

The Influence Of E-Service Quality, Human Resource Service Quality, And Price Perception On Consumer Satisfaction At Lestari Komputer

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Abstract

The development of information technology requires non-formal education institutions to optimise their digital services and personnel quality in order to maintain customer loyalty. This study aims to empirically examine the effect of WhatsApp E-Service Quality, human resource (HR) service quality, and price perception on consumer satisfaction at Lestari Komputer. A causal associative quantitative approach was applied to a population of 110 active course participants during the January to June 2026 period. A purposive sampling technique was used to filter the sample according to specific inclusion criteria, yielding 80 actual respondents. Primary data were collected through a Google Form digital questionnaire, then tabulated and analysed using multiple linear regression in SPSS. The t-test results demonstrate that, partially, WhatsApp E-Service Quality, HR service quality, and price perception each have a positive and significant effect on consumer satisfaction, with HR service quality emerging as the most dominant predictor. The F-test results show that the three independent variables simultaneously have a significant effect on consumer satisfaction, with an Adjusted R Square value of 72.1%. The institution's management is advised to prioritise instructor competence training and to integrate an automated response system into WhatsApp Business in order to sustain service excellence over the long term.

Keywords: Consumer Satisfaction; HR Service Quality; Price Perception; WhatsApp E-Service Quality.



INTRODUCTION

Current developments in information technology have significantly reshaped the landscape of the non-formal education industry, including computer training institutions. Increasingly tight business competition requires every training institution to focus not only on conventional learning materials but also on the quality of its digital services, or electronic service quality (e-service quality) (Putri & Wahyono, 2022). In the digital era, instant messaging applications such as WhatsApp have shifted in function from a purely personal communication medium into a vital customer service channel (Mulya et al., 2023). Using WhatsApp as the main service channel is considered capable of delivering fast responses and personal interaction, which ultimately drives consumer satisfaction (Ramadhan & Santoso, 2024).

Beyond digital services, the human competence dimension—namely the quality of service delivered directly by human resources (HR)—remains the main pillar in retaining consumers. Consumers of computer training institutions generally assess HR service quality from the friendliness of administrative staff when welcoming students, the clarity with which instructors deliver the material, and their responsiveness in guiding hands-on computer practice (Sari & Setiawan, 2021). On the other hand, price perception also plays a crucial role in influencing consumer satisfaction (Hidayat & Pratama, 2023). The price paid by course consumers must be commensurate with the value, facilities, and teaching quality they receive. When consumers feel that the price set is rational, fair, and balanced against the instructors' competence, this positive perception culminates in a high level of consumer satisfaction (Pratiwi & Wijaya, 2022).

As one such computer training institution, Lestari Komputer faces a genuine challenge in balancing WhatsApp e-service quality, HR service quality, and price perception in order to maintain student satisfaction. Based on the institution's internal data, a total of 110 students were actively enrolled during the January to June 2026 period. The emergence of several minor complaints from students regarding the speed of admin responses via WhatsApp, as well as teaching methods that are at times insufficiently interactive, provides an initial indication that an in-depth evaluation of service management is required. This study is therefore important in empirically testing the extent to which WhatsApp e-service quality, HR service quality, and price perception contribute to shaping consumer satisfaction at Lestari Komputer.

THEORETICAL FOUNDATION

Consumer Satisfaction

Consumer satisfaction in the non-formal education service industry is a form of post-purchase evaluation in which a person's pleasure or disappointment arises after



comparing actual service performance with their initial expectations (Kotler & Keller, 2022). According to Zeithaml et al. (2021), feelings of satisfaction that accumulate positively over the course of study become the main driver of customer loyalty. Adapting from Sari and Setiawan (2021), the Consumer Satisfaction variable in this study is measured through four explanatory indicators: 1) Conformity with Expectations, which assesses the extent to which the actual performance of academic and administrative services in the field meets participants' initial expectations; 2) Intention to Re-enrol, which measures the strength of consumers' desire to take advanced class programmes or new skills packages in the future; 3) Willingness to Recommend, which represents consumers' readiness to suggest the institution to others; and 4) Absence of Complaints, which indicates consumers' level of comfort as reflected in the minimal obstacles or disappointments experienced during the course.

WhatsApp E-Service Quality

WhatsApp e-service quality is defined as consumers' assessment of the effectiveness and efficiency of the digital interaction quality provided by management through the WhatsApp Business instant messaging application (Mulya et al., 2023). This service functions as the front line of interactive communication for accelerating the handling of consumer needs (Ramadhan & Santoso, 2024). Referring to the development of digital service quality theory by Putri and Wahyono (2022), this variable is measured through four specific indicators: 1) Responsiveness, which describes the speed and accuracy of admin staff in replying to consumers' text messages; 2) Ease of Access (Efficiency), which assesses how practical the chat menu is for participants and how clear the programme information is; 3) Privacy and Security (Privacy), which emphasises the guaranteed confidentiality of personal data and conversation histories so that they are not misused; and 4) Information Accuracy (Fulfilment), which measures the validity of the operational data sent by admin staff through WhatsApp messages.

HR Service Quality

Human resource service quality encompasses the level of excellence in attitude, communication ability, and professional competence demonstrated by instructors and administrative staff when serving consumers face to face (Sari & Setiawan, 2021). Service delivered by competent human resources is able to create psychological comfort and self-confidence among course participants (Tjiptono & Chandra, 2022). Based on the service quality concept of Zeithaml et al. (2021), the HR Service Quality variable in this study is assessed through four indicators: 1) Instructors' Professional Competence, which measures in-depth mastery of computer material as well as the effectiveness of instructors' teaching methods in class; 2) Responsiveness, which examines personnel's

readiness to help overcome learning and administrative obstacles directly; 3) Attitude and Courtesy, which assesses the polite, friendly, and sincerely attentive behaviour shown by all staff; and 4) Communication Ability, which focuses on the clarity of language and the ease with which the information conveyed by the institution's personnel can be understood.

Price Perception

Price perception is consumers' cognitive assessment and interpretation of the reasonableness and fairness of the monetary value they sacrifice compared with the real benefits they obtain (Hidayat & Pratama, 2023). A rational price fosters satisfaction because consumers perceive economic fairness (Pratiwi & Wijaya, 2022). According to Kotler and Keller (2022), the price perception variable in this study is measured using four main indicators: 1) Price Affordability, which assesses the fit between the investment value of the course package and the financial capacity of the target consumers; 2) Price–Quality Conformity, which measures consumers' view that the cost paid is commensurate with the teaching quality of the institution's personnel; 3) Price Competitiveness, which examines how reasonable this institution's fees are compared with those of similar competing institutions; and 4) Price–Benefit Conformity, which explains consumers' belief that the certificate and computer skills obtained are of high value for their future.

CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Based on the theoretical foundation presented above, this study constructs a conceptual model to test the effect of the independent variables—WhatsApp E-Service Quality (X1), HR Service Quality (X2), and Price Perception (X3)—on the dependent variable, Consumer Satisfaction (Y), at Lestari Komputer. The relationships among these variables are formulated in the following conceptual framework:

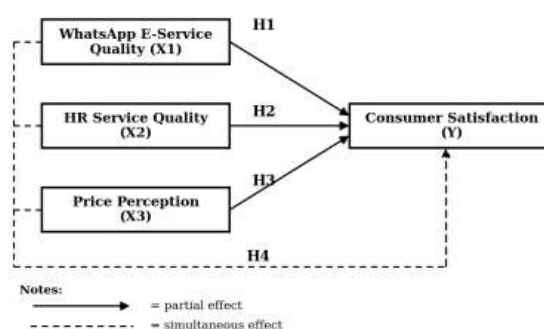


Figure 1. Conceptual Framework

Based on the conceptual model above, the hypotheses proposed in this study are as follows:

H1: WhatsApp E-Service Quality (X1) has a positive and significant partial effect on Consumer Satisfaction (Y) at Lestari Komputer.

H2: HR Service Quality (X2) has a positive and significant partial effect on Consumer Satisfaction (Y) at Lestari Komputer.

H3: Price Perception (X3) has a positive and significant partial effect on Consumer Satisfaction (Y) at Lestari Komputer.

H4: WhatsApp E-Service Quality (X1), HR Service Quality (X2), and Price Perception (X3) simultaneously have a significant effect on Consumer Satisfaction (Y) at Lestari Komputer.

RESEARCH METHOD

The type of research used in this article is quantitative research with a causal associative approach. This approach was chosen in order to test and identify the existence of cause-and-effect relationships and the significance of the effects of WhatsApp E-Service Quality, HR Service Quality, and Price Perception on Consumer Satisfaction. The study was conducted independently at the Lestari Komputer computer training institution, using primary data as the main source of analysis.

The population in this study covers all subjects with homogeneous characteristics that are bound to the research object within a given period. Specifically, the research population consists of all course participants officially registered and actively enrolled in education programmes at Lestari Komputer during the period from January to June 2026, totalling 110 people (Setiawan & Gunawan, 2021). The clarity of this population size provides an important basis for the researcher to carry out the subject screening stage that follows.

Sampling was carried out through a non-probability sampling approach using a purposive sampling technique. This technique establishes certain inclusion criteria so that the actual sample selected has deep relevance to, and is representative of, the variables measured (Subhaktiyasa, 2024). The sampling criteria comprised active status as a course consumer during the January to June 2026 period and a history of direct chat communication with the Lestari Komputer administration via WhatsApp. Through this criteria-based screening process, a final sample of 80 course consumers was obtained that met the requirements and was suitable for use in this study.

Primary data collection in the field was carried out digitally using a structured questionnaire instrument distributed through a Google Form link. The Google Form platform was chosen to optimise time efficiency, widen the reach of distribution, and minimise the risk of raw data entry errors from the 80 sampled respondents. Each

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statement item in the questionnaire instrument was designed concisely and measured using a Likert scale with weights ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) in order to capture respondents' psychological perceptions accurately.

Data analysis in this study was carried out by computer using the latest version of the Statistical Package for the Social Sciences (SPSS) program through three main stages (Sugiyono, 2022). The first stage is the research instrument test, consisting of a validity test using the Pearson Correlation method and a reliability test using the Cronbach's Alpha coefficient, to ensure that all questionnaire statement items are consistent. The second stage is the classical assumption test, covering the normality test, the multicollinearity test, and the heteroscedasticity test, to ensure that the resulting regression model meets statistical feasibility requirements and is free from interpretation bias (Firmansyah & Dede, 2022). The third stage is multiple linear regression analysis to test the formulated hypotheses. The multiple linear regression equation model used in this study is formulated as follows (Sugiyono, 2022):

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

where Y is Consumer Satisfaction, a is the constant, β_1 , β_2 , and β_3 are the regression coefficients of each variable, X_1 is WhatsApp E-Service Quality, X_2 is HR Service Quality, X_3 is Price Perception, and e is the error term (Sugiyono, 2022). Testing continued with the partial effect test (t-test), the simultaneous effect test (F-test), and the analysis of the coefficient of determination (R^2) to determine the total percentage contribution of all independent variables in influencing consumer satisfaction at Lestari Komputer.

RESULTS AND DISCUSSION

Research Results

1. General Overview of Respondent Characteristics

Table 1. Respondent Characteristics

No	Respondent Characteristic	Category	Frequency (f)	Percentage (%)
1	Gender	Male	28	35.00%
		Female	52	65.00%
	Total		80	100%
2	Age	< 20 years (school students)	35	43.75%



		20–25 years (university students/young adults)	20	25.00%
		> 25 years (workers/general public)	25	31.25%
	Total		80	100%
3	Occupation	School student	30	37.50%
		University student	25	31.25%
		Private sector employee	17	21.25%
		Self-employed / other	8	10.00%
	Total		80	100%

Source: Processed data, 2026

Based on Table 1, the majority of course consumers at Lestari Komputer are female, totalling 52 people (65.0%). In terms of age group, the largest proportion falls into the under-20 category, with 35 people (43.75%). Consistent with this, respondents' occupational status is dominated by school students, with 30 people (37.50%), and university students, with 25 people (31.25%). This dominance of the younger generation, reaching 68.75%, indicates that the main market of Lestari Komputer is the productive age group, which is highly motivated to master practical digital competencies to support their studies and to prepare for entering the world of work and building a career.

2. Instrument Validity and Reliability Tests

The validity test is used to measure whether a questionnaire is valid. A statement item is declared valid if the value of $r_{\text{count}} > r_{\text{table}}$ at a significance level of 5%. The validity test results from SPSS processing are presented in Table 2.

Table 2. Validity Test Results

Variable	Indicator	r-count	r-table	Description
WhatsApp E-Service Quality (X1)	X1.1	0.792	0.220	Valid
	X1.2	0.855	0.220	Valid

	X1.3	0.844	0.220	Valid
	X1.4	0.894	0.220	Valid
HR Service Quality (X2)	X2.1	0.907	0.220	Valid
	X2.2	0.906	0.220	Valid
	X2.3	0.905	0.220	Valid
	X2.4	0.887	0.220	Valid
Price Perception (X3)	X3.1	0.916	0.220	Valid
	X3.2	0.873	0.220	Valid
	X3.3	0.868	0.220	Valid
	X3.4	0.843	0.220	Valid
Consumer Satisfaction (Y)	Y1	0.772	0.220	Valid
	Y2	0.801	0.220	Valid
	Y3	0.819	0.220	Valid
	Y4	0.809	0.220	Valid

Source: Data processed with SPSS, 2026

Based on Table 2 above, with a sample size of $n = 80$, the r_{table} value used is 0.220. The test results show that all indicator items for the variables WhatsApp E-Service Quality, HR Service Quality, Price Perception, and Consumer Satisfaction have r_{count} values ranging from 0.772 to 0.916. Because all r_{count} values exceed 0.220, all instruments are declared valid.

Reliability Test

The reliability test was conducted to determine the consistency level of the research instrument. An instrument is said to be reliable if its Cronbach's Alpha value is greater than 0.60. The reliability test results of this study are presented in Table 3.



Table 3. Reliability Test Results

Variable	Cronbach's Alpha	Reliability Standard	Description
WhatsApp E-Service Quality (X1)	0.862	0.60	Reliable
HR Service Quality (X2)	0.921	0.60	Reliable
Price Perception (X3)	0.898	0.60	Reliable
Consumer Satisfaction (Y)	0.812	0.60	Reliable

Source: Data processed with SPSS, 2026

The SPSS output shows Cronbach's Alpha coefficients of 0.862 for WhatsApp E-Service Quality, 0.921 for HR Service Quality, 0.898 for Price Perception, and 0.812 for Consumer Satisfaction. All values are above the 0.60 threshold, so the research instrument is proven reliable and consistent for use.

3. Descriptive Statistical Analysis

Descriptive statistical analysis provides an overview of the minimum, maximum, mean, and standard deviation values of the respondents' answers. The descriptive statistics of this study are presented in Table 4.

Table 4. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
WhatsApp E-Service Quality (X1)	80	10	20	16.89	2.860
HR Service Quality (X2)	80	10	20	17.35	2.939
Price Perception (X3)	80	11	20	16.57	2.872
Consumer Satisfaction (Y)	80	12	20	17.49	2.317

Source: Data processed with SPSS, 2026

Based on measurements of 80 respondents, the mean values obtained were 16.89 for WhatsApp E-Service Quality, 17.35 for HR Service Quality, 16.57 for Price Perception, and 17.49 for Consumer Satisfaction. In general, these high mean values reflect a very positive perception among course consumers of all variables tested at Lestari Komputer.

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4. Classical Assumption Tests**Normality Test**

The normality test was conducted to determine whether the residual values in the regression model are normally distributed. The normality test results are presented in Table 5.

Table 5. Kolmogorov–Smirnov Normality Test Results
One-Sample Kolmogorov–Smirnov Test

		Unstandardized Residual
N		80
Normal Parameters a,b	Mean	0.0000000
	Std. Deviation	1.20116952
Most Extreme Differences	Absolute	0.145
	Positive	0.124
	Negative	-0.145
Test Statistic		0.145
Asymp. Sig. (2-tailed)		0.062 c

Source: Data processed with SPSS, 2026

Residual normality was tested using the One-Sample Kolmogorov–Smirnov statistical test. A regression model is considered normally distributed if the significance value (Asymp. Sig. 2-tailed) is greater than 0.05. The test results show a significance value of 0.062. This value is greater than 0.05 ($0.062 > 0.05$), so it can be concluded that the residual data in this regression model are normally distributed.

Multicollinearity Test

The multicollinearity test aims to ensure that there is no strong linear correlation among the independent variables. A model free from multicollinearity has a Tolerance value > 0.10 and a VIF value < 10 . The multicollinearity test results of this study are presented in Table 6.



Table 6. Multicollinearity Test Results

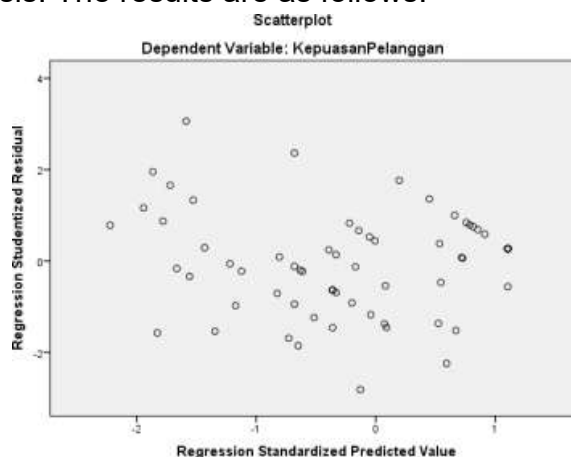
Model		Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics	
		B	Std. Error	Beta	Tolerance	VIF
1	(Constant)	5.163	0.869			
	Total X1	0.249	0.102	0.307	0.225	4.453
	Total X2	0.285	0.099	0.362	0.224	4.456
	Total X3	0.192	0.090	0.237	0.283	3.528

Source: Data processed with SPSS, 2026

The test results show Tolerance values of 0.225 for WhatsApp E-Service Quality, 0.224 for HR Service Quality, and 0.283 for Price Perception. Meanwhile, the VIF values are 4.453, 4.456, and 3.528 respectively. All variables have Tolerance > 0.10 and VIF < 10, which confirms that this regression model is entirely free from symptoms of multicollinearity.

Heteroscedasticity Test

The heteroscedasticity test aims to examine whether the regression model exhibits unequal variance of residuals from one observation to another. If the residual variance from one observation to another remains constant, this is called homoscedasticity; if it differs, it is called heteroscedasticity. The heteroscedasticity test was conducted through scatterplot graph analysis. The results are as follows:

**Figure 2. Scatterplot Graph of the Heteroscedasticity Test**

Based on the data visualisation, the residual data points are scattered randomly, do not form any particular regular pattern, and are spread above and below the value 0 on the Y axis. This proves that no symptoms of heteroscedasticity occur in the study's regression model.

5. Multiple Linear Regression Analysis and Hypothesis Testing

Multiple linear regression analysis is used to determine the direction of effects and to verify the research hypotheses. A summary of the regression coefficients from SPSS processing is presented in Table 7.

Table 7. Multiple Linear Regression Analysis Results

Variable	Regression Coefficient (b)	t-count	Significance (Sig.)	Description
(Constant)	5.163	5.944	0.000	–
WhatsApp E-Service Quality (X1)	0.249	2.446	0.017	Significant
HR Service Quality (X2)	0.285	2.882	0.005	Significant
Price Perception (X3)	0.192	2.126	0.037	Significant

Source: Data processed with SPSS, 2026

Based on Table 7, the multiple linear regression equation model in this study can be formulated as follows:

$$Y = 5.163 + 0.249 X_1 + 0.285 X_2 + 0.192 X_3$$

The interpretation of the equation above shows a constant value of 5.163, meaning that if WhatsApp E-Service Quality, HR Service Quality, and Price Perception are assumed to be zero or to undergo no change, the baseline value of Consumer Satisfaction at Lestari Komputer already stands at 5.163. The regression coefficients for the three independent variables ($\beta_1 = 0.249$; $\beta_2 = 0.285$; and $\beta_3 = 0.192$) are all positive. This provides mathematical evidence of a directional relationship, in which every intervention or improvement in the WhatsApp service system, HR performance, or price appropriateness will automatically raise the level of Consumer Satisfaction in a linear manner.

Partial hypothesis testing was carried out through the t-test with a significance criterion of < 0.05 . The test results prove that the three partial hypotheses proposed in this study are **accepted**. The WhatsApp E-Service Quality variable (X1) has a t-count of 2.446 with Sig. = 0.017, which means that electronic service quality via WhatsApp has a real and significant impact in stimulating course consumers' satisfaction. The HR Service



Quality variable (X2) records a t-count of 2.882 with Sig. = 0.005, showing that the human dimension of teaching makes the strongest significant contribution in determining satisfaction. Meanwhile, the Price Perception variable (X3) obtains a t-count of 2.126 with Sig. = 0.037, proving that the economic fairness perceived by consumers significantly influences their level of satisfaction after receiving the service.

F-Test (Simultaneous)

The F-test (simultaneous) aims to test the existence of an effect of the independent variables jointly on the dependent variable. The F-test results from SPSS processing are presented in Table 8.

Table 8. F-Test Results
ANOVA a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	310.006	3	103.335	68.901	0.000 b
	Residual	113.982	76	1.500		
	Total	423.988	79			

Source: Data processed with SPSS, 2026

Based on Table 8, an F-count of 68.901 was obtained with a significance level of 0.000. Because the significance value is far below the 0.05 tolerance threshold ($0.000 < 0.05$), it is statistically decided that H_0 is rejected and H_4 is accepted. The interpretation of this result is that WhatsApp E-Service Quality, HR Service Quality, and Price Perception simultaneously exert a highly significant effect in shaping the level of Consumer Satisfaction at Lestari Komputer.

Coefficient of Determination

Analysis of the coefficient of determination is used to determine the extent of the model's ability to explain variation in the dependent variable. The results of the coefficient of determination analysis are presented in Table 9.



Table 9. Coefficient of Determination Results (R^2)**Model Summary b**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.855 a	0.731	0.721	1.22465

Source: Data processed with SPSS, 2026

Based on the Adjusted R Square value, a figure of 0.721 was obtained. This statistic means that 72.1% of the variation in the level of Consumer Satisfaction at Lestari Komputer can be explained simultaneously by the combination of WhatsApp E-Service Quality, HR Service Quality, and Price Perception. The remaining 27.9% is explained by other factors outside this research model, such as brand image, the adequacy of physical facilities, and the level of customer trust.

DISCUSSION**1. The Effect of WhatsApp E-Service Quality on Consumer Satisfaction**

The empirical testing proves that WhatsApp E-Service Quality has a positive and significant partial effect on consumer satisfaction at Lestari Komputer. This shows that the better the quality of interactive digital service provided through WhatsApp Business, the more markedly the satisfaction experienced by course participants increases. This finding is in line with the study by Mulya et al. (2023), which states that the effectiveness of chat-based communication is able to deliver the fast responses that modern consumers greatly need. At Lestari Komputer, the responsiveness of admin staff in providing schedule information and the practicality of accessing information via WhatsApp are crucial points in shaping course participants' positive perceptions (Ramadhan & Santoso, 2024).

2. The Effect of HR Service Quality on Consumer Satisfaction

HR Service Quality is proven to be the independent variable with the strongest positive and significant effect on consumer satisfaction at Lestari Komputer, as indicated by the highest regression coefficient (0.285) and the smallest significance level (0.005). This result confirms that the professional competence of computer instructors and the friendliness of administrative staff are the main pillars of the non-formal education service business (Sari & Setiawan, 2021). When instructors are able to explain computer modules clearly and staff are responsive in helping participants with technical difficulties during laboratory practice, participants feel valued and well guided (Tjiptono & Chandra, 2022). This research strengthens the theory of Zeithaml et al. (2021) that direct



interaction with the personnel of a service institution (the human touch) plays the most dominant role in triggering consumers' emotional satisfaction.

3. The Effect of Price Perception on Consumer Satisfaction

Based on the analysis, price perception is partially proven to have a positive and significant effect on consumer satisfaction at Lestari Komputer. The affordability of course package prices and the alignment between the cost paid and the magnitude of the computer skills benefit obtained are important considerations for course participants (Hidayat & Pratama, 2023). Participants feel that the educational investment they make is fairly valued because the supporting teaching facilities and the quality of the graduation certificate they receive are highly commensurate (Pratiwi & Wijaya, 2022). This finding is consistent with the theory of Kotler and Keller (2022), which argues that a price perceived as fair and competitive is directly proportional to the high satisfaction value evaluated by consumers after receiving the service.

4. The Simultaneous Effect of All Variables on Consumer Satisfaction

Through simultaneous testing, a very strong integrated contribution was found in which WhatsApp E-Service Quality, HR Service Quality, and Price Perception jointly govern the level of consumer satisfaction at Lestari Komputer, with a total explanatory power of 72.1%. This finding implies that the management of Lestari Komputer cannot rely on a single aspect alone to win the loyalty of course consumers. A balanced operational strategy is absolutely necessary, namely by integrating a responsive WhatsApp admin system, periodic competence development for instructors, and the formulation of a rational and affordable course package pricing scheme for the young-generation target market.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Based on the results of the data analysis and discussion, this study produces several main conclusions regarding the factors influencing the level of consumer satisfaction at Lestari Komputer. Partially, WhatsApp E-Service Quality is proven to have a positive and significant effect on consumer satisfaction, indicating that optimising the quality of digital interaction through this instant messaging platform is crucial in fostering satisfaction among course consumers. The empirical findings also show that HR service quality has a positive and significant effect on consumer satisfaction, with the most dominant contribution among the variables. This confirms that the professional competence of computer instructors and the sincere friendliness of administrative staff are the main pillars valued most highly by consumers. In addition, price perception is partially proven to have a positive and significant effect on consumer satisfaction, reflecting that judgements about cost fairness, the affordability of course package prices,



and the alignment of investment value with future benefits are important considerations for course consumers. Simultaneously, the integration of these three independent variables is proven to jointly govern the level of consumer satisfaction at Lestari Komputer with a total explanatory power of 72.1%, while the remainder is governed by external variables outside this research model.

Recommendations

Referring to the conclusions obtained, several practical and academic recommendations can be made to improve institutional performance and to advance scholarship in the future. For the management of Lestari Komputer, primary attention must be focused on maintaining the quality of HR service through the regular provision of technology competence training for instructors and the monitoring of standardised service friendliness among frontline staff. Management is also advised to evaluate the efficiency of WhatsApp E-Service Quality on an ongoing basis, one option being the integration of a structured automated reply feature to maintain admin responsiveness in delivering accurate operational information to consumers outside official working hours. Meanwhile, future researchers interested in developing this research topic are advised to broaden the scope of the study by exploring the remaining 27.9% of external variance not captured in this testing model. Subsequent researchers are expected to add other potentially relevant independent variables in the non-formal education industry, such as brand image, the adequacy of computer laboratory facilities, and the level of consumer trust, in order to produce far more comprehensive generalisations.

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