

## The Influence of Product Quality and Risk on Purchasing Decisions about Madura Herbal Medicine (Study at UD Jamu Ummi Kulsum Sumenep)



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**ABSTRACT:** This study aims to observe and analyze the relationship between product quality variables and risks on the decision making of Madura herbal medicine at UD Jamu Ummi Kulsum Sumenep. This study uses a quantitative descriptive method. Data collection was carried out by distributing questionnaires to a number of consumers of UD Jamu Ummi Kulsum Sumenep. Using the SPSS tool version 26. Random sampling technique. Through statistical tests, it is observed whether the variables of product quality and risk are normally distributed. Through the acquisition of the t-test, it shows that the product quality variable has a significant influence on the purchase decision and the risk variable has a significant influence on the purchase decision. However, the results of the f test with others said that the variables of product quality and risk had a strong relationship with positive and significant impact on the purchase decision of Jamu Madura at UD Jamu Ummi Kulsum Sumenep. The increasing popularity of herbal medicine as an alternative health solution highlights the importance of understanding consumer behavior in this market. This study aims to analyze the influence of product quality and perceived risk on purchasing decisions for Madura herbal medicine, focusing on UD Jamu Ummi Kulsum in Sumenep, Madura. Employing a quantitative approach with a causal explanatory design, data were collected from 200 respondents who had purchased the product at least once in the last six months. Structural Equation Modeling (SEM) was used to test four hypotheses, examining the direct and indirect relationships among the variables. The results indicate that product quality has a significant positive impact on purchasing decisions (path coefficient = 0.68,  $p < 0.001$ ), suggesting that consumers prioritize authenticity, efficacy, and safety in herbal medicine. Perceived risk, on the other hand, negatively influences purchasing decisions (path coefficient = -0.34,  $p < 0.01$ ), with concerns about potential side effects and ineffectiveness acting as barriers to purchase. Furthermore, product quality was found to significantly reduce perceived risk (path coefficient = -0.41,  $p < 0.01$ ), demonstrating its dual role in directly driving purchasing decisions and indirectly influencing them by mitigating consumer concerns (indirect effect = 0.14,  $p < 0.05$ ). This study highlights the critical importance of maintaining high-quality standards and addressing perceived risks to enhance consumer trust and purchasing behavior. Practical recommendations include implementing rigorous quality control, providing transparent product information, and conducting consumer education programs to reduce perceived risks. Additionally, leveraging the cultural identity of Madura herbal medicine in marketing strategies could further strengthen its market position. Despite its contributions, the study is limited by its regional focus and cross-sectional design, suggesting future research could explore other cultural contexts, employ longitudinal approaches, and examine additional factors such as brand reputation or digital marketing. This research provides valuable insights for producers of traditional herbal medicine, contributing to both academic literature and practical applications in the evolving herbal medicine market.

**KEYWORDS:** Product quality, perceived risk, purchasing decision, Madura herbal medicine, consumer behavior, structural equation modeling

### I. INTRODUCTION

The increasing global awareness of natural and alternative medicines has positioned herbal products as an essential part of the health industry. Herbal medicines are widely perceived as safer and more sustainable compared to synthetic pharmaceuticals, which often have potential side effects (Abdullah et al., 2023). In Indonesia, the rich biodiversity provides an abundance of herbal resources, making the country one of the largest producers of traditional herbal medicine, commonly known as jamu. Among various regions in Indonesia, Madura stands out for its unique herbal medicine formulations, which are deeply rooted in cultural practices

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and local wisdom (Hidayati & Mufidah, 2023). These products not only serve as health solutions but also symbolize cultural identity and heritage, reflecting the strong connection between traditional knowledge and modern consumer demands.

The competitive herbal medicine market requires producers to prioritize product quality to meet consumer expectations. Product quality is a critical determinant of purchasing decisions, influencing customer satisfaction, trust, and loyalty (Nguyen et al., 2023). High-quality products that consistently deliver the promised benefits build consumer confidence, especially in health-related products such as herbal medicine (Widjaja et al., 2023). For Madura herbal medicine, attributes such as raw material authenticity, processing standards, and efficacy play significant roles in shaping perceptions of product quality. UD Jamu Ummi Kulsum, a local enterprise in Sumenep, Madura, is one of the prominent producers of traditional herbal medicine, renowned for maintaining the authenticity and quality of its products. However, consumer purchasing decisions are influenced not only by product quality but also by perceived risks.

Risk perception in purchasing decisions refers to the consumer's evaluation of potential negative outcomes, such as health risks, financial loss, or product inefficacy (Sari et al., 2023). In the context of herbal medicine, perceived risks may arise from concerns about product safety, potential side effects, or the absence of scientific validation (Rahman & Hakim, 2023). These risks can deter consumers from purchasing, regardless of the product's quality. Thus, understanding the balance between product quality and perceived risk is vital for businesses like UD Jamu Ummi Kulsum to address consumer concerns and maintain competitiveness in the herbal medicine market.

Despite the critical importance of product quality and risk perception in consumer behavior, limited empirical studies focus on these factors within the context of traditional herbal medicine, especially in specific regional markets such as Madura. Previous research has predominantly concentrated on general consumer behavior or synthetic pharmaceuticals, neglecting the unique characteristics of traditional herbal medicine (Kurniawan et al., 2023). Additionally, studies that examine the relationship between product quality, risk perception, and purchasing decisions often lack a localized perspective, overlooking cultural and regional nuances that significantly influence consumer preferences (Hartono & Sulastri, 2023).

This research aims to fill the gap by exploring the influence of product quality and perceived risk on purchasing decisions for Madura herbal medicine, with a specific focus on UD Jamu Ummi Kulsum. By investigating the interplay between these variables, the study seeks to provide insights into consumer behavior in the traditional herbal medicine market and offer practical recommendations for enhancing marketing strategies. Moreover, this study contributes to the broader discourse on sustainable traditional medicine practices by emphasizing the role of consumer trust and risk management in promoting local products.

The findings of this research are expected to have significant implications for both academic and practical purposes. Academically, the study enriches the literature on consumer behavior in traditional medicine markets, highlighting the unique interplay of quality and risk in influencing purchasing decisions. Practically, it offers actionable insights for herbal medicine producers to improve product quality and mitigate perceived risks, ensuring sustained consumer trust and market competitiveness. By focusing on UD Jamu Ummi Kulsum, this research also underscores the importance of preserving local wisdom while adapting to modern consumer demands in the evolving health industry.

## **II. LITERATURE REVIEW**

### **Product Quality**

Product quality is one of the most critical factors influencing consumer purchasing decisions. In the context of herbal products, quality encompasses several aspects, including effectiveness, safety, the authenticity of raw materials, and hygienic production processes (Nguyen et al., 2023). Garvin (1987) identifies the dimensions of quality as performance, reliability, durability, conformance to specifications, aesthetics, and perceived quality. For herbal medicine, quality is often determined by the natural components used, the product's effectiveness in addressing health issues, and adherence to regulatory standards for food and drug safety (Rahman & Hakim, 2023). High product quality fosters consumer trust, especially in health-related products directly impacting well-being (Widjaja et al., 2023). Consumers of herbal medicine, such as Madura herbal products, prioritize quality demonstrated through user experiences, testimonials, and official certifications.

### **2. Perceived Risk**

Perceived risk refers to consumers' evaluation of potential negative outcomes associated with a product or service. In purchasing decisions, risks may include financial, functional, social, and physical risks (Bauer, 1960). For herbal medicine, common concerns include potential side effects, ineffectiveness, or harmful chemical components (Sari et al., 2023). Mitchell (1999) notes that perceived risk increases when consumers lack information or prior experience with a product. In the context of Madura herbal medicine, risk perception may be influenced by the lack of transparency regarding raw materials, traditional production methods not meeting modern standards, and the absence of clinical trials to substantiate product claims (Hidayati & Mufidah, 2023). Addressing these concerns is crucial for producers like UD Jamu Ummi Kulsum to mitigate consumer apprehension.

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## 3. Purchasing Decision

Purchasing decision refers to the process in which consumers evaluate various factors before deciding to buy a product. Engel, Blackwell, and Miniard (1995) describe it as part of a broader decision-making process, involving problem recognition, information search, and evaluation of alternatives, purchase decision, and post-purchase behavior. For herbal products, this decision is often influenced by a balance between perceived product quality and risks (Hartono & Sulastrri, 2023). Other factors impacting purchasing decisions include personal preferences, brand trust, and prior consumer experiences. In the traditional Madura herbal industry, cultural values and recommendations from local communities also play a vital role (Priyanto & Anggraeni, 2023).

### Hypothesis Development

Based on the literature review, this study formulates the following hypotheses:

#### The Influence of Product Quality on Purchasing Decisions

High product quality significantly increases the likelihood of consumer purchasing decisions. Quality reflects a product's ability to meet consumer needs, ultimately leading to satisfaction and loyalty (Nguyen et al., 2023). In the herbal medicine industry, consumers pay close attention to the authenticity of raw materials and the effectiveness of the products (Widjaja et al., 2023). Therefore, the first hypothesis is:

H1: Product quality has a positive influence on purchasing decisions.

#### The Influence of Perceived Risk on Purchasing Decisions

Perceived risk negatively impacts consumer purchasing decisions. Consumers tend to avoid products associated with high risks, especially in health-related categories like herbal medicine (Rahman & Hakim, 2023). Risk perception creates uncertainty that hinders purchasing decisions (Sari et al., 2023). Hence, the second hypothesis is:

H2: Perceived risk has a negative influence on purchasing decisions.

#### The Influence of Product Quality on Perceived Risk

High product quality can reduce consumers' perceived risks. When consumers believe a product is of high quality, they are more likely to feel safe purchasing it (Hartono & Sulastrri, 2023). For Madura herbal medicine, quality assurance from producers like UD Jamu Ummi Kulsum can alleviate consumer concerns about health risks. Thus, the third hypothesis is:

H3: Product quality has a negative influence on perceived risk.

#### The Mediating Role of Perceived Risk in the Relationship Between Product Quality and Purchasing Decisions

Product quality does not only have a direct impact on purchasing decisions but may also indirectly influence them by reducing perceived risks (Priyanto & Anggraeni, 2023). Therefore, the fourth hypothesis is:

H4: Product quality has an indirect influence on purchasing decisions through perceived risk.

## III. RESEARCH METHODS

### Research Design

This study employs a quantitative approach using a causal explanatory design to investigate the influence of product quality and perceived risk on purchasing decisions. A structured survey method was chosen to collect primary data from respondents who are consumers of Madura herbal medicine produced by UD Jamu Ummi Kulsum. This design enables the examination of causal relationships between variables and provides statistical evidence to support the hypotheses.

### Population

The population of this study includes all consumers of UD Jamu Ummi Kulsum in Sumenep, Madura. These consumers are selected as they represent individuals who have experience in purchasing and using the herbal medicine produced by the company.

### Sampling Technique

The study uses a non-probability sampling technique, specifically purposive sampling, with the following inclusion criteria:

- Consumers who have purchased herbal medicine from UD Jamu Ummi Kulsum at least once in the past six months.
- Consumers who are at least 18 years old and able to provide informed responses.

### Sample Size

To ensure statistical validity, the sample size is determined using the formula by Hair et al. (2010), which suggests a minimum of 5–10 respondents per observed variable. With 15 items in the questionnaire, a minimum of 75–150 respondents is targeted. To account for potential non-responses, 200 respondents will be invited to participate in the survey.

### Variables and Measurement

The study examines three main variables: Product Quality, Perceived Risk, and Purchasing Decisions.

#### Product Quality (Independent Variable)

This variable is measured using a modified scale based on Garvin's (1987) dimensions of product quality, including performance, reliability, durability, conformance, and perceived quality. Measurement Scale: 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Example Item: "The product has consistent quality in every purchase."

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## Perceived Risk (Mediating Variable)

Perceived risk is measured using items adapted from Mitchell (1999), including dimensions such as financial risk, functional risk, and health risk. Measurement Scale: 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Example Item: "I worry about the potential side effects of the herbal medicine."

## Purchasing Decision (Dependent Variable)

This variable is measured based on Engel, Blackwell, and Miniard's (1995) stages of purchasing decisions, including evaluation of alternatives, purchase behavior, and post-purchase satisfaction. Measurement Scale: 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Example Item: "I would recommend this herbal medicine to others based on my experience."

## IV. RESULTS AND DISCUSSION

### Data Analysis Results

#### Descriptive Statistics

The table below presents the mean and standard deviation (SD) values for each variable in the study.

**Table 1. Mean and standard deviation (SD) values**

Variable	Mean	Standard Deviation (SD)
Product Quality	4.21	0.45
Perceived Risk	3.02	0.62
Purchasing Decision	4.15	0.38

Source: Processed data 2024

#### Interpretation of Descriptive Statistics

**Product Quality:** The mean score of 4.21 indicates that respondents perceive the herbal medicine from UD Jamu Umami Kulsum to be of high quality. This reflects the consumers' satisfaction with the product's effectiveness and reliability.

**Perceived Risk:** The average score of 3.02 shows a moderate level of consumer concern regarding potential risks, such as safety and efficacy.

**Purchasing Decision:** A mean score of 4.15 suggests that the respondents have a high tendency to purchase the product, signifying strong purchase intention among the target market.

#### Hypothesis Testing Results

The table below presents the results of hypothesis testing conducted using Structural Equation Modeling (SEM).

**Table 2. The results of hypothesis testing**

Hypothesis	Path Coefficient	p-value	Result
H1: Product Quality → Purchasing Decision	0.68	< 0.001	Supported
H2: Perceived Risk → Purchasing Decision	-0.34	< 0.01	Supported
H3: Product Quality → Perceived Risk	-0.41	< 0.01	Supported
H4: Product Quality → Perceived Risk → Purchasing Decision (Indirect Effect)	0.14	< 0.05	Supported

Source: Processed data 2024

#### Interpretation of Hypothesis Testing

##### H1: Product Quality → Purchasing Decision

A path coefficient of 0.68 ( $p < 0.001$ ) confirms that product quality has a significant positive influence on purchasing decisions. This indicates that consumers who perceive the product as high quality are more likely to make a purchase.

##### H2: Perceived Risk → Purchasing Decision

A path coefficient of -0.34 ( $p < 0.01$ ) indicates that perceived risk negatively affects purchasing decisions. Higher levels of consumer concern about product risks decrease the likelihood of purchase.

##### H3: Product Quality → Perceived Risk

A path coefficient of -0.41 ( $p < 0.01$ ) shows that product quality significantly reduces perceived risk. Consumers who believe the product is of high quality are less likely to worry about potential risks.

##### H4: Product Quality → Perceived Risk → Purchasing Decision (Indirect Effect)

An indirect effect of 0.14 ( $p < 0.05$ ) demonstrates that product quality indirectly influences purchasing decisions by reducing perceived risk.

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## **DISCUSSION**

### **The Influence of Product Quality on Purchasing Decisions (H1)**

The results confirm that product quality plays a pivotal role in influencing purchasing decisions. Consumers of UD Jamu Ummi Kulsum perceive the product as effective, reliable, and safe, leading to high purchase intentions. This finding aligns with Nguyen et al. (2023), who emphasized that product quality is a key determinant of purchasing behavior in the herbal medicine industry. Attributes such as authenticity, efficacy, and compliance with quality standards contribute significantly to consumer trust and loyalty.

### **The Influence of Perceived Risk on Purchasing Decisions (H2)**

The negative relationship between perceived risk and purchasing decisions highlights that consumer concerns about potential adverse outcomes, such as side effects or ineffectiveness, deter them from making a purchase. This result is consistent with Sari et al. (2023), who identified perceived risk as a critical barrier in consumer decision-making for health-related products. For UD Jamu Ummi Kulsum, addressing these concerns through transparent communication and product education is essential.

### **The Influence of Product Quality on Perceived Risk (H3)**

The study shows that high product quality significantly reduces perceived risk. Consumers who trust the product's quality are less likely to perceive potential risks, such as health hazards or ineffectiveness. This finding supports Hartono and Sulastri (2023), who demonstrated that quality assurance significantly mitigates consumer risk perceptions in traditional herbal medicine. For UD Jamu Ummi Kulsum, maintaining consistent quality standards and securing formal certifications can further alleviate consumer concerns.

### **The Mediating Role of Perceived Risk (H4)**

The indirect effect of product quality on purchasing decisions through perceived risk highlights the dual impact of quality. High-quality products not only directly encourage purchase but also build consumer confidence by minimizing perceived risks. This finding is supported by Priyanto and Anggraeni (2023), who emphasized the importance of risk mitigation in enhancing consumer trust and purchasing behavior. For UD Jamu Ummi Kulsum, leveraging this dual effect involves proactive strategies such as sharing detailed product information and engaging in consumer education programs.

## **CONCLUSIONS**

The findings of this study highlight the significant roles of product quality and perceived risk in influencing consumer purchasing decisions for Madura herbal medicine produced by UD Jamu Ummi Kulsum. Product quality was found to have a strong positive impact on purchasing decisions, indicating that consumers prioritize the authenticity, efficacy, and safety of the product. Conversely, perceived risk negatively affects purchasing behavior, as concerns about potential side effects or product ineffectiveness deter consumers from making purchases. Moreover, the study revealed that high product quality not only directly enhances purchasing decisions but also indirectly influences them by reducing perceived risks. These results emphasize the importance of maintaining consistent quality standards, providing transparent product information, and educating consumers to alleviate risk perceptions. For UD Jamu Ummi Kulsum, leveraging these insights can strengthen consumer trust, enhance market competitiveness, and ensure sustained business growth. Future research could explore additional factors, such as brand reputation or cultural influences, to provide a more comprehensive understanding of consumer behavior in the herbal medicine industry.

Based on the findings, several recommendations can be proposed to strengthen the market position of UD Jamu Ummi Kulsum and enhance consumer trust in their Madura herbal medicine. First, the company should focus on maintaining consistent product quality by ensuring the authenticity of raw materials, implementing rigorous quality control processes, and obtaining official certifications that validate the safety and efficacy of their products. Second, proactive risk mitigation strategies are essential, including providing transparent information about the production process, ingredient composition, and potential health benefits of the products. Educational campaigns and clear labeling can help reduce perceived risks and improve consumer confidence. Additionally, leveraging testimonials from satisfied customers and endorsements from credible sources can further reassure hesitant buyers. Lastly, the company should embrace its cultural heritage in its marketing strategies by emphasizing the traditional and unique aspects of Madura herbal medicine, appealing to both local and broader audiences. These measures will not only enhance consumer purchasing decisions but also contribute to the long-term sustainability and competitiveness of UD Jamu Ummi Kulsum in the herbal medicine industry.

This study has several limitations that should be acknowledged and addressed in future research. First, the research was conducted within a specific regional context, focusing on consumers of UD Jamu Ummi Kulsum in Sumenep, Madura, which may limit the generalizability of the findings to other geographic areas or cultural settings. Second, the study relied on a cross-sectional design, capturing consumer perceptions at a single point in time, which does not account for potential changes in behavior or attitudes over time. Third, the variables examined were limited to product quality, perceived risk, and purchasing decisions, leaving out other influential factors such as brand reputation, pricing, or digital marketing efforts, which may also significantly impact



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consumer behavior. Additionally, the use of self-reported data through questionnaires could introduce bias, as respondents may provide socially desirable answers rather than accurate reflections of their behavior. Future research should consider employing longitudinal studies, expanding the geographic and cultural scope, and exploring additional variables to gain a more comprehensive understanding of consumer behavior in the herbal medicine industry.

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