gap defines the space for the contribution of this study. First, this study integrates AI marketing into the customer-based brand equity framework by positioning it as an antecedent of brand awareness and brand image rather than as a sole predictor of loyalty. Second, it tests two mediation paths simultaneously, making it possible to determine which mechanism is more dominant in transmitting the influence of marketing technology to loyalty. Third, the chosen context is food SMEs with a new product category and limited resources, which differ in character from the large corporations that dominate the AI marketing literature.

Based on the foregoing, this study aims to analyze the effect of AI marketing on brand awareness, brand image, and customer loyalty; to test the effect of brand awareness and brand image on customer loyalty; and to examine the mediating role of these two brand constructs in the relationship between AI marketing and customer loyalty for Kalfis Mackerel Fish-Bone Sticks.

Literature Review

Artificial Intelligence Marketing

Artificial Intelligence marketing refers to the use of intelligent systems to collect, process, and act on customer data so that marketing decisions can be executed adaptively and automatically. Davenport et al. (2020) map the role of AI in marketing across three capability dimensions: task automation, predictive analytics, and context-based interaction. Huang and Rust (2021) complement this mapping with a mechanical, thinking, and feeling framework, which positions AI not only as an efficiency tool but also as an intermediary of customer experience. In practice, this technology materializes in personalized promotional content, product recommendation systems, automated message responses, and real-time ad placement adjustment (Paschen et al., 2020).

Its effectiveness is not automatic. Jöhnk et al. (2021) show that organizational readiness, encompassing strategic alignment, data governance, and personnel competence, determines the success of AI adoption. Chintalapati and Pandey (2022) add that limited digital competence often constitutes a major barrier to optimizing the benefits of AI. From the consumer perspective, Kietzmann et al. (2018) caution that the acceptance of personalization depends on perceived data security, so that non-transparent privacy management can reduce the effectiveness of a strategy. Empirical findings in the Indonesian context relatively support the potential of this technology: Belinda and Nofitasari (2025) report a substantial increase in conversion rates and a decrease in customer acquisition costs, while Pangkey et al. (2022) and Syaharuddin et al. (2023) found a significant contribution of AI-based analytics to digital marketing performance. Theoretically, user acceptance of this technology can be explained through the Technology Acceptance Model, which positions perceived usefulness and ease of use as determinants of willingness to adopt new technology (Davis, 1989; Verhoef et al., 2021).

Brand Awareness and Brand Image as Dimensions of Brand Equity

Brand awareness describes the strength of a brand's trace in consumers' memory, manifested in the ability to recognize and recall the brand when the product category is cued (Aaker, 1991; Keller, 2013). Its levels are hierarchical, ranging from unawareness, recognition, and recall to top-of-mind position in consumers' minds. For a new brand, awareness is a prerequisite for entering the consideration set; without it, product quality has no opportunity to be evaluated. Bilgin (2018) shows that social media marketing activities increase brand visibility and thereby strengthen awareness.

Brand image is a set of associations stored in consumers' memory about a brand, encompassing perceived quality, uniqueness, reputation, and trust (Keller & Swaminathan, 2019;

Kotler & Keller, 2016). Unlike awareness, which is cognitive-quantitative, image is evaluative and affective. Hsieh and Li (2018) and Wu and Wang (2014) affirm that a strong brand image enhances trust and perceived quality, which in turn lowers the risk perceived by consumers in decision-making.

Customer Loyalty

Customer loyalty is understood as a commitment to maintain a relationship with a brand, manifested in repeat purchases and resistance to competitors' offers (Oliver, 1999). The concept is multidimensional, encompassing a behavioral dimension in the form of repeat purchases and an attitudinal dimension in the form of preference and willingness to recommend (Griffin, 2015). Lemon and Verhoef (2016) position loyalty as the accumulation of customer experiences throughout the customer's journey with the brand, so that the quality of every touchpoint, including digital ones, contributes to its formation. Maulidiyah and Handoko (2024) add that, in the digital era, loyalty cannot be measured by purchase frequency alone but also by customers' willingness to become active brand advocates.

Hypothesis Development

AI marketing works by improving targeting accuracy and message relevance. When promotional content is tailored to individual preferences, the intensity of information processing increases and the brand's memory trace becomes stronger. This mechanism directly affects the formation of brand awareness. Ramadhana and Hussein (2022) and Syavira and Sutrisna (2025) show that well-targeted digital marketing strategies improve brand recognition among consumers. The first hypothesis is therefore formulated.

H1: Artificial Intelligence marketing has a positive and significant effect on brand awareness.

In addition to strengthening recognition, AI-based personalization also shapes consumers' qualitative assessment of a brand. Communication that is relevant, responsive, and consistent is perceived as a sign of professionalism and of the company's attention to customer needs, so that positive brand associations are strengthened (Ameen et al., 2021; Ramadhana & Hussein, 2022). Amanta and Ahmadi (2024) also found that the effectiveness of marketing communication is a primary shaper of brand image strength.

H2: Artificial Intelligence marketing has a positive and significant effect on brand image.

AI marketing is also expected to have a direct effect on loyalty. Systems capable of anticipating customer needs and responding quickly create satisfying interaction experiences, and repeated satisfaction is the foundation of relational commitment (Gao et al., 2026; Haleem et al., 2022). In the SME context, the ability to maintain communication continuity without adding to the human resource burden makes this technology relevant to retention efforts.

H3: Artificial Intelligence marketing has a positive and significant effect on customer loyalty.

Consumers who recognize a brand well require less cognitive effort when making decisions, and this familiarity serves as a credibility cue that lowers perceived risk. Haque et al. (2018) and Alvisina et al. (2025) demonstrated the contribution of brand awareness to loyalty, although Tandarto and Dharmayanti (2017) reported a nonsignificant result. This inconsistency makes retesting scientifically relevant.

H4: Brand awareness has a positive and significant effect on customer loyalty.

A positive brand image strengthens consumers' confidence in product quality while providing symbolic value from owning and using the product. Ernawati and Prihandono (2017) and Amanta and Ahmadi (2024) found a significant effect of brand image on loyalty, especially through the path of consumer trust.

H5: Brand image has a positive and significant effect on customer loyalty.

The theoretical arguments above imply that the effect of AI marketing on loyalty is not entirely direct. Marketing technology generates exposure and relevance, both of which build brand assets, and it is these brand assets that sustain long-term commitment. Brand awareness and brand image are therefore positioned as intervening variables that transmit the effect of AI marketing on customer loyalty.

H6: Brand awareness mediates the effect of Artificial Intelligence marketing on customer loyalty.

H7: Brand image mediates the effect of Artificial Intelligence marketing on customer loyalty.

The overall relationships among the constructs tested in this study are presented in Figure

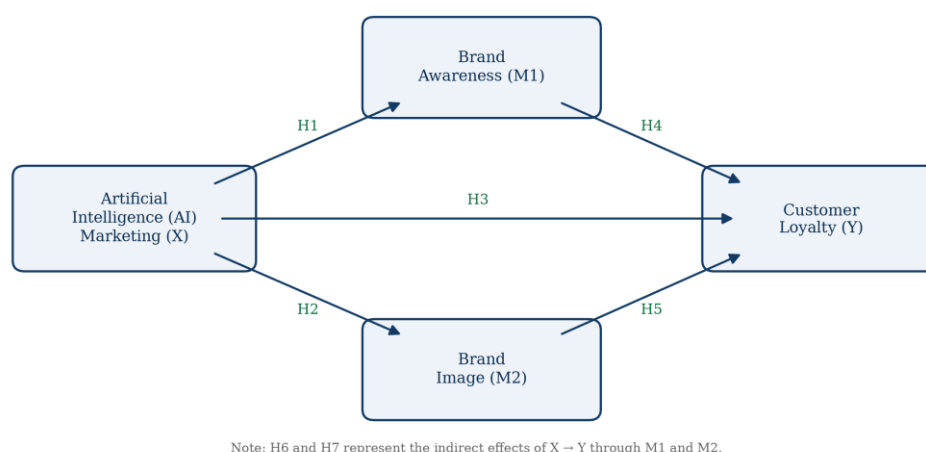


Figure 1. Research Conceptual Framework

Source: authors' elaboration (2026)

Research Methods

Research Design and Sample

This study employed a quantitative approach with an explanatory research design, that is, a design directed at explaining causal relationships among variables through hypothesis testing on numerical data (Sugiyono, 2017). The object of the study is Kalfis Mackerel Fish-Bone Sticks produced by PT Kalfis Chips Indonesia. The population comprises customers who have purchased the product and have also been exposed to the brand's digital promotion through the Kalfis Chips Instagram account. Because the number of population members changes dynamically and cannot be identified precisely, the population was treated as infinite.

Respondents were selected using purposive sampling, that is, selection based on the fit between respondents' characteristics and the research objectives (Sekaran & Bougie, 2016). Three criteria were set: having purchased Kalfis Mackerel Fish-Bone Sticks, having seen the product's promotion on the Kalfis Chips Instagram account, and being at least 17 years old. The sample size was set at 200 respondents following the rule of ten times the number of indicators in the model, with 20 indicators used across the four research constructs (Memon et al., 2020). This size satisfies the data adequacy requirement for variance-based structural model estimation.

Variable Measurement

All constructs were measured reflectively using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). AI marketing was operationalized through five indicators reflecting content personalization, recommendation relevance, system responsiveness, ease of obtaining information, and quality of the digital marketing experience, developed from

Chatterjee et al. (2023), Davenport et al. (2020), Huang and Rust (2021), and Paschen et al. (2020). Brand awareness was measured through brand recognition, brand recall, top-of-mind awareness, recall of distinctive product features, and intensity of brand promotion exposure, following Aaker (1991), Keller (2013), and Bilgin (2018). Brand image was measured through perceived quality, brand uniqueness, brand trust, brand reputation, and positive brand impression, adapted from Keller and Swaminathan (2019), Hsieh and Li (2018), and Wu and Wang (2014). Customer loyalty was measured through repurchase intention, brand preference, willingness to recommend, brand commitment, and long-term loyalty, based on Oliver (1999, 2020), Griffin (2015), and Lemon and Verhoef (2016). A summary of the variable operationalization is presented in Table 1.

Table 1. Operationalization of Research Variables and Indicators

Construct	Code	Indicator	Indicator Source
AI Marketing (AI)	AI1	Promotional content personalization	Chatterjee et al. (2023)
	AI2	Product recommendation relevance	Davenport et al. (2020)
	AI3	AI system responsiveness	Huang and Rust (2021)
	AI4	Ease of obtaining product information	Paschen et al. (2020)
	AI5	Digital marketing experience quality	Chatterjee et al. (2023)
Brand awareness (BA)	BA1	Brand recognition	Keller (2013)
	BA2	Brand recall	Aaker (1991)
	BA3	Top of mind awareness	Aaker (1991)
	BA4	Recall of distinctive product features	Keller (2013)
	BA5	Intensity of brand promotion exposure	Bilgin (2018)
Brand image (BI)	BI1	Perceived product quality	Keller and Swaminathan (2019)
	BI2	Brand uniqueness	Wu and Wang (2014)
	BI3	Brand trust	Hsieh and Li (2018)
	BI4	Brand reputation	Keller and Swaminathan (2019)
	BI5	Positive brand impression	Bilgin (2018)
Customer Loyalty (CL)	CL1	Repurchase intention	Oliver (2020)
	CL2	Brand preference	Griffin (2015)
	CL3	Willingness to recommend	Griffin (2015)
	CL4	Brand commitment	Lemon and Verhoef (2016)
	CL5	Long-term loyalty	Oliver (2020)

Source: developed by the authors from the literature review (2026)

Data Analysis Technique

Data were analyzed using Partial Least Squares-based Structural Equation Modeling (PLS-SEM) with SmartPLS software. This method was chosen because it can test a model with several structural relationships simultaneously, including indirect effects, without requiring strict normality assumptions (Hair et al., 2022). The analysis was conducted in two stages. The

measurement model evaluation assessed convergent validity through loading factors, discriminant validity through cross-loadings, and construct reliability through composite reliability with a threshold of 0.70. The structural model evaluation assessed the coefficient of determination (R^2), predictive relevance (Q^2), and the significance of path coefficients.

Prior to the main analysis, the instrument was tested using Pearson product-moment correlation, with the criterion that the calculated r exceed the tabulated r , and internal consistency was tested using Cronbach's alpha. Hypothesis testing was conducted using the bootstrapping procedure, and a hypothesis was considered supported if the t -statistic exceeded the critical value of 1.972 at 198 degrees of freedom and the p -value was less than 0.05 (Ghozali, 2021). Mediation was tested by assessing the significance of the indirect effect coefficients, as recommended in contemporary PLS-SEM practice.

Results

Respondent Characteristics

A total of 200 questionnaires were collected, and all met the criteria for analysis. The gender composition was relatively balanced, with a slightly larger proportion of women, which is consistent with the role of women as decision-makers for household snack consumption. The age distribution was concentrated in the 17–35 age group at 75%, which is the segment most responsive to digital marketing communication. In terms of purchase frequency, 68% of respondents had purchased more than once, indicating that repurchase behavior had formed in most of the sample. Details of respondent characteristics are presented in Table 2.

Table 2. Respondent Characteristics (n = 200)

Characteristic	Category	Frequency	Percentage
Gender	Male	99	49.5%
	Female	101	50.5%
Age	17–25 years	78	39.0%
	26–35 years	72	36.0%
	36–45 years	40	20.0%
	Above 45 years	10	5.0%
Occupation	Student	39	19.5%
	Employee	57	28.5%
	Entrepreneur	48	24.0%
	Others	56	28.0%
Purchase frequency	1 time	64	32.0%
	2–3 times	69	34.5%
	4–5 times	53	26.5%
	More than 5 times	14	7.0%

Source: processed primary data (2026)

Descriptive analysis of respondents' answers shows mean scores of 4.004 for AI marketing and 3.852 for brand image, both in the high category, while customer loyalty obtained a mean score of 4.392, which falls in the very high category. This pattern shows that respondents evaluate the AI-based marketing practices carried out by the company positively and also have a strong commitment to the brand.

Measurement Model Evaluation

The initial instrument test showed that all 20 items had calculated r values between 0.526 and 0.756, all exceeding the tabulated r of 0.138 at the 5% significance level, and were therefore declared valid. The overall Cronbach's alpha of 0.923 indicates very good internal consistency.

The convergent validity evaluation showed that all indicators had loading factors ranging from 0.758 to 0.870, well above the required minimum threshold. The composite reliability of the four constructs ranged from 0.892 to 0.917, so all constructs were deemed reliable. The complete results are presented in Table 3.

Table 3. Results of Convergent Validity and Construct Reliability Evaluation

Construct	Indicator	Loading Factor	Composite Reliability
AI Marketing	AI1	0.828	0.892
	AI2	0.771	
	AI3	0.788	
	AI4	0.758	
	AI5	0.799	
Brand awareness	BA1	0.841	0.917
	BA2	0.870	
	BA3	0.837	
	BA4	0.768	
	BA5	0.833	
Brand image	BI1	0.796	0.893
	BI2	0.811	
	BI3	0.767	
	BI4	0.803	
	BI5	0.776	
Customer Loyalty	CL1	0.786	0.914
	CL2	0.849	
	CL3	0.817	
	CL4	0.843	
	CL5	0.825	

Source: SmartPLS output (2026)

Discriminant validity was tested by comparing cross-loadings. Each indicator has its highest loading on the construct it measures relative to the other constructs in the model. For illustration, indicator BA2 has a loading of 0.870 on brand awareness and only 0.524 on AI marketing, 0.271 on brand image, and 0.470 on customer loyalty. This consistent pattern across all indicators confirms that the four constructs are empirically distinct, so the measurement model meets the requirements for proceeding to the structural evaluation stage.

Structural Model Evaluation

The coefficients of determination show that AI marketing explains 33.2% of the variance in brand awareness and 19.4% of the variance in brand image. Together, AI marketing, brand awareness, and brand image explain 54.3% of the variance in customer loyalty, which is categorized as moderate according to the criteria of Hair et al. (2022). The Q^2 value for customer loyalty of 0.362 indicates strong predictive relevance, whereas brand awareness and brand image obtained values of 0.223 (moderate) and 0.117 (weak), respectively. A summary of the model's explanatory and predictive capability is presented in Table 4.

Table 4. Coefficient of Determination and Predictive Relevance

Endogenous Variable	R-Square	Adjusted R-Square	Q-Square	Predictive Category
Brand awareness	0.332	0.329	0.223	Moderate
Brand image	0.194	0.190	0.117	Weak
Customer Loyalty	0.543	0.536	0.362	Strong

Source: SmartPLS output (2026)

The results of testing the direct and indirect effects are presented in Table 5. All hypothesized paths are significant at the 5% level, so all seven research hypotheses are supported by the data.

Table 5. Hypothesis Testing Results (Bootstrapping)

Hypothesis	Path	Coefficient	Std. Dev.	t-statistic	p-value	Decision
H1	AI → BA	0.577	0.049	11.726	0.000	Supported
H2	AI → BI	0.440	0.049	9.059	0.000	Supported
H3	AI → CL	0.409	0.061	6.680	0.000	Supported
H4	BA → CL	0.186	0.053	3.504	0.000	Supported
H5	BI → CL	0.323	0.053	6.115	0.000	Supported
H6	AI → BA → CL	0.107	0.033	3.249	0.001	Supported
H7	AI → BI → CL	0.142	0.027	5.281	0.000	Supported

Source: SmartPLS output (2026). Note: AI = AI Marketing; BA = brand awareness; BI = brand image; CL = customer loyalty; critical $t = 1.972$.

The structure of the relationships and the magnitude of the estimated path coefficients are shown in Figure 2.

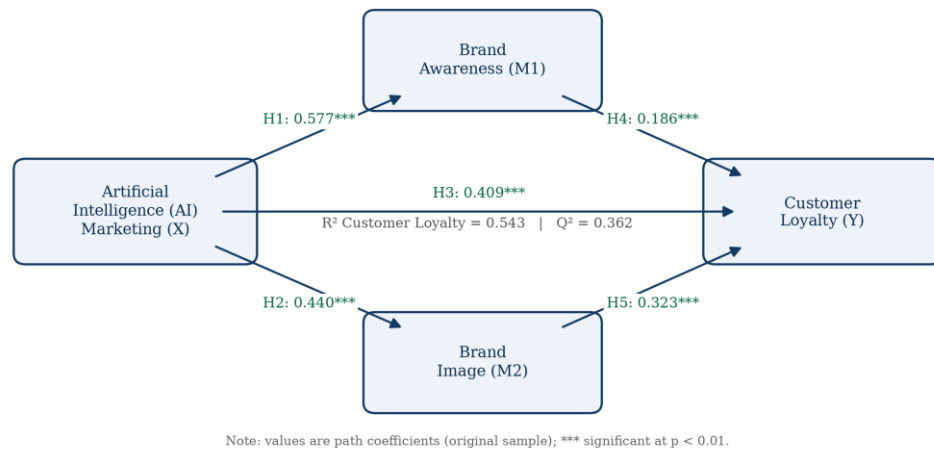


Figure 2. Structural Model Estimation Results

Source: authors' elaboration (2026)

Discussion

The Effect of AI Marketing on Brand Awareness

The path coefficient of AI marketing on brand awareness is the largest in the model (0.577), indicating that strengthening brand recognition is the most responsive outcome of applying artificial intelligence-based marketing. This finding is theoretically logical because personalization and targeting increase both the frequency and the quality of message exposure, and repeated exposure to relevant messages is a classic mechanism for forming brand memory traces (Aaker, 1991; Keller, 2013). For a relatively new brand such as Kalfis, this condition is strategically meaningful because the main problem of a new brand is not consumer rejection but unfamiliarity. The result supports the findings of Ramadhana and Hussein (2022) and Syavira and Sutrisna (2025) on the contribution of well-targeted digital marketing to increasing brand awareness, and it reinforces Bilgin's (2018) argument regarding the role of digital visibility in building brand equity.

The Effect of AI Marketing on Brand Image

The effect of AI marketing on brand image is also significant, although of a smaller magnitude (0.440) and with more limited explanatory power in the model. This difference in magnitude is theoretically informative. Brand awareness can be built primarily through exposure, whereas brand image is an evaluative construct formed from the accumulation of product experience, taste quality, packaging, price, and reputation, which lie beyond the control of communication channels. Marketing technology can thus improve how a brand is presented but cannot replace product substance. This interpretation is in line with Amanta and Ahmadi (2024), who position communication effectiveness as one, but not the only, shaper of brand image,

and with the warning of Kietzmann et al. (2018) that personalization that is not managed ethically may erode consumers' positive perceptions.

The Direct Effect of AI Marketing on Customer Loyalty

AI marketing was found to have a direct effect on customer loyalty with a coefficient of 0.409, which is the largest direct effect on the dependent variable. The mechanism explaining this finding is the improved quality of the interaction experience, namely fast responses, easily obtained information, and interest-matched recommendations, so that customers feel understood and relational attachment grows (Ameen et al., 2021; Huang & Rust, 2021). This result is consistent with Gao et al. (2026), who found that AI-based services increase customer satisfaction and loyalty in digital service contexts. For SMEs, the implication is clear: communication automation is not merely a labor-saving measure but an instrument of customer retention.

The Effect of Brand Awareness and Brand Image on Customer Loyalty

Brand awareness has a positive and significant effect on customer loyalty, so this finding corroborates Haque et al. (2018) and Alvisina et al. (2025) while not supporting Tandarto and Dharmayanti (2017) or Mathew et al. (2014). The divergence can be explained by the product category context. In established, brand-saturated categories, awareness is generic, and therefore its discriminating power with respect to loyalty weakens. By contrast, in a category that is still new, such as fish-bone-based functional snacks, brand recognition serves as a credibility cue that directly reduces consumer doubt. Accordingly, the theoretical contribution of this study is to show that the relevance of brand awareness to loyalty is contingent on the maturity of the product category.

Comparing the coefficients of the two mediators yields a more substantive finding. Brand image, with a coefficient of 0.323, affects loyalty almost twice as strongly as brand awareness, with a coefficient of 0.186. This confirms that being known is not enough to retain customers. Recognition merely brings a brand into the consideration set, whereas the decision to stay is determined by the trust and positive associations embedded in brand image (Ernawati & Prihandono, 2017; Hsieh & Li, 2018). The managerial consequence is that a marketing budget spent on expanding reach without managing quality and reputation will yield suboptimal returns.

The Mediating Role of Brand Awareness and Brand Image

Both mediation paths proved significant, with the indirect effect through brand image (0.142) larger than that through brand awareness (0.107). The total effect of AI marketing on customer loyalty therefore reaches 0.658, of which 62.2% is the direct effect and 37.8% is channeled through the strengthening of brand assets. Because the direct effect remains significant, the pattern formed is complementary partial mediation rather than full mediation.

This finding has two theoretical implications. First, AI marketing deserves to be positioned as an antecedent of customer-based brand equity rather than merely as a trigger of transactional responses, as is widely assumed in the literature focusing on purchase intention and purchase decisions (Agustin et al., 2025; Badri & Huda, 2024). Second, partial mediation shows that intelligent marketing technology works through two complementary paths, namely the direct experience path and the brand asset-building path, so that a model testing only direct effects risks underestimating the total contribution of the technology.

Methodological Note on the Discrepancy Between the Preliminary Survey and the Main Sample

It should be noted that there is a discrepancy between the initial indication of low loyalty in the preliminary survey of 30 customers and the very high loyalty score of 4.392 in the main sample. This discrepancy can be explained by differences in the sampling frame. The preliminary survey did not restrict respondents to customers who had been exposed to the brand's digital promotion, whereas the main sample required such exposure. In other words, the main sample systematically consisted of customers who had interacted with the brand's digital channels, and it is this group that showed higher loyalty. This interpretation is consistent with the direction of the model's findings but also carries a methodological consequence in the form of potential selection bias, which limits the generalizability of the results and should be taken into account when interpreting the findings of this study.

Research Implications

Theoretically, this study extends the customer-based brand equity framework by positioning marketing technology capability as an antecedent, and it provides evidence from the Indonesian food SME context, which has been underrepresented in the AI marketing literature. The study also offers a contextual explanation for the inconsistent findings on the relationship between brand awareness and loyalty through the argument of product category maturity.

Practically, the results suggest three priorities for PT Kalfis Chips Indonesia and similar SMEs. First, because brand image makes the strongest contribution to loyalty, AI-based marketing efforts should be directed at strengthening the narrative of product quality, uniqueness, and credibility rather than merely expanding reach. Second, because the model's

explanatory power for brand image is relatively low, the company needs to combine its digital communication strategy with improvements in product attributes and quality consistency. Third, because the direct effect of AI marketing on loyalty is considerable, investing in digital service responsiveness, such as automated message responses and recommendation systems on e-commerce channels, is a step with relatively quick returns and affordable costs for small-scale businesses.

Conclusion

This study concludes that Artificial Intelligence marketing has a positive and significant effect on brand awareness, brand image, and customer loyalty for Kalfis Mackerel Fish-Bone Sticks. Brand awareness and brand image also have positive and significant effects on customer loyalty and were shown to partially mediate the relationship between AI marketing and customer loyalty. Accordingly, all seven research hypotheses are supported by the data. The research model explains 54.3% of the variance in customer loyalty with strong predictive relevance.

The main contribution of this study lies in positioning AI marketing as an antecedent of customer-based brand equity at the small-business scale, accompanied by evidence that the brand image path is more dominant than the brand awareness path in transmitting the influence of marketing technology to loyalty. The implication is that the use of artificial intelligence in marketing will be more productive when oriented toward building long-term brand assets rather than pursuing short-term transactions.

Limitations

This study has several limitations. The cross-sectional design limits the ability to draw definitive causal conclusions and does not capture changes in loyalty over time. The use of purposive sampling that restricted respondents to active Instagram customers potentially introduces selection bias, so the findings do not yet represent customers on other channels such as e-commerce and conventional outlets. In addition, the measurement of AI marketing relied entirely on respondents' perceptions without objective data on the level of technology implementation, so respondents' assessments may reflect the quality of promotional content in general.

Recommendations for Future Research

Future research is advised to use a longitudinal design to test the stability of the relationships among variables, to extend the sampling frame to all sales channels to reduce

selection bias, and to complement perception-based measurement with objective data such as platform analytics and transaction records. Testing moderating variables such as digital literacy or privacy concerns could also enrich understanding of the boundaries of AI marketing effectiveness in small-business contexts.

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