



Determinants of Customer Satisfaction and Loyalty in a Rental-Based Home Appliance Service Model in Malaysia

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Customer satisfaction and loyalty are essential for sustaining competitiveness in the home appliance industry, particularly within rental-based service models. Despite COWAY's strong presence in Malaysia, limited research has examined the factors that influence customers' evaluations of its products and services. This study investigates the effects of product quality, service quality, customer support, and price and value perception on customer satisfaction and loyalty among COWAY customers in Malaysia. A quantitative approach was employed using survey data collected from 122 COWAY customers. The data were analyzed using descriptive statistics and multiple regression analysis. The results show that service quality ($b = 0.252$, $p < 0.05$) and price and value perception ($b = 0.288$, $p < 0.05$) have significant positive effects on customer satisfaction and loyalty. In contrast, product quality and customer support do not have significant effects. The model explains 28.7% of the variance in customer satisfaction and loyalty. The findings suggest that customers place greater importance on service experiences and perceived value than on product-related attributes alone. The study offers practical insights for strengthening service quality and enhancing customer value to support long-term satisfaction and loyalty.

Keywords: Customer Loyalty; Customer Satisfaction; Home Appliance Industry; Price and Value Perception; Service Quality

INTRODUCTION

The home appliance industry has become increasingly competitive as companies continuously introduce new technologies, products, and service innovations to meet evolving customer expectations. In such a dynamic environment, customer satisfaction and loyalty have emerged as important indicators of long-term business success. While product performance remains essential, customers today also evaluate the overall service experience, including maintenance support, responsiveness, and the value they receive from a company's offerings. As a result, organizations must focus not only on delivering high-quality products but also on creating positive customer experiences throughout the entire service journey. Customer satisfaction is closely linked to a company's ability to adapt to changing consumer needs and market trends (Krotova & Yin, 2023). Furthermore, innovation has become a necessity rather than an option, serving as a source of competitive advantage in the home appliance industry (Lahovnik & Breznik, 2014; Shafiee & Arman, 2025).

One company that has successfully differentiated itself through both product and service innovation is COWAY. Founded in South Korea in 1989, COWAY specializes in well-being products such as water purifiers, air purifiers, bidets, and mattresses. The company is widely recognized for its rental-based business model, which combines product ownership with continuous maintenance and customer support services. Through its "Cody" service system, trained service personnel provide regular maintenance and product inspections to ensure consistent performance and customer satisfaction. COWAY has expanded its operations internationally, including Malaysia, where it has established a strong market presence and achieved leadership in the water purifier segment (Nguyen et al., 2024). The company's success highlights the growing importance of integrating product quality with service excellence to create sustainable customer relationships.

Despite COWAY's strong market position, customer satisfaction and loyalty remain important challenges in a highly competitive marketplace. Customers may evaluate their experiences based on multiple factors, including product quality, service quality, customer support, and perceptions of price and value. Although previous studies have examined customer satisfaction in the broader home appliance industry (Uzir et al., 2020), limited attention has been given to understanding these factors within COWAY's unique rental-based service ecosystem. Existing research has often focused on technical product performance, energy efficiency, or comparisons among appliance brands (Bakare et al., 2023), while relatively few studies have explored how product-related and service-related factors collectively influence customer satisfaction and loyalty among COWAY customers. Consequently, there remains a need for empirical evidence that explains which factors play the most important role in shaping customer evaluations within this service-oriented business model.

Drawing upon Expectation-Confirmation Theory (ECT), this study examines customer satisfaction and loyalty as outcomes of customers' evaluations of product and service performance. According to ECT, satisfaction develops when actual experiences meet or exceed prior expectations, whereas dissatisfaction occurs when performance falls short of expectations (Lin et al., 2009). In the context of COWAY's rental-based model, customers continuously evaluate not only product performance but also service interactions, maintenance experiences, and the value obtained from their subscription. Therefore, ECT provides a suitable theoretical foundation for understanding how product quality, service quality, customer support, and price and value perception influence customer satisfaction and loyalty.

Accordingly, this study aims to examine the effects of product quality, service quality, customer support, and price and value perception on customer satisfaction and loyalty among COWAY customers in Malaysia. By integrating these factors into a single analytical framework, the study contributes to the customer satisfaction literature within the home appliance industry and extends the application of ECT to a rental-based service context. The findings are expected to provide practical insights for COWAY and other service-oriented appliance providers seeking to strengthen customer satisfaction, enhance loyalty, and maintain a sustainable competitive advantage.

LITERATURE REVIEW

Hypotheses Development

Product Quality

Product quality refers to a product's ability to perform its intended functions consistently and reliably while meeting customer expectations (Rahmayani et al., 2024). In the home appliance industry, product quality is often evaluated through durability, functionality, safety, and overall performance. According to Ahmed et al. (2020), Huang et al. (2015), and Praveena et al. (2024), increasing urbanization and concerns regarding water quality have contributed to growing demand for reliable water purification systems in Malaysia. As consumers become more aware of health and safety issues, they place greater emphasis on products that can effectively address these concerns.

COWAY has established a strong position in the Malaysian market by offering water purification products that incorporate advanced filtration technologies and continuous product innovation. The company's use of reverse osmosis (RO) technology and its focus on product reliability have strengthened consumer confidence in its offerings. High-quality products reduce performance uncertainty and increase customers' confidence in their purchase decisions, thereby contributing to positive customer evaluations.

From the perspective of ECT, customer satisfaction develops when product performance meets or exceeds customer expectations (Lin et al., 2009). Previous studies have reported that product quality positively influences customer satisfaction because customers tend to evaluate products based on their effectiveness, durability, and ability to deliver expected benefits (Uzir et al., 2020). Therefore, product quality remains an important factor in shaping customer evaluations of home appliance brands.

H1: Product quality has a significant positive effect on customer satisfaction and loyalty.

Service Quality

Service quality reflects customers' evaluations of how effectively a company delivers services before, during, and after product usage (Nursalim et al., 2025; Widiarti et al., 2025). In service-oriented business models, service quality extends beyond product performance and includes responsiveness, reliability, professionalism, and consistency of service delivery. COWAY's service strategy emphasizes continuous customer care through its "Cody" service system, where trained personnel conduct regular maintenance, sanitation, and performance checks to ensure product effectiveness (Lee, 2023).

The company has also incorporated technological innovations such as Internet of Things (IoT)-based monitoring systems and digital communication channels to improve service responsiveness and customer convenience. These initiatives allow potential issues to be identified and addressed before they affect customers, thereby enhancing service reliability and customer confidence.

Prior research suggests that service quality is one of the most important determinants of customer satisfaction because it directly influences customers' service experiences and perceptions of value (Ahmed et al., 2023; Marcos & Coelho, 2022; Samufro et al., 2020). Consistent service interactions help reduce uncertainty, reinforce trust, and strengthen customers' overall evaluations of a company (Singh et al., 2023). In subscription-based and service-intensive industries, customers often place substantial importance on service reliability because it affects their long-term experience with the product and the brand. Consequently, higher levels of service quality are expected to contribute positively to customer satisfaction and loyalty.

H2: Service quality has a significant positive effect on customer satisfaction and loyalty.

Price and Value Perception

Price and value perception refers to customers' evaluation of whether the benefits received from a product or service justify the costs incurred. Consumers generally assess value by comparing the quality, performance, and service benefits obtained against the monetary sacrifices required. According to Ayub and Kusumadewi (2021), customers are more likely to develop favorable attitudes toward a brand when they perceive that the value received exceeds the costs paid.

For premium brands such as COWAY, customers do not evaluate price solely in monetary terms. Instead, they consider broader benefits such as product reliability, health-related advantages, service consistency, and long-term convenience. Strong value perception enables companies to maintain premium pricing while sustaining customer satisfaction and continued demand. COWAY's ability to maintain a positive brand image and consistent product performance contributes to favorable value perceptions among consumers.

Furthermore, Blut et al. (2024) and Gurtner & Starovicova (2026) argue that perceived value encompasses both functional and symbolic benefits. Consumers may choose premium products not only because of their practical utility but also because of the prestige and confidence associated with the brand. Similarly, Abid et al. (2024) and Monfort et al. (2025) emphasize that positive value perceptions encourage favorable customer experiences and strengthen long-term customer relationships. Therefore, customers who perceive greater value from COWAY's products and services are more likely to report higher levels of satisfaction and loyalty.

H3: Price and value perception have a significant positive effect on customer satisfaction and loyalty.

Customer Support

Customer support represents the assistance provided by a company to customers before and after purchase, including problem resolution, technical guidance, and service communication (Sheth et al., 2023). According to Singh et al. (2023), customer support contributes to customers' overall evaluations through dimensions such as responsiveness, reliability, and assurance. Effective customer support helps customers resolve issues efficiently and reduces uncertainty regarding product usage and maintenance.

Research has consistently demonstrated that responsive and reliable customer support contributes positively to customer satisfaction, particularly in industries involving ongoing service interactions. Suhartanto et al. (2018) found that customers are more satisfied when service personnel provide timely assistance, demonstrate competence, and

communicate effectively. These interactions strengthen customer confidence and improve perceptions of service reliability.

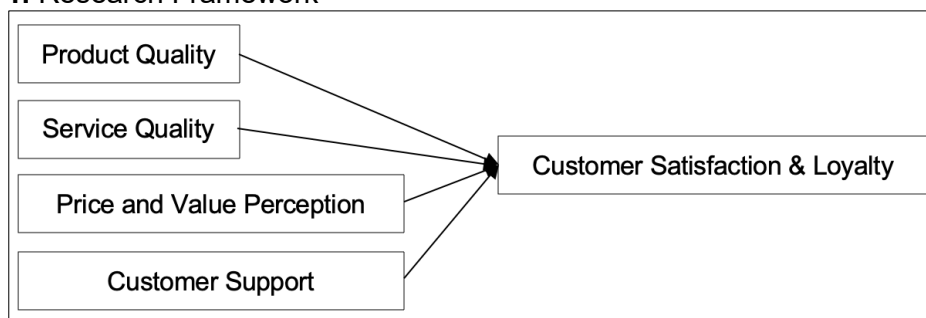
In the context of COWAY, customer support plays an important role because the company's products require periodic maintenance, filter replacement, and occasional technical assistance. Every interaction between customers and service representatives contributes to the overall customer experience. Effective support services can reinforce positive perceptions of the brand and increase satisfaction by ensuring that customer concerns are addressed promptly and professionally (Singh et al., 2023).

H4: Customer support has a significant positive effect on customer satisfaction and loyalty.

Conceptual Framework

Figure 1 presents the conceptual framework of this study. Drawing upon ECT, the framework proposes that product quality, service quality, price and value perception, and customer support influence customer satisfaction and loyalty among COWAY customers in Malaysia. The framework assumes that customers evaluate both product-related and service-related experiences when forming overall judgments regarding their satisfaction and loyalty toward the brand.

Figure 1. Research Framework



RESEARCH METHOD

Sampling

This study adopts a quantitative research approach to examine the factors influencing customer satisfaction and loyalty toward COWAY products and services in Malaysia. Quantitative research is appropriate because it enables researchers to systematically measure customer perceptions and evaluate the relationships among variables using statistical analysis (Sekaran & Bougie, 2020). The study focuses on existing COWAY customers who have direct experience with the company's products, maintenance services, and customer support system.

The target population consists of COWAY customers in Malaysia who use one or more of the company's products, including water purifiers, air purifiers, bidets, mattresses, and other home appliance solutions. These customers represent an appropriate population because they regularly interact with COWAY's rental-based service model and are therefore capable of evaluating product quality, service quality, customer support, and price and value perception. The unit of analysis in this study is the individual customer, as customer satisfaction and loyalty are formed through personal experiences and evaluations of the company's offerings.

A purposive sampling technique was employed to ensure that respondents possessed relevant experience with COWAY products and services. Purposive sampling is

commonly used when researchers seek information from respondents who meet specific selection criteria and can provide meaningful insights related to the research objectives (Saunders et al., 2019). To qualify for participation, respondents were required to be current users of COWAY products and services. This criterion helped ensure that the collected responses reflected actual customer experiences rather than general perceptions of the brand.

A total of 122 valid responses were obtained and included in the analysis. The respondents represented diverse demographic backgrounds in terms of age, gender, ethnicity, income level, and duration of product usage. Such diversity provides a broader understanding of customer experiences and perceptions within the Malaysian market. Furthermore, respondents reported using various COWAY products, indicating familiarity with both the company's products and service ecosystem. Consequently, the sample was considered suitable for evaluating the determinants of customer satisfaction and loyalty toward COWAY.

Data Collection

Primary data were collected through a structured online questionnaire distributed to eligible respondents using digital communication platforms. The questionnaire method was selected because it allows data to be collected efficiently from a relatively large number of respondents while ensuring consistency in measurement across participants (Malhotra, 2019). The online format also enabled respondents from different locations within Malaysia to participate conveniently.

Prior to completing the questionnaire, respondents were asked to confirm that they were current users of COWAY products or services. This screening process was conducted to ensure that participants possessed sufficient knowledge and experience to evaluate the constructs examined in the study. Participation was entirely voluntary, and respondents were informed that their responses would be used solely for academic purposes.

The questionnaire remained accessible for an adequate period to allow respondents to complete it at their convenience. To encourage honest and unbiased responses, no personally identifiable information was collected. Respondent anonymity and confidentiality were maintained throughout the data collection process. The use of an online survey was also cost-effective and facilitated the collection of customer perceptions regarding product quality, service quality, customer support, price and value perception, and customer satisfaction and loyalty.

Measures

The research instrument consisted of structured measurement items designed to assess the constructs included in the conceptual framework. All measurement items were adapted from concepts widely discussed in the customer satisfaction and service quality literature. The questionnaire was organized into demographic questions and construct measurement items.

Product Quality was measured through items assessing customers' perceptions of product reliability, performance, durability, and overall effectiveness. These items captured respondents' evaluations of whether COWAY products consistently fulfilled their intended functions and met customer expectations.

Service Quality was measured through items related to service reliability, responsiveness, professionalism, and the overall quality of maintenance services provided by COWAY. Particular attention was given to customers' experiences with the

company's Cody service system, which forms a central component of COWAY's service delivery model.

Customer Support was measured using items that evaluated the effectiveness of communication channels, responsiveness to customer inquiries, problem resolution capability, and the quality of after-sales assistance. These measures reflected customers' experiences when interacting with COWAY representatives regarding maintenance scheduling, technical support, and service-related issues.

Price and Value Perception was measured through respondents' evaluations of price fairness and their perceptions of whether the benefits received from COWAY products and services justified the costs incurred. The items assessed the extent to which customers perceived value in relation to product performance, service quality, and long-term benefits.

Customer Satisfaction and Loyalty were treated as a single dependent construct representing customers' overall evaluations of their experiences with COWAY. The construct included items measuring overall satisfaction, willingness to continue using COWAY products and services, and willingness to recommend the brand to others. Combining satisfaction and loyalty into a single construct reflects customers' overall assessment of their relationship with the company and is consistent with the objective of examining factors that contribute to positive customer outcomes.

All items were measured using a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The Likert scale was selected because it provides a simple and effective method for measuring attitudes, perceptions, and levels of agreement (Likert, 1932). The collected data were subsequently analyzed using descriptive statistics, reliability analysis, correlation analysis, and multiple regression analysis to evaluate the relationships between the independent variables and customer satisfaction and loyalty. Reliability was assessed using Cronbach's alpha to examine the internal consistency of the measurement scales, while regression analysis was employed to determine the relative influence of each predictor on the dependent variable.

RESULTS

Table 1. Summary of Respondents' Demography (N=122)

Response	Frequency	Percentage (%)
Age		
21 - 30 years old	21	9.5
31-40 years old	33	14.9
41-50 years old	34	15.3
Above 50	3	1.4
Below 20	26	11.7
Gender		
Female	77	34.7
Male	37	16.7
Prefer not to say	3	1.4
Ethnic		
American	1	0.5
Bumiputera Sarawak	1	0.5
Chinese	25	11.3
India	2	0.9
Indian	38	17.1
Malay	50	22.5

Monthly Income		
Above RM8,000	5	2.3
Below RM2,000	25	11.3
RM2,001 – RM4,000	14	6.3
RM4,001 – RM6,000	41	18.5
RM6,001 – RM8,000	32	14.4
How long have you been a Coway customer		
1–3 years	27	12.2
4–6 years	61	27.5
Less than 1 year	17	7.7
More than 6 years	12	5.4
What Coway products do you currently use		
Air Conditioners	1	0.5
Air Conditioners	1	0.5
Air purifier	1	0.5
Air purifier, Bidet	1	0.5
Air purifier, Bidet, Air Conditioners	13	5.9
Air purifier, Bidet, Water Dispensers	3	1.4
Air purifier, Bidet, Water Dispensers, Air Conditioners	1	0.5
Air purifier, Mattress, Air Conditioners	1	0.5
Air purifier, Mattress, Bidet	1	0.5
Air purifier, Mattress, Bidet, Water Dispensers	1	0.5
Air purifier, Mattress, Water Dispensers	4	1.8
Air purifier, Mattress, Water Dispensers, Air Conditioners	1	0.5
Air purifier, Water Dispensers	4	1.8
Bidet, Water Dispensers	1	0.5
Mattress	1	0.5
Mattress, Air Conditioners	1	0.5
Mattress, Bidet, Air Conditioners,	1	0.5
Mattress, Bidet, Water Dispensers	2	0.9
Mattress, Water Dispensers, Air Conditioners	2	0.9
Mattress, Water Dispensers, Air Conditioners,	1	0.5
Water Dispensers	10	4.5
Water purifier	8	3.6
Water purifier,	1	0.5
Water purifier, Air Conditioners	2	0.9
Water purifier, Air purifier	1	0.5
Water purifier, Air purifier, Air Conditioners	2	0.9
Water purifier, Air purifier, Bidet	2	0.9
Water purifier, Air purifier, Bidet, Air Conditioners	1	0.5
Water purifier, Air purifier, Bidet, Water Dispensers	2	0.9
Water purifier, Air purifier, Mattress	1	0.5
Water purifier, Air purifier, Mattress, Air Conditioners	1	0.5
Water purifier, Air purifier, Mattress, Bidet	1	0.5
Water purifier, Air purifier, Mattress, Water Dispensers, Air Conditioners	1	0.5
Water purifier, Air purifier, Water Dispensers	4	1.8
Water purifier, Air purifier, Water Dispensers, Air Conditioners	4	1.8
Water purifier, Bidet	2	0.9
Water purifier, Bidet, Air Conditioners	2	0.9

Water purifier, Bidet, Water Dispensers	1	0.5
Water purifier, Bidet, Water Dispensers, Air Conditioners	2	0.9
Water purifier, Mattress, Air Conditioners	5	2.3
Water purifier, Mattress, Bidet	3	1.4
Water purifier, Mattress, Bidet, Air Conditioners	1	0.5
Water purifier, Mattress, Bidet, Water Dispensers	2	0.9
Water purifier, Mattress, Bidet, Water Dispensers, Air Conditioners	1	0.5
Water purifier, Mattress, Water Dispensers	7	3.2
Water purifier, Mattress, Water Dispensers, Air Conditioners	1	0.5
Water purifier, Water Dispensers	6	2.7
Water purifier, Water Dispensers, Air Conditioners	1	0.5

Table 1 presents the demographic profile of the 122 respondents who participated in this study. The largest age group was respondents aged 41–50 years (15.3%), while the smallest group consisted of those aged above 50 years (1.4%). Female respondents represented the majority of the sample (34.7%), compared to male respondents (16.7%). In terms of ethnicity, Malay respondents accounted for the largest proportion of participants (22.5%), followed by Indian (17.1%) and Chinese respondents (11.3%).

Regarding monthly income, the largest proportion of respondents reported earning between RM4,001 and RM6,000 per month (18.5%), followed by those earning between RM6,001 and RM8,000 (14.4%). The findings also indicate that many respondents had substantial experience with COWAY products and services, with 27.5% reporting usage periods of between four and six years. In terms of product ownership, respondents reported using a variety of COWAY products, reflecting broad exposure to the company’s product and service ecosystem. The most frequently reported product combination was Air Purifiers, Bidets, and Air Conditioners (5.9%), followed by Water Dispensers (4.5%). Overall, the respondent profile suggests that the sample possessed adequate experience with COWAY products and services to evaluate the factors influencing customer satisfaction and loyalty.

Table 2. Descriptive Statistics, Cronbach’s Coefficient Alpha, and Zero-Order Correlations for All Study Variables

Variable		1	2	3	4	5
1	Product Quality	0.224	0.533**	0.359**	0.281**	0.277**
2	Service Quality	0.533**	0.541	0.410**	0.469**	0.405**
3	Price and Value	0.281**	0.469**	0.715**	0.583	0.507**
4	Customer Support	0.359**	0.410**	0.394	0.715**	0.507**
5	Customer Satisfaction and Loyalty	0.277**	0.405**	0.507**	0.507**	0.686
Number of Items		2	4	2	3	3
Mean		4.3632	4.3398	4.2778	4.2848	4.3704
Standard Deviation		0.45307	0.44537	0.52705	0.51005	0.49861

N = 122; *p < 0.05, **p < 0.01***p < 0.001. The diagonal entries represent Cronbach’s Coefficient Alpha

Table 2 displays the descriptive statistics, reliability coefficients, and zero-order correlations among the study variables. The mean values range from 4.2778 to 4.3704, indicating that respondents generally held favorable perceptions of COWAY’s products and services. Customer Satisfaction and Loyalty recorded the highest mean score (M = 4.3704), followed closely by Product Quality (M = 4.3632) and Service Quality (M =

4.3398). These results suggest that respondents were generally satisfied with their overall experiences with COWAY.

The correlation analysis shows that all independent variables are positively associated with Customer Satisfaction and Loyalty. Product Quality ($r = 0.277$, $p < 0.01$), Service Quality ($r = 0.405$, $p < 0.01$), Customer Support ($r = 0.507$, $p < 0.01$), and Price and Value Perception ($r = 0.507$, $p < 0.01$) all demonstrate significant positive relationships with the dependent variable. These findings indicate that improvements in these factors are generally associated with higher levels of customer satisfaction and loyalty.

The reliability results reveal varying levels of internal consistency across the constructs. Customer Satisfaction and Loyalty demonstrate the highest Cronbach's alpha value ($\alpha = 0.686$), followed by Price and Value Perception ($\alpha = 0.583$) and Service Quality ($\alpha = 0.541$). Product Quality ($\alpha = 0.224$) and Customer Support ($\alpha = 0.394$) exhibit relatively low reliability coefficients, suggesting that the measurement items for these constructs may require refinement in future studies. Nevertheless, the significant correlations among the variables provide preliminary support for examining their effects through multiple regression analysis.

Table 3. Regression Analysis

Variable		Customer Satisfaction and Loyalty
1	Product Quality	-0.108
2	Service Quality	0.252*
3	Price and Value	0.288*
4	Customer Support	0.183
R ²		0.287
F value		11.268
Durbin - Waston Statistic		1.766

Note: N=122; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3 indicates the results of the multiple regression analysis examining the effects of product quality, service quality, customer support, and price and value perception on customer satisfaction and loyalty. The regression model explains 28.7% of the variance in customer satisfaction and loyalty ($R^2 = 0.287$). In addition, the model is statistically significant ($F = 11.268$), indicating that the selected independent variables collectively contribute to explaining customer satisfaction and loyalty among COWAY customers. The Durbin–Watson statistic of 1.766 suggests that there is no serious autocorrelation issue within the regression model.

Among the four predictors, service quality ($\beta = 0.252$, $p < 0.05$) and price and value perception ($\beta = 0.288$, $p < 0.05$) demonstrate significant positive effects on customer satisfaction and loyalty. Price and value perception exhibits the strongest influence among all variables included in the model. These findings indicate that customers who perceive greater value from COWAY's products and services, as well as higher levels of service quality, are more likely to report stronger satisfaction and loyalty.

In contrast, product quality does not demonstrate a significant effect on customer satisfaction and loyalty ($\beta = -0.108$). Similarly, customer support shows a positive coefficient ($\beta = 0.183$), but the effect is not statistically significant. Therefore, the results provide support for H2 and H3, while H1 and H4 are not supported.

DISCUSSION

The primary objective of this study was to examine the factors influencing customer satisfaction and loyalty toward COWAY's products and services in Malaysia. Specifically, the study investigated the effects of product quality, service quality, price and value perception, and customer support within COWAY's rental-based service model. The findings indicate that service quality and price and value perception significantly influence customer satisfaction and loyalty, whereas product quality and customer support do not demonstrate statistically significant effects. These results provide valuable insights into how customers evaluate their experiences in a service-oriented home appliance environment and contribute to the growing body of literature on customer satisfaction in subscription-based business models.

This study extends existing research by providing empirical evidence from the Malaysian home appliance industry, a context that has received relatively limited scholarly attention. While previous studies have primarily focused on product performance or general customer satisfaction in the appliance sector, this study integrates both product-related and service-related dimensions within a single framework. By applying ECT, the findings offer a more comprehensive understanding of how customer satisfaction and loyalty are formed in a business model that combines physical products with ongoing service interactions.

Key Findings Analysis

The Influence of Product Quality on Customer Satisfaction and Loyalty

The results indicate that product quality does not have a significant effect on customer satisfaction and loyalty, leading to the rejection of H1. Although product quality has traditionally been regarded as a key determinant of customer satisfaction, the present findings suggest that its influence may diminish when customers already perceive product performance to be consistently reliable.

This finding can be interpreted through the lens of ECT (Lin et al., 2009). According to ECT, satisfaction is influenced by the extent to which actual performance confirms or exceeds prior expectations. In the case of COWAY, customers may already expect a high level of product quality due to the company's strong reputation and established market position. Consequently, product quality may be viewed as a basic requirement rather than a differentiating factor that actively enhances satisfaction. Once a satisfactory quality threshold has been achieved, customers may place greater emphasis on other aspects of their experience when evaluating the company.

Although previous studies have suggested that product quality positively influences customer satisfaction (Rahmayani et al., 2024; Uzir et al., 2020), the present findings indicate that this relationship may be less pronounced in mature and highly competitive markets. As noted by Ahmed et al. (2020), Huang et al. (2015), and Praveena et al. (2024), increasing consumer awareness regarding health and water quality has elevated expectations toward water purification products. As a result, customers may regard reliable product performance as a standard requirement rather than a unique source of satisfaction. In such circumstances, service-related and value-oriented considerations may become more influential in shaping overall customer evaluations.

The Influence of Service Quality on Customer Satisfaction and Loyalty

Service quality was found to have a significant positive effect on customer satisfaction and loyalty, providing support for H2. This result suggests that customers place substantial importance on the quality of interactions and services they receive throughout their relationship with COWAY. In a rental-based service model, customers do not evaluate the product alone; they also assess maintenance services, technician

professionalism, responsiveness, and the overall service experience provided by the company.

The finding aligns closely with ECT, which proposes that positive service experiences strengthen satisfaction when they meet or exceed customer expectations (Lin et al., 2009). COWAY's "Cody" service system provides regular maintenance, product inspections, and sanitation services, enabling customers to experience continuous support throughout the product lifecycle. As highlighted by Lee (2023), the Cody service model represents a key component of COWAY's customer relationship strategy because it allows customers to receive ongoing professional support beyond the initial purchase stage.

The result is also consistent with previous studies emphasizing the importance of service quality in shaping customer evaluations. Ahmed et al. (2023), Marcos & Coelho (2022), and Samudro et al. (2020) found that service quality directly influences customer satisfaction because it affects customers' perceptions of reliability, convenience, and overall service performance. Similarly, Singh et al. (2023) argued that responsive and reliable service interactions help strengthen customer trust and reduce uncertainty. Björkdahl et al. (2022) also argued that consistent service interactions create value by strengthening customer relationships and enhancing overall customer experiences. The present findings support these arguments by demonstrating that service quality remains a critical determinant of customer satisfaction and loyalty within a service-intensive home appliance business model.

The Influence of Price and Value Perception on Customer Satisfaction and Loyalty

Among all predictors examined in this study, price and value perception emerged as the strongest determinant of customer satisfaction and loyalty, supporting H3. This finding indicates that customers carefully evaluate whether the benefits received from COWAY's products and services justify the costs incurred. Rather than focusing solely on the monetary price, customers appear to assess the overall value proposition offered by the company.

The result supports the arguments of Ayub and Kusumadewi (2021), who found that perceived value plays an important role in shaping positive customer evaluations and purchase decisions. Customers are more likely to report higher satisfaction when they believe that the quality of products, maintenance services, and long-term benefits outweigh the financial costs associated with ownership or subscription. In the context of COWAY, the rental-based model may encourage customers to continuously evaluate whether the monthly fees are justified by the convenience, reliability, and service support they receive.

The findings are also consistent with Blut et al. (2024) and Gurtner & Starovicova (2026), who argued that perceived value extends beyond economic considerations and incorporates both functional and symbolic benefits. Customers may value COWAY products not only because of their practical utility but also because of the confidence, convenience, and premium image associated with the brand. Furthermore, Abid et al. (2024) and Monfort et al. (2025) emphasized that favorable value perceptions contribute to positive customer experiences and stronger long-term relationships. The present findings reinforce these arguments by demonstrating that value perception exerts a stronger influence on customer satisfaction and loyalty than product-related considerations alone.

The Influence of Customer Support on Customer Satisfaction and Loyalty

The results reveal that customer support has a positive but statistically non-significant effect on customer satisfaction and loyalty, resulting in the rejection of H4. Although respondents generally reported favorable perceptions of customer support, the effect was not sufficiently strong to emerge as a significant predictor when examined alongside service quality and price and value perception.

One possible explanation is that customers may perceive customer support as only one component of the broader service experience. When service quality and value perception are considered simultaneously, the independent contribution of customer support may become less pronounced. In other words, customers may evaluate their overall experience based primarily on regular maintenance services, reliability, and perceived value rather than on occasional interactions with support channels.

This finding partially contrasts with the studies of [Singh et al. \(2023\)](#) and [Suhartanto et al. \(2018\)](#), which reported that responsive and reliable customer support contributes positively to customer satisfaction by reducing uncertainty and strengthening customer confidence. However, the present findings suggest that the influence of customer support may vary depending on the service context. In the case of COWAY, customer support may function primarily as a supplementary service that becomes important only when problems arise. Since COWAY's proactive maintenance system is designed to minimize service disruptions through regular inspections and preventive servicing, customers may have limited direct interaction with support personnel. Consequently, customers may place greater emphasis on ongoing service quality and perceived value than on support-related interactions when evaluating their overall satisfaction and loyalty.

Interpretation of Non-Significant Findings

The non-significant effects of product quality and customer support provide important insights into customer behavior within COWAY's service ecosystem. Although both variables demonstrate positive associations with customer satisfaction and loyalty in the correlation analysis, their effects become non-significant when service quality, price, and value perception are included simultaneously in the regression model. This finding suggests that customers place greater emphasis on their overall service experience and perceived value when evaluating their relationship with the company.

From an ECT perspective, customers may regard product quality and customer support as fundamental elements of the service package that are expected rather than exceptional ([Lin et al., 2009](#)). When these expectations are consistently fulfilled, their ability to generate additional satisfaction may diminish. Instead, customers become more sensitive to factors that directly shape their day-to-day experiences, such as service reliability, maintenance quality, responsiveness, and the value received relative to the costs incurred.

This finding further suggests that customers evaluate COWAY's offerings as an integrated service package, where ongoing service experiences and perceived value become more salient determinants of satisfaction than product attributes or support functions considered independently. The results are consistent with the argument of [Uzir et al. \(2020\)](#) that product quality may function as a basic requirement in mature markets, while [Ahmed et al. \(2023\)](#), [Marcos & Coelho \(2022\)](#), and [Singh et al. \(2023\)](#) emphasize the increasing importance of service-related factors in shaping customer evaluations. Similarly, the strong effect of price and value perception supports the observations of [Abid et al. \(2024\)](#), [Ayub & Kusumadewi \(2021\)](#), and [Monfort et al. \(2025\)](#), who argued that customers increasingly assess brands based on the overall value they receive rather than on product attributes alone.

Managerial Implications

The findings provide several practical implications for COWAY and other firms operating in service-oriented home appliance industries. First, management should continue investing in service quality initiatives, particularly those related to maintenance reliability, technician professionalism, and service responsiveness. Since service quality significantly influences customer satisfaction and loyalty, maintaining consistently positive service experiences should remain a strategic priority. The significance of service quality in this study reinforces previous findings that reliable and responsive service interactions strengthen customer evaluations and long-term relationships (Ahmed et al., 2023; Marcos & Coelho, 2022; Singh et al., 2023).

Second, the strong effect of price and value perception suggests that COWAY should clearly communicate the benefits associated with its products and services. Customers need to understand how the costs they incur translate into tangible value, including product reliability, health benefits, convenience, and long-term service support. Consistent with Ayub and Kusumadewi (2021), customers are more likely to remain satisfied when they perceive that the benefits received justify the costs incurred. Furthermore, the findings of Abid et al. (2024), Blut et al. (2024), Gurtner & Starovicova (2026), and Monfort et al. (2025) suggest that strengthening both functional and symbolic value propositions may further enhance customer satisfaction and loyalty.

Third, although customer support was not found to be a significant predictor, it should not be overlooked. Effective problem resolution, timely responses, and accessible communication channels remain important for maintaining positive customer experiences, particularly when service failures occur. Improving digital support platforms and increasing response efficiency may strengthen customers' perceptions of reliability and reassurance during service recovery situations (Singh et al., 2023; Suhartanto et al., 2018).

Overall, the findings suggest that customer satisfaction and loyalty within COWAY's rental-based business model are driven primarily by service excellence and perceived value. Therefore, managerial efforts should focus on strengthening service delivery, maintaining value-based pricing strategies, and continuously enhancing customer experiences to foster long-term customer relationships and sustain competitive advantage in the Malaysian home appliance market.

CONCLUSION

This study examined the effects of product quality, service quality, customer support, and price and value perception on customer satisfaction and loyalty among COWAY customers in Malaysia. Drawing upon ECT, the study sought to identify the factors that most strongly influence customers' evaluations of COWAY's rental-based products and services.

The findings reveal that service quality and price and value perception are significant determinants of customer satisfaction and loyalty. Among the variables examined, price and value perception emerged as the strongest predictor, indicating that customers place substantial importance on the overall value received from COWAY's products and services relative to the costs incurred. Service quality also demonstrated a significant positive influence, highlighting the importance of reliable maintenance services, professional service delivery, and consistent customer experiences within COWAY's service ecosystem.

In contrast, product quality and customer support did not exhibit significant effects when analyzed alongside the other variables. These findings suggest that while customers generally expect high-quality products and adequate support services, these factors may function as baseline expectations rather than primary drivers of satisfaction and loyalty. Instead, customers appear to place greater emphasis on the quality of ongoing service interactions and the value derived from the overall service package.

The study contributes to the customer satisfaction literature by extending the application of ECT to a subscription-based home appliance context. Furthermore, the findings provide practical insights for managers by demonstrating that investments in service excellence and value creation may generate greater improvements in customer satisfaction and loyalty than product-focused initiatives alone. Overall, the results suggest that sustaining customer satisfaction and loyalty in the Malaysian home appliance industry requires a balanced focus on service performance, customer value, and long-term relationship management.

LIMITATION

Despite providing valuable insights into customer satisfaction and loyalty toward COWAY products and services, this study is subject to several limitations that should be considered when interpreting the findings.

First, the study utilized a relatively modest sample size of 122 respondents drawn exclusively from Malaysia. Although the sample was sufficient for the statistical analyses performed, the findings may not fully represent the perceptions of all COWAY customers or customers in other geographical markets. Consequently, the generalizability of the results should be interpreted with caution.

Second, the study relied on self-reported survey data, which may be influenced by respondents' subjective perceptions, memory limitations, or social desirability bias. While the use of anonymous questionnaires helped reduce potential response bias, self-reported measures may not always capture actual customer behavior or experiences with complete accuracy.

Third, the cross-sectional research design captured customer perceptions at a single point in time. As a result, the study is unable to examine how customer satisfaction and loyalty evolve over time or establish definitive causal relationships among the variables. Customer evaluations may change as they gain additional experience with products, maintenance services, and customer support interactions throughout the service lifecycle.

Another limitation relates to the explanatory power of the model. The regression analysis indicates that the independent variables explain 28.7% of the variance in customer satisfaction and loyalty, suggesting that additional factors not included in the present study may also influence customer evaluations. Variables such as trust, brand image, perceived convenience, service innovation, and digital service quality may provide further explanatory value.

Future research is encouraged to employ larger and more diverse samples to improve the generalizability of findings. Comparative studies involving different home appliance brands could provide a broader understanding of customer satisfaction drivers within the industry. Researchers may also conduct cross-country comparisons in markets where COWAY operates, such as South Korea, Singapore, and Malaysia, to explore the influence of cultural and market differences on customer perceptions.

In addition, longitudinal research designs would provide a more comprehensive understanding of how customer satisfaction and loyalty develop throughout the customer lifecycle. Future studies may also incorporate mediating or moderating variables, including trust, brand image, perceived risk, customer engagement, and digital service quality, to develop a more comprehensive explanation of customer behavior. Given the growing adoption of smart technologies in the home appliance industry, future research could further investigate the roles of IoT-enabled monitoring systems, digital customer service platforms, and personalized service experiences as emerging determinants of customer satisfaction and loyalty.

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DECLARATION OF CONFLICTING INTERESTS

The authors have declared no potential conflicts of interest concerning this study, authorship, and/or publication of articles. This phrasing confirms that there are no personal, financial, and professional biases that influenced the customer satisfaction of COWAY.

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