Air Conditioner Customer Retention Based on Satisfaction and Loyalty with A Marketing Mix Analysis

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Abstract

The purpose of this research is to examine the relationship between customer satisfaction and retention for air conditioners (ACs) sold in retail stores in Medan, as well as the impact of the marketing mix. This quantitative study surveyed 1,614 AC buyers from 14 retail stores in Medan (May–September 2025) and analyzed the data using PLS-SEM to test validity, reliability, and hypothesis significance. The results show that all four marketing mix variables significantly affect customer satisfaction, with place (store location and accessibility) having the strongest influence, followed by price and product, while promotion negatively affects satisfaction. Customer satisfaction strongly predicts loyalty, and loyalty significantly influences customer retention. The mediation analysis confirms that loyalty and satisfaction together enhance the effects of marketing mix variables on retention, although promotional efforts can reduce satisfaction and weaken retention when poorly executed. By examining the air conditioner market in Indonesia through the 4P marketing mix framework and the satisfaction-loyalty-retention linkages in the retail sector, this study adds to the marketing literature. The results shed light on an understudied aspect of retention in the air conditioner market—the importance of store accessibility and customer experience—and provide managers with insight into how to optimize location, service, and value-based strategies rather than relying solely on price or promotion. These findings suggest that management needs to focus on strategic locations and quality service to improve customer satisfaction. Businesses are advised to shift from aggressive promotions to value strategies such as after-sales service and loyalty programs.

Keywords: *Marketing Mix; Customer Retention Based; Retail Management; Customer Satisfaction; Customer Loyalty and Air Conditioner.*

I. INTRODUCTION

Air conditioners (ACs) are becoming more seen as a need rather than a luxury item due to the decreasing humidity and increasing temperatures in big cities. Consequently, the AC market is projected to experience substantial expansion. The AC market is expected to expand due to the development of advanced ACs with air purification systems and inverters [1]. AC sales in Indonesia will reach USD 2.6 billion by 2023. More independent families will influence this growth, and the public and hospitality industries may require AC. Technological advancements and the emergence of energy-efficient ACs are likely to increase the demand for AC in Indonesia [2].Choosing an air conditioner is a challenge for consumers in Indonesia due to the large number of brands available [1], [2]. In the air conditioning industry, where competition is fierce, standing out from the crowd requires a focus on excellent customer service and solid client relationships, especially with commercial clients. Among the many obstacles that businesses encounter in the cutthroat air conditioning industry is the need to develop and implement effective marketing strategies to provide customers the tools they need to make informed purchasing decisions.Good after-sale service increases a company's chances of success and helps customers stick with the brand over time. Air conditioning companies must produce energy-efficient products, have features and services that meet their needs and desires, and are available at a reasonable price [3], [4].

Air conditioners sold in Indonesia are manufactured in Japan, China, Korea, Thailand, and Indonesia. Brands sold include Mitsubishi, Daikin, Panasonic, Sharp, Samsung, LG, Changhong, Carrier, Aqua Japan, Midea, Gree, AUX, Sanken, Denpoo, Akari, Polytron, and York. As shown in the data below,

air conditioners are one of the electronic devices needed by Indonesians, especially among the middle to upper classes in large cities. Several local and international air conditioning companies compete with various advantages they offer.It is crucial for companies to understand AC marketing strategies based on the factors influencing customer choice, the range of brand options available to customers in each market segment, and the underlying motivations for purchasing AC products [5]. Since each sales area presents unique challenges and opportunities, AC manufacturers have adapted their products to meet those challenges while maintaining the expected high quality [6]. Typically, Japanese brands build their brand reputation by presenting their products as sturdy and durable [5], [7].

However, companies from other brands have advertised equally strong and durable product variants. Studying the best commercial AC product strategies to satisfy customers becomes crucial. Indonesia, the largest economy and population in Southeast Asia, leads the regional market and is driving demand for air conditioners due to its massive infrastructure and industrial expansion [8], evidenced by the positive response from customers to strong advertising by air conditioner brands [5], [9], [10]. Because air conditioners are known to contribute to greenhouse gas emissions, manufacturers of these products face stringent regulations regarding energy efficiency and environmental friendliness. Consequently, air conditioner manufacturers must meet consumer demand to ensure their products are well-received by the public [10]. Manufacturers recognize that consumers want to purchase air conditioners because they are innovative, energy-efficient, have many product features, and are affordable [11]. Therefore, this study aims to determine whether customers will remain loyal to their purchased air conditioners if they lack innovation, are not energy-efficient, and have many features but are cheap.Although consumers are less concerned with eco-friendly labels today, they still purchase affordable air conditioners. Some air conditioner companies have shifted their marketing strategies to meet the high demand for affordable products in tropical Southeast Asia. Consumers of electronic products now prioritize affordability over features, durability, and eco-friendly labels [12]. Due to lower production costs, many air conditioner companies import their products from factories in China [13].

Therefore, researchers are increasingly interested in whether price is the most influential factor in customer loyalty to their air conditioners, or whether other factors influence their choices. Another important novelty consideration for manufacturers when weighing the pros and cons of different brand, price, and product quality strategies for both local and international sales is identifying the factors that influence consumers' propensity to stick with AC. This topic is addressed by the dependent variable "customer retention" in this research. The current literature on air conditioning marketing and consumer behavior in the domestic market of Indonesia, with an emphasis on Medan City, will be reviewed to provide a solution to this topic. The literature study outlines important variables, and we will follow up soon. In a comprehensive survey, we also inquired as to the relative importance of product usability to other marketing mix attributes from our clients. The research methods section provides the specifics of the investigation.Few studies have examined the impact of the marketing mix (4Ps) on customer satisfaction, loyalty, and long-term retention in the Indonesian AC retail sector. Many of these studies have focused on product quality and pricing strategies. This gap is particularly relevant in Medan, where consumer behavior shows a growing preference for affordable yet feature-rich ACs rather than environmentally friendly or high-end products. Therefore, it is necessary to investigate how marketing mix factors interact with customer satisfaction and loyalty to influence customer retention—especially in competitive retail settings. The main research question is whether affordability and accessibility outweigh product innovation and eco-friendliness in shaping customer loyalty and retention behavior.

The marketing mix concept, first introduced by Borden (1964) and later refined by McCarthy (1968) into the well-known 4Ps framework—Product, Price, Place, and Promotion, has been widely applied in marketing management to formulate strategies that influence consumer decisions [14], [15]. Kotler and Keller emphasized that the marketing mix serves as a set of tactical marketing tools used by firms to achieve their marketing objectives in target markets [16]. Recent studies, such as those by Vijay, and Opoku et al., confirmed that the effectiveness of the marketing mix determines customer satisfaction, loyalty, and ultimately customer retention in competitive retail sectors such as electronics and home appliances [7], [17].

There has been a lot of research on the various components of the marketing mix, but very little on how these methods affect satisfaction and retention all at once in the air conditioning (AC) retail sector in developing countries. To fill this information vacuum, this study analyzes the local air conditioning industry in Medan and identifies the marketing mix combinations that have the most impact on customer behavior. Product differentiation—through features, performance, durability, and design—plays a crucial role in shaping perceived value [16].

Empirical studies by Karali et al. and Rama Curiel & Thakur found that technological innovation, such as energy efficiency and air purification, increases consumer satisfaction and strengthens purchase intention [18], [19]. Vijay added that after-sales service and brand communication reinforce trust and long-term loyalty [7]. In the AC industry, where comfort and reliability are core values, product innovation and consistent quality are key determinants of satisfaction and retention. From a causal perspective, it is hypothesized that product excellence dimensions are fundamental antecedents that positively determine customer satisfaction levels (H1), as well as mediating customer loyalty (H7) and building customer retention (H11). Price represents the value exchanged for a product or service [16]. Earlier studies Liddle et al., and Opoku et al. revealed that consumers often balance affordability with perceived value, energy efficiency, and quality when purchasing ACs [17], [20]. Competitive pricing, discounts, and clear communication of value-for-money increase satisfaction and repurchase likelihood [21], [22]. Nevertheless, excessive price competition may reduce perceived quality and weaken brand image. This research, therefore, examines how pricing strategies influence satisfaction and long-term loyalty in the Medan AC retail market. From a consumer behavior perspective, it is hypothesized that perceptions of competitive prices or service costs act as fundamental antecedents that positively determine levels of customer satisfaction (H2), thus in a chain mediation model of Customer Loyalty (H8) and Customer Retention (H12).

Promotion communicates product value and persuades customers to purchase [16]. Studies by Belch & Belch, and Sinha & Verma found that promotional activities—such as advertising, sales promotions, and direct marketing—significantly affect purchase decisions [23], [24]. However, aggressive or unclear promotional messages may reduce perceived trust. Chawla & Singh and Syahrial et al. highlighted that sustainable promotions like loyalty programs and transparent communication build long-term relationships rather than short-term sales [25], [26]. This research posits that effective and trustworthy promotional strategies enhance satisfaction and retention in the AC retail context. It is hypothesized that the effectiveness of promotional strategies acts as a fundamental antecedent that positively determines the level of customer satisfaction (H3); thus, in the chain mediation model of customer loyalty (H9) and customer retention (H13), Place refers to how products are distributed and made accessible to customers [16]. Lombart et al. and Perrigot & Basset found that store location and convenience strongly influence consumers' purchase intentions [27], [28]. Akel & Armağan further demonstrated that physical comfort and store ambiance enhance satisfaction and loyalty [29]. For durable goods like ACs, store accessibility, display layout, and service convenience are decisive in shaping long-term consumer relationships. It is hypothesized that the strategic dimension of place or service location acts as a crucial antecedent that positively determines the level of customer satisfaction (H4). Therefore, the chain mediation model of customer loyalty (H10) and customer retention (H14) supports this hypothesis. Customer satisfaction refers to the customer's emotional response to the fulfillment of their expectations [30].

Prior research Vijay, and Aung shows that satisfaction leads to positive word-of-mouth, repurchase intentions, and loyalty [7], [31]. Lovelock and Wirtz emphasized that consistent service quality and complaint resolution are essential to sustaining satisfaction [32]. Based on the causality perspective in service marketing, it is hypothesized that customer satisfaction is a fundamental antecedent that positively determines the level of customer loyalty (H5). The hypothesis of long-term relationships, or customer retention, is predicted not to occur in isolation, but rather through the mediating mechanism of loyalty (H15). Customer loyalty is a customer's commitment to repurchase or recommend a product despite competitive offers [16]. Studies by Wirtz & Lovelock, Dean et al., and Almohaimmeed revealed that loyalty develops from repeated positive experiences, trust, and relationship quality [33], [34], [35]. In AC retail, loyal customers not only make repeat purchases but also resist switching brands even with attractive alternatives.

It is hypothesized that the dimensions of customer loyalty act as fundamental antecedents that positively determine the level of customer retention (H16), which is manifested through a strong commitment to maintain a partnership with the service provider.

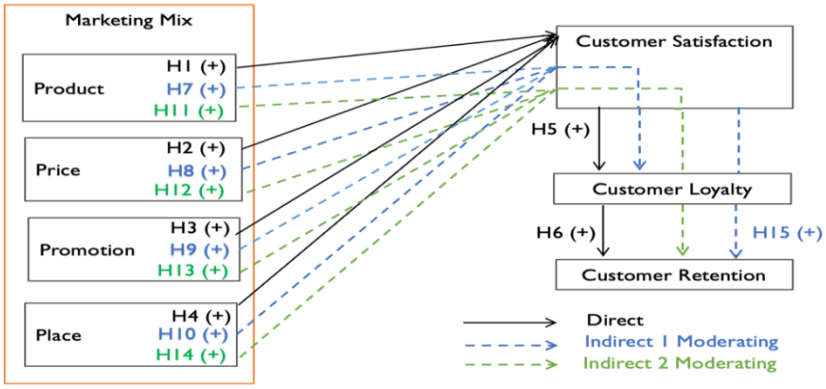

Fig 1. Research Model (Figure 1)

Customer retention refers to a firm's ability to maintain long-term relationships and prevent customers from switching [30], [36]. Prior studies Pereira et al. and Subrahmanyam & Arif found that engagement, consistent communication, and added value significantly improve retention. In the AC industry, high retention rates indicate the success of both product quality and service reliability [37], [38]. By shedding light on the underexplored relationship between customer satisfaction and loyalty—the last behavioral outcome of the marketing mix—this study adds to the existing body of knowledge.While previous research has examined the 4Ps in various industries, few have tested the sequential relationship among marketing mix, satisfaction, loyalty, and retention within Indonesia's AC retail sector. This study therefore fills a contextual and empirical gap by focusing on consumer behavior in Medan, providing new insights into how location and price dynamics shape satisfaction and retention. The integration of loyalty as a moderator also extends marketing theory by clarifying its dual mediating and moderating role between satisfaction and retention.

II. METHODS

This research makes use of quantitative methods due to its heavy reliance on numerical data and statistical analysis. Questionnaire and survey methodologies are used as primary data collection components [39]. The population is AC customers who purchased from 14 retail electronics stores in Medan. 1614 respondents as a sample were obtained by researchers using purposive sampling techniques during direct visits to the research location, with the criteria for respondents being consumers who purchased AC from May 2025 to September 2025. Variables are factors or attributes that can be measured, observed, or manipulated to explain changes. The types of variables in this study are dependent variables (product, price, promotion, place), independent variables (customer retention), and intervening variables (customer satisfaction and customer loyalty).By using an ordinal scale of measurement, this research serves as a reference or benchmark for determining the interval length of each questionnaire conducted using a 5.0 positive Liker scale approach [40], [41]. Using SEM-PLS, the researchers tested the validity and reliability of the measurement model (outer model) and the statistical significance and hypothesis testing of the inner model with respect to the data collected from the questionnaire).

III. RESULT AND DISCUSSION

Demographic AC Purchaser

Table 1. Respondent Characteristic Result

Respondent Characteristics		N = 1614	%	Respondent Characteristics		N = 1614	%
Gender	Male	855	53	AC sizes	0,5 PK	762	47
	Female	759	47		1 PK	589	36
Age	20 - 25 old	157	10		1,5 PK	155	10
	26 - 35 old	451	28		2 PK	32	2

Respondent Characteristics		N = 1614	%	Respondent Characteristics		N = 1614	%
	36 - 45 old	685	42		2,5 PK	76	5
	46 – 55 old	253	16	AC brands from 14	Panasonic	115	7
	> 56 old	68	4		Sharp	253	16
Education	Junior High School	134	8	different	Mitsubishi	24	1
	High School	941	58	stores	LG	249	15
	Bachelor's	427	26		Samsung	221	14
	Postgraduate	112	7		Gree	154	10
Occupation	Housewife	228	14		Carrier	34	2
	Civil Servant	553	34		Daikin	178	11
	Private Employee	621	38		Midea	189	12
	Military/Police	212	13		Polytron	109	7
Use of AC	Home	829	51		Others	88	5
	Office	330	20	Purchase	1st	471	29
	Restaurant	178	11	to	2nd	721	45
	Mosque	136	8		3rd	291	18
	School	141	9		> 4th	131	8
Company /	Store A	271	17	Company /	Store H	72	4
Store	Store B	352	22	Store	Store I	89	6
	Store C	67	4		Store J	81	5
	Store D	88	5		Store K	61	4
	Store E	77	5		Store L	98	6
	Store F	54	3		Store M	79	5
	Store G	98	6		Store N	127	8

Source: Survey of respondents regarding AC purchases in this study 2025 (company/store names are not displayed)

Primary research data was collected from May to September 2025, with visits to 14 retail stores in Medan to survey 1,614 AC buyer. The Male reaching 53 per cent (855 people), while female respondents (Female) amounted to 47 per cent (759 people). Many respondents were in the middle productive age group, with the highest proportion in the 36-45 years age range (42 per cent or 685 people), followed by the 26-35 years age group (28 per cent). Viewed from the level of education, many respondents were high school graduates with a significant percentage of 58 per cent (941 people), and another 26 per cent were Diploma / Bachelor graduates. In terms of employment, most respondents worked as Private Employees (38 per cent), followed closely by Civil Servants (34 per cent), which collectively represented more than two-thirds of the total study population. Purchase data indicates a strong market trend toward small-capacity air conditioning units. The most purchased AC sizes were 0.5 HP (47 per cent or 762 units) and 1 HP (36 per cent), indicating dominant demand for use in small spaces or residential areas. The top-selling brands in the store are Sharp (16 per cent), LG (15 per cent), and Samsung (14 per cent). Interestingly, this store demonstrates a high level of customer loyalty, with many respondents making a second purchase (45 per cent) at the same store. Finally, the primary use of purchased ACs is for home use (51 per cent or 829 units), followed by commercial use in offices (20 per cent), confirming the dominant residential nature of this AC market. The results of the SEM PLS analysis were then obtained from the synthesis of consumer questionnaires regarding AC purchases from 14 stores in Medan.

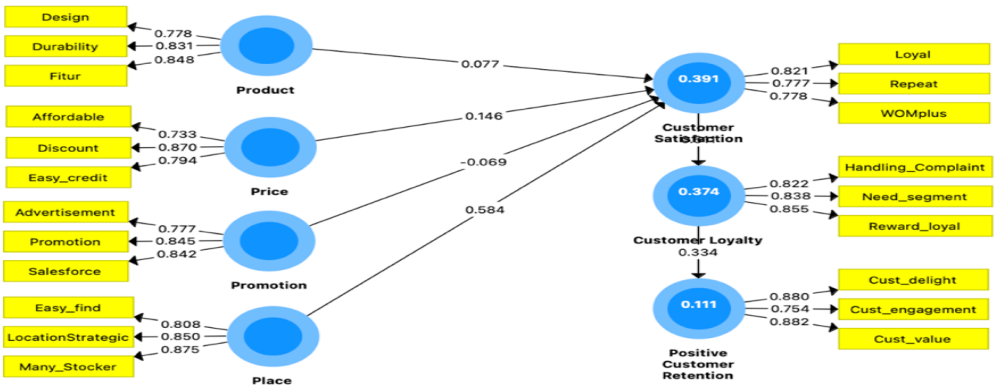

Fig 2. The results of the SEM PLS

Results of the Analysis SEM PLS

According to Table 2, which shows the results of the measurement model's (Outer Model) reliability and validity test using the SEM-PLS method, all the research model's latent variables have strong reliability and convergent validity. All variables show very high CR values, ranging from 0.835 (Customer Satisfaction) to 0.882 (Place). All constructs have high levels of internal consistency and dependability in measuring their variables, as all CR values are greater than the threshold of 0.70. Further confirmation that the research instrument is free from random error and reliable is provided by Cronbach's Alpha and rho_A values for all variables, which are above 0.70.

Table 2. Results of Convergent Validity and Reliability

Measurement Item	Loading Factors	rho_A	CR	AVE
Product (P1)	0.757	0.767	0.860	0.672
The AC unit offered has a modern and attractive design.	0.778			
Additional features such as timers, auto cleaning, and smart controls are very helpful for daily use.	0.848			
The AC unit can function optimally even when used for extended periods.	0.831			
Price (P2)	0,718	0,725	0,842	0,641
The discount offered by the store made me more interested in purchasing an AC.	0.870			
The store's pricing is proportionate to the quality of the air conditioner.	0.794			
The store offers credit, or installment plans for AC purchases with easy terms.	0.794			
Promotion (P3)	0,765	0,792	0,862	0,675
The AC product advertisement I saw provided clear information about its features and benefits.	0.845			
Discounts or cashback on AC purchases encouraged me to buy the product immediately.	0.777			
The salesperson provided friendly service and helped me choose the right AC product.	0.842			
Place (P4)	0.801	0.817	0.882	0.714
The AC I'm looking for is easy to find at various electronics stores.	0,808			
The stores always have a complete stock of AC units, available in various brands and models.	0,875			
The AC store is easily accessible from where I live.	0,850			
Customer Satisfaction (CS)	0,703	0,702	0,835	0,628
I prefer to buy my AC from the same store because I've had a satisfactory previous purchasing experience.	0,777			
I feel proud to use this brand of AC.	0,821			
I share positive information about this AC brand through social media or in private conversations.	0,778			
Customer Loyalty (CL)	0.789	0.791	0.876	0.703
The store offers various types and capacities of AC units to suit the needs of customers' rooms.	0,838			
I feel appreciated because the store offers special offers for loyal customers.	0,855			
I am satisfied with the solutions the store provides when I encounter problems with my AC units.	0,822			
Customer Retention (CR)	0.794	0.829	0.878	0.707
I enjoyed the service provided by the store during the purchase and installation process of the AC.	0,880			
Additional services such as installation and warranty add value to the purchase of this AC.	0,882			
I feel an emotional connection with the brand and store that sells this AC.	0,754			

Source: SEM-PLS Processing Results, 2025 (Processed by Researchers)

All latent variables show AVE values above the threshold of 0.50, ranging from 0.628 (Customer Satisfaction) to 0.714 (Place). This indicates that all indicators successfully measure the intended constructs (convergent validity is met). Overall, the results of the reliability and validity tests indicate that the measurement model has been tested very well and is robust. All latent variables—from Product to Customer Retention—met the criteria for reliability. Thus, this research instrument is suitable and adequate for use in testing the structural model (hypothesis testing). The generally accepted criterion for confirming discriminant validity is that the HTMT value must be less than 0.85 (or in some cases, less than 0.90) [41].

Table 4. Heterotrait-Monotrait Ratio Value Results

Variable	CL	CS	P4	CR	P2	P1	P3
Customer Satisfaction (CS)							
Customer Loyalty (CL)	0,814						
Place (P4)	0,433	0,785					
Customer Retention (CR)	0.418	0,267	0,080				
Price (P2)	0,305	0,407	0,316	0,156			
Promotion (P3)	0.227	0.293	0,194	0,197	0,608		
Product (P1)	0.288	0,362	0.537	0,091	0,673	0,333	

Source: SEM-PLS Processing Results, 2025 (Processed by Researchers)

Based on table 4 which presents the Heterotrait-Monotrait Ratio (HTMT) Value Results, Maximum HTMT Value: The highest HTMT value detected in this matrix is 0.814, which is the correlation between Customer Loyalty (CS) and Customer Satisfaction (CL). Meeting the Critical Limit: Since the maximum value of 0.814 is below the critical limit of 0.85, it can be concluded that no pair of latent variables is too highly correlated. This means that each latent variable in the model (CL, CS, P4, PCR, P2, P1, and P3) measures a unique construct and is empirically different from the others.

Table 5. R-Square Adjusted & F-Square Value Result

Variable	F-Square			R-Square	
	CS	CS	CR	R^2	Adjusted
Customer Loyalty (CL)			0,125	0.374	0.373
Customer Satisfaction (CS)	0,597			0.391	0.390
Customer Retention (CR)				0.111	0.111
Place (P4)		0,452			
Price (P2)		0,023			
Product (P1)		0,008			
Promotion (P3)		0,005			

Source: SEM-PLS Processing Results, 2025 (Processed by Researchers)

The suggested model adequately explains the variation in its moderating variables, as indicated by its moderate predictive power for these variables. However, the model has weak predictive power for the Customer Retention variable, indicating that most of the variation (approximately 88.9 per cent) in Customer Retention is influenced by factors or variables outside the model studied. Based on the R^2 (R-square) values for the attached dependent (endogenous) variables, we can calculate the Q^2 (Predictive Relevance) value for the overall structural model. The Q^2 Predictive Relevance value for the overall structural model is 0.6602. Since the Q^2 value (0.6602) is greater than 0 ($Q^2 > 0$), it can be concluded that this research model has strong predictive relevance. This means the model has a good ability to predict variations in the variables of Customer Satisfaction, Customer Loyalty, and Positive Customer Retention.Table 5 shows the F^2 (Effect Size) results, which are used to evaluate the independent factors' impact on the dependent variable. F^2 values are categorized by Cohen's criteria. F^2 is 0.597. Customer Satisfaction dominates Customer Loyalty, as shown by this model's biggest influence strength. The F^2 is 0.452. This suggests that store location/distribution strategy significantly impacts customer satisfaction. The F^2 is 0.125. Customer Loyalty contributes to Customer Retention at the lower level of Medium, but it is still considerable. The F^2 is 0.023. This result is near the small influence threshold, showing that pricing policy has little impact on Customer Satisfaction. Two variables with low F^2 values (<0.02) are deemed to have no influence or a weak contribution in the model: Product to Customer Satisfaction: F2 = 0.008. Promotion to Customer Satisfaction: F^2 = 0.005.

Table 6. Hypothesis Relationship Results

Hypothesis	Relation	O	M	STDEV	STDEV	P-Value	Sig.
H 1	P1 → CS	0.077	0.076	0.024	3.282	0.001	+
H 2	P2 → CS	0.146	0.145	0.025	5.827	0.000	Very +
H 3	P3 → CS	-0.069	-0.068	0.025	2.742	0.006	Very +
H 4	P4 → CS	0.584	0.585	0.020	29.902	0.000	Very +
H 5	CS → CL	0.611	0.611	0.021	29.686	0,000	Very +
H 6	CL → PCR	0.334	0.333	0.033	10.123	0,000	Very +
H 7	P1 → CS → CL	0.047	0.047	0.015	3.235	0.001	+
H 8	P2 → CS → CL	0.089	0.089	0.016	5.670	0.000	Very +
H 9	P3 → CS → CL	-0.042	-0.042	0.015	2.729	0.007	+
H 10	P4 → CS → CL	0.357	0.357	0.019	19.275	0.000	Very +
H 11	P1 → CS → CL → CR	0.016	0.016	0.006	2.862	0.004	+
H 12	P2 → CS → CL → CR	0.030	0.030	0.006	4.622	0.000	Very +
H 13	P3 → CS → CL → CR	-0.014	-0.014	0.005	2.645	0.008	-
H 14	P4 → CS → CL → CR	0.119	0.119	0.015	8.757	0.000	Very +
H 15	CS → CL → CR	0.204	0.204	0.023	3.282	0.000	Very +

Note: P1 (Product), P2 (Price), P3 (Promotion), P4 (Place), CS (Customer Satisfaction), CL (Customer Loyalty), CR (Customer Retention). O (Original Sample), M (Mean Sample).. Source: SEM-PLS Processing Results, 2025 (Processed by Researchers)

Based on the test results using the SEM-PLS method as recommended by Hair et al. (2021) [42], of the total 15 hypotheses tested, all hypotheses were accepted (Table 6). The analysis results deem all relationships significant based on Hair's criteria. The place variable, with a coefficient of 0.584 and a t-statistic of 29.902, indicates that location plays the most significant role in influencing customer satisfaction. The only indicator that shows the opposite direction of the relationship but remains significant is promotion, which decreases satisfaction with a value of -0.069. The relationship between customer satisfaction, customer loyalty, and customer retention demonstrates a strong and significant influence, with values of 0.611 and 0.334, respectively. Furthermore, the mediation effect involving Place through Satisfaction and Loyalty was also significant, reinforcing loyalty's position as the primary connecting variable. Based on Hair's interpretation, this model has good structural validity as all main paths meet the theoretical criteria for significance and direction. Thus, these results confirm that satisfaction and loyalty are important mechanisms in building customer retention in the air conditioning retail industry in Medan.This indicates that, in this model, product attributes and promotion efforts individually contribute little to explaining customer satisfaction. Overall, the relationship between place and customer satisfaction, and from customer satisfaction to customer loyalty, primarily drives the model's predictive power. In contrast, the contributions of product, price, and promotion to explaining customer satisfaction are minimal and not robust.

Discussion

The results of testing Hypothesis 1 confirm that product variables have a significant effect on customer satisfaction, a finding that strengthens Kotler and Keller's theory regarding the relevance of product quality ($T = 3.282$; $p = 0.001$). Astuti and Hanifa's research show that product durability and innovation make customers happier and more loyal [43]. However, other studies suggest that in certain contexts, factors like service quality and user experience may be more influential [44]. Recommendations include shifting store strategies from price reduction to enhancing perceived value and minimizing perceived risks through guarantees and improved services, which can positively affect customer purchase decisions and loyalty. Price was proven to increase customer satisfaction significantly through testing Hypothesis 2 ($T = 5.827$; $p < 0.001$), thus strengthening the assumption that the right pricing strategy has a direct impact on satisfaction. Despite a moderate path coefficient of 0.146, the results align with marketing principles emphasizing fair pricing strategies as key drivers of satisfaction. Consumer perceptions of price affordability boost satisfaction, with previous studies reaffirming the linkage between price perception, service quality, and loyalty [45].

However, the moderate path coefficient suggests that price may not be the leading factor in customer satisfaction, especially when market prices are similar across competitors. Non-price factors, such as perceived risk and service quality, may have greater impacts in certain contexts [46]. To enhance satisfaction, businesses should refine pricing strategies, improve perceived consumer value, and integrate guarantees or innovative services rather than focus solely on price reductions. The research findings in Hypothesis 3 significantly confirm the negative impact of promotion on customer satisfaction through valid statistical results ($T = 2.742$; $p = 0.008$). The negative path coefficient of -0.069 suggests that increased promotional efforts may lead to decreased satisfaction due to unrealistic consumer expectations, as explained by negative disconfirmation theory. While we generally expect promotions to enhance customer interest and loyalty, poor strategies like excessive discounting can damage perceived product quality and brand value [47]. Consequently, stores should conduct a thorough review of their promotional strategies and focus on realistic, value-driven communications to enhance customer satisfaction. Hypothesis 4 was empirically tested with results showing that location plays a crucial role in increasing customer satisfaction (Path Coefficient = 0.584; $T = 29.902$; $p < 0.001$). This supports existing literature that emphasizes the importance of strategic location, access, and stock availability in enhancing consumer experiences. However, in the restaurant industry, factors like store atmosphere may play a more significant role than location alone. For example, studies show that the atmosphere of a store and the quality of service together make up 78.6 per cent of customer satisfaction in cafes.

Thus, while Place is critical for stock management and accessibility, it is essential not to overlook in-store elements [48]. Store management should balance stock availability with improving service quality and ambience to enhance customer loyalty. Hypothesis 5 analysis proves that customer satisfaction is the main predictor of customer loyalty in AC purchases, with an influence strength of 0.611 ($T = 29.686$; $p < 0.001$). This aligns with literature emphasizing satisfaction as a foundation in the customer value chain. Although satisfaction strongly affects loyalty, over 60% of loyalty variation is attributed to external factors, such as perceived risk and strong competitor commitment [49]. Factors like switching barriers and robust relationship marketing also play a crucial role. To enhance customer loyalty, management should strengthen post-purchase relationships, invest in relationship marketing, and develop personalized loyalty reward programs.The findings in Hypothesis 6 show a significant positive impact of loyalty on customer retention (path coefficient = 0.334; $T = 10.123$; $p < 0.001$), which strengthens the relevance of loyalty management strategies in retaining consumers. This aligns with existing literature that identifies loyalty as essential for retention, incorporating emotional commitment, trust, and purchasing behavior. However, while loyalty's influence is moderate, external factors like switching barriers can significantly affect actual customer retention [37]. Therefore, management should enhance retention structures to effectively convert loyalty into repeat purchases and positive word-of-mouth (WOM) by implementing robust loyalty programs that create strong economic and functional switching barriers, alongside personalized marketing efforts. Hypothesis 7 was empirically tested, showing that product variables indirectly increase loyalty through customer satisfaction with valid statistical support (Indirect Effect = 0.047; $T = 3.235$; $p = 0.001$).

Although the mediation path was significant, the marginal coefficient indicates that product satisfaction contributes minimally to loyalty. This contrasts with service industry research, where factors like store atmosphere and service quality substantially impact customer satisfaction and loyalty [50]. Therefore, companies should shift focus and resources from product to service and improvement in store atmosphere and service quality, as enhancing these elements can strengthen the mediating effect of customer satisfaction and consequently increase customer loyalty more effectively. Hypothesis 8 was empirically tested, showing that price has a significant impact on customer loyalty through the mediation of customer satisfaction ($T = 5.670$; $p < 0.001$). An indirect path coefficient of 0.089 indicates that while price perceptions enhance customer satisfaction, this effect alone does not fully explain customer loyalty, which is also influenced by non-price factors like service quality and store atmosphere [51]. To maximize loyalty, retailers should improve customer satisfaction through these non-price elements, ensure transparent pricing, and adopt personalization strategies for stronger emotional bonds. Testing of Hypothesis 9 empirically confirms that the promotion variable has an indirect negative impact on customer loyalty mediated by satisfaction ($T =$

2.729; p = 0.007), showing that aggressive promotions detrimentally impact loyalty by creating inflated expectations that are not met, leading to dissatisfaction [52]. This challenges the common assumption that promotions support loyalty building. Stores should audit their promotion strategies, improve customer expectation management through training, and focus on communicating added value instead of merely offering discounts to foster trust and loyalty.

Hypothesis 10 testing confirms a very strong indirect positive impact of the location variable on loyalty through the mediating role of customer satisfaction (Indirect Effect = 0.357; T = 19.275; p < 0.001). This aligns with literature emphasizing location and accessibility as key factors driving initial satisfaction, which in turn fosters loyalty for durable goods like air conditioners. While the Place variable is crucial, loyalty is also influenced by perceived service quality. Studies show that factors such as store atmosphere and service quality can significantly influence customer satisfaction. To enhance loyalty, stores should not focus solely on location but also improve service characteristics, such as staff friendliness and service speed, alongside relationship marketing strategies that foster trust and personalization. Hypothesis 11 testing confirms that product quality has a positive and significant effect on customer retention through the chain mediation of satisfaction and loyalty (T = 2.862; p = 0.004), with a line coefficient of 0.016. This indicates that a quality product can increase customer retention when supported by strong loyalty and satisfaction [53]. However, the small coefficient value indicates that the moderating effect is still weak in practice, although statistically significant. The stability of the results with a low standard deviation indicates that the moderating effect is relatively consistent across samples, but the variation is small.

This finding opens opportunities to consider other variables, such as trust, brand image, or customer experience as additional moderators in future research. To increase customer retention, store managers at air conditioning companies in Medan need to go beyond simply improving product quality by strengthening aspects of satisfaction and loyalty through warranty programs and responsive communication services. The results of testing Hypothesis 12 confirm that price has a positive and significant effect on customer retention through the chain mediation of satisfaction and loyalty (T = 4.622; p < 0.001), with a path coefficient of 0.030. This means that good price perceptions, along with customer loyalty and satisfaction, contribute positively to increased consumer retention. However, the relatively small coefficient value indicates that the influence of price is not as strong as other factors, such as after-sales service or brand image. The low variation in estimated stability also indicates that most customers have similar perceptions of the role of price in retention. These results are consistent with previous research stating that price can increase retention when supported by customer satisfaction and loyalty [54]. Practically, AC store managers are advised to not only focus on competitive prices but also strengthen customer satisfaction and loyalty so that the impact of price on retention can be more optimal.The results of testing Hypothesis 13 show that promotions have a significant negative impact on customer retention through the mediation of satisfaction and loyalty (T = 2.645; p = 0.008), with a path coefficient of -0.014.

This indicates that promotions, when interacting with certain customer loyalty and satisfaction, can weaken positive customer retention. This negative effect suggests that promotions that are too frequent or aggressive can lead to decreased value perceptions and make customers more sensitive to discounts [55]. This finding is in line with previous research showing that promotions often increase short-term purchase intention but do not always strengthen long-term loyalty or retention. Therefore, promotions need to be designed carefully to avoid counterproductive effects such as customers becoming "bargain hunters." Future research is recommended to explore the interaction between promotions, perceived value, and customer trust to understand the conditions under which promotions can strengthen or weaken customer retention.The findings in Hypothesis 14 show that the role of location in building customer retention becomes stronger when bridged by satisfaction and loyalty factors (T = 8.757; p < 0.001). This finding corroborates the hypothesis that proximity and ease of access can enhance customers' likelihood of maintaining long-term patronage at the same store [56]. However, although the effect is significant, the magnitude of the moderating effect is moderate, so location is not the only major factor determining customer retention. Other factors, such as service, price, and store reputation, still have an important role that can strengthen or weaken the location effect.

Therefore, AC store managers are advised to combine location strategies with improved services, comfort, and loyalty programs so that the impact on customer retention can be more optimal. The research findings in Hypothesis 15 show a significant positive impact of satisfaction on customer retention ($T = 3.282$; $p < 0.001$), which means that customer satisfaction is a crucial factor in driving ongoing loyalty. This finding is consistent with various previous studies that confirm that satisfaction is a key factor in building long-term customer loyalty and retention [57]. However, the magnitude of the effect is moderate, so there are still other factors, such as trust, commitment, and perceived value, that also explain retention. Customer loyalty does play a moderating role in this relationship, but the effect is not forceful and can vary depending on customer characteristics. Therefore, we advise AC store managers in Medan to enhance customer satisfaction through after-sales service, warranties, and loyalty programs to maximize their impact on retention. Overall, these results prove that customer satisfaction plays an important role in retaining customers, but it needs to be combined with the right loyalty strategy to strengthen long-term relationships.

IV. CONCLUSION

The results of the analysis confirm the crucial role of marketing mix elements in creating customer satisfaction, which then has implications for strengthening consumer loyalty and retention in the AC retail market in the Medan region. SEM-PLS-based statistical analysis confirms the dominance of location variables in influencing customer satisfaction in the AC retail industry in Medan, followed by price and product, while promotion has a negative but significant influence. Customer satisfaction has been empirically proven to play a significant role in forming loyalty, which then functions as a major determinant in creating long-term customer retention. The indirect relationship through the mediation path of satisfaction and loyalty is also proven to be significant, especially in the path of place to satisfaction to loyalty to retention. These results strengthen Kotler and Keller's theory that an effective marketing mix must prioritize customer value and continuous experience. Overall, these findings confirm that strategies to improve location, service, and product value have a greater impact on retention than price promotions alone.The results of this study have implications for the importance of developing marketing strategies that emphasize aspects of satisfaction and loyalty as the main instruments for business practitioners in optimizing consumer retention in the retail sector. Store managers are advised to strengthen after-sales services, expand location accessibility, and implement competitive prices while still reflecting quality.

Promotions should be directed at value- and trust-based communication, not just excessive discounts. Furthermore, businesses need to develop sustainable loyalty programs and maintain long-term relationships through personal communication with customers. The policy implications of this study emphasize the importance of government intervention in establishing regulations on post-purchase service standards and price information transparency to ensure consumer protection and a conducive business competition climate. Thus, the implications of this research can help sustainably improve the competitiveness of air conditioner e-retail. This study has several limitations that must be considered, including its exclusive focus on the population in Medan City, which means caution is needed when applying these results universally; thus, generalizing the results to other regions is still limited. Second, the use of a cross-sectional study design means that relationships between variables can only be interpreted associatively, not causally. Third, the use of self-report instruments in data collection opens the possibility of subjective bias, considering that assessments of satisfaction and loyalty depend entirely on the individual perceptions of respondents. Furthermore, this study did not examine external variables such as brand trust, store image, or emotional value that may influence customer retention.

Another limitation is the lack of comparison between large-scale and small-scale retailers in the context of local competition. The implications of this study open opportunities for future research to explore additional variables in a more representative area and gain a more comprehensive understanding. For further research, to increase external validity, future studies need to explore more heterogeneous market contexts and use a longitudinal approach to capture long-term fluctuations in consumer behavior. Additional variables such as customer trust, shopping experience, and brand image could be included as mediating or moderating variables to enrich the research model. Furthermore, qualitative approaches, such as in-depth interviews,

could be used to understand more deeply the motivations and behaviors of consumers in purchasing and maintaining loyalty to specific brands. Comparative research across types of electronic products could also be conducted to determine whether similar patterns of marketing mix influence are observed in other sectors.

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