

# Mediating Effect of Brand Image and Customer Trust on Product Quality and Purchase Decision: Evidence from ETO Fuel Stations in Dili, Timor-Leste

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## ABSTRACT

This study aims to examine the relationships among product quality, brand image, customer trust, and customer purchasing decisions. Using survey data from 384 respondents and analysing it with SMART-PLS 4.0, the results show that product quality significantly enhances both customer trust and purchasing decisions. Brand image does not directly influence purchasing decisions but mediates the link between product quality and purchase behaviour. Customer trust is a key driver of purchasing decisions, reinforcing its importance in customer-brand relationships. These findings suggest that improving product quality is essential for building trust and leveraging brand image to support effective marketing strategies.

**Keywords :** Product quality, brand image, customer trust, purchasing decisions, Timor-Leste.

## 1. Introduction

The consumer decision-making process is inherently complex, typically moving from the recognition of a need to the search for information, the evaluation of alternatives, and finally, the purchase decision. In recent years, the expansion of digital marketing has reshaped this process by giving consumers instant access to detailed product information, peer reviews, and price comparisons, all of which significantly shape buying behaviour (Fathurrahman et al., 2023; Abdelmoety & Abdou, 2023). Key influences on purchase decisions commonly include product quality, brand image, price, and payment options, with businesses strategically combining these factors to drive immediate sales and forecast long-term profitability (Alam et al., 2023).

Product quality continues to be recognised as a critical driver of customer trust and loyalty, particularly when products consistently meet or surpass expectations (Kang & Namkung, 2023; Varriale et al., 2023). High-quality offerings reinforce confidence through positive and repeated experiences, deepening the consumer-brand relationship over time (Rodríguez-Antón & Rubio-Andrada, 2023). However, the role of brand image in influencing purchasing decisions remains the subject of ongoing debate. While brand image can foster strong emotional connections and long-term loyalty, several recent studies indicate that consumers may shift their preference toward competitors if alternative products offer superior quality, even when brand familiarity is high (Chiaraluce et al., 2024; Wang et al., 2023). This divergence in findings reflects a broader academic discussion on whether tangible product attributes or intangible brand perceptions carry greater weight in shaping purchase behaviour.

In Timor-Leste, the downstream fuel market is dominated by two key players—Pertamina PITSA and ETO—both regulated by the National Petroleum and Minerals Authority (ANPM) under Decree Law No. 20/2008. These companies operate a network of fuel stations that are vital to supporting both public and private transportation, contributing not only to

consumer mobility but also to government revenue and economic stability (Saldanha et al., 2024). Despite its strategic and economic importance, limited empirical research has explored how product quality, brand image, and consumer trust jointly shape purchasing decisions within this regulated commodity sector.

This research explores the role of product quality, brand image, and consumer trust in influencing purchasing decisions within Timor-Leste's regulated fuel market. Drawing on the conceptual approach of Suhaily and Darmoyo (2017), the study reinterprets their model to assess how quality and brand perception affect consumer choices in markets where products are largely homogeneous. The findings are expected to contribute both to theoretical understanding of consumer behaviour and to practical recommendations for enhancing competitiveness, trust, and customer loyalty in emerging market contexts (Li et al., 2023; Maia et al., 2023).

## 2. Theoretical Frameworks, Research Model and Hypothesis

### 2.1. Theoretical Framework

#### 2.1.1. Product Quality

In the fuel industry, product quality refers to the extent to which fuel meets technical, safety, and environmental standards while fulfilling consumer expectations for performance and reliability (Kang & Namkung, 2023; Varriale et al., 2023). It is determined by measurable attributes such as optimal octane levels, low sulfur content, absence of contaminants, consistent viscosity, and efficient combustion, which collectively enhance engine performance, improve fuel economy, and reduce emissions (Hernández et al., 2022). Beyond technical measures, quality also reflects regulatory compliance, adherence to safety protocols, and integration of sustainable practices in line with the sector's low-carbon transition (Badea et al., 2023).

Within petroleum retailing, product quality shapes trust, satisfaction, and brand loyalty. While technical excellence is critical, consumers often judge quality through perceived engine protection, operational safety, environmental impact, and ethical sourcing (Rodríguez-Antón & Rubio-Andrada, 2023; Chiaraluca et al., 2024). Marketing strategies—such as promoting quality certifications, advanced refining processes, or fuel efficiency—along with loyalty programs and transparent quality assurance systems, can enhance perceived quality and purchase intentions (Wang et al., 2023).

However, literature debates whether product quality directly drives purchasing behaviour. Some studies affirm its role in fostering loyalty and repeat purchases (Kang & Namkung, 2023; Varriale et al., 2023), while others argue that in commodity markets like retail fuel, decisions are often influenced more by price, convenience, and brand image (Maia et al., 2023). This is particularly evident in emerging economies, where technical awareness is limited and affordability often outweighs product differentiation (Saldanha et al., 2024).

A research gap persists in aligning technical assessments with consumer perceptions. Industry measures—such as octane ratings and sulfur content—may not match consumer evaluations, which are shaped by brand reputation, pricing, promotional claims, and personal experience (Li et al., 2023). Moreover, the growing emphasis on sustainability is redefining quality to include indicators such as biofuel blending ratios, lifecycle emissions, and environmental certifications (Badea et al., 2023).

### 2.1.2. Brand Image

Brand image is the set of perceptions, associations, and mental representations consumers hold about a brand, shaped by direct experiences and indirect influences such as marketing and word-of-mouth (Balmer et al., 2020; Hossain et al., 2023). It functions as a cognitive schema guiding recognition, evaluation, and purchase behaviour, influenced by production quality, service delivery, and distribution practices (Lin & Wang, 2021; Arora et al., 2022).

In competitive markets, brand image acts as a strategic differentiator, communicating values, quality standards, and positioning (Chiaraluca et al., 2024). In the fuel sector, consumer perceptions of quality, environmental performance, and corporate reputation often play a greater role in brand evaluation than measurable technical differences (Wang et al., 2023). Strong brand images foster trust, increase willingness to pay, and directly influence purchasing decisions (Li et al., 2023), reinforced through corporate identity elements such as logos and mission statements (Buil et al., 2022).

Empirical studies confirm that positive brand image enhances satisfaction, loyalty, and advocacy, increasing repeat purchases (Hossain et al., 2023; Wang et al., 2023). However, debates persist over whether brand image directly drives purchasing behaviour or operates via mediators like trust, perceived value, and satisfaction (Maia et al., 2023). In commodity markets such as retail fuel, some research suggests price and convenience outweigh brand associations (Saldanha et al., 2024), while others emphasise the enduring influence of

intangible brand attributes when paired with consistent quality and communication (Chiaraluca et al., 2024).

### 2.1.3. Customer Trust

Customer trust is the confident expectation that a brand will deliver reliable products, fulfil commitments, and act in customers' best interests (Rather & Hollebeek, 2023; Zarifis & Cheng, 2022). In the petroleum industry—where products are commoditised and technical specifications are not easily verifiable—trust reduces perceived risk and fosters purchase confidence (Li et al., 2023). It is multi-dimensional, encompassing competence-based, integrity-based, institutional, and technology-based trust, though these may not always align (Prentice et al., 2022; Rao & Kumar, 2021; Istanbuluoglu & Sakman, 2022; Akrouf et al., 2021).

Trust significantly influences purchasing behaviour in low-differentiation markets by reducing price comparisons and enhancing loyalty (Rather & Hollebeek, 2023; Hossain et al., 2023). It often mediates the relationship between brand image and purchase decisions (Chiaraluca et al., 2024). However, debate persists over whether institutional trust or interpersonal trust is more influential in such markets (Maia et al., 2023; Prentice et al., 2022).

Despite its importance, trust in petroleum retailing remains underexplored in emerging and regulated markets, particularly regarding its interaction with product quality and brand image in contexts of limited product differentiation (Saldanha et al., 2024).

### 2.1.4. Customer Purchasing Decision

Customer purchasing decision is the cognitive and behavioural process through which consumers recognise a need, assess available options, and choose the product or service perceived to deliver the highest overall value (Kotler et al., 2022; Ramadan & Aita, 2023). In petroleum retailing, these decisions are shaped by both tangible factors—such as fuel quality, pricing, service speed, and station accessibility—and intangible factors, including brand image, trust, and corporate responsibility (Hossain et al., 2023; Chiaraluca et al., 2024). Recent global surveys reveal that sustainability and operational transparency are becoming increasingly important decision drivers, even in contexts affected by inflationary pressures (PwC, 2024).

The decision-making journey generally follows a five-stage framework: (1) need recognition, (2) information search, (3) evaluation of alternatives, (4) purchase decision, and (5) post-purchase evaluation (Rodgers & Nguyen, 2022; Kotler et al., 2022). In the information search stage, consumers are increasingly using digital platforms—such as fuel price-comparison apps, peer reviews, and social media—to assess competitive offerings (Boon-itt et al., 2023). New evidence also shows that mobile and contactless payment options influence both fueling patterns and in-store purchases, reflecting evolving consumer preferences (Warren, 2025). In the evaluation stage, factors such as convenience, transparent pricing, and brand

credibility are pivotal. The post-purchase stage involves satisfaction assessment, where positive fuel performance and service experience drive repeat purchases and strengthen loyalty (Li et al., 2023).

Empirical findings in low-differentiation markets such as retail fuel demonstrate that purchasing decisions are not solely dictated by price or location convenience. Relational and psychological variables—particularly trust and brand image—play a substantial role in reinforcing loyalty and stimulating word-of-mouth recommendations (Rather & Hollebeek, 2023; Wang et al., 2023). In fact, trust and brand image often act as mediators that enhance the influence of product quality on final purchase choices (Chiaraluce et al., 2024). However, scholarly debate persists over the dominant drivers in commodity-based markets. One perspective suggests that in price-sensitive and emerging economies, affordability and accessibility outweigh brand loyalty due to limited differentiation (Maia et al., 2023). Another view, supported by Badea et al. (2023) and Varriale et al. (2023), posits that intangible attributes such as perceived service integrity, environmental stewardship, and ethical business conduct are increasingly decisive, particularly for younger and socially conscious consumers.

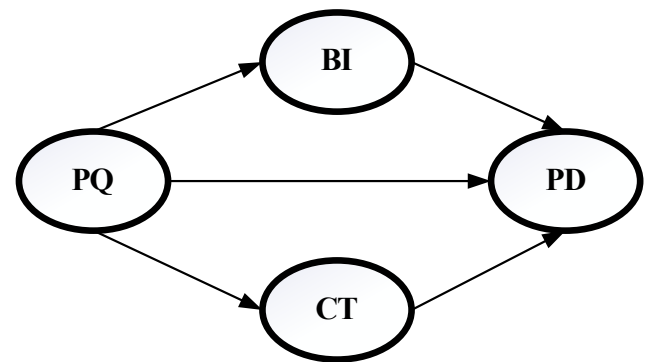
## 2.2. Theoretical Framework

The proposed research model builds on Halim et al. (2014), who identified product quality, brand image, and customer trust as key drivers of purchasing behaviour, and is reinforced by Rua et al. (2020), who showed that strategic product distribution and market visibility can enhance attention, purchase intention, and loyalty.

In petroleum retailing, the model positions product quality as the primary antecedent influencing purchasing decisions through the sequential mediation of brand image and customer trust. This framework draws on Resource-Based Theory (RBT), which views quality as a strategic resource that strengthens brand equity and competitive advantage (Barney, 1991; Hossain et al., 2023), and Relationship Marketing Theory, which highlights trust as a relational asset fostering loyalty and long-term profitability (Morgan & Hunt, 1994; Kotler et al., 2022).

High product quality enhances brand image by improving consumer perceptions, credibility, and value associations (Chiaraluce et al., 2024), which then fosters trust by reducing perceived risk—particularly critical in low-differentiation markets like petroleum retailing (Rather & Hollebeek, 2023; Li et al., 2023). Trust subsequently strengthens purchasing decisions through increased loyalty, reduced price sensitivity, and positive word-of-mouth (Varriale et al., 2023).

Empirical evidence shows that while product quality is fundamental, its influence on consumer behaviour is often amplified when mediated by brand image and trust (Maia et al., 2023; Badea et al., 2023). Similar findings in other regulated and emerging markets confirm that the interplay of these variables enhances customer loyalty and competitive resilience (Wang et al., 2023; Saldanha et al., 2024).



**Figure 1.** Research model (PQ= product quality; BI= Brand image; CT= customer trust; PD= Purchasing decision).

## 2.3. Variable Relationship and the Hypothesis

### 2.3.1. Product Quality and Customer Purchasing Decision

Product quality is widely recognised as a central determinant of consumer purchasing decisions, encompassing both objective attributes—such as performance, durability, and compliance with technical standards—and subjective perceptions shaped by consumer experience and brand credibility (Hossain et al., 2023; Chiaraluce et al., 2024). In the petroleum retailing context, product quality refers to the extent to which fuel meets established safety, performance, and environmental benchmarks while fulfilling consumer expectations for reliability and value (Varriale et al., 2023; Badea et al., 2023).

According to Resource-Based Theory (RBT), product quality constitutes a valuable, rare, and inimitable resource that can sustain competitive advantage and influence purchase behaviour by reinforcing consumer confidence and reducing perceived risk (Barney, 1991; Kotler et al., 2022). Empirical studies consistently show that superior product quality fosters trust, enhances satisfaction, and increases consumers' willingness to purchase, even in highly commoditised sectors (Li et al., 2023; Maia et al., 2023). For instance, Cumming et al. (2020) demonstrated that product quality significantly shapes purchase choices, with uncertainty or inconsistent quality leading to less favourable decisions. Similarly, Baranchuk and Prasad (2022) emphasise that effective communication of quality attributes through branding and marketing is essential for translating technical excellence into consumer action.

In emerging and regulated markets such as Timor-Leste's fuel sector, where technical product attributes (e.g., octane ratings, sulfur content) may not be widely understood by consumers, perceived quality is often shaped by indirect cues such as service experience, corporate reputation, and visible quality assurance measures (Rather & Hollebeek, 2023; Saldanha et al., 2024). These perceptions can directly impact purchasing decisions, as positive experiences with consistent product quality strengthen loyalty, encourage repurchase, and generate positive word-of-mouth (Varriale et al., 2023; Badea et al., 2023).

Given this evidence, the present study posits that high product quality is not only a prerequisite for competitive

positioning but also a direct driver of purchasing behaviour in the petroleum retail market.

H1: Product quality has a positive and significant effect on consumer purchasing decisions

### 2.3.2. Product quality and Brand Image

Brand image constitutes the perceptions, beliefs, and associations consumers form about a brand through direct experiences and mediated communications. It functions as a mental framework guiding evaluations, particularly in markets with minimal functional differentiation (Fernandes, 2024; Chiaraluce et al., 2024; Tahir et al., 2024). A strong brand image enhances competitive positioning, builds resilience amid market fluctuation, and fosters deeper customer engagement (Adewole et al., 2024).

From a Resource-Based View (RBV) perspective, consistent delivery of high-quality products acts as a strategic capability that bolsters brand equity by embedding positive associations, reliability, and value perceptions in the consumer's cognition (Mailani et al., 2024). In industries like petroleum retail—with tangible cues such as fuel performance and safety—product quality becomes central to shaping a credible and trustworthy brand image (Rather & Hollebeek, 2023; Wang et al., 2023).

Empirical evidence reinforces this relationship. For example, Saleh Ghobbe & Nohekhan (2023) found that green marketing strategies significantly enhance perceived brand quality, illustrating how quality cues influence brand perception. Although not in fuel retail, similar mechanisms apply: Maia et al. (2023) observed that perceived quality—through indicators like engine performance and regulatory compliance—strengthens brand associations in highly commoditised markets. This effect is amplified when firms visibly communicate quality via certifications and transparent operational practices (Adewole et al., 2024).

In emerging markets such as Timor-Leste, where consumers may lack technical knowledge of fuel specifications, product quality becomes especially vital to brand image formation. Sustained, authentic quality performance not only meets immediate customer needs but also shapes enduring brand perceptions and loyalty intentions (Saldanha et al., 2024).

H2: Product quality has a positive and significant impact on brand image.

### 2.3.3. Product Quality and Customer Trust

Customer trust represents the willingness of consumers to rely on a brand or company based on the belief that it will consistently deliver on its promises and act in the customer's best interest (Tahir et al., 2024; Adewole et al., 2024). In competitive markets, trust serves as a key relational asset, reducing perceived risk, fostering repeat patronage, and strengthening long-term customer relationships. This is particularly relevant in the petroleum retail sector, where tangible quality attributes—such as fuel performance, adherence to safety standards, and environmental compliance—

are less visible to the consumer, making trust a critical determinant of purchase behaviour (Rather & Hollebeek, 2023; Wang et al., 2023).

From a Resource-Based View (RBV) perspective, consistent delivery of high-quality products functions as a strategic capability that reinforces credibility, reliability, and consumer confidence (Mailani et al., 2024). High-quality offerings signal competence and integrity, which consumers internalise as trust-based associations over time (Fernandes, 2024; Chiaraluce et al., 2024). Empirical studies confirm this relationship: for instance, Maia et al. (2023) found that in fuel retail, consistent product quality significantly enhances consumer trust, even in highly commoditised markets. This effect is further amplified when firms actively communicate quality assurances through transparent operational practices, certifications, and third-party endorsements (Badea et al., 2023).

Moreover, in emerging markets such as Timor-Leste, where consumers may have limited technical knowledge of fuel specifications, trust is often built indirectly through perceptions of product quality and brand reliability (Saldanha et al., 2024). This indicates that trust is not merely a by-product of satisfaction but a mediating mechanism through which product quality influences purchasing decisions. Therefore, sustaining high product quality is not only a means of meeting functional needs but also a strategic pathway to fostering deep-rooted customer trust.

H3: Product quality positively and significantly influences customer trust

### 2.3.4. Brand Image and Customer Purchasing Decision

Brand image represents the collective set of perceptions, associations, and symbolic meanings that consumers hold about a brand, shaped by both direct experiences and mediated communications (Kotler et al., 2022; Chiaraluce et al., 2024). It acts as a cognitive shortcut in decision-making, enabling consumers to evaluate offerings quickly—particularly in low-differentiation markets where tangible product distinctions are minimal (Hossain et al., 2023). A strong brand image not only captures attention and stimulates interest but also reduces perceived risk, thereby simplifying the purchasing process (Rather & Hollebeek, 2023).

From the Relationship Marketing Theory perspective, brand image fosters emotional and cognitive connections that enhance consumer commitment, which in turn influences buying behaviour (Tahir et al., 2024). In petroleum retailing, where consumers often lack detailed technical knowledge of fuel quality, brand image serves as a proxy for reliability, operational excellence, and value delivery (Saldanha et al., 2024). Well-established brand cues—such as consistent visual identity, reputable corporate reputation, and socially responsible initiatives—enhance consumers' willingness to choose and remain loyal to a particular provider (Fernandes, 2024; Wang et al., 2023).

Empirical research consistently supports this link. Maia et al. (2023) demonstrated that brand image significantly affects purchase decisions in the energy sector, with strong brands

securing consumer preference even when price differences exist. Similarly, Badea et al. (2023) found that proactive brand communication, combined with visible quality credentials, amplifies purchase intentions by reinforcing trust and perceived value. In commodity markets, where functional parity is common, the emotional and reputational dimensions of brand image often play a decisive role in final purchase decisions (Varriale et al., 2023).

In the context of this study, brand image is positioned as a direct antecedent to customer purchasing decisions, complementing the effects of product quality and trust. Given the evidence that favourable brand perceptions increase interest, reduce evaluation time, and enhance loyalty, petroleum retailers that invest in brand equity can expect stronger consumer preference and sustained market share.

H4: Brand image has a positive and significant effect on customer purchasing decisions

### 2.3.5. Customer Trust and Customer Purchasing Decision

Customer trust is widely recognised as a pivotal determinant of purchasing behaviour, particularly in contexts where consumers face uncertainty regarding product quality or service reliability (Rather & Hollebeek, 2023; Wang et al., 2023). It represents a consumer's willingness to rely on a brand or service provider based on positive expectations of performance, integrity, and reliability (Kotler et al., 2022). In purchasing contexts, trust functions both as a risk-reduction mechanism—minimising perceived uncertainty—and as a relational asset that fosters stronger emotional and behavioural commitment to a purchase decision (Tahir et al., 2024).

Drawing on Relationship Marketing Theory, trust serves as a foundation for long-term customer–firm relationships by reducing perceived risks, enhancing relationship stability, and facilitating repeated transactions. This mechanism is particularly salient in petroleum retailing, where many technical product attributes—such as octane rating, engine compatibility, and environmental compliance—are difficult for consumers to evaluate directly. In such markets, brand trust operates as a surrogate for technical verification, enabling consumers to commit to purchases with greater confidence (Saldanha et al., 2024; Fernandes, 2024).

Empirical evidence reinforces this theoretical linkage. Pop et al. (2022) demonstrated that trust exerts a significant and positive influence on purchase decisions by enhancing perceived value and reducing purchase hesitation. In the energy sector, Maia et al. (2023) found that trust not only drives repeat purchasing but also mitigates price sensitivity, thereby enhancing customer loyalty. Similarly, Badea et al. (2023) showed that transparent communication of quality standards, ethical corporate practices, and responsive customer service significantly reinforce consumer trust, which in turn directly amplifies purchase intentions.

In competitive petroleum retail markets—where pricing and location often dominate consumer choice—trust can serve as a critical differentiator. By anchoring both transactional and relational dimensions of purchasing behaviour, trust influences

not only immediate purchase decisions but also post-purchase advocacy and long-term brand loyalty (Varriale et al., 2023).

H5: Customer trust has a positive and significant effect on customer purchasing decisions.

### 2.3.6. Product Quality, Brand Image and Customer Purchasing Decision

Product quality and brand image are interdependent constructs that jointly shape consumer perceptions and influence purchasing decisions. High-quality products reinforce positive brand associations, while a strong brand image amplifies the perceived value of product quality, creating a synergistic effect that guides consumer decision-making (Hossain et al., 2023; Chiaraluce et al., 2024). Within this dynamic, brand image serves as a cognitive filter through which consumers evaluate and interpret quality cues, especially in markets with low product differentiation, such as petroleum retailing (Rather & Hollebeek, 2023).

From the perspective of Resource-Based Theory (RBT), product quality is a strategic resource that enhances brand equity, while Relationship Marketing Theory suggests that a strong brand image can foster trust and reduce perceived risk, thereby increasing the likelihood of purchase (Varriale et al., 2023; Wang et al., 2023). This relationship becomes particularly salient when technical aspects of product performance—such as fuel efficiency, engine protection, and compliance with environmental standards—are difficult for consumers to directly assess. In such contexts, brand image operates as an evaluative shortcut that influences purchase behaviour (Saldanha et al., 2024).

Previous studies have consistently highlighted the mediating influence of brand image between product quality and consumer purchasing choices. For instance, Maia et al. (2023) reported that in both commodity and service markets, higher perceived product quality reinforces brand associations, ultimately boosting purchase intention and loyalty. Likewise, Badea et al. (2023) showed that actively communicating quality-related credentials strengthens brand image, which subsequently shapes consumer decisions. Overall, these results suggest that brand image serves not only as a reflection of perceived quality but also as a pathway through which quality impacts final buying behaviour.

H6: Brand image has a positive and significant mediating effect on the relationship between product quality and customer purchasing decisions.

### 2.3.7. Product Quality, Customer Trust and Customer Purchasing Decision

Product quality is a foundational determinant of customer purchasing behaviour, particularly in markets where consumers face difficulty in directly assessing technical product attributes, such as the petroleum retail sector (Rather & Hollebeek, 2023; Wang et al., 2023). Consistently delivering high-quality products enhances perceived reliability, which in turn fosters

customer trust—a relational asset that reduces perceived risk and strengthens purchase intentions (Kotler et al., 2022; Varriale et al., 2023).

From the perspective of Relationship Marketing Theory, trust operates as a mediating mechanism between product quality and purchasing decisions, enabling customers to commit to purchases with greater confidence. In contexts where tangible differentiation is minimal, trust becomes the proxy through which consumers interpret and act upon quality cues (Saldanha et al., 2024). As such, trust amplifies the positive effects of product quality on purchase behaviour, influencing not only initial buying choices but also repurchase intentions and long-term loyalty.

Empirical evidence supports this mediating pathway. Maia et al. (2023) found that in the energy sector, perceived product quality significantly enhances trust, which then drives customer decision-making and reduces price sensitivity. Similarly, Badea et al. (2023) demonstrated that transparent quality communication and ethical operational practices reinforce trust, thereby strengthening the link between quality perceptions and final purchase behaviour. These findings confirm that trust not only reflects consumer perceptions of product quality but also channels its effects toward sustained purchasing patterns.

H7: Customer trust has a positive and significant mediating effect on the relationship between product quality and customer purchasing decisions.

### 3. Research Method

#### 3.1. The Sample and Population

This study focused on consumers who purchased ETO Mandarin fuel in Dili, targeting individuals with specific traits relevant to the research (Rahman, 2022). It explored consumer behavior by considering both demographic (income, gender, age) and psychographic (values, lifestyles, motivations) factors. The population was undefined, so the study used convenience sampling, selecting participants based on availability and willingness, though this limited the generalizability of the findings (Etikan et al., 2016). To establish the sample size, the study applied Cochran's (1977) formula, which indicated that 384 respondents were needed to achieve a 95% confidence level with a 5% margin of error. This number was considered sufficient to obtain reliable insights into consumers' preferences and behaviors (Fowler et al., 2014).

#### 3.2. Variable Measurement

To develop an effective questionnaire for this study, a review of empirical research on product quality was conducted, drawing on key studies (Puerta et al. 2022; Sebastianelli & Tamimi 2002; Anuar 2021), which highlighted attributes like reliability, performance, and value for money. These were incorporated into the questionnaire to assess consumer perceptions in the fuel market. The brand image construct,

adapted from Balmer *et al.* (2020), emphasized aspects such as brand recognition, brand associations, and perceived quality, highlighting their influence on consumer purchase decisions and loyalty. The customer trust construct, informed by studies from Zarifis & Cheng, (2022), Panda, Srivastava, & Pandey, (2020), and Cumming, Ge, & Lai, (2020), concentrated on factors like transparency, reliability, and quality of customer service. For purchasing decisions, adaptations from Wang et al. (2021) were included, addressing price sensitivity, product availability, and promotions. The questionnaire was psychometrically validated to ensure its reliability and relevance.

#### 3.3. Data Collection

A total of 384 questionnaires were distributed to customers of ETO Mandarin fuel stations using a systematic sampling approach, ensuring demographic diversity and enhancing the generalizability of the findings. The study aimed to represent various demographic segments, such as age, gender, and socioeconomic status, to effectively test the research hypotheses. A structured questionnaire was used to collect data on perceived product quality, brand image, customer trust, and purchasing decisions, with a five-point Likert scale to measure responses. The questionnaires were distributed in-person at fuel stations and through online platforms like Google Forms via email and WhatsApp, maximizing response rates and accommodating customer preferences for participation.

#### 3.4. Data of Analysis

In this study, SMART-PLS 4.0 was used for data analysis, utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze complex relationships with a limited sample size. The analysis followed the methodologies of (Hair et al., 2014) and (Henseler et al., 2015), focusing on both measurement and structural models to ensure construct validity and reliability. The measurement model was assessed for convergent validity ( $AVE > 0.50$ ), discriminant validity (using the Fornell-Larcker criterion and HTMT ratio), and reliability (Cronbach's Alpha and Composite Reliability  $> 0.70$ ). The structural model evaluated path coefficients and their significance through bootstrapping, with coefficients above 0.2 considered weak and above 0.5 strong. The coefficient of determination ( $R^2$ ) was used to assess predictive accuracy, categorized as substantial ( $\geq 0.75$ ), moderate ( $\geq 0.50$ ), or weak ( $\geq 0.25$ ). Hypothesis testing was based on the significance of path coefficients, using a T-value threshold of 1.96 and a 0.05 significance level.

#### 3.5. Data Analysis Tools

This research is quantitative, utilizing both descriptive and inferential statistics. Descriptive analysis uses frequency distribution and mean values to assess respondents' perceptions, analyzed with SPSS. Inferential statistics, using SMART-PLS 4.0, test the validity, reliability, and relationships between indicators and variables. SMART-PLS was chosen for its ability to handle large sample sizes and multi-variable testing without classical assumptions (Hair et al., 2014). The analysis starts with model construction and then uses PLS algorithms to test

reliability and validity. Reliability is assessed with Cronbach's Alpha (CA) and Composite Reliability (CR), both of which should exceed 0.7. Convergent validity is tested through indicator loadings (> 0.7) and AVE (> 0.5), while discriminant validity is checked using the Fornell-Larcker criterion, cross-loading, and the HTMT ratio (HTMT value < 0.85 indicates validity). Finally, hypothesis testing is done using path coefficient analysis, with significance determined by T-values (> 1.96) and P-values (< 0.05) via bootstrapping (Hair et al., 2014).

4. Results and Discussions

4.1. Validity and Reliability Test Convergent validity

The text discusses convergent validity, which assesses whether multiple indicators effectively measure the same underlying construct, confirming that the constructs in a model align with theoretical concepts (Hair et al., 2014). In the analysis, Outer Loadings (OL) show strong correlations between measured variables and latent constructs, with values over 0.70 indicating good measurement. Additionally, Average Variance Extracted (AVE) values support convergent validity, with all constructs (Brand Image, Customer Trust, Purchasing Decision, and Product Quality) exceeding the 0.50 threshold. This confirms that each construct explains a significant portion of variance in its indicators, improving the model's reliability.

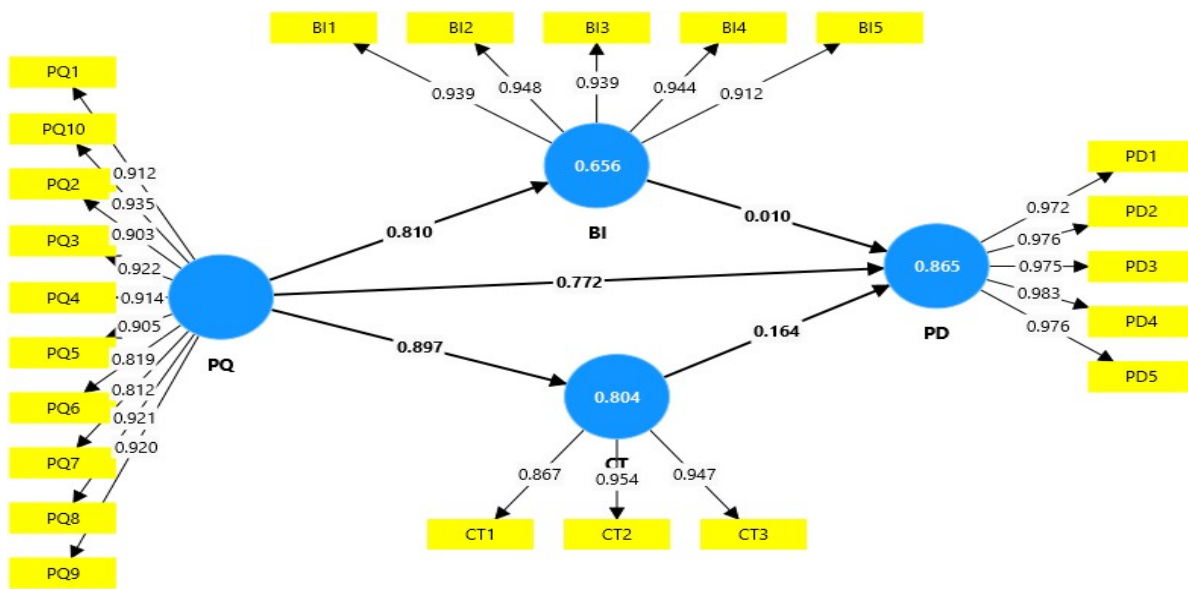


Figure 2. Outer Loading for Convergent Validity Test

The study assessed discriminant validity by applying the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio to confirm that each construct was unique. As shown in Table I, the square roots of the Average Variance Extracted (AVE) for all constructs exceeded the correlations between them, indicating adequate discriminant validity. For instance, Brand Image (BI) has an AVE of 0.936, which is higher than its correlations with Customer Trust (CT) (0.826), Purchasing Decision (PD) (0.770), and Product Quality (PQ) (0.810), demonstrating that the constructs are clearly distinct from one another.

Table I. Fornell-Larcker Criterion for Discriminant Validity Test

Item	BI	CT	PD	PQ
BI	0.936			
CT	0.826	0.923		
PD	0.77	0.864	0.976	
PQ	0.81	0.897	0.927	0.897

Table II presents HTMT ratios, which help assess discriminant validity of the constructs. According to (Henseler et al., 2015), an HTMT value below 0.85 suggests acceptable discriminant validity. Most of the ratios, including Brand Image (BI) to Customer Trust (CT) (0.884), BI to Purchasing Decision (PD) (0.788), BI to Product Quality (PQ) (0.837), CT to PD (0.811), and CT to PQ (0.851), fall below this threshold. However, the BI to CT ratio (0.884) slightly exceeds the limit, indicating a strong relationship between these two constructs. Despite this, the other ratios confirm that the constructs remain distinct. Overall, both the Fornell-Larcker criterion and HTMT ratios support the conclusion that the model maintains adequate discriminant validity, enhancing the robustness of the measurement framework.

**Table II.** HTMT Values for Discriminant Validity Test

Item	BI	CT	PD	PQ
BI				
CT	0.884			
PD	0.788	0.811		
PQ	0.837	0.851	0.845	

The reliability analysis of the constructs in this study demonstrates strong internal consistency, as shown by high Cronbach's Alpha (CA) and Composite Reliability (CR) values in Table III. Brand Image (BI) has a CA of 0.965 and a CR of 0.973, both well above the acceptable threshold of 0.70, indicating reliable measurement. Customer Trust (CT) also exhibits strong reliability with a CA of 0.913 and a CR of 0.945. Purchasing Decision (PD) stands out with exceptionally high values: CA of 0.988 and CR of 0.990, indicating an extremely reliable scale. Product Quality (PQ) shows a CA of 0.973 and a CR of 0.976, further confirming the reliability of its indicators. Overall, these high reliability scores across all constructs strengthen the credibility and validity of the study's findings,

ensuring that the constructs are measured consistently and accurately.

**Table III.** CA, CR, AVE and R-square Values

Item	Cronbach's alpha (CA)	Composite reliability (CR)	R-square
BI	0.965	0.973	0.656
CT	0.913	0.945	0.804
PD	0.988	0.99	0.865
PQ	0.973	0.976	

**4.2. Inner Model Test**

The R-squared (R<sup>2</sup>) values in this study assess the model's explanatory power, indicating how well the independent variables explain the variance in the dependent constructs. These values are important for evaluating the model's predictive strength (Hair et al., 2014). As shown in Table III, Brand Image (BI) has an R<sup>2</sup> of 0.656, meaning it explains 65.6% of its variance, which is considered strong. Customer Trust (CT).

**Table IV.** T and P Values for Hypothesis Test

Variable Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV)	P values	Description
PQ -> PD	0.772	0.772	0.065	11.875	0.000	Significant
PQ -> BI	0.810	0.809	0.031	26.209	0.000	Significant
PQ -> CT	0.897	0.897	0.015	60.324	0.000	Significant
BI -> PD	0.010	0.011	0.050	0.189	0.850	Not Significant
CT -> PD	0.164	0.163	0.069	2.372	0.018	Significant
PQ -> BI-> PD	0.008	0.009	0.041	0.188	0.851	Not Significant
PQ -> BI -> PD	0.147	0.146	0.062	2.378	0.017	Significant

It shows a relatively high R<sup>2</sup> of 0.804, accounting for 80.4% of the variance. The Purchasing Decision (PD) construct has the highest R<sup>2</sup> at 0.865, representing 86.5% of its variance, which indicates the model's strong predictive power. These R<sup>2</sup> values demonstrate that the model effectively explains the relationships among Brand Image, Customer Trust, and Purchasing Decision, confirming its robustness.

**4.3. Hypothesis Test**

The hypothesis test results provide significant insights into the relationships among the constructs. Product Quality demonstrated strong positive effects across all constructs. It significantly impacted Purchasing Decision, with a coefficient of 0.772, T-statistic of 11.875, and p-value of 0.000, supporting Hypothesis 1 (H1). Product Quality also strongly influenced Brand Image (coefficient of 0.810, T-statistic of 26.209, p-value of 0.000), affirming Hypothesis 2 (H2), and Customer Trust

(coefficient of 0.897, T-statistic of 60.324, p-value of 0.000), supporting Hypothesis 3 (H3).

However, the relationship between Brand Image and Purchasing Decision was not significant (coefficient of 0.010, T-statistic of 0.189, p-value of 0.850), leading to the rejection of Hypothesis 4 (H4). Customer Trust positively influenced Purchasing Decision (coefficient of 0.164, T-statistic of 2.372, p-value of 0.018), supporting Hypothesis 5 (H5).

Additionally, Customer Trust partially mediated the effect of Product Quality on Purchasing Decision (coefficient of 0.147, T-statistic of 2.378, p-value of 0.017), supporting Hypothesis 6 (H6). In contrast, the indirect effect of Brand Image as a mediator was not significant (coefficient of 0.008, T-statistic of 0.188, p-value of 0.851), leading to the rejection of Hypothesis 7 (H7).

Overall, these findings highlight the critical role of Product Quality in shaping both Customer Trust and Purchasing

Decisions, with Customer Trust serving as an important mediator in the decision-making process.

#### 4.4. Discussion

The hypothesis testing results provide nuanced and integrated insights into the complex relationships between product quality, purchasing decisions, brand image, and customer trust, revealing areas of alignment with existing scholarship while also presenting deviations that offer fresh perspectives.

First, the analysis strongly supports the conclusion that product quality exerts a substantial and positive influence on purchasing decisions, as reflected in its high path coefficient, robust T-statistic, and statistical significance. This finding resonates with recent studies that position quality as a decisive factor in consumer choice, particularly in sectors where measurable attributes such as performance, durability, safety standards, and regulatory compliance form the core of competitive differentiation (Maia et al., 2023; Badea et al., 2023; Varriale et al., 2023). From a Resource-Based Theory (RBT) perspective, quality constitutes a valuable, rare, inimitable, and non-substitutable organisational capability that enhances trust, strengthens perceived value, and fosters long-term loyalty (Hossain et al., 2023; Chiaraluce et al., 2024). In petroleum retailing—where consumers cannot directly verify technical specifications—quality indicators such as fuel efficiency, safety adherence, and environmental compliance serve as critical trust proxies (Hernández et al., 2022; Li et al., 2023). However, the magnitude of quality's influence may be moderated by price sensitivity and market positioning, suggesting that firms must complement quality excellence with competitive pricing and distinctive branding to safeguard market share (Pop et al., 2022; Fernandes, 2024; Tahir et al., 2024).

Second, the results confirm that product quality significantly enhances brand image (coefficient = 0.810, T-statistic = 26.209,  $p = 0.000$ ). This supports empirical evidence that sustained quality performance not only strengthens brand perception but also amplifies brand equity and competitive standing (Hossain et al., 2023; Chiaraluce et al., 2024). RBT conceptualises consistent quality delivery as a rare and inimitable capability that reinforces both the symbolic and emotional associations of a brand (Varriale et al., 2023; Rather & Hollebeek, 2023). In petroleum retailing, tangible indicators—such as product reliability, environmental stewardship, and compliance with safety protocols—emerge as strong brand signals that consolidate consumer confidence (Wang et al., 2023; Li et al., 2023), thereby reducing switching tendencies and enhancing resilience in competitive markets (Pop et al., 2022; Fernandes, 2024; Tahir et al., 2024).

Third, the evidence reveals a strong positive association between product quality and customer trust (coefficient = 0.897, T-statistic = 60.324,  $p < 0.001$ ), underscoring quality's pivotal role in cultivating psychological assurance. This is consistent with recent research showing that reliability and consistency in quality foster loyalty and repeat patronage (Mailani et al., 2024;

Fernandes, 2024). From the Relationship Marketing Theory standpoint, trust is reinforced when product performance consistently meets or exceeds expectations (Tahir et al., 2024). In petroleum retailing, where customers must rely on indirect cues rather than direct product verification, trust becomes the interpretive framework through which quality is perceived (Wang et al., 2023; Maia et al., 2023), reinforcing its dual role as both a functional and relational driver of market success.

The fourth finding indicates that brand image does not significantly influence purchasing decisions (coefficient = 0.010, T-statistic = 0.189,  $p = 0.850$ ), diverging from the classic brand equity paradigm (Hossain et al., 2023; Chiaraluce et al., 2024). In high-involvement markets such as petroleum retailing, decision-making appears more heavily anchored in verifiable quality attributes and trust than in symbolic brand identity (Varriale et al., 2023; Maia et al., 2023). This reflects earlier observations by Wang et al. (2023) that in technically demanding industries, functional credibility derived from product performance often supersedes marketing-driven brand narratives.

The fifth finding establishes that customer trust positively influences purchasing decisions (coefficient = 0.164, T-statistic = 2.372,  $p = 0.018$ ), reinforcing the view that trust mitigates perceived risks, strengthens consumer commitment, and drives purchase intentions (Pop et al., 2022; Tahir et al., 2024). Trust is particularly vital in high-involvement contexts, where it serves as a safeguard against uncertainty and builds perceptions of brand integrity and competence (Rather & Hollebeek, 2023; Wang et al., 2023). Furthermore, ethical practices, transparency, and consistent delivery have been shown to enhance trust even in price-sensitive environments (Badea et al., 2023; Varriale et al., 2023).

The sixth result demonstrates that brand image does not mediate the relationship between product quality and purchasing decisions (coefficient = 0.008, T-statistic = 0.188,  $p = 0.851$ ). This challenges the assumption that brand image is the principal channel through which quality shapes purchasing behaviour (Hossain et al., 2023; Chiaraluce et al., 2024). Instead, consumers in this context appear to prioritise tangible product attributes and trust over symbolic brand associations (Rather & Hollebeek, 2023; Wang et al., 2023). While brand image may still contribute to long-term equity, its immediate influence on purchasing behaviour is secondary in high-involvement product categories.

Finally, the seventh finding confirms that customer trust partially mediates the link between product quality and purchasing decisions (coefficient = 0.147, T-statistic = 2.378,  $p = 0.017$ ). This supports the notion that trust serves as a psychological conduit, transforming quality perceptions into purchase intentions (Hossain et al., 2023; Chiaraluce et al., 2024). In markets like petroleum retailing—where quality is difficult to assess directly—trust acts as a surrogate signal, enabling consumers to make more confident decisions (Maia et al., 2023; Wang et al., 2023). The partial mediation indicates that while quality directly drives purchasing, its effect is magnified when channelled through trust, aligning with evidence that trust reduces price sensitivity and fosters loyalty (Badea et al., 2023; Tahir et al., 2024).

In sum, these results converge with much of the existing literature in affirming the centrality of product quality and trust in shaping consumer behaviour, while diverging from traditional branding models by demonstrating the limited short-term influence of brand image in high-involvement contexts. The findings point to a strategic imperative for firms—especially in petroleum retailing—to invest in quality assurance and trust-building initiatives as core levers for securing and sustaining purchasing commitment.

## 5. Conclusions And Implications

This study provides robust empirical evidence on the interrelationships among product quality, purchasing decisions, brand image, and customer trust within the petroleum retailing sector. The findings confirm that product quality emerges as the most influential driver of both purchasing decisions and brand-related outcomes, with sustained quality enhancing not only direct consumer commitment but with sustained quality enhancing not only direct consumer commitment but also the perceived value of the brand and the level of customer trust. In particular, product quality demonstrates a strong and consistent positive influence on purchasing decisions, brand image, and customer trust, validating its role as a strategic capability in line with the Resource-Based Theory (RBT). The results further reveal that customer trust functions as a significant mediator between product quality and purchasing decisions, underscoring its strategic role as a psychological risk-reduction mechanism in high-involvement purchase contexts. In contrast, while brand image is positively shaped by product quality, it does not exert a significant direct influence on purchasing decisions and does not mediate this relationship. This challenges the assumptions of conventional brand equity theory and suggests that in technically demanding and high-involvement industries, functional credibility derived from verifiable product performance outweighs symbolic brand associations in driving immediate consumer choices.

Taken together, the findings highlight a dual-pathway model in which purchasing decisions are shaped both directly by product quality and indirectly through customer trust, with brand image playing a supportive yet non-decisive role in short-term purchase behaviour. The study thus extends existing theory by demonstrating that in contexts where direct product verification is difficult—such as petroleum retailing—quality cues and trust-building mechanisms become dominant forces in consumer decision-making. From a theoretical perspective, these results reinforce the RBT assertion that product quality constitutes a valuable, rare, inimitable, and non-substitutable resource that sustains competitive advantage. By empirically linking quality to both tangible behavioural outcomes (purchasing decisions) and intangible relational assets (trust and brand image), this research enriches the conceptualisation of quality as a multi-dimensional strategic capability. The findings also refine brand equity theory by showing that in high-involvement, performance-sensitive markets, brand image alone may not significantly influence purchasing behaviour unless reinforced by demonstrable quality performance. This indicates

the need for a contextualised approach to brand equity, where functional credibility is prioritised over purely symbolic value in influencing purchase intentions. Furthermore, the study integrates insights from relationship marketing theory by establishing customer trust as a partial mediator, affirming its central role as both a cognitive and affective driver of committed buying behaviour, even in price-sensitive markets.

From a managerial standpoint, the results underline the necessity of prioritising quality excellence as a non-negotiable strategic focus. Petroleum retailers should invest in consistent performance, strict safety compliance, and environmental responsibility, as these efforts yield direct sales impact and enhance trust and brand perception. Since trust partially mediates the effect of quality on purchasing decisions, managers should implement structured trust-building initiatives, including transparent communication of product specifications, visible quality assurance processes, ethical business practices, and responsive customer service—particularly in contexts where consumers cannot directly verify quality. In light of the limited direct influence of brand image on purchasing behaviour, firms should integrate brand positioning with quality communication strategies, shifting marketing messages from abstract emotional appeals to verifiable performance claims. In price-sensitive markets, balancing affordability with quality differentiation is essential; strategies such as bundling pricing with quality assurance and loyalty incentives can protect perceived value while maintaining competitiveness. Finally, the dual-pathway model suggests that quality-driven trust not only drives initial purchases but also builds long-term loyalty, reduces switching behaviour, and mitigates price sensitivity. For sustained market leadership, firms must therefore commit to long-term quality consistency and trust reinforcement as central pillars of strategic management.

## 6. Limitations and Future Research

While this study offers valuable insights into the interrelationships among product quality, brand image, customer trust, and purchasing decisions, several limitations must be acknowledged, which also open promising avenues for future research.

First, the research is contextually bound to the petroleum retailing sector within an emerging market. Given the sector's technical and performance-driven nature, the findings may not be directly generalisable to industries where symbolic value or hedonic attributes are more dominant. Future studies should extend this model to diverse industries such as FMCG, luxury goods, and technology, as well as across different cultural contexts, to assess the universality of the dual-pathway effect of quality and trust.

Second, the use of a cross-sectional design limits the ability to establish causality or to capture the dynamic evolution of quality perceptions, trust, and purchase decisions over time. Longitudinal or panel data approaches could provide deeper insights into how these relationships develop and persist.

Third, reliance on self-reported survey data introduces the possibility of common method variance and social desirability bias, even though procedural controls were applied. Future

research should consider integrating multi-method approaches, combining perceptual survey measures with behavioural data such as purchase histories, loyalty program usage, or experimental evidence to enhance validity.

Fourth, the scope of constructs was restricted to product quality, brand image, customer trust, and purchasing decision, omitting potentially relevant factors such as perceived value, customer satisfaction, service quality, and corporate social responsibility (CSR). Expanding the model to include these constructs could yield a more holistic view of consumer decision-making.

Fifth, the study did not incorporate external moderators such as competitive intensity, economic conditions, or consumer demographics, which may influence the strength and direction of the observed relationships. Future research could examine these boundary conditions and also explore additional mediators—such as satisfaction or perceived value—to refine the explanatory power of the model.

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