

Optimizing Maritime Training Participant Satisfaction: The Mediating Role of Perceived Value and Fees

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Abstract

Competent maritime human resources are crucial for the success of the maritime transportation industry. The Surabaya Maritime Polytechnic faces the challenge of unstable training participant numbers due to intense competition. This study aims to analyze the influence of service quality, infrastructure, and training rates on customer satisfaction, with perceived value as an intervening variable. The research method uses a quantitative explanatory approach through Structural Equation Modeling based on Partial Least Squares with SmartPLS. Data were collected using a questionnaire from one hundred and fifty respondents using a purposive sampling technique. The results analyze the direct and indirect relationships between variables to formulate a service model. In conclusion, strengthening perceived value supported by excellent service quality, adequate facilities, and proportional rates is a key strategy for increasing satisfaction. These results are crucial as managerial recommendations for institutions in making sustainable strategic decisions.

Keywords

Customer Satisfaction, Service Quality, Perceived Value, Infrastructure, Training Rates.



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INTRODUCTION

The maritime industry is the backbone of global trade, with more than 80% of the world's merchandise trade by volume transported by sea. This situation requires the availability of maritime human resources who are not only technically competent but also meet international qualification standards established by the International Maritime Organization (IMO) through the STCW (Standards of Training, Certification, and Watchkeeping) Convention. The STCW Convention establishes minimum international standards for the training, certification, and watchkeeping of seafarers, making competency development an essential component of maritime safety and operational effectiveness. As one of the world's major maritime nations, Indonesia therefore has a strategic interest in producing highly qualified seafarers to strengthen

its position within the global maritime industry and support its vision of becoming a Global Maritime Fulcrum. This responsibility is carried out by maritime Education and Training (E&T) institutions, which are increasingly transforming from conventional educational centers into professional service providers that must respond to competition, technological development, and changing customer expectations (International Maritime Organization [IMO], 2017; United Nations Conference on Trade and Development [UNCTAD], 2023; Wong, 2018).

In an increasingly competitive maritime vocational education environment, customer satisfaction, particularly among training participants, has become an important indicator of institutional sustainability. Surabaya Maritime Polytechnic (Poltekpel Surabaya), as one of the institutions under the Indonesian Ministry of Transportation, faces challenges in maintaining participant loyalty and satisfaction amid fluctuations in enrollment and the emergence of various private maritime training centers. Service quality and the availability of modern laboratory facilities and simulators are often major attractions for prospective participants because these elements provide tangible evidence of training quality and support the acquisition of practical competencies. Nevertheless, previous research indicates that physical facilities and technical aspects alone may not be sufficient to ensure long-term customer satisfaction when they are not accompanied by reliable, responsive, and customer-oriented service management. Service quality is closely related to customers' evaluations of their experiences and expectations, making it a critical determinant of satisfaction in educational and training services (Parasuraman et al., 1988; Napitupulu et al., 2018; Yousapronpaiboon, 2014).

Although numerous studies have examined customer satisfaction in the education sector, a significant research gap remains, particularly in the context of maritime training institutions in Indonesia. Previous studies have generally examined service quality and facilities as important determinants of satisfaction, while the role of training fees or prices has received comparatively less integrated attention. In addition, perceived value as an intervening variable that connects service quality, physical facilities, and financial sacrifice with customer satisfaction has rarely been examined comprehensively in maritime vocational education. From the customer perspective, satisfaction is not determined solely by the quality of the service received but also by an assessment of whether the benefits obtained are proportional to the costs incurred. Therefore, participants may evaluate maritime training based on the relationship between the financial sacrifice they make and the professional

competencies, certification, facilities, and services they receive (Zeithaml, 1988; Cronin et al., 2000; Sweeney & Soutar, 2001).

This study seeks to address this research gap by comprehensively analyzing the effects of service quality, facilities and infrastructure, and training fees on customer satisfaction through perceived value as an intervening variable at Poltekpel Surabaya. The novelty of this research lies in integrating training fees into a customer satisfaction model while simultaneously positioning perceived value as a mediating mechanism. This approach is particularly relevant because Poltekpel Surabaya operates within a public-service institutional environment that requires a balance between the provision of accessible public services and the maintenance of service quality and financial sustainability. The integration of these variables is expected to provide a more comprehensive explanation of how participants evaluate the overall value of maritime training services. Through the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach, this study is expected to develop a strategic framework for optimizing participant satisfaction and strengthening sustainable competitive value in maritime training institutions (Hair et al., 2022; Cronin et al., 2000; Sweeney & Soutar, 2001).

The primary theoretical foundation for understanding customer satisfaction in this study is the Expectancy-Disconfirmation Theory. The theory explains that satisfaction results from a comparison between customers' initial expectations and their perceptions of actual performance. When perceived performance exceeds expectations, positive disconfirmation occurs and satisfaction tends to increase; conversely, when performance falls below expectations, negative disconfirmation may occur and lead to dissatisfaction. In the context of maritime training, participants, particularly professional seafarers, have specific expectations regarding the competencies, certification, facilities, instructors, and services that they will obtain. Therefore, the extent to which the training institution is able to meet or exceed these expectations becomes an important determinant of participant satisfaction (Oliver, 1980; Oliver, 1997).

Service quality in maritime vocational education can be assessed through dimensions commonly associated with the SERVQUAL framework, including tangibles, reliability, responsiveness, assurance, and empathy. These dimensions are particularly relevant to maritime training because participants interact with instructors, administrative personnel, training systems, laboratories, simulators, and other supporting facilities throughout the learning process. Reliability and responsiveness are important because participants require accurate information,

timely services, and consistent training delivery, while assurance is essential because maritime education involves professional competencies and safety-related responsibilities. Previous research has demonstrated that service quality is an important antecedent of perceived value and customer satisfaction across various service sectors, including education (Parasuraman et al., 1988; Cronin & Taylor, 1992; Yousapronpaiboon, 2014).

Facilities and infrastructure constitute tangible elements that are particularly important in maritime education because the acquisition of maritime competencies requires not only theoretical instruction but also practical training using appropriate equipment and simulation technologies. Modern laboratories, bridge and engine-room simulators, safety equipment, classrooms, and other training facilities allow participants to experience learning environments that approximate actual shipboard conditions. The IMO STCW framework emphasizes competency-based training and assessment, which reinforces the importance of appropriate training environments and equipment in preparing seafarers for professional duties. Consequently, the availability, adequacy, reliability, and technological relevance of training facilities can influence participants' confidence in the quality of the training services they receive (International Maritime Organization [IMO], 2017; Sarker et al., 2017).

Training fees or prices represent more than merely nominal monetary amounts; they can also influence customers' perceptions of fairness, quality, and value. The concept of price fairness suggests that customers evaluate whether the price they pay is reasonable in relation to the benefits they receive and the prices or benefits associated with comparable alternatives. In maritime training, participants may consider whether the training fee is proportional to the quality of instructors, certification obtained, facilities, simulator technology, administrative services, and professional competencies acquired. Consequently, a fee that is perceived as too high relative to the benefits received may reduce perceived value and satisfaction, whereas a reasonable and proportionate fee may strengthen the perception that the training represents a worthwhile investment (Xia et al., 2004; Zeithaml, 1988; Varki & Colgate, 2001).

Perceived value is defined as the consumer's overall assessment of the utility of a product or service based on perceptions of what is received and what is given. In the context of maritime training, what participants receive may include professional competencies, certification, instructional quality, facilities, convenience, and future career benefits, whereas what they give includes financial costs, time, effort, and other sacrifices. Perceived value is therefore appropriately positioned as an intervening

variable because customer satisfaction may not be generated directly from service performance alone but also from the cognitive evaluation of whether the overall benefits justify the sacrifices incurred. This perspective explains why participants may remain satisfied even when training fees are relatively high if the perceived benefits and outcomes are considered substantially greater than the costs (Zeithaml, 1988; Sweeney & Soutar, 2001; Petrick, 2002).

The mediating role of perceived value is particularly important because customers do not always evaluate service quality, facilities, and prices independently. Instead, these factors may be integrated into an overall judgment regarding the value of the service. High-quality service may increase perceived value, adequate facilities may strengthen the perceived benefits of training, and reasonable fees may reduce the perceived financial sacrifice. When these components are perceived as balanced, participants are more likely to develop positive evaluations of the training institution and experience higher satisfaction. Previous studies have shown that perceived value can function as an important mechanism linking service quality and price-related evaluations to satisfaction and behavioral intentions (Cronin et al., 2000; Petrick, 2002; Sweeney & Soutar, 2001).

This is where the empirical research gap in the current literature on maritime training quality management becomes evident. Most previous studies have focused primarily on the direct effects of service quality, infrastructure, or price on customer satisfaction. However, relatively limited research has examined perceived value as an intervening variable that simultaneously explains the relationship between service quality, facilities and infrastructure, training fees, and customer satisfaction, particularly within mandatory professional maritime certification training. The mandatory nature of some maritime certification programs creates a distinctive context because participants may have limited alternatives and must balance regulatory requirements, professional career needs, financial costs, and expected training benefits. Therefore, examining perceived value as a mediating mechanism can provide a deeper understanding of participant satisfaction in maritime vocational education (Cronin et al., 2000; Sweeney & Soutar, 2001; Petrick, 2002).

Poltekel Surabaya provides an appropriate research setting because of its strategic role in maritime education and seafarer training in Indonesia and its responsibility to provide professional training services that comply with national and international standards. The institution operates in an environment characterized by technological development, increasing customer expectations, digital transformation, and competition among training providers. These conditions make the evaluation of

service quality, facilities, training fees, perceived value, and customer satisfaction increasingly important for institutional decision-making. Understanding the relationships among these variables can assist management in identifying which aspects of service delivery should be prioritized to strengthen participant satisfaction and institutional competitiveness (International Maritime Organization [IMO], 2017; Parasuraman et al., 1988; Hair et al., 2022).

To address this empirical gap, this study aims to analyze the effects of service quality, facilities and infrastructure, and training fees on customer satisfaction by positioning perceived value as an intervening variable. The study employs a quantitative approach using Structural Equation Modeling based on Partial Least Squares (SEM-PLS) to examine both direct and indirect relationships among the variables. The proposed model is expected to provide an empirical explanation of how maritime training participants evaluate the benefits and sacrifices associated with training services and how these evaluations ultimately influence satisfaction. The findings are expected to contribute theoretically to the literature on service quality and perceived value while also providing practical strategic guidance for managerial decision-making in maritime training institutions operating within a competitive and increasingly service-oriented environment (Hair et al., 2022; Sarstedt et al., 2022)

METHODS

This study employed a quantitative approach with an explanatory research design to examine the causal relationships between service quality (X1), facilities and infrastructure (X2), and training fees (X3) on customer satisfaction (Y), with perceived value (Z) serving as a mediating variable. The explanatory design was selected because it enables researchers to test theoretically derived relationships among latent constructs and explain the mechanisms through which independent variables influence the dependent variable. The study was conducted at Surabaya Maritime Polytechnic (Poltekpel Surabaya) from February to June 2025. The use of a quantitative approach and structural modeling is appropriate for examining complex relationships involving multiple latent variables simultaneously (Creswell & Creswell, 2018; Hair et al., 2022).

The research population consisted of all training participants enrolled during the 2024/2025 academic year. A total of 150 respondents were selected using purposive sampling based on predetermined inclusion criteria. The participants had to have completed at least 50% of the training duration, enrolled in seafarer training programs such as ANT/ATT and BST, and voluntarily agreed to participate in the study.

Purposive sampling was applied because the study required respondents with direct experience of the maritime training services being evaluated. The sample size of 150 respondents was considered adequate for PLS-SEM analysis because the method is suitable for predictive research models with multiple latent constructs and does not require very large samples under appropriate model conditions (Hair et al., 2022; Sarstedt et al., 2022).

Primary data were collected through a structured closed-ended questionnaire using a five-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The measurement instruments were developed from established theoretical concepts and previous empirical research. Service quality (X1) was measured using five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Facilities and infrastructure (X2) were measured through three indicators: physical adequacy, comfort, and functionality. Training fees (X3) consisted of three indicators: affordability, fairness, and transparency. Perceived value (Z) was measured through three dimensions: relative value, emotional value, and social value. Customer satisfaction (Y) was measured using three indicators: overall satisfaction, fulfillment of expectations, and loyalty. The use of multidimensional service-quality and perceived-value constructs is consistent with established measurement approaches in service marketing and consumer behavior research (Parasuraman et al., 1988; Sweeney & Soutar, 2001; Zeithaml, 1988).

Data analysis was conducted using *Structural Equation Modeling–Partial Least Squares* (SEM-PLS) with SmartPLS software. SEM-PLS was selected because it is appropriate for examining complex relationships between latent variables, estimating both direct and indirect effects, and developing predictive models. The analysis consisted of three main stages. First, the measurement model (*outer model*) was evaluated through convergent validity, discriminant validity, and construct reliability. Convergent validity was assessed based on outer loading values of ≥ 0.70 and Average Variance Extracted (AVE) values of ≥ 0.50 . Discriminant validity was examined using the Fornell-Larcker criterion and cross-loadings, while construct reliability was evaluated using Composite Reliability with a recommended value of ≥ 0.70 and Cronbach's Alpha of ≥ 0.60 . These criteria are widely used in PLS-SEM to establish the reliability and validity of reflective measurement models (Fornell & Larcker, 1981; Hair et al., 2022).

Second, the structural model (*inner model*) was evaluated to determine the explanatory and predictive capacity of the proposed research model. The assessment included the coefficient of determination (R^2), predictive relevance (Q^2), effect size (f^2), and, where appropriate, the Goodness of Fit (GoF) index. The R^2 value was used to assess the extent to which the independent variables explain variations in the endogenous constructs, while Q^2 was used to assess predictive relevance. The f^2 measure was employed to determine the magnitude of the contribution of individual exogenous constructs to endogenous constructs. In PLS-SEM, these indicators provide complementary information regarding the explanatory strength, predictive relevance, and substantive contribution of the structural model (Hair et al., 2022; Sarstedt et al., 2022).

Third, hypothesis testing and mediation analysis were performed to examine both direct and indirect relationships among the constructs. The significance of the hypothesized relationships was assessed using the bootstrapping procedure, which generates standard errors and confidence intervals for path coefficients without relying on strict parametric distributional assumptions. The direct effects of service quality, facilities and infrastructure, and training fees on customer satisfaction were tested, while the indirect effects through perceived value were analyzed to determine whether perceived value significantly mediates these relationships. A relationship was considered statistically significant at the 5% significance level when the t^* -statistic was ≥ 1.96 and the p^* -value was ≤ 0.05 . The bootstrapping approach is recommended for testing mediation effects in PLS-SEM because it directly evaluates the significance of indirect effects (Hair et al., 2022; Preacher & Hayes, 2008; Sarstedt et al., 2022).

FINDINGS AND DISCUSSION

Respondent Profile and Demographic Analysis

The study involved 150 respondents ($n = 150$), all of whom were male (100%). This demographic composition reflects the characteristics of the maritime industry, which has historically been male-dominated due to the physical demands, occupational risks, and isolated working environments associated with seafaring. Most respondents were in the senior productive-age groups, with 42.4% aged 31–40 years and 31.8% aged 41–50 years. Furthermore, nearly 60% of respondents had more than ten years of work experience, as presented in Figure 1. This profile indicates that the respondents were predominantly experienced seafarers in the mid- to senior-career stages who participated in training primarily to advance their professional certification, particularly Certificates of Competency (COC). From the perspective of

Expectancy-Disconfirmation Theory, experienced participants are likely to possess relatively well-established and pragmatic expectations. Consequently, their evaluations of training services are less likely to be based solely on superficial service attributes and more likely to emphasize functional performance, professional outcomes, efficiency, and economic value (Oliver, 1980; Belcher et al., 2003).

Figure 1. Respondents' Length of Employment

Evaluation of the Measurement Model (Outer Model)

The measurement model evaluation indicates that all constructs demonstrate strong validity and reliability. As shown in Tables 4.4 and 4.6, the Average Variance Extracted (AVE) values for all variables ranged from 0.667 to 0.761, exceeding the recommended minimum threshold of 0.50. These findings confirm adequate convergent validity, indicating that the indicators explain a substantial proportion of the variance in their respective latent constructs. In addition, the reliability coefficients, including Cronbach's alpha and omega, were generally above 0.80, with the highest value reaching 0.978, demonstrating strong internal consistency of the measurement instruments. The Heterotrait-Monotrait Ratio (HTMT) assessment also indicated that most construct relationships remained below the recommended threshold of 0.90, supporting discriminant validity. These results demonstrate that the measurement instruments used in this study adequately represent the theoretical constructs of service quality, facilities and infrastructure, training fees, perceived value, and customer satisfaction (Fornell & Larcker, 1981; Henseler et al., 2015; Hair et al., 2022).

Structural Model and Hypothesis Testing (Inner Model)

The structural model demonstrates a very strong explanatory and predictive capacity. The coefficient of determination (R^2) for perceived value was 0.945, while the R^2 for customer satisfaction was 0.979. These results indicate that the model explains 94.5% of the variance in perceived value and 97.9% of the variance in customer satisfaction at Poltekpel Surabaya. In other words, the proposed model provides substantial explanatory power in describing how service quality, facilities and infrastructure, and training fees contribute to perceived value and ultimately customer satisfaction. Although a very high R^2 should be interpreted carefully to avoid overstatement of predictive performance, these results indicate that the variables incorporated into the model have substantial explanatory relevance within the research context (Hair et al., 2022; Sarstedt et al., 2022).

The hypothesis testing results presented in Table 1 reveal several important findings. First, training fees (C) have a positive and statistically significant effect on perceived value (D), with a standardized coefficient of $\beta = 0.620$ and $p < 0.001$. This

result indicates that participants' evaluation of training fees is an important determinant of how they perceive the overall value of the training service. Second, perceived value (D) is the only variable that demonstrates a statistically significant direct effect on customer satisfaction (E), with $\beta = 1.198$, $p = 0.014$. The positive coefficient indicates that improvements in perceived value are associated with higher customer satisfaction. Third, service quality (A) and facilities and infrastructure (B) do not demonstrate statistically significant direct effects on customer satisfaction because their respective p -values exceed 0.05. These findings suggest that participants do not necessarily translate service quality and physical facilities directly into satisfaction unless these attributes are interpreted as providing meaningful value (Zeithaml, 1988; Cronin et al., 2000; Sweeney & Soutar, 2001).

Value-Driven Satisfaction

The findings provide important insights into consumer behavior within the maritime training sector, particularly regarding the dominant role of perceived value in determining participant satisfaction. Unlike some general service industries in which service quality may emerge as the strongest direct determinant of satisfaction, the results at Poltekpel Surabaya suggest that training fees play a particularly important role in shaping perceived value. For experienced seafarers, professional training can be viewed as a career investment rather than merely a conventional educational service. Participants are therefore likely to conduct a cost-benefit evaluation involving the financial cost, time commitment, certification obtained, competency improvement, and potential professional benefits. This finding is consistent with the conceptualization of perceived value as a comparison between benefits received and sacrifices made by customers (Zeithaml, 1988; Sweeney & Soutar, 2001).

The significant effect of training fees on perceived value ($\beta = 0.620$, $p < 0.001$) suggests that participants pay considerable attention to the economic dimension of the training experience. However, this result should not be interpreted simply as an indication that lower training fees automatically produce higher perceived value. Rather, the finding indicates that participants evaluate the fee in relation to the benefits and outcomes they expect to receive. Price fairness, transparency, and proportionality between cost and benefit are therefore important components of value formation. When participants perceive that the fee is justified by the quality of training, certification, facilities, and professional outcomes, the fee can contribute positively to perceived value (Xia et al., 2004; Varki & Colgate, 2001).

The Mediating Role of Perceived Value

The strong direct relationship between perceived value and customer satisfaction ($\beta = 1.198$, $p = 0.014$) highlights the central role of value perception in explaining participant satisfaction. The non-significant direct effects of service quality and facilities and infrastructure on customer satisfaction further suggest that these attributes may not automatically produce satisfaction when participants do not perceive them as generating meaningful benefits. In other words, the quality of service and physical facilities must first be translated into perceived value from the participants' perspective. This finding supports the argument that customers evaluate service experiences not merely through individual attributes but through an integrated judgment regarding the benefits obtained relative to the sacrifices made (Zeithaml, 1988; Cronin et al., 2000).

The findings are particularly relevant in the context of professional maritime training, where participants are generally experienced workers rather than first-time learners. For such participants, satisfaction may be determined less by administrative hospitality and more by whether the training provides relevant knowledge, recognized certification, efficient processes, and tangible professional benefits. The strong coefficient associated with perceived value indicates that participants' satisfaction is closely connected to their assessment of whether the certification and competencies obtained are proportional to the time, effort, and financial resources invested. This interpretation is consistent with research showing that perceived value represents a central mechanism through which service attributes and price perceptions influence customer satisfaction and behavioral intentions (Petrick, 2002; Sweeney & Soutar, 2001).

Managerial Implications for Poltekpel Surabaya

The findings challenge the assumption that improving participant satisfaction must primarily involve large-scale investment in physical infrastructure. Although facilities and infrastructure remain essential components of maritime training, their physical presence alone does not guarantee higher satisfaction. Management should instead focus on converting service attributes and physical resources into a clear and convincing *value proposition*. This requires ensuring that participants can recognize the direct relationship between the fees they pay and the benefits they receive, including training effectiveness, certification outcomes, administrative efficiency, and professional relevance. Such an approach is consistent with the customer-value perspective, which emphasizes the balance between perceived benefits and perceived sacrifices (Zeithaml, 1988; Woodruff, 1997).

First, **transparency and fairness of training fees** should become a major managerial priority. Participants should receive clear information regarding the components of training costs, services included in the fees, certification processes, facilities provided, and expected learning outcomes. Transparent pricing can reduce uncertainty and strengthen perceptions of fairness, particularly when participants compare training costs with alternative providers. Price fairness is important because customers do not evaluate prices solely in absolute monetary terms but also in relation to perceived benefits and reference prices (Xia et al., 2004; Varki & Colgate, 2001).

Second, management should strengthen the **value proposition of the training program** by emphasizing speed, relevance, competency outcomes, and certification benefits. Given that the respondents are predominantly experienced seafarers, they may place greater emphasis on the practical relevance of training materials, efficiency of administrative procedures, scheduling flexibility, and the contribution of training to career advancement. Therefore, service innovation should focus not only on improving interpersonal service but also on ensuring that the entire training experience delivers measurable professional value. This approach is consistent with the view that perceived value encompasses functional, emotional, and social dimensions that jointly shape customers' overall evaluations of a service (Sweeney & Soutar, 2001; Petrick, 2002).

Table 1. Regression Coefficients

Outcome	Predictor	Std. Estimate	Std. Error	z-value	p	95% CI Lower	95% CI Upper
D	A	0.177	0.443	0.399	.690	-0.691	1.044
D	B	0.198	0.370	0.534	.593	-0.528	0.923
D	C	0.620	0.161	3.849	< .001	0.304	0.936
E	A	1.053	0.685	-1.536	.125	-2.396	0.291
E	B	0.580	0.550	1.055	.291	-0.497	1.657
E	C	0.232	0.405	0.573	.567	-0.562	1.026
E	D	1.198	0.488	2.454	.014	0.241	2.155

CONCLUSION

Based on the results of the data analysis and discussion, this study concludes that the mechanism underlying customer satisfaction at Surabaya Maritime Polytechnic (Poltekpel Surabaya) is predominantly value-driven. The findings indicate that

perceived value plays a central mediating role in connecting service quality, facilities and infrastructure, and training fees with customer satisfaction. Rather than being determined solely by tangible facilities or interpersonal service experiences, participant satisfaction appears to be strongly associated with the extent to which participants perceive that the benefits obtained from the training are proportional to the financial, time, and effort-related sacrifices they make. This finding is consistent with the customer-perceived-value perspective, which conceptualizes value as an overall assessment of benefits relative to sacrifices (Zeithaml, 1988; Sweeney & Soutar, 2001).

First, training fees were found to be the strongest determinant of perceived value, with a standardized coefficient of $\beta = 0.620$. This finding indicates that the financial dimension of training is highly relevant in shaping participants' evaluations of the overall value of the service. For participants who are predominantly experienced seafarers, training is not merely an educational activity but also a professional investment related to certification and career development. Consequently, the fairness, proportionality, and transparency of training fees may become important reference points in evaluating whether the training institution provides sufficient value. This finding supports previous research emphasizing the importance of price perceptions and price fairness in shaping perceived value and customer evaluations (Xia et al., 2004; Varki & Colgate, 2001).

Second, customer satisfaction was not significantly determined directly by physical facilities or service quality, but rather by participants' overall evaluation of perceived value. The strong relationship between perceived value and customer satisfaction ($\beta = 1.198$) suggests that participants make a relatively rational assessment of whether the competencies, certification, career benefits, and training outcomes they obtain are proportional to the financial and time sacrifices they incur. Thus, excellent facilities or friendly service may not automatically generate satisfaction if participants do not perceive these attributes as producing meaningful professional benefits. This finding reinforces the role of perceived value as an important mechanism through which service attributes are translated into customer satisfaction (Cronin et al., 2000; Petrick, 2002).

Third, the research model demonstrates a very high explanatory capacity, with an R^2 value of 0.979 for customer satisfaction. This indicates that the variables incorporated into the model explain 97.9% of the variance in customer satisfaction within the research context. The finding strengthens the argument that integrating training fees and perceived value provides a useful analytical framework for

understanding satisfaction in maritime vocational training institutions. Nevertheless, the high R^2 value should be interpreted within the specific characteristics and sample of this study and should not automatically be generalized to all maritime training institutions (Hair et al., 2022; Sarstedt et al., 2022).

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