



(RESEARCH ARTICLE)



Heat maps and data visualization analytics on brand value and customer relationships using hierarchy of effects model

Arian Jane Balasa *, Johanna B. Brillantes, Ermela Joy A. Geca and Pearl Joy G. Mirasol

College of Management, Capiz State University, Roxas City, Capiz Philippines.

World Journal of Advanced Research and Reviews, 2026, 30(03), 001-014

Publication history: Received on 19 April 2026; revised on 29 May 2026; accepted on 01 June 2026

Article DOI: <https://doi.org/10.30574/wjarr.2026.30.3.1520>

Abstract

This study analyzed the influence of the AISDALSLove model Attention, Interest, Search, Desire, Action, Like/Dislike, Share, and Love/Hate on brand value and customer relationships among sports shoe consumers in Roxas City during the academic year 2025–2026. Using a quantitative, non-experimental cross-sectional survey design, the study investigated how these dimensions affect brand awareness, perceived quality, brand associations, brand loyalty, brand trust, customer loyalty, and relationship engagement. A total of 385 respondents were selected through purposive sampling using Cochran's formula for large populations. Data were gathered through a validated researcher-made questionnaire distributed online via survey links and Quick Response codes. Statistical analysis was conducted using the Statistical Package for the Social Sciences (SPSS), supported by heat maps and data visualization techniques. Findings revealed that the AISDALSLove model generally has a strong influence on consumer perceptions and behaviors toward sports shoe brands. Significant relationships were observed in selected dimensions, particularly those involving emotional attachment, sharing behavior, and customer engagement. The study concluded that cognitive and emotional factors play an important role in strengthening brand value, customer loyalty, and long-term customer relationships in the sports shoe industry

Keywords: Aisdalslove; Brand Value; Customer Relationship; Data Visualization; Sports Shoes

1. Introduction

In the modern digital marketplace, organizations increasingly rely on data-driven marketing strategies to understand consumer behavior and maintain competitive advantage. The sports footwear industry has become highly competitive due to the growing global demand for athletic and lifestyle shoes. Increasing consumer interest in fitness, sports participation, and fashion trends has intensified competition among brands, making brand differentiation and customer engagement essential. However, many sports shoe brands continue to face challenges in capturing consumer attention, strengthening brand value, and maintaining long-term customer relationships in an increasingly interactive digital environment. Consumer behavior in the digital era has evolved beyond traditional advertising exposure and purchasing decisions. Consumers now actively search for product information, interact with brands through social media, share experiences online, and develop emotional attachments that influence loyalty and advocacy. According to Kotler and Keller [20], consumers first develop awareness and understanding of a brand before forming emotional responses and engaging in purchase behavior. Similarly, Kannan and Li [13], Lemon and Verhoef [23], and Stephen [39] emphasized that digital marketing environments encourage consumers to participate actively in information search, engagement, sharing behavior, and brand relationship development. These consumer interactions significantly contribute to brand awareness, perceived quality, brand associations, brand loyalty, customer trust, and engagement.

* Corresponding author: Arian Jane Balasa

This study entitled, "Hierarchy Effects Model Influence on Brand Value and Customer Relationships of Sports Shoes through Heat Maps and Data Visualization Analytics," aimed to analyze how the AISDALSLove Model influences the brand value and customer relationships of sports shoe consumers. Specifically, the study examined the stages of attention, interest, search, desire, action, like/dislike, share, and love/hate, and how these stages affect consumers' perceptions and behaviors toward sports shoe brands. The study further explored insights into brand value and customer relationships through the use of heat maps and data visualization analytics.

The study was primarily anchored on Bambang Sukma Wijaya's AISDALSLove Model [42], which explains how advertising influences modern consumer behavior and brand relationships. The model consists of eight stages: attention, interest, search, desire, action, like/dislike, share, and love/hate, reflecting the consumer journey from awareness to emotional attachment or rejection. The study was further supported by concepts on brand equity and customer relationships proposed by Kotler and Keller [20], Kumar and Reinartz [21], and Yoo, Donthu, and Lee [46], which emphasize the importance of consumer perceptions, loyalty, trust, engagement, and brand equity in strengthening brand value and long-term customer relationships.

Despite the growing application of the Hierarchy of Effects Model in marketing research, several gaps remain in the literature. Many existing studies focus mainly on digital engagement metrics without examining how hierarchical consumer response stages simultaneously influence both brand value and customer relationships. In addition, limited studies have integrated heat maps and data visualization analytics in consumer behavior research, despite their increasing use in identifying patterns, relationships, and trends in marketing analytics (Knafllic [18]; Yau [45]; Shaito, Elmasri, and Levine [37]). Furthermore, most related studies focus on large global markets, leaving limited localized evidence within the Philippine context and among sports shoe consumers in Roxas City.

Through this study, the researchers intend to contribute empirical insights into consumer behavior, marketing communication, brand management, and customer relationship development in the sports shoe industry. The findings may provide useful information for marketers, business strategists, researchers, and academics in designing more effective marketing campaigns and strengthening brand value and customer relationships through data-driven marketing analytics and visualization techniques.

2. Literature review

The foundations of this research are anchored on the Hierarchy of Effects Model and Bambang Sukma Wijaya's AISDALSLove Model, which explain how marketing communication influences consumer behavior through cognitive, affective, and behavioral stages. The traditional Hierarchy of Effects Model describes how consumers progress from awareness and interest to desire and action in response to marketing communication. In modern digital environments, this framework has evolved to incorporate more interactive consumer behaviors and emotional responses [42,43]. The AISDALSLove Model specifically emphasizes the stages of attention, interest, search, desire, action, like/dislike, share, and love/hate, reflecting how consumers actively interact with brands in digital and social media environments. Studies further reveal that consumers no longer follow strictly linear purchasing processes but instead engage dynamically with brands through online search, sharing, and emotional evaluation [26]. Emotional attachment and brand love also play important roles in strengthening consumer loyalty and long-term relationships with brands [19].

This study is further supported by concepts related to brand value and customer relationships, which emphasize the importance of trust, perceived quality, engagement, and emotional connection in influencing consumer behavior. Brand value is recognized as a significant factor affecting consumer preference and purchasing decisions, particularly in competitive industries such as sports footwear [31]. Research shows that consumers tend to prefer brands they perceive as reliable, high-quality, and emotionally meaningful [20,31]. Similarly, brand image, perceived value, and trust significantly shape purchase intentions and long-term loyalty [40]. Customer relationship theories further explain that maintaining engagement and emotional connection with consumers strengthens customer loyalty and advocacy [21]. Studies also indicate that relationship quality, brand trust, and customer engagement significantly influence consumer retention and positive word-of-mouth behavior [10,22]. Digital content marketing and social media interactions further enhance customer relationships by fostering trust, engagement, and perceived value [9,36].

The study also draws from literature on digital consumer behavior and marketing analytics, which emphasize the role of digital technologies in transforming consumer decision-making processes. Digital platforms allow consumers to compare products, access reviews, interact with brands, and engage in electronic word-of-mouth communication [5,23]. Social media communication has become an important factor influencing consumer perceptions, brand image, and engagement [36,39]. Research in sports footwear consumer behavior also highlights that brand reputation, comfort, style, emotional stimuli, and digital engagement significantly influence purchasing decisions [12,27,32]. Furthermore,

marketing analytics and visualization techniques such as heat maps, eye-tracking, and data visualization analytics provide valuable insights into consumer attention patterns and behavioral responses [11,18,37]. Studies reveal that these visualization tools help organizations identify trends, improve decision-making, and better understand customer engagement in digital environments [38,41].

The reviewed literature highlights that consumer behavior is a multi-stage process influenced by both cognitive and emotional factors. The Hierarchy of Effects Model and AISDALSLove Model collectively provide the theoretical foundation for understanding how consumers progress from awareness to emotional attachment and loyalty toward sports shoe brands. The literature also demonstrates that brand value and customer relationships are strengthened through trust, engagement, perceived value, and digital interaction. Moreover, marketing analytics and data visualization techniques offer effective tools for identifying patterns in consumer behavior and improving marketing strategies. Despite these contributions, limited studies have integrated hierarchical consumer response models with heat maps and data visualization analytics to simultaneously examine their influence on brand value and customer relationships, particularly within localized contexts such as sports shoe consumers in Roxas City.

3. Methodology

This study employed a non-experimental cross-sectional survey research design using a quantitative approach to analyze the influence of the AISDALSLove Model on brand value and customer relationships of sports shoe consumers. The design allowed the researchers to collect data at a single point in time and examine the relationships among the variables without manipulating any factors. A researcher-made questionnaire was used to gather numerical data, while heat maps and data visualization analytics were utilized to identify patterns and trends in consumer behavior [37,38,41].

The study was conducted in Roxas City during the academic year 2025–2026. The respondents were 385 sports shoe consumers selected through purposive sampling. The sample size was determined using Cochran's Formula to ensure sufficient statistical reliability and accuracy. Participants were selected based on the criteria that they were sports shoe consumers residing in Roxas City, aged 18 to 55 years old, and had experience interacting with sports shoe brands through behaviors related to the AISDALSLove stages such as attention, interest, search, desire, action, like/dislike, share, and love/hate.

Data were gathered through a structured survey questionnaire measuring the AISDALSLove Model, brand value, and customer relationships. The collected data were analyzed using descriptive and inferential statistical tools to determine the relationships and influence among the variables. Heat maps and data visualization analytics were also used to visually present consumer behavior patterns and marketing insights in the sports shoe industry.

Table 1 Profile of the respondents

Category	Frequency	Percentage
Age		
18-22 years' old	322	83.6
23-30 years' old	41	10.6
31-40 years' old	10	2.6
41-55 years' old	12	3.1
TOTAL	385	100.0
Sex		
Male	205	53.2
Female	180	46.8
TOTAL	385	100.0
Frequency of buying		
More than once a month	25	6.5

Once a month	29	7.5
Every 2–5 months	77	20.0
Every 6–11 months	75	19.5
Once a year	127	33.0
Less than once a year	52	13.5
TOTAL	385	100.0
Preferred Brand		
Nike	210	54.5
Adidas	46	11.19
Puma	17	4.4
New Balance	35	9.1
Under Armour	5	1.3
Reebok	5	1.3
Sketchers	4	1.0
Fila	6	1.6
Vans	13	3.4
Converse	11	2.9
Others	33	8.6
TOTAL	385	100.0

3.1. Research Instruments

The study utilized a researcher-made questionnaire to measure the influence of the AISDALSLove Model on brand value and customer relationships among sports shoe consumers. The instrument underwent content validation by the research adviser and advisory committee to ensure the clarity, relevance, and appropriateness of the items. After incorporating the suggested revisions, the questionnaire obtained an overall mean rating of 4.67, interpreted as Excellent, indicating that the instrument was valid and suitable for the study.

To further establish reliability, a pilot test was conducted among 30 sports shoe consumers in Roxas City who were excluded from the final respondents. The collected data were analyzed using SPSS version 20. The 45-item questionnaire obtained a Cronbach's Alpha coefficient of 0.890, indicating a high level of internal consistency and reliability since it exceeded the acceptable threshold of 0.70. These results confirmed that the instrument was both valid and reliable in measuring the AISDALSLove Model, brand value, and customer relationships.

Ethical considerations were strictly observed throughout the validation and pilot testing procedures. Respondents were informed about the purpose of the study, and confidentiality, privacy, and voluntary participation were maintained to ensure the integrity of the research process.

3.2. Data Analysis Procedure

This study employed descriptive and inferential statistical analysis to examine the influence of the AISDALSLove Model on brand value and customer relationships among sports shoe consumers. The collected data were encoded, organized, cleaned, and analyzed using the Statistical Package for the Social Sciences (SPSS). Data screening was conducted to identify missing values, encoding errors, and inconsistencies to ensure the accuracy and reliability of the dataset.

Descriptive statistical tools such as mean and standard deviation were used to determine the level of influence of the AISDALSLove dimensions, brand value, and customer relationship variables. The mean scores were interpreted using a Likert scale to describe respondents' perceptions and engagement toward sports shoe brands. Inferential analysis was also applied to determine the relationships and influence among the variables.

To enhance data interpretation, the study utilized heat maps and data visualization analytics such as bar graphs, scatter plots, and gauge charts [37,38,41]. These visualization tools helped present patterns, trends, and the strength of relationships among variables. Jamovi software was specifically used to generate heat maps and standardized coefficient beta (β) values, which illustrated the direction and magnitude of the relationships among the AISDALSLove stages, brand value, and customer relationship variables.

Through these statistical and visualization techniques, the study provided a clearer understanding of how the AISDALSLove Model influences consumer perceptions, engagement, and relationships with sports shoe brands.

4. Results and discussion

Level of influence of the AISDALSLove (attention, interest, search, desire, action, like/dislike, share, and love/hate) The findings revealed that all AISDALSLove dimensions obtained high levels of influence, indicating that consumers experience interconnected cognitive, emotional, and behavioral engagement throughout their customer journey. The results support Wijaya [42], who explained that the AISDALSLove Model reflects the evolving and interactive nature of consumer behavior in digital environments. Similarly, Kannan and Li [13] emphasized that digital marketing strategies significantly influence consumer awareness, engagement, and purchasing behavior.

The bar graph analysis showed that all dimensions were interpreted as High Influence, with Interest obtaining the highest mean score, followed by Like/Dislike and Search. This suggests that consumers are strongly influenced by engaging content, emotional evaluation, and information-seeking behavior when interacting with sports shoe brands. These findings support Karulkar et al. [14], who emphasized that visual attention patterns influence customer engagement and decision-making, and Cortinas et al., who highlighted the importance of digital marketing engagement throughout the customer journey.

The heat map analysis further revealed strong positive relationships among several AISDALSLove dimensions, particularly between Interest and Desire, Interest and Action, and Search and Desire. This indicates that consumers who become interested in sports shoe brands are more likely to develop purchasing intentions and behavioral engagement. The findings support Lemon and Verhoef [23], who explained that customer experiences develop through multiple touchpoints, and Erkan and Evans [5], who emphasized the importance of information-seeking behavior and online interaction in shaping purchase intentions.

The scatter plot analysis showed a negative relationship between mean scores and standard deviation values, indicating that dimensions with higher influence levels also received more consistent responses from respondents. Interest and Like/Dislike displayed high mean scores with lower standard deviations, suggesting strong agreement among consumers regarding the importance of emotional engagement and brand interest. However, dimensions such as Share and Action showed relatively higher variability, indicating differences in respondents' online interaction and sharing behavior. This finding supports Stephen [39], who explained that digital and social media environments influence consumers differently based on their interaction patterns and engagement levels.

Overall, the integration of the three visualizations confirmed that the AISDALSLove Model effectively explains modern consumer behavior toward sports shoe brands. The findings demonstrated that consumers progress through interconnected stages of awareness, emotional attachment, information seeking, purchasing behavior, and social engagement. The results also highlighted the significant role of digital marketing, social media interaction, and emotional connection in strengthening brand value and customer relationships. Furthermore, the use of heat maps, scatter plots, and bar graphs enhanced the interpretation of consumer behavior patterns and marketing insights [11,18,45].

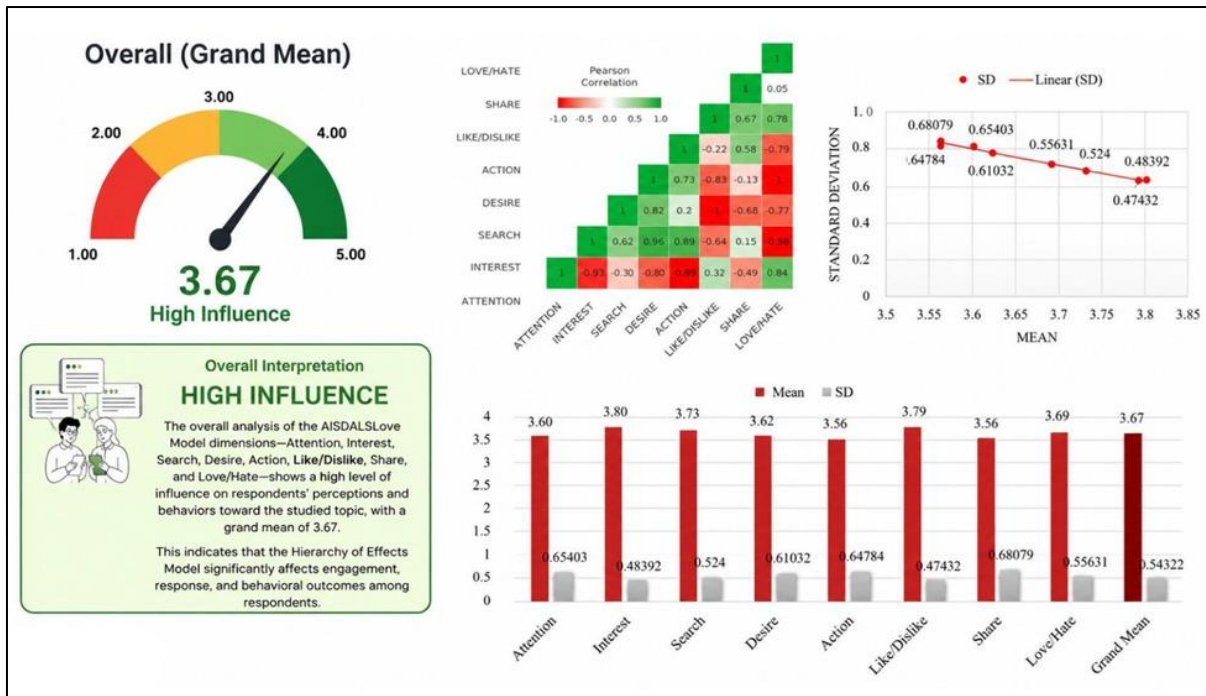


Figure 1 Level of influence of the AISDALSLove (attention, interest, search, desire, action, like/dislike, share, and love/hate)

Level of brand value of sports shoes as to brand awareness, perceived quality, brand associations, and brand loyalty. The combined results of the gauge chart, heat map, scatter plot, and bar graph illustrated the overall level of influence of Brand Value dimensions namely Brand Awareness, Perceived Quality, Brand Association, and Brand Loyalty toward consumer behavior on sports shoe brands. Collectively, the visualizations revealed that all dimensions obtained mean scores interpreted as High Influence, with an overall grand mean of 3.77. This indicates that respondents highly consider brand value in shaping their purchasing decisions, perceptions, and behavioral engagement toward sports shoe brands. The findings support Keller [16], who emphasized that strong customer-based brand equity significantly influences consumer perceptions, emotional attachment, and purchasing behavior. Similarly, Pinho and Andreoli [31] explained that brand value strongly affects purchasing decisions among sports shoe consumers through quality perception, loyalty, and brand image.

The bar graph analysis revealed that Perceived Quality and Brand Association obtained the highest mean scores, followed by Brand Awareness and Brand Loyalty. This suggests that consumers highly value product quality, durability, comfort, performance, and positive brand image when evaluating sports shoe brands. The findings support Redda and Shezi [32], who emphasized that sports footwear branding significantly shapes consumer attitudes and purchasing intentions, and Keller [16], who explained that strong brand associations strengthen customer-based brand equity and emotional consumer responses.

Although Brand Loyalty obtained the lowest mean score among the dimensions, it still remained within the High Influence category. This indicates that respondents generally maintain positive attitudes and repeat purchase intentions toward sports shoe brands despite differences in customer commitment levels. The findings align with Klotmooksing and Sanmuang [17], who explained that positive brand attitudes and experiences contribute significantly to customer loyalty among sports shoe consumers. Similarly, Soeryohadi et al. [38] emphasized that strong brand relationships and positive brand reputation strengthen long-term consumer loyalty and engagement.

The heat map analysis further revealed strong positive relationships among the Brand Value dimensions, particularly between Perceived Quality and Brand Association, Brand Association and Brand Loyalty, and Brand Awareness and Perceived Quality. These findings indicate that consumers who perceive sports shoe brands as high quality are more likely to develop favorable brand associations and stronger loyalty behaviors. The results support Lemon and Verhoef [23], who explained that customer experiences develop through interconnected touchpoints across the customer journey. Likewise, Kunkel and Biscaia [22] emphasized that sports brands create stronger customer relationships through meaningful engagement and emotional connection.

The scatter plot analysis showed a negative relationship between mean scores and standard deviation values, indicating that dimensions with higher influence levels generally obtained more consistent responses from respondents. Perceived Quality and Brand Association displayed high mean scores with lower variability, suggesting strong agreement among consumers regarding the importance of product quality and brand image. However, Brand Loyalty showed relatively higher variability, indicating differences in respondents' loyalty behaviors, emotional attachment, and purchasing experiences toward sports shoe brands. This finding supports Stephen [39], who explained that consumer behavior in digital environments varies depending on individual engagement patterns and experiences. Similarly, Hollebeek, Srivastava, and Chen [10] emphasized that customer engagement involves cognitive, emotional, and behavioral dimensions that influence consumer perceptions differently.

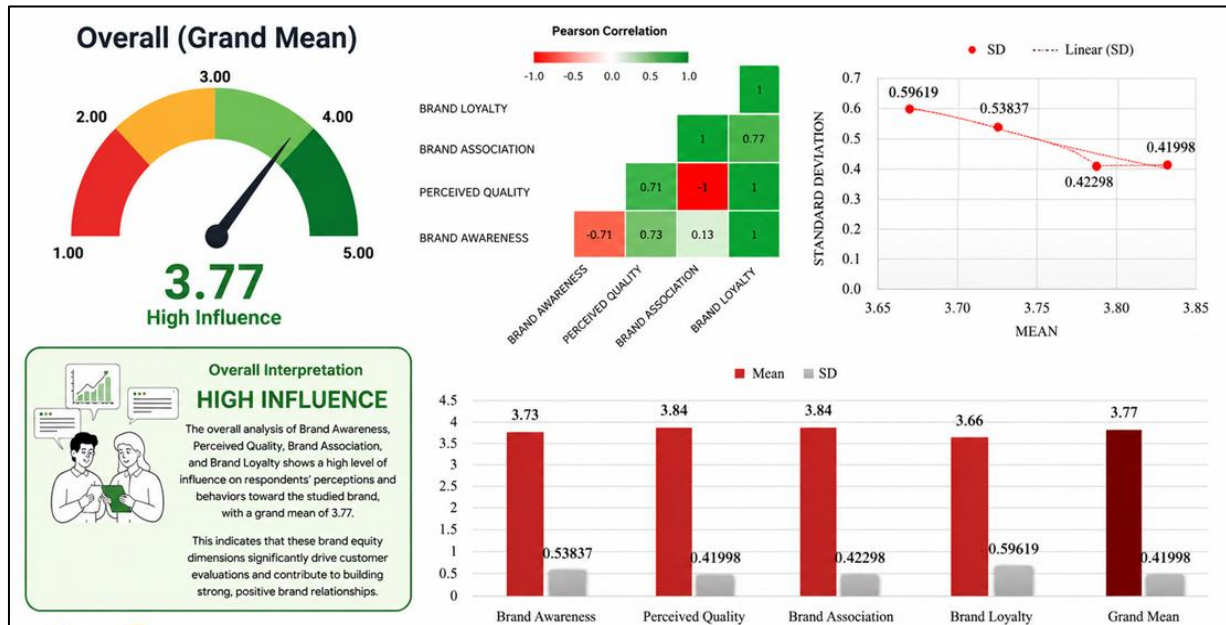


Figure 2 Level of brand value of sports shoes as to brand awareness, perceived quality, brand associations, and brand loyalty

The integration of the four visualizations confirmed that Brand Value has a high influence on consumer behavior toward sports shoe brands. The gauge chart established the overall high influence of Brand Value, the bar graph highlighted the performance of each dimension, the heat map illustrated the relationships among variables, and the scatter plot demonstrated the consistency and variability of respondents' perceptions. Together, these findings showed that consumers evaluate sports shoe brands not only through functional product quality but also through emotional perception, brand image, and long-term relationship development.

Moreover, the findings highlighted the important role of digital marketing and consumer engagement in strengthening Brand Value among sports shoe consumers. The high influence of Brand Awareness and Brand Association suggests that consumers actively engage with brand information, promotional content, and digital campaigns before making purchasing decisions. This supports Kannan and Li [13], who explained that digital marketing significantly shapes consumer awareness, engagement, and behavioral responses. The use of heat maps, scatter plots, gauge charts, and bar graphs also enhanced the interpretation of consumer behavior relationships and marketing insights [11,18,45].

Level of customer relationship of sports shoes as to brand trust, customer loyalty, relationships, and engagement. The combined results of the gauge chart, heat map, scatter plot, and bar graph illustrated the overall level of customer relationship toward sports shoe brands in terms of Brand Trust, Customer Loyalty, and Relationship and Engagement. Collectively, the visualizations revealed that all dimensions obtained mean scores interpreted as High Influence, with an overall grand mean of 3.77. This indicates that respondents highly consider customer relationship factors in shaping their attitudes, satisfaction, and behavioral engagement toward sports shoe brands. The findings support Kumar and Reinartz [21], who explained that strong customer relationships are developed through consistent engagement, trust-building, and value creation. Similarly, Kunkel and Biscaia [22] emphasized that sports brands strengthen consumer behavior and long-term engagement through emotional and relational connections.

The bar graph analysis revealed that Brand Trust obtained the highest mean score, followed by Customer Loyalty and Relationship and Engagement. This suggests that consumers strongly value credibility, product reliability, commitment, and positive experiences when interacting with sports shoe brands. The findings support Hegner and Jevons [8], who explained that brand trust significantly influences customer perceptions and long-term relationships across markets. Similarly, Klotmooksing and Sanmuang [17] emphasized that positive brand attitudes and emotional evaluations contribute significantly to customer loyalty among sports shoe consumers.

The Relationship and Engagement dimension also obtained a high mean score, indicating that respondents actively interact with sports shoe brands through communication, digital engagement, and customer experiences. This finding suggests that consumers increasingly value interactive and emotionally engaging relationships with brands rather than purely transactional exchanges. The findings align with Hollebeek and Macky [9], who explained that digital content marketing enhances consumer engagement, perceived value, and brand trust. Likewise, Schivinski and Dabrowski [36] emphasized that social media communication strongly influences consumer perceptions and brand relationships.

The heat map analysis further illustrated the relationships among Brand Trust, Customer Loyalty, and Relationship and Engagement. The visualization showed a positive relationship between Brand Trust and Customer Loyalty, indicating that consumers who trust sports shoe brands are more likely to demonstrate loyalty and continued support toward the brand. This finding supports Takaya [40], who explained that trust significantly influences purchase intention and strengthens customer commitment toward brands. Similarly, Hollebeek, Srivastava, and Chen [10] emphasized that cognitive and emotional engagement contribute to stronger customer relationships and loyalty behaviors.

However, the heat map also revealed negative relationships involving Relationship and Engagement, suggesting that although respondents generally demonstrated high trust and loyalty toward sports shoe brands, levels of interaction and engagement varied depending on consumer behavior, digital participation, and personal preferences. This implies that some consumers may remain loyal to brands even without strong online interaction or continuous engagement. The findings support Stephen [39], who explained that consumer behavior in digital and social media environments varies according to engagement patterns and online interaction. Likewise, Wu [44] emphasized that modern consumers respond differently to digital marketing experiences and online brand communication.

The scatter plot analysis showed a negative relationship between mean scores and standard deviation values, indicating that dimensions with higher influence levels generally received more consistent responses from respondents. Brand Trust displayed the highest mean score with relatively lower variability, suggesting strong agreement among respondents regarding the importance of trust in developing customer relationships with sports shoe brands. Meanwhile, Customer Loyalty showed moderate variability, indicating differences in repeat purchasing behavior and emotional commitment among consumers. This variation may reflect differences in customer experiences, brand preferences, and digital interaction behaviors. These findings align with Hollebeek and Macky [9], who explained that customer engagement varies depending on perceived value, emotional involvement, and digital experiences.

The integration of the four visualizations confirmed that customer relationship dimensions exert a high influence on consumer behavior toward sports shoe brands. The gauge chart established the overall high influence of customer relationship variables, the bar graph highlighted the performance of each dimension, the heat map illustrated the relationships among variables, and the scatter plot demonstrated the consistency and variability of respondents' perceptions. Together, the findings showed that consumers develop relationships with sports shoe brands through interconnected dimensions of trust, loyalty, engagement, and emotional interaction.

Moreover, the findings highlighted the important role of digital marketing and interactive communication in strengthening customer relationships toward sports shoe brands. The high ratings for Brand Trust, Customer Loyalty, and Relationship and Engagement indicate that consumers actively evaluate brand credibility, emotional satisfaction, and engagement experiences before maintaining long-term relationships with brands. This supports Kannan and Li [13], who explained that digital marketing strategies significantly shape consumer engagement, trust, and behavioral responses. The use of gauge charts, heat maps, scatter plots, and bar graphs also strengthened the interpretation of customer relationship patterns and marketing insights [11,18,45].

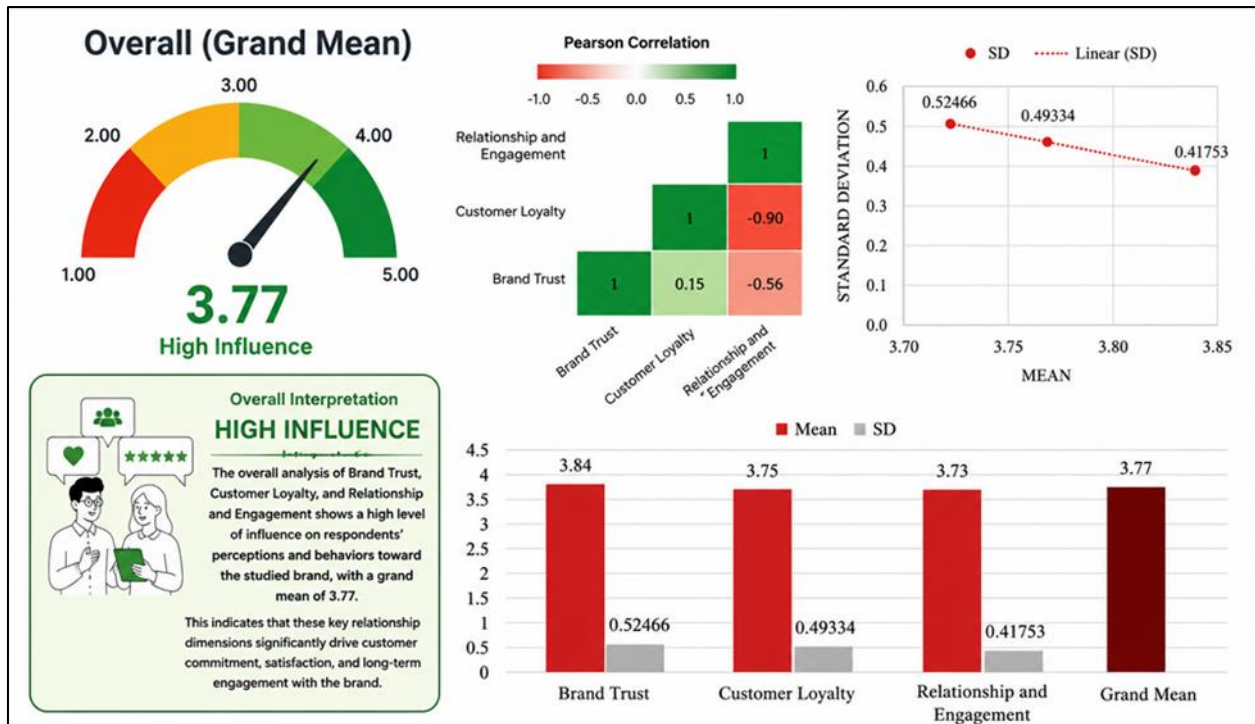


Figure 3 Level of customer relationship of sports shoes as to brand trust, customer loyalty, relationships, and engagement

Significant relationship between AISDALSLove, brand value and customer relationship. The findings revealed that the AISDALSLove Model demonstrated varying degrees of positive and negative relationships with Brand Value and Customer Relationship dimensions. Most dimensions showed weak to moderate positive correlations, indicating that the AISDALSLove Model contributes to shaping consumers' perceptions, emotional attachment, and engagement toward sports shoe brands.

Among all AISDALSLove dimensions, Desire demonstrated the strongest and most consistent positive relationships with Brand Trust, Brand Loyalty, Customer Loyalty, Relationship and Engagement, and Brand Association. This indicates that consumers who develop stronger emotional desire toward sports shoe brands are more likely to trust the brand, remain loyal, and maintain long-term engagement. These findings support Zhou et al. [47], who explained that emotional branding and brand love significantly influence consumer loyalty and brand equity, particularly in sports-related products. Similarly, Kunkel and Biscaia [22] emphasized that emotional relationships strongly influence consumer behavior and long-term engagement toward sports brands.

Like/Dislike also showed significant positive relationships with Perceived Quality, Brand Trust, Brand Association, and Brand Loyalty. This suggests that consumers' positive evaluations and satisfaction toward sports shoe brands strongly influence their perceptions of quality, trustworthiness, and overall brand image. The findings support Takaya [40], who explained that trust and perceived value significantly influence purchase intentions and strengthen brand image. Likewise, Kohli et al. [19] emphasized that positive emotions and favorable brand experiences reinforce loyalty and long-term customer commitment.

Love/Hate also demonstrated positive relationships with Brand Awareness, Perceived Quality, Brand Trust, Customer Loyalty, and Relationship and Engagement. This indicates that emotional attachment toward sports shoe brands contributes to stronger customer loyalty and continuous interaction with the brand. The findings align with Hollebeek and Macky [9], who explained that digital content marketing and consumer engagement significantly contribute to perceived value, brand trust, and relationship development.

Meanwhile, Search showed weak to moderate positive relationships with Brand Association, Brand Loyalty, and Relationship and Engagement. This suggests that consumers who actively search for product information tend to develop stronger familiarity and positive associations with sports shoe brands. These findings support Erkan and Evans [5], who explained that information-seeking behavior and electronic word-of-mouth significantly influence purchase intentions and customer engagement.

Attention and Interest also displayed generally weak but positive relationships with several Brand Value and Customer Relationship dimensions. Attention showed positive relationships with Brand Awareness and Relationship and Engagement, while Interest demonstrated positive relationships with Perceived Quality and Brand Trust. These findings suggest that attracting consumers' attention and sustaining their interest remain important in strengthening brand perceptions and customer engagement. This supports Karulkar et al. [14], who emphasized that visual attention patterns significantly affect consumer responses and engagement in digital marketing environments.

On the other hand, Action revealed several weak negative relationships with Perceived Quality, Brand Association, and Brand Trust. This suggests that consumers who proceed to the purchasing stage may not always develop stronger perceptions of quality or trust depending on their actual product experiences. Similarly, Share showed a weak negative relationship with Brand Trust but positive relationships with Brand Loyalty and Relationship and Engagement. This indicates that sharing behavior contributes more to engagement and relationship-building rather than directly strengthening trust toward the brand. These findings support Stephen [39] and Dwivedi et al. [4], who explained that digital and social media marketing influence consumers differently depending on interaction patterns and online engagement.

The heat map further illustrated the significance of the relationships between the AISDALSLove dimensions and the variables of Brand Value and Customer Relationships. Warm-colored sections represented statistically significant relationships, while cool-colored sections represented non-significant relationships. Significant relationships were observed between Attention and Brand Trust, Interest and Relationship and Engagement, Action and Brand Awareness, Share and Perceived Quality, and Share and Customer Loyalty. These findings indicate that selected AISDALSLove dimensions significantly influence certain aspects of Brand Value and Customer Relationships toward sports shoe brands.

Overall, the findings confirmed that the AISDALSLove Model significantly influences Brand Value and Customer Relationships among sports shoe consumers. The strongest relationships were observed in Desire, Like/Dislike, and Love/Hate, indicating that emotional and evaluative dimensions have the greatest influence on Brand Trust, Customer Loyalty, and Relationship and Engagement. The findings further support Keller [16], Pinho and Andreoli [31], and Redda and Shezi [32], who emphasized that strong brand value dimensions such as brand awareness, perceived quality, brand association, and brand loyalty significantly shape purchasing decisions and long-term consumer engagement. Moreover, the results highlighted the importance of emotional engagement, social media interaction, and customer-centered marketing strategies in strengthening brand value and long-term customer relationships toward sports shoe brands.

Insights toward Brand Value and Customer Relationships Drawn from the Study. The findings of the study provide important insights into brand value and customer relationships through the application of the Hierarchy of Effects Model, particularly the AISDALSLove framework, in the context of sports shoe brands. The results revealed that consumers experience interconnected cognitive, emotional, and behavioral stages that influence their perceptions, loyalty, trust, and long-term engagement with brands. Through the dimensions of Attention, Interest, Search, Desire, Action, Like/Dislike, Share, and Love/Hate, the study emphasized that modern consumers do not simply purchase products based on awareness alone, but also develop emotional attachment, interactive engagement, and relational commitment throughout the customer journey.

In terms of brand value, the findings revealed that emotional engagement, perceived quality, and brand association strongly influence consumers' purchasing behavior and loyalty toward sports shoe brands. The dimensions of Desire, Like/Dislike, and Love/Hate demonstrated strong positive relationships with Brand Trust, Brand Loyalty, Customer Loyalty, and Relationship and Engagement, indicating that consumers who emotionally connect with brands are more likely to trust products, remain loyal, and maintain long-term relationships. The findings further showed that consumers highly value product quality, comfort, durability, and positive brand identity, emphasizing that strong product performance and meaningful brand experiences contribute significantly to customer-based brand equity.

	Brand Value				Customer Relationships		
AISDALStove	Brand Awareness	Perceived Quality	Brand Associations	Brand Loyalty	Brand Trust	Customer Loyalty	Relationship and Engagement
Attention	0.131	0.135	0.011	0.024	0.035	0.083	0.118
Interest	0.104	0.145	0.114	-0.023	0.131	0.07	0.031
Search	0.103	0.067	0.139	0.12	0.075	0.087	0.071
Desire	0.19	0.146	0.207	0.249	0.307	0.217	0.217
Action	0.028	-0.215	-0.194	0.086	-0.144	0.056	0.03
Like/Dislike	0.081	0.381	0.279	0.103	0.308	0.097	0.092
Share	0.055	0.002	0.101	0.198	-0.058	0.011	0.202
Love/Hate	0.279	0.227	0.14	0.188	0.214	0.284	0.189

Significance Value	Color Interpretation	Decision	Discussion
> 0.05	 Cool Colors	Hypotheses Accepted	Indicate no significant relationships because the significance values are greater than 0.05; therefore, the hypotheses are accepted.
< 0.05	 Warm Colors	Hypotheses Rejected	Indicate a significant relationships because the significance values are less than 0.05; therefore, the hypotheses are rejected.

Figure 4 Significant relationship between AISDALSLove, brand value and customer relationship

The findings also highlighted the important role of digital marketing and information-seeking behavior in strengthening customer relationships and brand perceptions. Interest and Search obtained high levels of influence and showed positive relationships with Brand Association, Perceived Quality, and Relationship and Engagement, suggesting that consumers actively evaluate sports shoe brands through online research, digital platforms, social media interaction, and product comparisons before making purchasing decisions. These findings imply that digital communication and customer engagement strategies are essential in strengthening emotional attachment, trust, and long-term customer relationships within modern marketing environments.

The study further revealed that attention alone is not sufficient to build strong customer loyalty and brand relationships. Although Attention positively influenced awareness and engagement, it showed weaker influence on loyalty-related dimensions, implying that promotional visibility alone cannot guarantee long-term customer commitment. Consumers require meaningful brand experiences, emotional satisfaction, credibility, and consistent product quality before developing trust and loyalty toward sports shoe brands. The findings therefore suggest that businesses must focus not only on attracting attention but also on creating emotionally engaging, customer-centered, and value-driven experiences.

The findings also suggest that social sharing behavior contributes significantly to online engagement and customer interaction. The Share dimension demonstrated positive relationships with Brand Loyalty and Relationship and Engagement, indicating that consumers who actively share brand-related content help strengthen digital engagement, online visibility, and community interaction. However, sharing behavior alone showed weaker influence on Brand Trust, suggesting that trust is primarily developed through product reliability, customer satisfaction, and consistent brand performance rather than online sharing activities alone.

Finally, the study confirms that the AISDALSLove framework remains highly relevant in explaining modern consumer behavior within digital marketing contexts. Consumers move through cognitive stages such as Attention and Search, emotional stages such as Desire and Love/Hate, and behavioral stages such as Action and Share before developing long-term relationships with sports shoe brands. The findings therefore suggest that sports shoe companies should strengthen emotionally engaging marketing strategies, customer-centered communication, product quality, and digital relationship-building activities to improve brand equity, customer trust, loyalty, and long-term customer relationships

5. Conclusion

The study revealed that the AISDALSLove Model significantly influences consumer behavior toward sports shoe brands by guiding consumers through interconnected cognitive, emotional, and behavioral stages throughout their customer journey. The dimensions of Interest, Search, and Like/Dislike played major roles in shaping consumer perceptions, emotional attachment, and purchasing behavior. The findings also showed that consumers highly value product quality, comfort, durability, and strong brand image, with Perceived Quality and Brand Association emerging as the strongest contributors to brand value. Although Brand Loyalty received the lowest rating among the dimensions of brand value, consumers still demonstrated favorable attitudes, trust, satisfaction, and repeat purchase intentions toward sports shoe brands.

The study further found that customer relationships are strengthened through emotional attachment, trust, satisfaction, and engagement with sports shoe brands. Digital marketing platforms and social media environments significantly influenced how consumers search for information, interact with brands, share experiences, and develop emotional connections. The significant relationships among AISDALSLove, brand value, and customer relationship variables confirmed that marketing communication, emotional engagement, and customer interaction strategies strongly affect consumer perceptions, loyalty, and purchasing behavior. In addition, the use of heat maps, scatter plots, and data visualization analytics proved effective in analyzing consumer behavior patterns by providing clearer interpretation of relationships and trends among variables.

The significance of the study lies in its contribution to the existing body of knowledge related to consumer behavior, digital marketing, brand value, and customer relationships. By integrating the AISDALSLove Model with data visualization analytics, the study provides a deeper understanding of how emotional engagement, digital interaction, and customer experiences influence sports shoe consumers. The findings may help marketing practitioners, business strategists, and sports shoe brands develop more effective marketing strategies, strengthen customer relationships, improve brand value, and create emotionally engaging customer experiences that encourage long-term loyalty and consumer engagement.

Recommendations

The study recommends that sports shoe brands and marketing practitioners strengthen their digital marketing strategies by creating engaging and interactive campaigns that build consumer interest, emotional attachment, and customer engagement. Businesses are encouraged to improve product quality, comfort, durability, and brand image while enhancing customer relationships through personalized experiences, responsive communication, and active social media interaction. The study also recommends the use of emotional marketing strategies and community-building activities to strengthen customer loyalty, trust, and long-term relationships.

In addition, marketing managers and business strategists are encouraged to utilize data visualization tools and analytics techniques such as heat maps and scatter plots to better understand consumer behavior and support data-driven decision-making. Future researchers are also encouraged to conduct similar studies in different industries and locations, include additional variables related to consumer behavior, and apply advanced technologies such as artificial intelligence and eye-tracking to gain deeper insights into digital marketing effectiveness and customer engagement.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

References

- [1] I, Y., Kumar, B., and Kothandaraman, R. (2020). Customers buying behavior and preference towards international branded sports shoes. *Psychology and Education*, 57, 2753–2758.
- [2] Del Río, A. B., Iglesias, O., and Vázquez, R. (2015). The effects of brand associations on consumer response. *Journal of Consumer Marketing*, 19(3), 203–210.
- [3] Delgado-Ballester, E., and Munuera-Alemán, J. L. (2015). Brand trust in the context of consumer loyalty. *European Journal of Marketing*, 35(11/12), 1238–1258.

- [4] Dwivedi, Y. K., et al. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*.
- [5] Erkan, I., and Evans, C. (2016). The influence of eWOM in social media on consumers' purchase intentions: An extended approach to information adoption. *Computers in Human Behavior*, 61, 47–55.
- [6] Hanafi, Z., and Loh, J. C. (2024). Optimizing sports shoes selection: An AHP approach for evaluating preferences and decision-making factors. *International Journal of Entrepreneurship and Management Practices*, 7(28), 1–12.
- [7] He, H., Zhu, W., Gouran, D., and Kolo, O. (2020). Social media marketing: The role of product involvement and brand experience. *Journal of Business Research*.
- [8] Hegner, S., and Jevons, C. (2016). Brand trust: A cross-national validation in Germany, India, and South Africa. *Journal of Product and Brand Management*, 25, 58–68. <https://doi.org/10.1108/JPBM-02-2015-0814>
- [9] Hollebeek, L. D., and Macky, K. (2019). Digital content marketing's role in fostering consumer engagement, brand trust, and perceived value. *Journal of Interactive Marketing*, 45, 27–41.
- [10] Hollebeek, L. D., Srivastava, R. K., and Chen, T. (2019). S-D logic-informed customer engagement: Integrative framework, revised fundamental propositions, and implications for research. *Journal of Business Research*, 104, 393–407.
- [11] Hudiburgh, L., and Garbinsky, D. (2020). Data visualization: Bringing data to life in an introductory statistics course. *Journal of Statistics Education*, 28, 1–35. <https://doi.org/10.1080/10691898.2020.1796399>
- [12] Juárez-Varón, D., Mengual-Recuerda, A., Capatina, A., and Núñez Cansado, M. (2023). Footwear consumer behavior: The influence of stimuli on emotions and decision making. *Journal of Business Research*, 164, Article 114016.
- [13] Kannan, P. K., and Li, H. (2017). Digital marketing: A framework, review and research agenda. *International Journal of Research in Marketing*, 34(1), 22–45.
- [14] Karulkar, Y., D'Lima, C., Sharma, A., Gada, M., and Tank, A. (2024). Eye tracking in neuromarketing: A study on visual attention patterns. *Academy of Marketing Studies Journal*, 28(S5), 1–11.
- [15] Keller, K. L. (2016a). Reflections on customer-based brand equity: Perspectives, progress, and priorities. *AMS Review*, 6(1–2), 1–16.
- [16] Keller, K. L. (2016b). Unlocking the power of integrated marketing communications: How integrated is your IMC program? *Journal of Marketing Communications*, 22(3), 286–301.
- [17] Klotmooksing, W., and Sanmuang, W. (2025). Brand loyalty, brand image, and brand attitudes toward international sports shoe brands. *Journal of Kanchanaburi Rajabhat University*.
- [18] Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. Wiley.
- [19] Kohli, H., Khandai, S., Yadav, R., and Kataria, S. (2021). Brand love and brand hate: Integrating emotions into brand-related experiences and loyalty. *Journal of International Commerce, Economics and Policy*, 12, Article 2150007. <https://doi.org/10.1142/S1793993321500071>
- [20] Kotler, P., and Keller, K. L. (2016). *Marketing management (15th ed.)*. Pearson Education.
- [21] Kumar, V., and Reinartz, W. (2018). *Customer relationship management: Concept, strategy, and tools (3rd ed.)*. Springer.
- [22] Kunkel, T., and Biscaia, R. (2020). Sport brands: Brand relationships and consumer behavior. *Sport Marketing Quarterly*, 29(1), 3–17.
- [23] Lemon, K. N., and Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing*, 80(6), 69–96.
- [24] Li, Y., Jiang, Z., and Dong, Q. (2026). Research on the impact of sports brand co-branding on consumer purchase intention: A perceived value perspective. *Acta Psychologica*, 262, Article 106146.
- [25] Marchena-Rodríguez, A., et al. (2020). Biomechanical characteristics of running shoes: Minimalist vs standard footwear. *Gait and Posture*.
- [26] MBAknoL. (2025, November 17). Hierarchy of effects model in consumer behavior.
- [27] Mehra, P. (2017). Factors influencing purchase behaviour of branded sports shoes. *SCMS Journal of Indian Management*, 14(4), 54–63.
- [28] Moore, M., and David, A. (2015). *Aaker on branding: 20 principles that drive success*. Morgan James Publishing.

- [29] Muñoz-Leiva, F. (2023). Discovering prominent themes of the application of eye tracking technology in marketing research. *Tec Empresarial Journal*, 18(1).
- [30] Pebriandi, P., Helmi, S., and Gunarto, M. (2024). Male Gen Z shopping behavior towards sports shoe products in Palembang. In *Proceedings of the International Conference on Business, Economics and Management for Creating a Greener and Sustainable Future (Vol. 2)*. Universitas Bina Darma.
- [31] Pinho, G., and Andreoli, T. P. T. (2017). The influence of brand value on purchasing decisions: An analysis of sports shoes used in fitness practice. *Revista Interdisciplinar de Marketing*, 7(2), 156–174.
- [32] Redda, E. H., and Shezi, N. (2023). Sports footwear branding: Its influence on consumer attitudes and purchase intentions. 61, 552.
- [33] Reinartz, W., and Kumar, V. (2017). *Customer relationship management: Concept, strategy, and tools*.
- [34] Rizky, G., Judijanto, L., Slamet, D., Fanhur, M., Amanah, H., Hadikusumo, R., Mathory, E., Naibaho, K., Handayani, S., Putri, C., and Prayoga, M. (2025). *Marketing management*.
- [35] Ruz-Mendoza, M., and Chaban Garcia, O. (2024). The relevance of mapping the customer journey: Every touchpoint can be a moment of truth. *Review of Marketing Science*, 12, 1–8.
- [36] Schivinski, B., and Dabrowski, D. (2016). The effect of social media communication on consumer perceptions of brands. *Journal of Marketing Communications*, 22(2), 189–214.
- [37] Shaito, M., Elmasri, R., and Levine, D. (2022). Comparison of map visualization techniques used for spatial and spatio-temporal data: An analytical survey applied to COVID-19 data. *Medical Research Archives*, 10. <https://doi.org/10.18103/mra.v10i9.3072>
- [38] Shili, M., Jayasingh, S., and Hammedi, S. (2024). Advanced customer behavior tracking and heat map analysis with YOLOv5 and DeepSORT in a retail environment. *Electronics*, 13(23), Article 4730.
- [39] Soeryohadi, A., Adiwijaya, M., Herjanto, H., and Subagio, H. (2022). The effect of brand reputation, brand relationship quality and switching cost to brand loyalty.
- [40] Stephen, A. T. (2016). The role of digital and social media marketing in consumer behavior. *Current Opinion in Psychology*, 10, 17–21.
- [41] Takaya, R. (2021). Analysis of the influence of brand image on purchase intentions through perceived price, trust, and perceived value. *Journal of Economics, Finance and Management Studies*, 6(2), 376–387.
- [42] Wedel, M., and Kannan, P. K. (2016). Marketing analytics for data-rich environments. *Journal of Marketing*, 80(6), 97–121.
- [43] Wijaya, B. S. (2012a). AISDALSLove: An extended model of the hierarchy of effects. *International Research Journal of Business Studies*, 5(1), 73–85.
- [44] Wijaya, B. S. (2012b). The development of hierarchy of effects model in advertising. *International Research Journal of Business Studies*, 5, 73–85.
- [45] Wu, X. (2024). Consumer behavior changes in the digital marketing environment and their impact on marketing strategies. *International Journal of Global Economics and Management*, 4, 513–520.
- [46] Yau, N. (2020). *Data visualization: A practical introduction*. Princeton University Press.
- [47] Yoo, B., Donthu, N., and Lee, S. (2000). An examination of selected marketing mix elements and brand equity. *Journal of the Academy of Marketing Science*, 28(2), 195–211.
- [48] Zhou, F., Mou, J., Su, Q., and Wu, Y. C. J. (2020). How does consumers' perception of sports stars' personal brand promote consumers' brand love? A mediation model of global brand equity. *Journal of Retailing and Consumer Services*, 54, Article 102012.
- [49] Zou, Y., Zhao, C., Childs, P., Luh, D., and Tang, X. (2025). User experience design for online sports shoe retail platforms: An empirical analysis based on consumer needs. *Behavioral Sciences*, 15(3), Article 311.
- [50] Zuschke, N. (2020). An analysis of process-tracing research on consumer decision-making. *Journal of Business Research*, 111, 305–320.
- [51] Zeithaml, V. A., Bitner, M. J., and Gremler, D. D. (2018). *Services marketing: Integrating customer focus across the firm (7th ed.)*. McGraw-Hill Education