



Analysis of Factors that Influence Customers in Determining Purchasing Decisions in the Contruction Industry

Nina Triolita^{1*}, Erwin Eko Priyanto²

Politeknik NSC Surabaya

Corresponding Author: Nina Triolita ninatriolita07@gmail.com

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ABSTRACT

This work examines what shapes purchase decision at Modern Welding Workshop. Rising community needs tied to infrastructure and property development drive higher demand for welding work and that is what prompts this assessment. Multiple linear regression analysis serves as the chosen approach while SPSS software supports testing links running from quality price and service as independent factors toward purchasing decisions as the dependent side. All three factors register meaningful impact on purchasing decisions and quality plus service stand out as the strongest drivers. Well-structured pricing also builds positive customer experience. Findings here add to existing knowledge covering purchasing decisions within construction and welding services. Outcomes also offer actionable guidance so Modern Welding Workshop can design sharper business moves and lift overall performance and standing amid growing market rivalry.

INTRODUCTION

Along with the development of the times and the rapid growth of the population, the need for housing and business space continues to increase. High urbanization and changes in people's lifestyles demand the availability of a residence that is not only comfortable, but also functional, modern, and also has high aesthetic value. In addition, the development of infrastructure in various regions has also encouraged the increase in demand for property, both in the form of houses, apartments, shophouses, and industrial estates. According to the statement, until mid-2025, the total inventory of new houses increased by 51% compared to H2 2024. (PT. Properti Solusi Manajemen, 2026). The development of the industrial and construction world today demands the availability of fast, precise, and quality engineering services. Welding services stand as one key sector sustaining broader development progress. Public requirement for iron-based items such as fences canopies and window rails alongside other built iron parts also rises in step with this movement. This condition has triggered the proliferation of welding workshop business actors, both micro and medium scale, which creates a very tight level of market competition.

In the midst of the many options available, understanding the customer's purchase decision is the main key to the sustainability of the welding workshop business. According to Kotler (2019), the purchasing decision-making process involves a series of steps that are influenced by individual characteristics such as age, income, and lifestyle. The purchase decision does not happen just by chance, but through a complex evaluation process by the customer. Factors such as price, quality of raw materials, and services offered by business actors are determining variables. Therefore, it is important to analyze how these factors interact with each other in influencing the customer's final decision to choose products and services from a particular welding workshop. Consistent with that pattern Ramadhani et al. (2024) place satisfied buyers as far more prone to come back for further acquisitions and to share positive recommendations around. Price stands as a factor that strengthens purchase decision and when asking power aligns with set rates buyers naturally shift from competing offerings toward what is presented. (Piyoh, Rahayu, & Dirgantari, 2024) (Cartwright, Liu, & Davies, 2022)

Product quality describes measurable capacity to serve intended purpose built from reliability accuracy endurance maintainability plus additional traits. Evaluation rests heavily on buyer perspective and personal preference carries weight so quality standards are best calibrated against intended function. (Kotler & Armstrong, 2011). Ahmad Zikri (2022) frames service quality as the gap between anticipated support and what is actually delivered. Matching delivered support to what was expected marks strong performance that brings satisfaction. That positive feeling encourages return visits and builds lasting loyalty. (Prastika, Zakaria, Irwansyah, & Fadilla, 2025)

Problem Formulation

1. Does quality affect the purchase decision in the Modern Welding Workshop business?
2. Does price affect the purchase decision in the Modern Welding Workshop business?

3. Does service affect the purchase decision in the Modern Welding Workshop business?
4. Does the quality, price, and service affect the purchase decision in the Modern Welding Workshop business?

Research Objectives

1. To identify whether quality exerts influence upon purchase decision within Modern Welding Workshop operations?
2. To examine whether price shapes purchase decision within Modern Welding Workshop operations?
3. To find out whether service affects the purchase decision in the Modern Welding Workshop business?
4. To determine whether quality price and service together influence purchase decision within Modern Welding Workshop operations?

LITERATURE REVIEW

Quality

Quality is the excellence of a product or service that is judged by its ability to meet or exceed customer expectations. According to the statement, the quality of products and services is the main determinant in creating customer satisfaction. Quality is the most important element in trade, as information, services, and systems substantially affect perceived value. Customers want accurate, relevant, and timely information to make informed decisions and improve their experience. The quality of information depends on the reliability and credibility of the source, completeness and relevance, accessibility, and (Kotler & Keller, 2021)Uses (Taylor) *et al.*, 2023). To measure this quality, there are five operational dimensions used, namely:

1. Reliability: Steadiness and exactness shown while delivering what was agreed upon.
2. Responsiveness: Readiness and swiftness staff demonstrate when attending to requirements and offering assistance.
3. Assurance: Knowledge, and ethics of politeness of personnel that are able to foster a sense of security and trust of customers.
4. Empathy: The level of personal care and attention given to customers.
5. Physical Evidence (Tangibles): Visual representations and supporting infrastructure, such as the condition of the facility, the modernity of the equipment, and the professionalism of the employee's appearance.

Pricing

Kotler and Armstrong (2012) frame price as total monetary value exchanged to secure any offering. It also stands for what is given up in return for advantages gained through ownership or actual use. Campbell within Cockril and Goode links price perception to psychological evaluation that heavily shapes how buyers react to set figures. That very perception becomes driver behind the choice to acquire something. (Mujito, Muharam Day, 2023). Triolita and Budiyanto (2022) note social surroundings also push people toward committing

to buy. Bashu Swastha (2020) defines price as funds handed over to receive combined goods and services. Cost level becomes central point buyers weigh when selecting anything. Quoted rates factor heavily into final choices and audiences generally seek rates that remain reasonable alongside acceptable quality. Gunarsih et al. (2021) confirm measurable influence running from price onto purchase decision. Sari and Prihartono (2020) further identify positive meaningful connection where accessible rates smooth the choice process. All those perspectives together confirm price operates directly upon purchase decision.

Service

Service is a form of interaction between service providers and customers that is carried out to meet customer needs and expectations. According to Parasuraman, Zeithaml, and Berry (2021), the quality of service is shown through a friendly attitude, quick response, and technical capabilities possessed by service providers. According to Osman and Sentosa (2013), physical evidence of service is a perception formed from the efforts of service providers in presenting facilities, equipment, labor, and communication media that are able to give a positive impression to customers.

According to Risitano, Romano, and Sorrentino (2020), the reliability of service is reflected in the ability of service providers to provide quality, comfortable, and accurate services so that they are able to increase the value felt by customers. Good service, such as being quick and friendly, meets customers' expectations and encourages them to return, by providing service that meets customer needs can increase the customer's chances of making a repurchase decision and suggesting to other individuals. Service reliability is the most important driver of customer satisfaction (Shiwakoti, Jiang, & Nguyen, 2021).

Purchase Decision

Purchase decision emerges as sequence unfolding from problem recognition through option comparison and finally selecting the item judged best suited to fulfill needs and preferences. This stands as concluding phase within full buying journey and it directly determines whether acquisition takes place or not. Finality arises because that choice already passed through careful review and systematic weighing across all accessible alternatives. In the process of making a purchase decision, the level of customer satisfaction after making a transaction is one of the factors that has an important influence on the decision taken. (Putri & Yulianthini, 2023)(Suharlina, 2024)

METHODOLOGY

This assessment relies on quantitative method. Under that framework study serves to verify proposed assumptions and examine variable connections objectively via data gathering plus statistical testing applied toward defined groups or selected subsets. Here this approach measures and maps influence flowing from quality price and service onto customer purchase decision at Modern Welding Workshop. (Sugiyono, 2022).

Hypotheses

H1: Quality carries meaningful impact upon purchase decision at Modern Welding Workshop.

H2: Price carries meaningful impact upon purchase decision at Modern Welding Workshop.

H3: Service carries meaningful impact upon purchase decision at Modern Welding Workshop.

H4: Quality Price and Service together carry meaningful impact upon purchase decision at Modern Welding Workshop.

Population And Sample

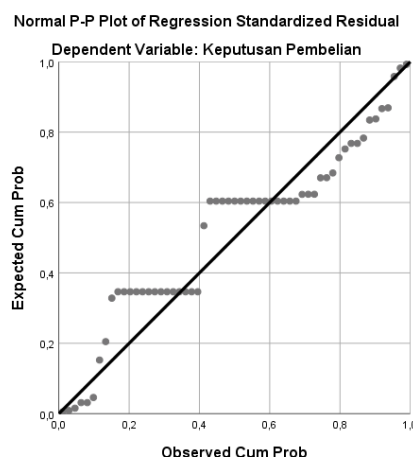
Data gathering centers on questionnaire serving as core tool. Inputs come entirely from primary data sourced directly from targeted subjects. Distribution alongside direct observation captures details regarding variable influence. Entire population covers exactly 57 active customers belonging to Modern Welding Workshop located in Surabaya.

RESULTS AND DISCUSSION

Classic Assumption Test

1. Normality Test

Table 1. Normality Test Results



The observed points extend along the diagonal reference line with values scattered evenly across its span. This probability plot configuration places the dataset within a normal distribution profile. Accordingly, the regression data fully satisfies standard normality assumption criteria.

2. Multicollinearity Test

Table 2. Multicollinearity Test Results

Coefficients ^a			
Models		Collinearity Statistics	
		Tolerance	VIF
1	Quality	,132	7,569

	Pricing	,149	6,720
	Services	,211	4,729
a. Dependent Variable: Purchase Decision			

From the table above the multicollinearity test outputs a tolerance reading of 0.132 for quality 0.149 for price and 0.211 for service. The corresponding Variance Inflation Factor (VIF) readings stand at 7.569 for quality 6.720 for price and 4.729 for service. All tolerance figures sit above the 0.10 threshold and every VIF score falls below 10. These readings confirm that the regression model carries no indication of multicollinearity concern.

3. Heteroscedasticity Test

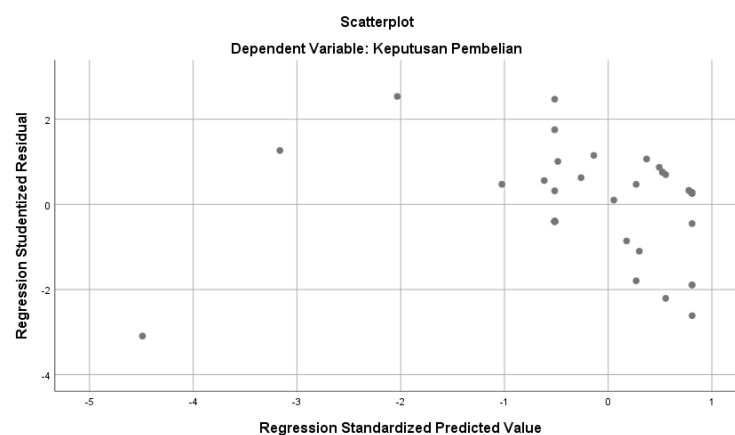


Table 3. Heteroscedasticity Test Results

The transformed-data scatterplot displays points distributed randomly above and below the Y-axis zero line without following any distinct shape. This arrangement confirms that the regression model is free from heteroscedasticity symptoms.

4. Autocorrelation Test

The Durbin-Watson procedure serves as the chosen method for this evaluation. The accompanying table presents the computed Durbin-Watson statistic values obtained in this investigation:

Table 4. Autocorrelation Test Results

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,860a	,740	,726	1,411	1,864
a. Predictors: (Constant), Service, Price, Quality					
b. Dependent Variable: Purchase Decision					

The Durbin-Watson statistic obtained from the table reads 1.864. With N=57 and K=3 the reference table gives DL at 1.4637 and DU at 1.6845. The

computed value sits above DU and below 4-DU or 2.3155 yielding $1.6845 < 1.864 < 2.3155$. This positioning confirms the model carries no autocorrelation symptoms.

Multiple Linear Regression Analysis

Multiple linear regression analysis is used to determine the strength of linear relationships. This method quantifies the intensity of linear associations involving the dependent variable. The table that follows lays out the outcomes from the multiple linear regression examination:

Table 5. Multiple Linear Regression Analysis Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,277	1,161		3,684	,001
	Quality	,874	,338	,498	2,588	,012
	Pricing	,072	,335	,039	,213	,832
	Services	,589	,255	,352	2,315	,025
a. Dependent Variable: Purchase Decision						

Purchase Decision = 4.277 (α) + 0.874 Quality (β_1) + 0.072 Price (β_2) + 0.589 Service (β_3) + e

From the multiple linear regression model outcomes, the following relationships emerge:

1. The intercept term (α) stands at 4.277. This places the baseline level of Purchase Decision at 4.277 when Quality Price and Service exert no influence whatsoever.
2. Coefficient (β_1) registers at 0.874. This positive loading for Quality means every one-unit rise in this variable pushes Purchase Decision upward by exactly 0.874.
3. Coefficient (β_2) takes the value 0.072. The positive sign here shows that each single-unit increment in Price brings about a 0.072 rise in Purchase Decision.
4. Coefficient (β_3) equals 0.589. With this positive coefficient a one-unit improvement in Service raises Purchase Decision by 0.589.

Uji Hypothesis

1. Statistical Water T

Table 6. T Test Results

Coefficients ^a			
Model		t	Sig.
1	(Constant)	3,684	,001

	Quality	2,588	,012
	Pricing	,213	,832
	Services	2,315	,025
a. Dependent Variable: Purchase Decision			

Drawing from Table 6 the relationships between independent and dependent variables arrange themselves as follows.

1. The calculated t statistic for Quality stands at 2.588. This exceeds the tabulated t value of 2.00575. Significance registers at 0.012 which falls below the 0.05 threshold. This positions Quality as exerting a statistically meaningful partial influence upon Purchase Decision.
2. For Price the computed t value reaches only 0.213. This falls short against the critical t figure of 2.00575. Observed significance comes to 0.832 which lies above 0.05. Accordingly, Price carries no significant partial effect on Purchase Decision.
3. The Service variable yields a calculated t of 2.315. This surpasses the table t benchmark of 2.00575. Significance equals 0.025 which sits under 0.05. Hence Service holds a significant partial relationship with Purchase Decision.

2. Water Statistics F

Table 7. F Test Results

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Say.
1	Regression	301,037	3	100,346	50,399	,000b
	Residual	105,524	53	1,991		
	Total	406,561	56			
a. Dependent Variable: Purchase Decision						
b. Predictors: (Constant), Service, Price, Quality						

The F test yields a significance reading of 0.000. This places the figure below the 0.05 benchmark. That arrangement positions Quality Price and Service as jointly shaping Purchase Decision in a statistically meaningful way. From Table 7 the computed F value registers at 50.399. That magnitude exceeds the tabulated critical F value set at 2.78. This confirms that together Quality Price and Service carry a significant effect upon Purchase Decision.

3. Coefficient Determination Test

Table 8. Determination Coefficient Test Results

Model Summary ^b			
Model	R	R Square	Adjusted R Square

1	,860a	,740	,726
a. Predictors: (Constant), Service, Price, Quality			
b. Dependent Variable: Purchase Decision			

Table 8 presents an R Square magnitude of 0.740 or equivalently 74%. That coefficient positions Quality Price and Service as accounting for 74% of the variance observed in Purchase Decision. The remaining 26% derives from factors outside this particular model.

CONCLUSION AND RECOMMENDATION

1. Outcomes from the partial t-test place Quality and Service as carrying significant partial influence upon Purchase Decision at Modern Welding Workshop.
2. The t-test outcomes position Price without any meaningful partial effect on Purchase Decision at Modern Welding Workshop.
3. Results from the simultaneous F-test arrange Quality Price and Service together as exerting significant overall influence on Purchase Decision at Modern Welding Workshop.

ADVICE

1. Operators of welding workshop businesses should treat the factors shaping Purchase Decision as a practical reference and as an outline for market conditions extending beyond internal operations. This way choices made in running the welding workshop align properly with stated goals and secure ongoing business viability.
2. For the next researcher, it is recommended to continue further about other factors that can affect the purchase decision, such as the Time factor, Customer Relationship Management (CRM) and others. In addition, it can also use different research periods and methods, because with different periods and research methods, it will certainly affect the research results.

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